

APacCHRIE 2025 CONFERENCE
Chiang Mai, Thailand
The 23rd Annual Conference and 15th Youth Conference | 27- 30 May, 2025

TRANSFORMING TO THE FUTURE:
INNOVATION, AI, AND REGENERATIVE TOURISM AND HOSPITALITY

THE 23RD ANNUAL CONFERENCE

27-30 MAY 2025

INTERNATIONAL CHRIE Council on Hotel, Restaurant, and Institutional Education. The Hospitality & Tourism Educators

CMU CHIANG MAI UNIVERSITY

THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學
SCHOOL OF HOTEL AND TOURISM MANAGEMENT

APAC CHRIE Council on Hotel, Restaurant, and Institutional Education. The Hospitality & Tourism Educators

APacCHRIE 2025 CONFERENCE

Chiang Mai, Thailand

Transforming to the Future: Innovation, AI, and Regenerative Tourism and Hospitality





The 23rd Annual Conference

CMU CHIANG MAI UNIVERSITY

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WELCOME MESSAGE
From the President, Chiang Mai University



Greeting from Chiang Mai University, Thailand

"A Leading University Committed to Social Responsibility for Sustainable Development through Innovation"

It is with great pleasure and honor that I welcome all distinguished delegates, scholars, and professionals in tourism and hospitality to the APacCHRIE 2025 Conference, hosted by Chiang Mai University in the enchanting city of Chiang Mai.

Founded in 1964 as Thailand's first regional university, Chiang Mai University (CMU) has long served as a leading institution in knowledge creation, technology development, and cultural preservation. Rooted in academic freedom and social responsibility, CMU is committed to the sustainable advancement of both the region and the nation. Our university is recognized for impactful research, innovation, and leadership in environmental and social progress. Notably, CMU was ranked No. 1 in Thailand for SDG 4: Quality Education, SDG 5: Gender Equality, and SDG 13: Climate Action in the Times Higher Education Impact Rankings 2023, underscoring our commitment to regenerative development.

Chiang Mai is a city where tradition meets transformation—a UNESCO Creative City of Crafts and Folk Arts, a renowned wellness destination, and a growing hub for digital nomads and startups. It is a fitting backdrop for this year's theme, "Transforming to the Future: Innovation, AI, and Regenerative Tourism and Hospitality."

At CMU, we believe in the power of cross-sector collaboration. Bringing together academia, industry, government, and community partners is vital to driving innovation and resilience in tourism and hospitality. Through emerging technologies, artificial intelligence, and regenerative thinking, we can reshape the industry for long-term sustainability and global relevance.

On behalf of Chiang Mai University, I warmly welcome all participants. We are delighted to share with you the rich cultural heritage and forward-thinking spirit of Chiang Mai, the vibrant capital of the Lanna Kingdom.

We look forward to making APacCHRIE 2025 a transformative, inspiring, and memorable experience for all.

Professor Pongruk SRIBANDITMONGKOL, M.D., Ph.D
President of Chiang Mai University
Honorary Conference Chair

WELCOME MESSAGE
From the Vice President, Chiang Mai University



It is a great privilege to welcome you to the APacCHRIE 2025 Conference hosted by Chiang Mai University in the culturally rich city of Chiang Mai, Thailand.

This year's theme, "Transforming to the Future: Innovation, AI, and Regenerative Tourism and Hospitality," is not only timely but deeply aligned with the values and aspirations of our university. As the world navigates new challenges and opportunities in tourism and hospitality, this conference provides a much-needed platform for exchanging frontier research, innovative practices, and transformative ideas.

At Chiang Mai University, we are committed to advancing interdisciplinary research that bridges science, technology, and the humanities, especially in the context of sustainable tourism and community well-being. As Vice President for Research, I have witnessed the impact of collaborative work across universities, industries, and societies. These partnerships not only generate new knowledge but also drive meaningful changes.

We humbly take pride in our role as a regional leader in tourism research and innovation. Our teams continuously strive to contribute insights and solutions that support policy, empower local communities, and shape the future of tourism in Asia and beyond. However, we also recognize that true progress comes not from working alone, but from building lasting collaborations.

I believe this conference offers a fertile ground for new partnerships, research ideas, and shared vision among scholars, practitioners, and students. I encourage you to actively engage in discussions, initiate dialogues, and explore opportunities for joint research, curriculum development, and innovation.

On behalf of the organizing committee and Chiang Mai University, I extend my deepest appreciation for your presence and participation. May APacCHRIE 2025 be a catalyst for learning, connection, and action that strengthens not only our academic community but the global tourism and hospitality industry as a whole.

We look forward to the collaborations and discoveries that will emerge from this meaningful gathering.

Associate Professor Winita PUNYODOM, Ph.D.
Vice President of Chiang Mai University
Honorary Conference Chair

MESSAGE
From the Founding Chairman



It is my great pleasure to extend a warm welcome to all delegates to the 23rd APacCHRIE Conference and the 16th APacCHRIE Youth Conference, proudly co-hosted by Chiang Mai University and The Hong Kong Polytechnic University. These conferences serve as an excellent platform for fruitful discussions, exchange of innovative research and meaningful collaboration, empowering us to collectively shape the future of our industry.

Under the overarching theme of "Transforming to The Future: Innovation, AI and Regenerative Tourism and Hospitality", we are excited to present a diverse array of research papers with a focus on rapidly evolving industry trends. These concurrent conferences provide a dynamic forum for educators, scholars, researchers, industry professionals and government policy makers from around the globe, fostering insightful dialogue and valuable exchange. Together, we have a unique opportunity to explore topics related to the future transformation of hospitality and tourism.

A successful international conference with published proceedings would not be possible without the generous support of our sponsors, the unwavering dedication of our organising committee and the exceptional hospitality of Chiang Mai University as our main host. I would like to express my heartfelt gratitude to all involved for their invaluable contributions in making these remarkable events possible.

Since its inception in 2002, APacCHRIE has been playing a pivotal role in fostering academic and research exchange within the Asia Pacific region. Today, the APacCHRIE conference stands as one of the major events in our field, both in Asia and globally. As the Founding Chairman and Former President of APacCHRIE, I am eager to see how our organisation continues to contribute to the advancement of hospitality and tourism.

I look forward to your active participation in these conferences.

Professor Kaye CHON, Ph.D
Dean and Chair Professor
Walter and Wendy Kwok Family Foundation Professor in International Hospitality Management
School of Hotel and Tourism Management, The Hong Kong Polytechnic University
Founding Chairman, APacCHRIE

MESSAGE
From APacCHRIE President 2025



Dear Delegates,

It is with great pleasure that we welcome you to the APacCHRIE Conference 2025 which is hosted by Chiang Mai University.

Chiang Mai, a gorgeous city which features a blend of ancient heritage, Thai culture, natural beauty and sincere people, is a sought-after destination for tourists who love to explore and learn through travelling. The uniqueness of Chiang Mai will bring an unforgettable experience to you, our honorable guests. The conference theme, "Transforming to The Future: Innovation, AI and Regenerative Tourism and Hospitality", will present you the contemporary topics which are driving the industry future.

We can't wait to welcome you at Chiang Mai and serve you by offering a unique platform for knowledge exchange, fruitful discussions, and generation of new ideas, for the sake of nurturing the betterment of industry development and education in tourism and hospitality. Against the glamorous backdrop of Chiang Mai, we promise to bring you an enjoyable experience for building friendship and research collaborations.

See you in Chiang Mai!

Professor Lawrence Hoc Nang FONG, Ph.D
APacCHRIE President
University of Macau

MESSAGE
From Conference Chair



Welcome to the APacCHRIE Conference 2025

Dear honored delegates and participants, on behalf of Chiang Mai University, it is with great humility and sincere pleasure that I extend a warm welcome to all participants of the APacCHRIE Conference 2025. We are truly honored to have the opportunity to host this esteemed gathering in Chiang Mai, Thailand—a city known not only for its cultural richness and natural beauty, but also for the genuine warmth and hospitality of its people.

Often referred to as the "Rose of the North," Chiang Mai gracefully blends centuries-old heritage with the vibrancy of modern life. We warmly invite you to experience the unique charm of our city, and we hope it will provide an inspiring backdrop for your time at the conference.

This year's theme, *"Transforming to the Future: Innovation, AI, and Regenerative Tourism and Hospitality,"* reflects our collective commitment to shaping a forward-looking industry that is innovative, inclusive, and sustainable. Throughout the conference, participants will have the opportunity to present their research, take part in interactive workshops, and learn from insightful keynote speeches delivered by distinguished academics and industry leaders. Panel discussions will explore pressing issues and future trends, while networking opportunities will allow attendees to build meaningful professional connections. The program also includes activities that highlight participants' contributions and emerging voices in the field.

We are deeply grateful for your presence and contribution, and our organizing team is committed to supporting a conference experience that is enriching, collegial, and memorable. It is our hope that your time in Chiang Mai will be both professionally rewarding and personally fulfilling.

Thank you once again for joining us at the APacCHRIE Conference 2025. We wish you a productive and enjoyable stay.

Dr Arinya PONGWAT, D.HTM
APacCHRIE 2025 Conference Chair
Chiang Mai University

MESSAGE
From Paper Chairs

APacCHRIE 2025 Conference welcomes you to Chiang Mai, Thailand! The conference will be hosted by Chiang Mai University with the theme: *Transforming to the Future; Innovation, AI and Regenerative Tourism and Hospitality.* As the Paper Chairs of this conference, we sincerely extend our warmest welcome to all conference delegates.

Since announcing this conference, the team has been happily involved in its preparation. It is our pleasure and privilege to be the Paper Chairs.

This year, we have received a record-high number of papers having diverse topics and research areas.. It is extremely heartening to receive papers by renowned global researchers from all over the world including countries/regions in Europe, America, Oceania, and beyond Asia.

Following a rigorous review process, 149 stand-up presentations, 71 poster presentations, and 16 stand-up presentations for Youth Conference will be delivered. Given the large number of quality submissions, it was a challenge for the Paper Review Team to narrow down to the Best Paper Award candidates. Through multiple independent selection rounds, four papers for a Main Conference and three papers for Youth Conference were eventually selected as Best Paper Award recipients. We would like to express our gratitude to the reviewers for their unwavering efforts in the assessment process. Our heartiest congratulations to the Best Paper Award recipients.

We would like to thank the reviewers for devoting their time to reviewing multiple papers. In addition, we would also like to thank three student assistants managing the communications for their commitment and devotion in ensuring a seamless paper review process.

We trust that the conference would be an intellectually rewarding experience for all delegates.

All the best in your scholarly pursuits!



Dr Manisa PIUCHAN
Paper Co-Chair
Chiang Mai University



Prof Sam KIM
Paper Chair and Best Paper Selection Committee Chair
The Hong Kong Polytechnic University



Dr Warattaya CHINNAKUM
Youth Conference Paper Chair
Chiang Mai University

ACKNOWLEDGEMENT

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Conference Schedule

"Transforming to The Future: Innovation, AI, and Regenerative Tourism and Hospitality"

At Chiang Mai Marriott Hotel, Chiang Mai, Thailand on May 27th - May 30th, 2025

May 27th	Pre-Conference Events	Room
8:30 – 10:00	Registration Desk Open (For Board members only)	2nd Floor, Foyer
9:00 a.m. – 12:00	APacCHRIE Board Meeting (By invitation)	2nd Floor, Ballroom 2
12:00 p.m. – 13.00	Lunch (Board members, by invitation)	
12.30-18.00	**Registration Desk Open (To all participants)**	2nd Floor, Foyer
13.30 – 14.30 **(All Participants)**	**Pre-Conference Workshop 1 by Cesim Business Simulations** *"Transforming Hospitality Education with Simulations: Integrating ESG and AI for Experiential Learning Classroom"*	2nd Floor, Ballroom 1
	Pre-Conference Workshop 2 by Ediphi	
14.30- 15.00 **(All Participants)**	Afternoon Refreshment	2nd Floor, Foyer
15.00-16.00	**Deans and Directors Meeting, Topic: "Students of the Future" Moderated by Prof. Lawrence Fong** o Prof. Kaye Chon (Dean, School of Hotel and Tourism Management, The Hong Kong Polytechnic University, Hong Kong SAR) o Dr. Warren Goodsir (Head, School of Hospitality and Tourism, AUT, New Zealand) o Prof. Kyungsoo Han (Dean, College of tourism and culture, Kyonggi University, South Korea) o Dr. Pornpisanu Promsivapallop (Dean, Faculty of Hospitality and Tourism, Prince of Songkla University, Thailand) o Dr. Minh Nguyen (Director of Graduate School and Vice Dean of the Southstar Management Institute at Duy Tan University, Vietnam) o MGM Osaka Resort Project Ms. Wanda Gispert (Vice President of Global HR Development, MGM Resorts International)	2nd Floor, Ballroom 1
16.00-17.00	JHTR Board Meeting (By invitation)	2nd Floor, Ballroom 2
18.00-20.00 **(All Participants)**	Welcome Reception	3rd Floor, Pre Function Area
May 28th	**Opening Day (All Participants)**	**Room**
08:30-17:00	Registration Desk Open	4th Floor
9:00	Exhibition Area Open	4th floor
9:00 – 10:00	**Opening Ceremony**	4th floor, Suthep Hall
10:00 - 10:30	Refreshment / Poster Session 1	4th floor, Foyer
10.30 - 12.00	**Keynote Speeches and Panel Discussion:**	4th floor, Suthep Hall

	Transforming to The Future: Innovation, AI and Regenerative Tourism and Hospitality o **Prof. Bela Stantic** (Griffith University) o **Prof. Haiyan Song** (The Hong Kong Polytechnic University) o **Mr. Noor Ahmad Hamid** (CEO, PATA) o **Prof. Warren Goodsir** as the Moderator	
10:30 – 13.00	Research Marathon (ICHRIE) (Coordinated and moderated by Dr. CB Choi, APacCHRIE Director of Research)	3rd floor, **Expedition room**
12:00 – 13.00	Lunch	Hotel Restaurants: Ping Cuisine or Favola
13.00-13.45	**Inspiration Talk by Professor Kaye Chon**	2nd floor, Ballroom 1
13.15-13.45	Networking and Poster Session 2	4th floor, Foyer
13.45 -14.45	**Meet the journal editors** o **Prof. Cathy Hsu**, Editor-in-Chief of Tourism Management o **Prof. Peter Kim**, Co-Editor-in-Chief of Journal of Hospitality & Tourism Research o **Dr. Daniel Leung** as the Moderator	4th floor, Suthep Hall
14.45 -15.15	Refreshment / Poster session 3	4th floor, Foyer
15.15-16.15	Concurrent session 1	8 Breakout rooms
16.20.17.40	Concurrent session 2	8 Breakout rooms
Open Evening	Explore Chiang Mai on your own	
May 29th	**Presentation Day (All Participants)**	**Room**
8:30-17.00	Registration Desk Open	4th Floor
8:30 – 9:00	APacCHRIE Annual General Meeting (for ICHRIE members)	2nd floor, Balloon 1
9:00	Exhibition Area Open	4th floor
9:00 – 10.30	Concurrent session 3	8 Breakout rooms
10.30-11.00	Refreshment / Poster session 4	4th floor, Foyer
11.00-12.00	Concurrent session 4	8 Breakout rooms
12.00-13.00	Lunch	Hotel Restaurants: Ping Cuisine or Favola
13.15 – 14.15	**Panel Discussion: Vision for the Future of the Hotel Industry** o **Khun Suphajee Suthumpun** Group Chief Executive Officer of Dusit Thani Public Company Limited (TBC) o **Wanda Gispert** Vice President of Global HR Development, MGM Resorts International o **Dr. Soey Lei** as a Moderator	4th floor, Suthep Hall 01
14.15- 15.15	Concurrent session 5	5 Breakout rooms
15.15-15.45	Refreshment/ Poster Session 5	4th floor, Foyer
15.45-17.05	Concurrent session 6	5 Breakout rooms
18.30-21.00	**Gala Dinner and Closing Ceremony***	4th floor, Suthep Hall
	(*for delegates registered with Gala Dinner included)	
May 30th	**Post Conference Technical Visit: Chiang Mai Exploring day (Optional)****	**Room**
8.30– 9:00	Registration	Hotel Lobby
9:00 – 14.30	Chiang Mai Tour Program 1 - 3	

Noted: *Applicable for delegates registered with Gala Dinner included.
**Applicable for delegates registered with Optional Technical Visit Program.
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Theme: Tourist Experience in Destination

Exploring the Impact of Visitor Experience Attributes in an Exotic Destination (Paper #175)

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Abstract:

This study explores how visitor experience attributes differently influence satisfaction and behavioural intention in an exotic destination for first-time visitors compared to repeat visitors. Using survey data from 433 international tourists in Tonga, findings reveal that for first-time visitors, service quality and local activities had a more salient impact on satisfaction and behavioural intention, while for repeat visitors, the local product experiences had a stronger impact. These insights inform experience-based tourism research and underscore the need for targeted strategies to boost visitor engagement and repeat visitation to exotic destinations.

Keywords: Visitor Experience Attributes, Exotic Destinations, First-time vs. Repeat Visitors, Experience-Based Tourism, Satisfaction, Behavioural Intention

Designing Transformative Tourism Experiences in Wellness Tourism: Insights for Destination Marketing (Paper#170)

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Abstract:

Wellness tourism is defined as travel aimed at maintaining or enhancing personal well-being, offering an opportunity to improve holistic health while counteracting the negative aspects of modern life (Global Wellness Institute, 2024). This study examines the relationship between wellness tourists' experiences, visitor profiles, and travel behaviors, using Pine and Gilmore (1998)'s Experience Economy framework. Focusing on Rishikesh as a wellness tourism hub, it explores how experiential factors influence revisit intention, international wellness travel, and length of stay. The findings provide insights into key experiential drivers of wellness tourism engagement, offering managerial and marketing implications for destination management and wellness tourism strategies.

Keywords: tourism experience, wellness tourism, yoga program, destination management/ marketing

1. Introduction

Wellness tourism is defined as travel aimed at maintaining or enhancing personal well-being, offering opportunities for holistic health improvement while counteracting the negative aspects of modern life (Global Wellness Institute, 2024). India, as the birthplace of yoga, plays a central role in this sector, with spirituality emerging as a key component of well-being. Among various destinations, Rishikesh stands out as a global wellness hub due to its rich spiritual heritage, sacred atmosphere, and natural healing environment (Chhabra, 2021). Known as the yoga capital of the world, Rishikesh attracts visitors seeking self-discovery and inner transformation. The town's proximity to the Ganges River, meditation retreats, Ayurveda treatments, and detox programs contribute to its appeal as a transformative wellness tourism destination.

Research suggests that wellness experiences in Rishikesh foster long-term well-being and personal growth. A 2019 survey found that U.S. visitors to Rishikesh's ashrams reported feeling rejuvenated, with many continuing to seek deep spiritual experiences that promoted higher personal values and socially responsible behavior (Chhabra, 2021). These findings highlight Rishikesh as a model case for wellness tourism, demonstrating how spiritual, cultural, and natural elements create transformative travel experiences that encourage sustained visitor engagement.

This study applies Pine and Gilmore's Experience Economy framework to examine how wellness tourists' experiences influence their travel behaviors and sustained interest in wellness tourism. By exploring visitor profiles and travel behaviors, the study investigates their impact on revisit intention and international wellness travel decisions. Findings will provide valuable insights for wellness tourism management and marketing strategies in the post-pandemic era, helping destinations enhance visitor engagement and retention.

2. Literature Review

2.1. Rishikesh & Wellness tourism

Rishikesh, widely recognized as a yoga tourism hub, extends beyond yoga into a broader wellness tourism sector that includes meditation retreats, detox programs, and Ayurveda treatments (Global Wellness Institute, 2024). Wellness tourism is driven by holistic experiences that incorporate yoga, natural settings, peaceful environments, and therapeutic services, reinforcing Rishikesh's appeal as a comprehensive wellness destination (Voigt et al., 2011). Its natural and spiritual environment, including the Ganges River and Himalayan foothills, enhances its role in emotional and psychological healing (Nimri et al., 2019). Spirituality is a key component of wellness tourism, with destinations that have strong spiritual traditions naturally evolving into wellness hubs (Smith & Diekmann, 2017). Wellness travelers seek relaxation, rejuvenation, and self-improvement, aligning with Rishikesh's fusion of yoga, spirituality, and holistic healing practices (Han, 2020). Collectively, these factors establish Rishikesh as a leading global destination for both spiritual and physical well-being.

2.2. Tourism experience

Pine and Gilmore's Experience Economy (1998) emphasizes that businesses should go beyond providing goods and services to creating memorable and engaging experiences. Their framework, widely applicable to tourism experiences, categorizes experiences into four realms based on two dimensions: participation (active vs. passive) and connection (immersion vs. absorption). The entertainment realm involves passive enjoyment, such as watching cultural performances. The educational realm includes active learning, such as participating in wellness workshops. The escapist realm immerses travelers in transformative experiences, like meditation retreats, while the aesthetic realm allows passive appreciation of scenic environments, such as enjoying the natural beauty of a wellness resort. In the context of wellness tourism, destinations can use this framework to enhance visitor engagement and satisfaction by designing experiences that align with travelers' motivations. For instance, yoga retreats combine educational and escapist elements, while scenic wellness resorts emphasize aesthetic experiences. By applying this model, wellness tourism businesses can develop strategic marketing approaches that foster visitor retention and long-term engagement.

3. Methodology

This study was part of a larger wellness tourism project. A survey technique was employed using questionnaires, and an onsite questionnaire was developed. The questionnaire gathered information on travel behavior, purpose of visit, benefits of visiting, sustained interest, and visitor profile. To measure the perceived benefits, a five-point Likert scale (1 = Not at all, 5 = Completely) was used. The survey items were adapted from existing literature (Ashton, 2018; Bowers & Cheer, 2017; Cheer et al., 2017a, 2017b; Halim et al., 2021; Heintzman, 2002). To ensure the robustness of the questionnaire, the reliability of all items was tested. According to the SPSS reliability analysis, the Cronbach's alpha coefficient was 0.75, indicating good internal consistency and high reliability. For tourism experience items, 4 items from the benefits of visiting were elicited based on Pine and Gilmore's experience economy framework.

4. Results

A binary logistic regression was conducted to examine how Visitor profile & travel behaviors revisit intention to Rishikesh (1 = Yes, 2 = No as reference category). Independent variables included main reason, first-time visit, plan to visit places near, nationality, gender, age and education level. The model was statistically significant ($\chi^2(7) = 34.172$, $p < 0.001$), indicating good predictive ability. $R^2 = 0.260$, meaning 26% of the variance in revisit intention was explained by the predictors. Those whose primary purpose is not yoga, first-time visitors, females, and older tourists are more likely to revisit Rishikesh. The results show that the intention to visit nearby attractions, nationality, and education level have no significant impact.

A binary logistic regression was conducted to examine how Visitor profile and travel behaviors influence intention to travel abroad for yoga (wellness) (1 = Yes, 2 = No as reference category). Independent variables included main reason, first-time visit, plan to visit places near, nationality, gender, age and education level. The model was statistically significant ($\chi^2(7) = 14.986$, $p < 0.05$), indicating good predictive ability. $R^2 = 0.125$, meaning 13% of the variance in intention to travel abroad for yoga (wellness) was explained by the predictors. This suggests that while visitor profile and travel behaviors play a role, other factors may also contribute to the decision. The findings highlight that first time visitors and foreign visitors are more likely to travel abroad for yoga (wellness).

A multiple linear regression analysis was conducted to examine the influence of experiential factors on the length of stay. The model was statistically significant, $F(4, 157) = 3.619$ $p < 0.01$, with a R^2 of 0.084, indicating that 8.4% of the variance in the length of stay was explained by the experience types. Among the experience factors, Aesthetic ($B = 1.426$, $p < 0.001$) was a significant predictor, suggesting that tourists with higher scores in aesthetic experiential dimension tend to stay longer. However, other experiences did not significantly influence the length of stay. These findings highlight the importance of aesthetic experiences in extending visitor stays in wellness tourism destinations.

A binary logistic regression was conducted to examine the relationship between experiential factors and intention to revisit and travel abroad for yoga (wellness) (1 = Yes, 2 = No as the reference category). The first model was not significant, but the second model was statistically significant, $\chi^2(4) = 18.435$, $p < 0.001$, with $R^2 = 0.148$. The results showed that Educational (B = 0.716, p = 0.036, Exp(B) = 2.047), and Aesthetic (B = 0.509, p = 0.012, Exp(B) = 1.663) scores were significant predictors of intention to travel abroad for yoga (wellness). Entertainment and Escapist experiences were not significant predictors (p = 0.660 and p=069 respectively). These findings suggest that educational and aesthetic experiences play a crucial role in influencing intention to travel abroad for yoga (wellness).

5. Discussion and Implications

This study highlights the importance of experiential factors in wellness tourism, revealing that aesthetic and educational experiences significantly influence both revisit intention and international wellness travel decisions. Findings indicate that first-time visitors, females, older tourists, and those whose primary purpose is not yoga are more likely to revisit Rishikesh, while first-time and foreign visitors show a stronger intention to travel abroad for yoga (wellness). Additionally, aesthetic experiences contribute to longer stays, emphasizing the need for destinations to enhance natural and visually immersive environments.

For the wellness tourism industry, these insights suggest that destination managers should prioritize experiential design, integrating aesthetic appeal, structured educational programs, and guided experiences for first-time visitors. Marketing strategies should shift toward behavioral targeting rather than demographic segmentation, focusing on visitor motivations and experiential preferences. Academically, this study contributes to the understanding of experience-driven decision-making in wellness tourism, offering a foundation for future research. Future studies should explore longitudinal visitor behavior trends, cross-cultural comparisons, and the evolving impact of digital wellness experiences to further enrich the field. A deeper understanding of experience-based travel behavior will help shape the future of sustainable and engaging wellness tourism.

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Theme: Tourism for All

Enhancing Elderly Well-Being: The Impact of Neighborhood Ageing on Urban Park Use in U.S. Cities Using a Big Data Approach (Paper#216)

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Abstract

With the acceleration of the global aging process, the quality of life and health of the elderly has raised widespread concern. The study aims to explore the impact of the degree of aging in U.S. neighborhoods on urban park visitations, and to further analyze the role of factors. This study uses a big data approach that incorporates mobility data from mobile devices. The results showed that the degree of aging of a neighborhood is negatively correlated with the park visitations.

Keywords: Urban parks; Mobile device data; Aging problem; A big data approach

1. Introduction

The United States is experiencing a significant demographic shift, with the population of individuals aged 65 and older projected to surpass the number of children by 2034 (Vespa et al., 2018). This ageing trend presents challenges for urban planning, as older adults require environments that support their physical and mental well-being. Urban parks play a crucial role in promoting active ageing by providing spaces for physical activity, social interaction, and mental relaxation (Miralles-Guasch et al., 2019). However, many elderly individuals face barriers to park access, including inadequate infrastructure, distance, and social isolation (Guo et al., 2019).

Despite the recognized benefits of parks, research on how ageing neighborhoods influence park use remains limited. Existing studies often focus on general park accessibility without addressing the specific needs of older adults (Liu et al., 2023). The rise of big data analytics offers new opportunities to assess park usage patterns, environmental factors, and demographic changes in real-time, providing valuable insights for designing more inclusive urban spaces (Li et al., 2020).

This study aims to examine the impact of neighborhood ageing on urban park use in U.S. cities, utilizing big data to identify accessibility challenges and opportunities. By bridging research on demographic shifts, environmental design, and health, this study seeks to inform urban planning policies that create age-friendly parks, ultimately enhancing elderly well-being and fostering healthier ageing communities.

2. Literature Review

2.1. The State of Ageing in the United States

The United States is experiencing a profound demographic shift as its population ages rapidly. The definition of individuals aged 65 and older as "elderly" is widely used by organizations and in demographic studies globally, including in the United States(Bureau, 2024). The number of the elderly is predicted to surpass the number of children for the first time in American history, making the country's ageing inevitable in less than 20 years. Although there are currently more middle-aged people than children in the nation, 2034 (formerly 2035) will mark a new milestone. According to the U.S. Census Bureau, there will be more elderly adults than children that year. The population 65 and older is predicted to reach 77 million (up from 78 million), while the number of children under the age of 18 is predicted to reach 76.5 million (up from 76.7 million)(Vespa et al., 2018). Now, there will be more senior folks as the baby boomers get older. Older Americans will account for 21 percent of the population starting in 2030, when all Baby Boomers will be over 65, up from the current 15 percent. The number of Americans over 85 will triple, about 25% of the population will be 65 and older, and the country will welcome 500,000 centenarians by 2060(Vespa, 2018). The United States will age more than it has in the past as the number of seniors surpasses that of children.

As the older population grows, the needs of older people are increasingly being seen and the challenges associated with ageing are increasing. Ageing has become an important focus of public interest and public policy in the United States(Scharlach & Lehning, 2013). However, the elderly, as a vulnerable group in the social group, are faced with a lot of problems, and it is more important to pay attention to how the well-being of the elderly can be safeguarded.

2.2. Health Problems of the Elderly

One of the most important problems is the health of the elderly. In the United States, the percentage of individuals aged 65 and above who self-report poor health has reached 25% as of 2022(CDC, 2022). Across the U.S., in 2022, the average number of physically unhealthy days in the past month for people aged 65 and older reached 5.4 days(CDC, 2022). The ageing process is accompanied by a higher prevalence of chronic health conditions such as cardiovascular disease, arthritis, diabetes, and cognitive decline. Chronic conditions such as heart disease, diabetes and arthritis are prevalent among older adults, placing a heavy burden on individuals and the health care system(Buttorff et al., 2017; Halter et al., 2014). In 2010, 37.2 percent of the 41.4 million elderly persons in the U.S. reported that they had been diagnosed with heart disease(Carroll, 2018). As individuals age, they are more prone to developing multiple conditions concurrently(WHO, 2024). In the case of hypertension, for example, the number of patients over the age of 65 with ambulatory hypertension (defined as measured high blood pressure or use of hypertension medications) could reach more than 70% between 2017 and March 2020 (NCHS, 2024a, 2024b). Furthermore, it is notable that loneliness, depression, and anxiety are prevalent among older individuals and their prevalence tends to increase with age. (Jalali et al., 2024). It has been demonstrated that loneliness is associated with a 50% increased risk

of developing dementia and other health complications(Cudjoe et al., 2020; National Academies of Sciences & Medicine, 2020; Perissinotto et al., 2012). Addressing these health challenges is essential for promoting the overall well-being of this growing demographic.

2.3. Elderly Health and Urban Parks

Urban parks are vital for enhancing the quality of life and well-being of elderly populations. As accessible public green spaces, they provide opportunities for physical activity, mental health restoration, and social interaction, all of which contribute to healthier and more active ageing.

2.3.1 Physical Health Benefits

Maintaining physical health is a cornerstone of successful ageing, and urban parks play a critical role in enabling elderly individuals to lead active and healthy lives. People who go to parks more often tend to participate in more physical activities than others(Chiang & Li, 2019). Ageing often brings about physical challenges such as reduced mobility, joint stiffness, and an increased risk of chronic illnesses like cardiovascular disease, diabetes, and obesity. Engaging in regular physical activity can mitigate these challenges, and parks offer an accessible and low-cost venue for such activities(Lee et al., 2012). Coronary heart disease and stroke are two potential risk diseases faced by the elderly. Green environments such as urban parks can effectively reduce the risk of these two diseases among the elderly(Pereira et al., 2012). Lawton has proposed an ecological theory of the human ageing process. He argued that human ageing is a continuous process in which bodily functions are constantly adapting to the environment (Lawton, 1975). Therefore, urban parks provide an environment conducive to physical health, which has a significant impact on increasing the well-being of the elderly. Urban parks provide a primary place for city residents to stay fit and healthy, and research shows that most people (57%) go to parks for health reasons(Romanillos et al., 2018). For the elderly, the physical environment of parks—characterized by open urban green spaces, safe walking trails, and accessible exercise facilities—provides an ideal setting to promote mobility, flexibility, and cardiovascular health. Urban green spaces contribute to the frequency of people's physical activity, and when physical activity lasts longer, physical health is better(Akpinar, 2016; Miralles-Guasch et al., 2019). Among them, urban parks, as an important part of urban green space, play a vital role in promoting physical health of the elderly and greatly increase their well-being.

2.3.2 Mental Health Benefits

Mental health and cognitive well-being are crucial aspects of successful ageing, yet they are often overlooked in urban planning and policy discussions. Elderly individuals face unique mental health challenges, including heightened risks of anxiety, depression, and cognitive decline due to factors like social isolation, reduced mobility, and age-related health conditions (Sidik et al., 2004). The likelihood of developing conditions such as dementia is significantly elevated among the elderly when they remain in a seated position for an extended period(Benedetti et

al., 2008). Urban parks, with their natural settings and tranquil environments, provide a therapeutic escape that can significantly enhance mental health and cognitive functioning. The objective benefits of urban parks for mental health are comparable to the objective benefits of reducing the local unemployment rate by two percentage points(Sturm & Cohen, 2014). This suggests that environmental interventions have the potential to improve mental health. It has been demonstrated that when individuals are subjected to elevated levels of chronic stress, life event stress, and/or occupational stress, engagement in physical leisure activities serves to facilitate the maintenance of optimal health and well-being(Iwasaki et al., 2001). The restorative qualities of green spaces are well-documented, offering stress relief, improved mood, and enhanced cognitive performance for people of all ages, but their effects are particularly profound for the elderly(Han et al., 2018; Swierad & Huang, 2018; Zhao et al., 2023). Parks not only create opportunities for quiet reflection and relaxation but also foster environments conducive to positive mental health outcomes, such as reduced depression and better attention capacity.

2.3.3 Social Interaction and Community Engagement

Social interaction is a cornerstone of emotional well-being and healthy ageing, yet many elderly individuals face significant barriers to maintaining active social lives. The elderly are more likely to be socially isolated compared to the general population. Approximately 24% of community-dwelling Americans aged 65 and older are classified as socially isolated(Cudjoe et al., 2020; National Academies of Sciences & Medicine, 2020; Perissinotto et al., 2012). Factors such as retirement, physical limitations, and the loss of friends or family members often lead to increased feelings of loneliness and social isolation among older adults(Chen & Schulz, 2016; Hawthorne, 2006, 2008). Urban parks play a vital role in addressing this issue by serving as inclusive and accessible spaces for community engagement and interpersonal connections (Gehl & Svarre, 2013). Urban parks often serve as social hubs where elderly residents can meet peers, thereby reducing social isolation and enhancing community ties(Kaźmierczak, 2013; Moulay et al., 2017; Saffer, 2008). Social interactions in these settings have been linked to increased life satisfaction among elderly individuals. These green spaces provide opportunities for informal socialization, structured group activities, and intergenerational interactions, all of which help strengthen social bonds and reduce the sense of isolation that many elderly individuals experience. In addition, the design and features of parks, such as peaceful and relaxing environments, lush greenery, walking trails, and birds are important in promoting and supporting older adults' visits to parks and their active and social use of parks, which promotes interaction and a sense of belonging within the community(Veitch et al., 2022).

2.4. Big Data Applications in Urban Park Research

The use of big data in urban park research has emerged as a transformative approach to understanding the dynamic interactions between demographic trends, environmental design, and public health outcomes. Particularly in the context of the growing elderly population, big

data offers unparalleled opportunities to analyze and address issues related to urban park accessibility, utilization, and the well-being of older adults. However, significant research gaps remain in the application of big data to urban park studies, particularly concerning its use in examining the unique needs of ageing populations.

2.4.1 Current Applications of Big Data in Urban Park Research

Big data enables researchers and urban planners to gather extensive, real-time information about urban parks and their users. For example, the use of big data for user analysis of urban parks. Big data derived from mobile devices, GPS tracking, and geotagged social media posts provides insights into how, when, and why people use urban parks(Li et al., 2020; Liu et al., 2023; Lyu & Zhang, 2019; Oh & Jeong, 2007; Yu & Fang, 2023). These data streams help identify patterns in park visits, preferred activities, and areas of high or low engagement. Big data can also be utilized for environmental and spatial analysis. Satellite imagery and GIS data allow for detailed mapping of green spaces, proximity to residential areas, and connectivity with transportation networks. This data is critical for assessing the accessibility and inclusivity of urban parks(Khahro et al., 2023; Sicard et al., 2023; D. Zhang et al., 2023)

2.4.2 Research Gaps in Big Data Applications

While big data has brought innovation to urban park research, its application to the well-being of ageing populations remains underdeveloped.

There is limited focus on the elderly population. Most big data studies on urban parks focus on general usage patterns rather than specifically addressing the needs of older adults. Older people's preferences are only considered as a reference for the implementation of interventions and are not included in the accessibility assessment system(La Rosa et al., 2018). Despite the potential substantial influence of social settings and community surroundings on older adults' resilience, public policy in the United States pays little attention to the community environments where older individuals live, such as urban parks(Scharlach & Lehning, 2013). As a result, insights into how the elderly interact with parks and the barriers they face remain limited. Secondly, there is also the challenge of resource consolidation. Comprehensive research requires integrating datasets from various sources—such as healthcare, mobility, and social media data—but these are often siloed. Bridging these datasets is essential for a holistic understanding of how parks contribute to elderly well-being(Yu & Fang, 2023). And few studies use longitudinal data to analyze changes in park usage over time, particularly in relation to demographic shifts like neighbourhood ageing(Guo et al., 2019; D. Zhang et al., 2023). This lack of temporal analysis hinders the ability to predict future trends and needs. And in existing studies using big data to analyze older adults and park use, the focus on influencing factors is limited to accessibility and should include more factors such as park amenities and park brightness(Guo et al., 2019; D. Zhang et al., 2023). What's more, urban park research often relies on data from well-resourced cities, neglecting less developed urban areas. This geographic bias limits the generalizability of findings and leaves gaps in understanding disparities in access to and

quality of parks. On top of that there are privacy considerations. Collecting and using big data raises privacy issues, especially when dealing with sensitive information about older adults(Yu & Fang, 2023). Balancing ethical considerations with the need for granular data remains a challenge.

2.5. Addressing Elderly Well-Being through Big Data

Big data holds specific promise for addressing the challenges faced by older adults in accessing and benefiting from urban parks. Identify the barriers faced by older adults as a specific age group through big data. Data from surveys, transportation patterns, and accessibility metrics can pinpoint obstacles unique to older adults, such as distance from parks, lack of nearby transit options, or the absence of age-friendly infrastructure (Guo et al., 2019; Sim & Miller, 2019; Zhao et al., 2022). Big data can help managers see the needs of seniors so they can design and optimize parks. Feedback from elder-specific data, such as preferences for shaded walking paths, seating, and quieter spaces, can guide the design of parks that are more inclusive for older populations(Guo et al., 2020; R. Zhang et al., 2023). It also tracks data on the dynamics of population ageing through big data such as the census. Census data and neighborhood demographic trends allow researchers to track areas with a high density of older residents, helping planners prioritize park improvements in these locations (Chen, 2002; Mortaheb & Jankowski, 2023).

Big data provides a powerful lens for understanding and improving the relationship between ageing populations and urban parks, yet critical gaps remain in its application to elderly well-being. By addressing these gaps, we can better leverage data to design parks that meet the specific needs of older adults, fostering environments that promote health, social interaction, and overall happiness. The integration of big data into urban planning represents a vital step toward creating inclusive cities that prioritize the well-being of all residents, particularly as the U.S. population continues to age.

3. Methodology

Explain what research methods were used and why. Explain how they were applied. Measurement, Data collection, and Analytical methods may be included.

3.1. Data Collection

This study integrates multiple large-scale datasets to comprehensively analyze the relationship between neighborhood aging and urban park usage. The datasets used include mobility data, geospatial park data, population distribution data, environmental indicators, and socio-demographic statistics. By leveraging diverse data sources, the study ensures a robust and multidimensional understanding of how elderly individuals access and utilize urban parks across U.S. cities.

3.1.1 Mobility Data

The primary dataset for measuring park visitation patterns is derived from SafeGraph's mobility data (2021), which records anonymized mobile device movements. This dataset includes monthly visitor counts from census block groups (CBGs) to park points of interest (POIs), covering approximately 45 million mobile devices, or roughly 10% of mobile devices in the U.S. The dataset comprises 121,006,070 records, ensuring a large and representative sample of park visits. The representativeness (sampling rate) of 5%-10% enhances the reliability of mobility-based visitation trends.

3.1.2 Geospatial Park Data

To establish a comprehensive inventory of urban parks, the study employs the ParkServe database (2021), developed by The Trust for Public Land. This dataset provides key attributes for parks across 14,000 cities and towns, covering approximately 130,000 urban parks. The dataset includes essential park characteristics such as name, location, access status, size, and managing agency. Given the study's focus on equitable access to green spaces, only freely accessible parks were included in the analysis.

3.1.3 Population Distribution Data

Population data were obtained from WorldPop (2021), an open-access dataset providing block-level population distribution estimates based on U.S. Census Bureau data. The dataset maintains high spatial accuracy, with a resolution of approximately 100 meters, ensuring precision in demographic assessments. The population distribution estimates were generated using Random Forest-based machine learning methods (Bondarenko et al., 2020; Nieves et al., 2020; Reed et al., 2018; Stevens et al., 2015), which enhance data accuracy by integrating multiple demographic and environmental predictors.

3.1.4 Satellite-Derived Environmental Indicators

To assess the environmental quality of urban parks, this study incorporates satellite-derived data on vegetation and nighttime lighting. The Landsat 8 Operational Land Imager (OLI)/Thermal Infrared Sensor (TIRS) Collection 1 dataset from the U.S. Geological Survey (USGS) provides measurements of the Enhanced Vegetation Index (EVI), which quantifies the greenness levels of urban parks and serves as an indicator of vegetation health and density (Huete et al., 2002). With a spatial resolution of 30 meters, this dataset enables precise assessments of greenery, which is essential for understanding the restorative potential of parks for elderly visitors. Additionally, the study incorporates nighttime light data from the NASA Black Marble annual nighttime lights product (VNP46A4), derived from the Visible Infrared Imaging Radiometer Suite (VIIRS) Day/Night Band (DNB) sensor. This dataset provides annual measurements of nighttime light radiance ($nWatts \cdot cm^{-2} \cdot sr^{-1}$) at a 15 arc-second resolution, offering insights into human activity levels, urban vibrancy, and perceived safety in park surroundings (Román et al., 2021). Given that well-lit environments can enhance accessibility and encourage elderly individuals to use parks during evening hours, these data serve as a critical measure of park usability and security. By integrating vegetation and nighttime light indicators, this study evaluates the

environmental factors that influence elderly park usage, contributing to a comprehensive understanding of park accessibility and appeal.

3.1.5 Spatial Sound Modeling Data

To evaluate noise pollution in urban parks, the study uses spatial sound modeling data from the National Park Service (NPS). This dataset provides estimates of park noisiness levels, measured as sound pressure levels (dBA re20uPa), using Random Forest models. The dataset has a spatial resolution of 270 meters, allowing for detailed noise exposure assessments, which are particularly relevant for elderly park users who may be sensitive to environmental stressors.

3.1.6 Socio-Demographic Data

Socioeconomic and demographic characteristics were derived from the U.S. Census Bureau's American Community Survey (ACS, 2020). The dataset covers a range of social, economic, and housing variables at the census block group level, ensuring detailed demographic insights. The ACS dataset is particularly valuable for analyzing elderly populations, as it provides reliable statistics for small population subgroups, thereby increasing the precision of neighborhood aging classifications.

By integrating these diverse datasets, this study captures a holistic view of elderly park access and usage patterns, allowing for a rigorous analysis of how demographic, spatial, and environmental factors influence park engagement among aging populations.

3.1.7 Ageing Level

To assess the impact of aging on urban park use, this study classifies neighborhoods into different aging levels based on the proportion of elderly individuals within the total population, following established thresholds (Kasai, 2021; Miksa, 2015; OECD & Organization, 2022). Using data from the U.S. Census Bureau's American Community Survey (ACS) at the Census Block Group (CBG) level, neighborhoods are categorized into four groups: non-aging neighborhoods, where the elderly population constitutes less than 7% of the total; aging neighborhoods, with elderly populations between 7% and 14%; aged neighborhoods, where the proportion falls between 14% and 21% (alternative range: 15% to 20%); and super-aged neighborhoods, where elderly individuals comprise 21% or more of the total population. This classification allows for a comparative analysis of park visitation patterns across different demographic stages, enabling an in-depth understanding of how aging levels influence park accessibility and usage among older adults.

3.2. Analytical Methods

3.2.1. ANOVA

To investigate the relationship between neighborhood aging levels and urban park use, this study employs a combination of statistical and econometric techniques. First, a one-way Analysis of Variance (ANOVA) is conducted to determine whether there are statistically significant

differences in park visitation rates across different neighborhood aging levels. ANOVA allows for the comparison of means across multiple groups, in this case, non-aging, aging, aged, and super-aged neighborhoods. By analyzing variations in visitor counts and per capita visitation rates, this method helps identify whether elderly-dense neighborhoods exhibit distinct patterns of park usage compared to less aging areas. Post-hoc tests, such as Tukey's Honest Significant Difference (HSD) test, are further applied to assess pairwise differences between aging categories.

3.2.2. Regression Model

In addition to ANOVA, a multivariate regression model is employed to quantify the impact of socio-demographic, environmental, and park-specific factors on elderly park visitation. A log -linear regression model is specified to account for the skewed distribution of visitor counts and per capita visitation rates. The dependent variable in this model is park visitation, measured as the total visitor count and visitor density per square meter. Independent variables include the proportion of elderly residents in a neighborhood, ethnicity, income, education, population density, commuter and so on. Park-level attributes, such as vegetation index (NDVI), nighttime light intensity, noise levels, and distance to the city center, are also incorporated to assess their influence on visitation patterns.

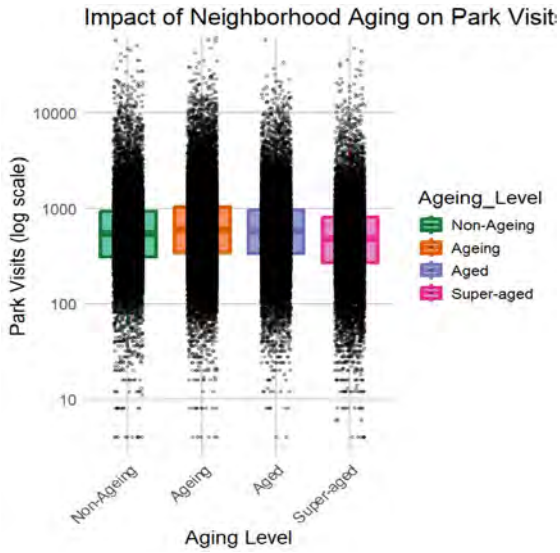
To address potential spatial dependencies in park usage, the model includes spatial lag terms to control for neighborhood spillover effects. Additionally, robust standard errors are used to mitigate heteroscedasticity, ensuring reliable statistical inference. By integrating both ANOVA and regression analysis, this study provides a comprehensive assessment of how aging demographics shape urban park visitation, offering valuable insights for policy recommendations aimed at improving park accessibility and engagement for elderly populations.

4. Results

4.1. The Impact of Neighborhood Aging on Urban Park Visitation

The results of the data analysis reveal a significant decline in park visitation rates as neighborhood aging levels increase. The ANOVA tests confirm that elderly individuals residing in aging neighborhoods are significantly less likely to visit urban parks compared to those in non-aging neighborhoods (Figure 1). Regression analysis further demonstrates that in comparison to non-aging neighborhoods, park visitation rates decrease by 76.1 in aging neighborhoods, by 130.1 in aged neighborhoods, and by 141.2 in super-aged neighborhoods. This trend suggests that elderly residents in more aged communities face greater challenges in utilizing urban parks, which may be attributed to physical mobility constraints, accessibility barriers, or social isolation.

Figure 1. The relationship between park visitations and aging levels



4.2. User-Side Factors to Park Visitation

Several socio-demographic factors influence elderly park use, as identified through regression analyses. Ethnicity appears to play a role in park engagement, with a positive and significant effect observed for the proportion of white residents (coefficient = 368.7, $p < 0.001$). In contrast, the proportions of Black, Asian, and Hispanic residents did not exhibit significant effects. This suggests potential barriers related to social belonging, language, and perceived inclusivity for non-white elderly populations.

Education levels further shape visitation patterns; neighborhoods with lower education levels show significantly reduced park engagement (coefficient = -343.9, $p < 0.001$). This suggests that elderly individuals in less educated areas may face barriers related to literacy and awareness of available park resources.

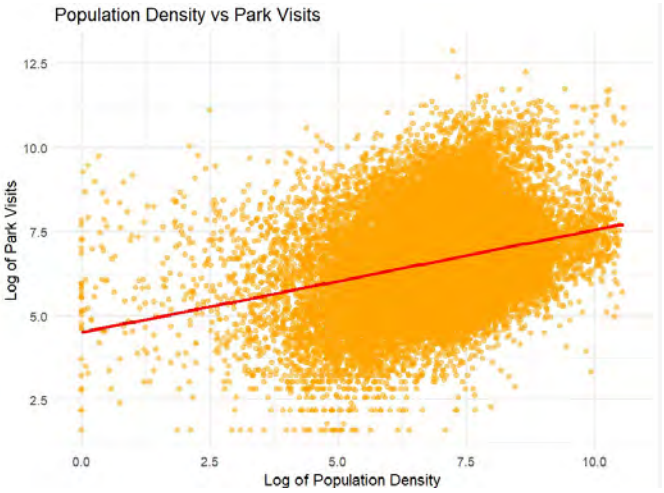
Income levels present a contrasting effect. Low-income groups have significantly higher park visitation rates (coefficient = 313.0, $p < 0.001$), reinforcing the idea that public parks serve as an essential recreational space for economically disadvantaged populations. However, inadequate park infrastructure in low-income areas could limit the usability of these spaces for elderly residents.

Additionally, long commute times negatively impact park visits (coefficient = -217.8, $p < 0.001$), indicating that elderly individuals living in areas with long travel times to parks may be discouraged from visiting due to mobility constraints and transportation barriers.

4.3. Park-Side Factors to Park Visitation

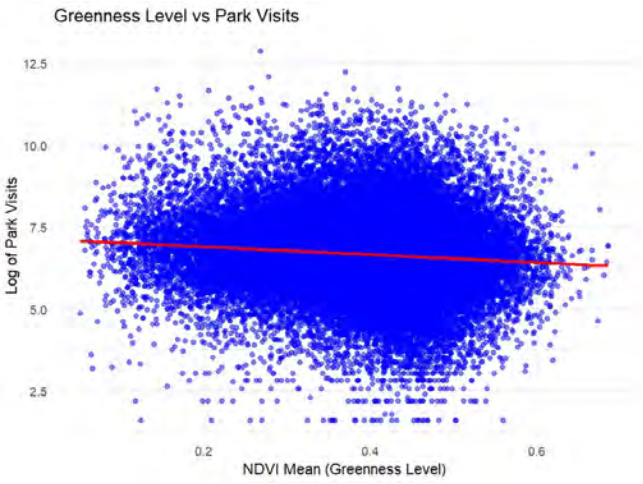
Beyond individual and neighborhood characteristics, environmental and infrastructural factors associated with parks themselves also influence elderly park use. Population density within a park's vicinity has a positive effect on visitation (coefficient = 0.2877, $p < 0.001$), likely due to higher accessibility and demand (Figure 2). However, high population density may also result in overcrowding, which can deter elderly individuals from frequenting parks.

Figure 2. The relationship between park visitations and population density



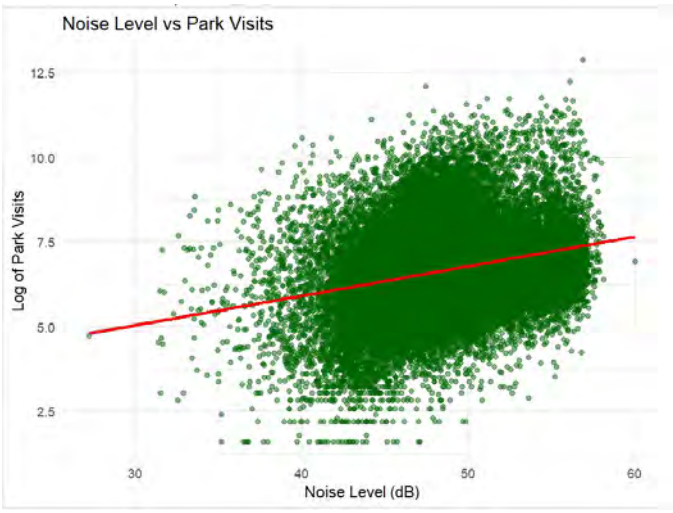
Unexpectedly, higher greenness levels (coefficient = -1.2912, $p < 0.001$) correlate with reduced park visits. This suggests that parks with extensive green spaces may be located in more remote areas or lack adequate infrastructure, such as benches, pathways, and restrooms, making them less attractive to elderly users(Figure3).

Figure 3. The relationship between park visitations and greenness levels



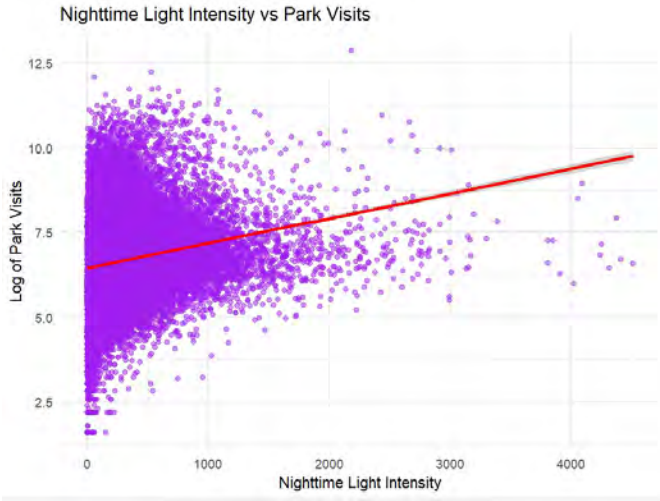
In contrast, noise levels have a small but significant positive impact on visitation (coefficient = 0.0129, $p < 0.001$), indicating that busier parks attract more visitors(Figure 4). However, elderly individuals may find high-noise environments uncomfortable or stressful, limiting their engagement with such spaces.

Figure 4. The relationship between park visitations and noise levels



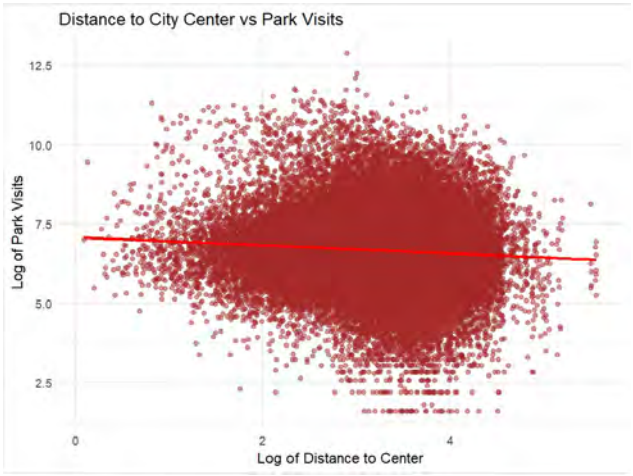
Nighttime light intensity is another critical factor affecting park visitation (coefficient = 0.4227, $p < 0.001$)(Figure 5). Parks with higher nighttime light exposure see increased visitation, suggesting that well-lit parks provide a sense of safety and security, which may encourage elderly individuals to visit. Conversely, poorly lit parks may deter elderly visitors due to concerns over visibility and safety risks.

Figure 5. The relationship between park visitations and Nighttime light intensity



Similarly, distance to the city center negatively affects park visitation (coefficient = -0.1272, $p < 0.001$)(Figure 6). The further a park is from the urban core, the lower the number of visits, underscoring the importance of park accessibility for elderly populations with mobility limitations.

Figure 6. The relationship between park visitations and distance to city center



5. Discussion and Implications

5.1. Discussion

The findings of this study align with and expand upon previous research on urban park usage among elderly populations. Consistent with prior studies (e.g., Sugiyama et al., 2009; Shanahan et al., 2014), this study confirms that elderly park visitation declines as neighborhood aging levels increase. This decline is particularly pronounced in super-aged neighborhoods, suggesting that infrastructural and mobility-related barriers intensify in highly aged communities. Previous literature has emphasized the importance of park accessibility and safety for elderly users (Cohen et al., 2016), and our findings further highlight the significance of proximity and public infrastructure in promoting park engagement.

A key contribution of this study is the identification of socio-demographic factors influencing elderly park use. The positive association between white population proportions and park visitation is consistent with research showing racial disparities in outdoor recreation (Byrne & Wolch, 2009). The lack of significant effects for Black, Asian, and Hispanic populations suggests potential barriers related to cultural preferences, social cohesion, and perceived inclusivity. Additionally, the negative impact of low education levels on park use aligns with findings from Bedimo-Rung et al. (2005), who suggest that awareness and health literacy play critical roles in shaping engagement with urban green spaces.

The study also sheds light on environmental and infrastructural factors affecting elderly park use. Contrary to expectations, higher greenness levels were associated with reduced park visitation, which may indicate that parks with extensive green spaces are not necessarily well-de-

signed for elderly use, potentially lacking essential amenities such as walking paths, rest areas, and shaded spaces. Similar counterintuitive findings have been reported in studies highlighting the importance of park design over mere green coverage (Kaczynski et al., 2014). The positive effect of nighttime lighting on park visitation supports existing research demonstrating the importance of perceived safety in public space usage (Loukaitou-Sideris, 2006). These findings collectively reinforce the need for targeted urban planning and policy interventions to enhance park accessibility and usability for aging populations.

5.2. Academic and Practical Implications

This study contributes to the growing body of research on aging, urban planning, and public health by employing a large-scale, data-driven approach to analyze elderly park use patterns. The integration of multiple datasets, including mobility tracking, demographic information, and environmental indicators, provides a comprehensive understanding of the multifaceted factors influencing urban park use. These findings bridge gaps in previous research, which often relied on localized surveys or qualitative assessments, by offering a broader, nationwide perspective.

From a practical standpoint, the results underscore the importance of designing age-friendly parks that cater specifically to the needs of elderly populations. Urban planners and policymakers should prioritize park accessibility by ensuring that parks are located within walkable distances from aging communities and are connected through barrier-free infrastructure. Safety enhancements, such as improved lighting and noise regulation, can make parks more inviting for elderly users. Furthermore, efforts should be made to enhance park inclusivity by addressing cultural and socio-economic disparities in park access. Community engagement initiatives, such as intergenerational programs and outreach efforts in diverse neighborhoods, could help promote park use among elderly individuals from underrepresented backgrounds.

5.3. Limitations of This Study and Suggestions for Future Research

Despite its contributions, this study has several limitations. First, while the use of big data provides valuable insights into elderly park use patterns, it does not capture the subjective experiences and motivations behind park visits. Future research could complement these findings with qualitative methods, such as interviews and surveys, to gain deeper insights into the personal and social factors influencing elderly park engagement.
Second, the study primarily relies on mobility data derived from mobile devices, which may not fully represent all elderly individuals, particularly those who do not frequently use smartphones or location-tracking services. As a result, the study may underrepresent certain elderly subpopulations, such as those with limited technological access. Future studies could explore alternative data sources, including community surveys and observational studies, to address this limitation.

Third, the analysis does not account for seasonal variations in park use. Weather conditions and seasonal differences may significantly influence elderly park visitation patterns, and future research could incorporate longitudinal data to examine how these factors shape park engagement over time.

Overall, this study highlights critical barriers to elderly park use and provides a foundation for evidence-based policymaking to enhance urban parks' role in supporting aging populations. Future research should continue to refine and expand upon these findings to create more inclusive and accessible urban environments for elderly residents.

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Balancing Stress and Leisure: Mothers' Experiences in Three-generational Family Travel (Paper#052)

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Abstract:

Although their significant market influence, three-generational family tourists have yet received little attention from researchers. Mothers especially play diverse and crucial roles in these trips, resulting in complex experiences. This research uses conservation of resource theory to model the dynamics of stress, partner support, self-efficacy, satisfaction, and subjective well-being experienced by mothers during three-generational family trips. Research indicates that parenting stress adversely affects these women's travel experiences, while support from partners and self-efficacy improve those experiences.

Keywords: Mothers, three-generational family travel, stress, partner's support, travel satisfaction, conservation of resource theory



Theme: Special Interest Group

Who Inherits Tradition? Rethinking Intergenerational Transmission in the Festival Tourism Practices of Chinese Ethnic Minority Women (Paper#178)

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Abstract:

This study explores how tourism reshapes intergenerational cultural transmission among Li women through festival-based cultural performance and display. Drawing on constructivist grounded theory and interviews with 25 participants, the research develops a theoretical model that demonstrates how tourism-driven institutionalization and socio-economic shifts reshape transmission dynamics and cultural roles across generations. The findings contribute to heritage and tourism studies by offering a generationally differentiated framework of cultural transmission and by providing actionable insights for culturally inclusive and gender-sensitive policy design.
Keywords: Intergenerational transmission, Festival tourism, Constructivist grounded theory

1. Introduction

Ethnic festivals serve as vital expressions of cultural identity and mechanisms for heritage preservation (Sharaby, 2022). As festival tourism becomes a growing pillar of the global tourism economy (Dresler & Jackson, 2024), many ethnic communities face the challenge of maintaining cultural authenticity while adapting to market demands (Zou et al., 2021). These tensions are particularly visible in intergenerational transmission, where traditional knowledge and ritual practices are increasingly negotiated across age cohorts. Research has noted that younger generations often demonstrate weaker cultural attachment and decreasing participation in ethnic customs (Chunling & Senlin, 2020). In Hainan, for example, participation in the Li people's "March 3rd" festival has declined by 41% over the past decade (Institute for Ethnic Studies, Hainan University, 2020), underscoring the fragility of cultural continuity amid tourism transformation.

In response to these shifts, this study focuses on the Li ethnic group, where festivals continue to serve as symbolic anchors of identity, yet are undergoing significant transformations in form, meaning, and participation. Tourism has reshaped how cultural knowledge is performed, learned, and valued, creating marked differences in how generations engage with festival-based transmission. While prior studies have addressed the revitalizing potential of tourism in heritage contexts, limited attention has been given to how these dynamics vary across generations and intersect with gendered participation. This study examines how intergenerational transmission among Li women, particularly within the context of festival performance and cultural display, has evolved alongside institutional and socio-economic change. Based on fieldwork conducted at Binglanggu, a Li and Miao ethnic cultural park in Hainan, this study addresses two key questions: (1) What are the generational differences in Li women's participation in festival-based cultural transmission? (2) How has tourism influenced their roles in this process? By examining these questions, this study aims to deepen understanding of how Li women negotiate intergenerational transmission within the evolving landscape of tourism and institutional transformation.

2. Literature Review

2.1 Ethnic Festivals in Tourism Contexts

Ethnic festivals serve as important expressions of cultural memory, identity, and transmission, embedding ritual into everyday life while fostering community cohesion (Cudny, 2013; Kapitány et al., 2020). As recurring cultural events, they offer opportunities for younger generations to engage with tradition and for communities to strengthen internal bonds through performance and shared meaning (Sharaby, 2022). In tourism contexts, festivals also function as platforms for heritage preservation and economic development, requiring a balance between authenticity and adaptation (Zou et al., 2020). Case studies such as the Dong ethnic group festivals demonstrate how cultural expression is sustained through festival tourism (Fan et al., 2021). Moreover, public support for transforming traditional festivals often depends on perceived cultural value and economic benefit, reflecting broader tensions between preservation and change (Choi et al., 2020).

2.2 Tourism and Women Studies

Tourism research increasingly recognizes gender as a key dimension shaping participation, representation, and labor in the tourism industry (Khoo-Lattimore & Wilson, 2017; Eger et al., 2022). While tourism can offer women economic opportunities and cultural visibility such as through small enterprises or handicrafts (Figueroa-Domecq & Segovia-Perez, 2020), it may also reinforce traditional gender roles and unequal labor divisions (Jiménez-Esquinas, 2016). In contexts like Bali and Morocco, women face persistent discrimination, exploitation, and heightened emotional labor despite formal inclusion in tourism (Krisnadi & Maharani, 2021; Bouhmid, 2023). For ethnic minority women, these challenges are compounded by structural barriers such as limited education (Feng, 2020). Nevertheless, rural and cultural tourism have created new avenues for participation and empowerment, particularly in socio-economic and emotional

domains (Su et al., 2023). However, tourism development may also reproduce colonial stereotypes or confine women to symbolic roles, excluding them from decision-making and social recognition (Bayona Escat, 2022). These findings highlight tourism's ambivalent role in gender dynamics and underscore the need to critically assess how empowerment, labor, and identity intersect in ethnic tourism contexts.

2.3 Intergenerational Transmission in Ethnic and Festival Contexts

Intergenerational transmission refers to the passing of cultural values, skills, and identities across generations through language, rituals, and shared practices (Cavalli-Sforza & Feldman, 1973). This process is not confined to the family but extends into broader community and policy contexts (Boström & Schmidt-Hertha, 2017). Cultural transmission, especially within ethnic groups, reflects both social continuity and adaptation, shaped by historical shifts and changing values (Sun & Cheng, 2018). Studies reveal generational differences in cultural identity and value orientations, with younger people often showing weaker national identification than older generations (Sivrikova et al., 2019). While some scholars question the validity of generational categories (Costanza & Finkelstein, 2015), others affirm that age, experience, and socio-cultural background lead to meaningful distinctions in transmission and engagement (Albertini et al., 2018).

In cultural heritage studies, intergenerational transmission is essential for sustaining intangible traditions such as festivals (UNESCO, 2003). Ethnic festivals, as recurring and socially meaningful events, are passed down and reshaped through familial and communal participation (Bisin & Verdier, 2005). Case studies from Colombia and China show how practices like food preparation and handicraft production contribute to both identity formation and cultural continuity (Quintero-Angel et al., 2019; Wu et al., 2021). Within these transmission processes, ethnic women frequently act as both symbolic representatives and practical transmitters of cultural knowledge, engaging in ritual, education, and heritage labor (Sun & Cheng, 2022). However, their roles are often shaped by intersecting factors such as ethnicity, education, and community expectations, which influence how they participate in and negotiate festival-based cultural transmission (Postepska, 2019). Despite their central role, existing research has not fully examined the complexity and agency of women in these contexts, particularly in relation to how festivals function as gendered spaces of both continuity and transformation. Addressing this gap, the present study investigates intergenerational shifts in Li women's roles within festival tourism, highlighting how cultural transmission is reconfigured through tourism-driven institutionalization and socio-economic change.

3. Methodology

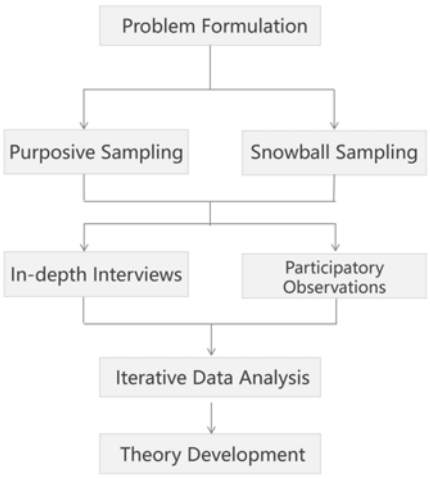
This study adopts a qualitative research paradigm informed by constructivist grounded theory, which emphasizes the co-construction of knowledge through interactions between researchers and participants within specific social and cultural contexts (Charmaz, 2017). Grounded theory is particularly suitable for investigating dynamic processes(Glaser, 1998; Sosa-Díaz, & Valverde-Berrocoso, 2022), utilizing this approach allows for a nuanced exploration of participants' lived

experiences and the socio-cultural mechanisms underlying their engagement with festival-based cultural transmission. The research design comprised sequential stages, including problem formulation, purposive and snowball sampling, in-depth interviews, participatory observations, iterative data analysis through coding, and theory development. A detailed research process flowchart illustrating these stages is provided in Figure 1 to clearly articulate the logical progression of the study. Qualitative methods were selected for their capacity to uncover rich, context-specific insights into social behavior and meaning-making processes, particularly in environments shaped by institutional and experiential complexity (Denzin & Lincoln, 2011). This methodological approach enabled an in-depth exploration of subjective experiences, perspectives, and the subtle cultural dynamics at play among different generations of Li women participating in festival activities.

3.2 Sampling and Participant Grouping

The study was conducted at Binglanggu, the Hainan Li and Miao Ethnic Cultural Park, selected for its prominence as a cultural-tourism destination that actively showcases ethnic heritage through festival performances. As a key site where heritage preservation intersects with tourism commercialization (Gu et al., 2024), Binglanggu provided a dynamic setting to examine intergenerational transmission in practice. A combined purposive and snowball sampling strategy was employed to ensure generational diversity and access to culturally embedded participants. Initially, purposive sampling targeted individuals from different age cohorts based on their festival involvement and exposure to cultural practices. Snowball sampling further identified participants through local referrals, enhancing trust and access in a close-knit community context. This approach is commonly recommended in qualitative studies involving socially embedded or hard-to-reach populations (Kay, 2024). In total, 25 Li women were selected and categorized into four generational groups based on Erikson's life cycle theory (Erikson, 1982), UN age classifications (United Nations, 2013), and local understandings of age and social roles: Adolescents (under 20, N=7), Young Adults (20–39, N=5), Middle-aged Adults (40–59, N=8), and Older Adults (60+, N=5). This enabled generational comparison of transmission practices within the context of tourism-driven festival participation.

Figure 1. Overview of Research Process



3.3 Data Collection

Data collection involved two primary qualitative methods: semi-structured interviews and participant observations, conducted intensively between March and August 2024 at Binglanggu. Each participant completed at least one interview, typically lasting 30 to 60 minutes, held in quiet, private settings to encourage openness and trust. Interviews followed a flexible guide exploring cultural learning histories, current practices, roles in tourism, and generational perspectives. All sessions were audio-recorded with consent and transcribed verbatim. Transcripts in local dialects were translated into Mandarin and then English, with back-translation ensuring linguistic and semantic accuracy.

Participant observation is widely recognized for its capacity to provide contextual depth, enabling researchers to understand tacit cultural practices that may not be fully articulated in interviews (Iacono et al., 2009; Robey & Taylor, 2018). Researchers participated in key festival events such as traditional weaving demonstrations, ethnic dance performances, and ritual activities. During these events, detailed field notes were taken to document participant interactions, performance dynamics, and socio-cultural contexts. This immersive approach facilitated the triangulation of interview data by comparing verbal accounts with observed behaviors and enriched the researchers' understanding of subtle transmission processes. Triangulation across methods not only increases the trustworthiness of qualitative findings but also helps reveal contradictions and complexities within the cultural field (Meydan & Akkaş, 2024). To visually illustrate the interview context and participant engagement during fieldwork, selected photographs taken with participants' consent are presented below (Figure2). These images capture the naturalistic settings in which cultural knowledge was discussed and demonstrated.Comprehensive participant profiles were compiled, including demographic information, generational grouping, cultural skills, and festival participation, and summarized in Table 1. Festival involvement was categorized based on interview descriptions and supported by field observations. These profiles provided contextual grounding, clarified generational distinctions, and informed subsequent coding and theory development. Ethical principles guided all stages of data collection. Researchers obtained informed consent, ensured anonymity through pseudonyms, and maintained data confidentiality. Cultural sensitivity was upheld throughout, especially given the involvement of ethnic minority women and younger participants.

Figure 2. Interview settings with different generations of participants.



Table 1. Participant Profiles

Code	Exact Age	Generational Category	Skill Type	Festival Involvement
C1	17	Adolescents	Basic Weaving	School activity
C2	18	Adolescents	Bamboo Pole Dance	Dance performance
C3	19	Adolescents	Intro to Weaving	Cultural display
C4	19	Adolescents	Singing & Dance	Singing
C5	17	Adolescents	Li Brocade	Craft contest
C6	19	Adolescents	Costume Wearing	Social media
C7	18	Adolescents	Li Songs	Tourist guiding
C8	32	Young Adults	Singing & Dance	Dance & guiding
C9	21	Young Adults	Cultural Storytelling	Occasional presence
C10	23	Young Adults	Folk Dance	Stage performance
C11	25	Young Adults	Li Songs	Social media
C12	28	Young Adults	Folk Movement	Craft selling
C13	45	Middle-aged Adults	Li Brocade	Cultural teaching
C14	51	Middle-aged Adults	Sacred Songs	Ritual display
C15	49	Middle-aged Adults	Singing Singing	performance
C16	58	Middle-aged Adults	Li Brocade	Food preparation
C17	41	Middle-aged Adults	Li Brocade	Cultural display
C18	46	Middle-aged Adults	Headdress Making	Headdress demo
C19	54	Middle-aged Adults	Li Brocade	Cultural teaching
C20	42	Middle-aged Adults	Dance & Etiquette	Community class
C21	61	Older Adults	Li Brocade	Cultural display
C22	66	Older Adults	Li Rituals	Wine brewing
C23	70	Older Adults	Oral Transmission	Private teaching
C24	63	Older Adults	Singing	Food preparation
C25	68	Older Adults	Li Brocade	Community sharing

3.4 Data Analysis

Data analysis was conducted using NVivo 15 software in line with the constructivist grounded theory approach to ensure methodological rigor and transparency. The process included three stages: initial coding, focused coding, and theoretical coding. In the initial stage, transcripts were analyzed line-by-line to capture meanings grounded in participants' narratives (Lin, 2013). Representative codes included "oral family transmission," "economic re-engagement," and "school-based cultural learning," reflecting how generational differences shaped transmission contexts. These were then clustered into thematic categories through focused coding, using constant comparison to reveal patterns such as "institutionalized re-engagement" and "flexible youth participation" (Thornberg & Charmaz, 2014). In the theoretical coding stage, core categories and their relationships were synthesized into an integrated framework that demonstrated how tourism-driven institutionalization, socioeconomic change, and generational engagement influence transmission dynamics. This model was grounded in participants' perspectives and shaped through ongoing reflexive analysis (Gibson et al., 2010). Theoretical saturation was considered reached when no new categories emerged and conceptual redundancy occurred. To enhance trustworthiness, selected participants were invited to review early interpretations for accuracy and resonance. Peer debriefing with qualitative scholars further refined the coding structure and theoretical model. These strategies ensured that the analysis reflected participants' lived experiences and reinforced the credibility of the findings.

4. Results

4.1 Generational Patterns in Cultural Transmission

The analysis revealed clear generational distinctions in how Li women engage with cultural transmission. Elderly Li women predominantly adhered to traditional familial transmission methods, characterized by intimate, oral, and obligatory modes of learning. For example, C21 noted explicitly: "Traditional weaving is passed down from your grandmother to your mother, then to your aunt. It has always been passed down this way, generation by generation." Such testimonies reflect a commitment to preserving cultural authenticity through familial lineage, affirming scholarly insights that older generations often perceive cultural heritage transmission as a moral obligation embedded in kinship responsibilities (Treas & Mazumdar, 2004; Adjaye & Aborampah, 2004). Moreover, elderly women emphasized rigorous oral memorization, noting challenges inherent in these methods: "Back in our days, we had to rely on oral transmission and recite the chants step by step, which were easy to forget" (C23). The meticulous and often demanding nature of such traditional modes of transmission highlights older generations' efforts to maintain cultural accuracy, despite facing barriers such as declining memory, lack of written resources, and limited adaptability to contemporary learning styles. These traditional methods further emphasize the role of elder Li women as custodians of intangible heritage, responsible not only for cultural preservation but also for maintaining intergenerational family bonds and collective memory.

Middle-aged Li women displayed a notable shift toward institutional engagement, driven by economic and professional opportunities emerging from tourism. Participant C13 reflected this motivation: "The reason I want to learn this is that there is a need for it. After I master it, I can go to elementary and middle schools to teach others." Institutional participation enabled these women to reassert cultural authority in formal, economically viable settings such as schools and cooperatives. Similar patterns have been observed in other heritage tourism contexts, where women's roles are increasingly shaped by formalized structures tied to cultural display (Sheedy, 2022). However, this institutionalization often altered traditional knowledge, simplifying complex rituals and crafts to fit commercial expectations. As C17 remarked: "(Modern Li brocade) isn't as refined anymore. Machines can make it, but it's not like what we made with backstrap looms, which took much longer," illustrating tensions between authenticity and commodification. These shifts also reflect broader trends of female empowerment in ethnic tourism, where women move beyond familial roles to become cultural educators and tourism ambassadors, challenging traditional gender expectations (Moswete & Lacey, 2015).

Young adults, unlike their middle-aged counterparts, engaged more selectively due to competing educational demands and career pressures. They possessed foundational cultural knowledge but demonstrated declining active participation compared to older generations. Participant C9 stated clearly: "Now it's more voluntary because we're busy with academics" indicating a generational prioritization of modern education over traditional cultural activities. Consequently, young adults' cultural engagement was increasingly pragmatic and occasion-driven rather than deeply rooted in daily life, reflecting broader societal shifts towards market-oriented cultural valuation (Sroczyńska, 2021). Young adults viewed traditional practices less as obligations or duties and more as personal choices aligned with individual career aspirations or social interactions. Their selective engagement highlights a distinct generational shift from intrinsic motivations towards extrinsic considerations, underscoring how socio-economic pressures and contemporary value systems profoundly influence their participation in cultural transmission.

Adolescents represented the most autonomous group in the transmission landscape, acquiring cultural skills primarily through structured educational frameworks and tourism settings rather than familial obligations. Participant C1 exemplified this shift: "The school organizes activities, and through participating in them, I learned a bit of traditional weaving." This reflects how institutional contexts increasingly shape adolescents' cultural understanding, alongside a broader weakening of kinship-based transmission. Adolescents also showed diverse motivations for engaging in traditional practices. While some viewed it as a form of cultural identification or enjoyment, others took a more pragmatic approach. As C4 observed: "Yes, she specifically learns these skills. Perhaps she isn't very willing to focus on studying subjects like Chinese, math, and English, so she chooses to learn traditional weaving or bamboo pole dancing to become an inheritor." These accounts suggest that cultural learning is seen less as a familial duty and more as a flexible choice shaped by institutional opportunities and personal trajectories. Compared to older generations, whose participation was rooted in intergenerational responsibility, adolescents engage more selectively, influenced by external opportunities. This reflects shifting perceptions of cultural value, as traditional skills are increasingly negotiated

through institutions rather than inherited by obligation. As a result, cultural identity is no longer passively received but actively shaped through institutional engagement, reflecting broader transformations in how cultural value is constructed and transmitted.

4.2 Mediating Factors in the Intergenerational Transmission

The weakening of familial transmission has altered the traditional pathways through which cultural knowledge is sustained, introducing new forces that mediate how cultural practices are interpreted and valued across generations. These mediating factors reflect broader changes in the cultural logics through which tradition is approached. Elderly participants recalled earlier expectations of cultural learning in everyday life. C21 recounted: "I started learning from my mother when I was 8. If I didn't learn, she would hit me on the head with a stick" highlighting the disciplinary tone and normative obligations once embedded in traditional instruction. Rather than viewing this solely as coercion, it reflects how cultural knowledge was shaped by clearly defined expectations and authority. Recent scholarship has shown that modernization and digitalization increasingly disrupt such normative frameworks, reshaping how traditions are practiced and transmitted in contemporary contexts (Xiao, 2024). As these structures erode, new models of cultural engagement emerge, often shaped by institutional or commercial settings.

One such moderating force is institutionalized education, which increasingly functions as a formalized alternative to kin-based learning. Participant C3 remarked: "Compared to what my mother learned, it seems much simpler now, streamlined, yes, not as complicated as before," reflecting how educational programs reshape traditional skills to fit standardized, curriculum-based formats. This transition does more than enhance accessibility—it often flattens the symbolic and affective dimensions of cultural practice, recasting it as knowledge to be taught rather than lived. In formal schooling, culture becomes pedagogical content, detached from ritual and kinship and recontextualized as part of a structured curriculum (Muzakkir, 2021). While this shift may democratize access, it also dilutes the embodied complexity and situated learning traditionally associated with cultural skills. In parallel, tourism-driven economic opportunities have created new spaces of participation, particularly empowering middle-aged women to re-engage with cultural practices once confined to domestic settings. As C7 noted: "They come here to work, and they have their own financial means, so they are more free, and they are not tied down by their families as they were before." This form of economic and social empowerment enables women to assert agency and redefine their cultural roles. Yet this shift also reflects deeper structural reconfigurations: cultural practices are increasingly valued not solely for their communal or ancestral significance, but for their marketable potential. This aligns with global findings that link women's participation in heritage tourism to processes of economic autonomy, symbolic recognition, and evolving gendered subjectivities (Gu et al., 2024; Su et al., 2023).

The growing influence of new media further complicates transmission dynamics. Digital platforms encourage selective, aestheticized, and often performative engagement with cultural forms. As C11 described: "Binglanggu has a lot of Li costumes. You can put on a dress and dance; posting it online will let more people know about the tradition of our Li people." Here, transmission is no longer embedded in household authority but reimagined through visibility, networked sharing, and symbolic curation. While digital media broaden cultural reach, they also risk flattening meaning, privileging what is visually compelling or socially shareable over what is ritually significant. These conditions recalibrate authenticity itself—not as a lineage-bound attribute, but as something constantly mediated and negotiated in public-facing spaces. Together, these mediating factors do not operate in isolation. They intersect with generational location, institutional influence, and socio-economic positioning, shaping the conditions under which tradition is valued, taught, and reproduced. In this evolving ecology, cultural knowledge becomes less a matter of obligatory inheritance and more a product of flexible engagement, adaptive performance, and context-sensitive navigation.

4.3 Festivals as Performative and Negotiative Spaces

Festivals emerged distinctly as critical arenas where intergenerational transmission visibly intersected with tourism, institutionalization, and commercialization dynamics. Festival settings explicitly transformed Li cultural skills into staged, performative practices tailored for tourism consumption. Participant C15 encapsulated this commercialization: "Everyone would like to sing a song for tourists, and I would be happy to sing my native song to them," highlighting the festivals' dual role in both authentic cultural expression and strategic commercialization for tourism audiences. Festival contexts also provided fluid environments that contrasted markedly with traditional rigid familial transmission. C20 described this flexibility: "When the festival is held here, managers don't force you to do everything. You can rotate tasks, some participating while others take a break," underscoring festivals as adaptive spaces responsive to generational preferences. Such environments enabled varied levels of cultural engagement aligned with individual autonomy and voluntary participation, reflecting scholarly discourse on festivals as adaptive cultural platforms(Perry et al., 2020). Moreover, the performative visibility inherent in festivals intensified generational negotiations regarding authenticity, tradition, and cultural adaptation. Festival performances became publicly staged and scrutinized, influencing internal community perceptions and external tourist expectations. Such visibility illustrated how younger generations increasingly redefined cultural roles through external tourism and institutional demands rather than traditional familial obligations, echoing wider theoretical discussions on cultural commodification in ethnic tourism contexts (Rich & Franck, 2016;Recupero, 2015).

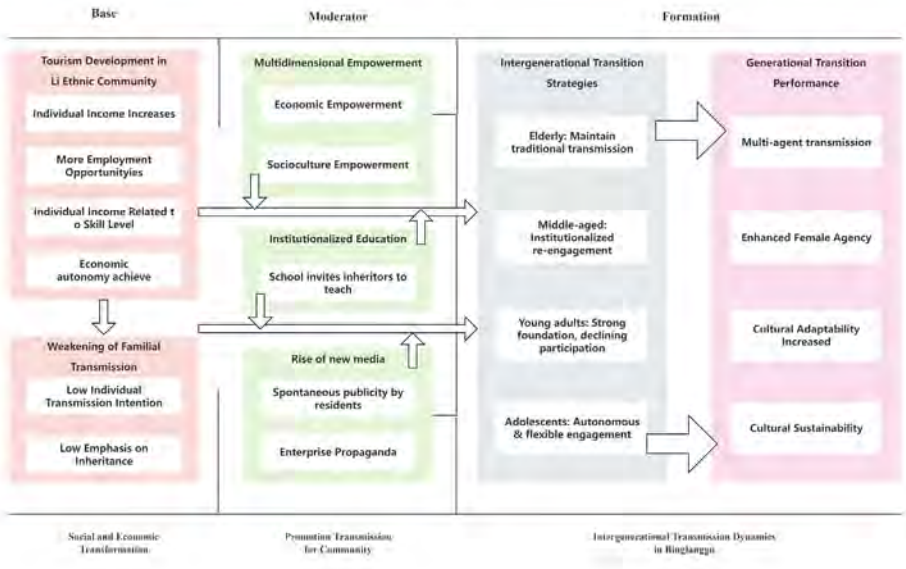
4.4 An Integrated Model of Intergenerational Cultural Transmission

This study proposes an integrated framework to explain how intergenerational transmission among Li women is being reconfigured under the combined pressures of tourism development, institutional transformation, and evolving generational values (see Figure 3). Rather than viewing cultural transmission as a linear or static inheritance process, the model emphasizes its

dynamic and stratified nature, shaped by the decline of kinship-based teaching and moderated by emergent institutional and socio-technical structures. At the core of this transformation lies the erosion of familial transmission, which historically anchored cultural continuity within private, gendered domains. As this foundation weakens, cultural knowledge becomes increasingly conditioned by three interrelated moderators: institutionalized education, multidimensional empowerment, and digital media. These moderators do not entirely replace traditional kin-based models. Instead, they reshape the contexts and conditions under which cultural practices are retained, adapted, or performed. For instance, formal schooling standardizes knowledge and integrates it into educational curricula, while economic participation and digital visibility create new motivations for cultural engagement that diverge from familial obligation.

These mechanisms also operate differently across generations. Elderly women remain rooted in family-based logics but face increasing pressure to adapt cultural forms to institutional and touristic expectations. Middle-aged women occupy strategic positions, leveraging institutional ties and economic resources to renegotiate cultural authority. Younger generations, particularly adolescents, engage more flexibly, with participation shaped by personal interests, school exposure, and social media. The result is a generationally differentiated transmission system where continuity emerges through contextual negotiation rather than familial inheritance alone. Within this framework, festivals hold particular significance. They function not only as performative showcases but also as structured arenas where institutional, generational, and economic forces intersect. Festivals compress temporal and spatial experiences of tradition, making them especially appealing to younger participants through flexible, visible, and monetized formats. For middle-aged women, festivals enable public reengagement through formal roles such as guides, instructors, or performers. The symbolic presence of older women reinforces perceived authenticity, even as their practical involvement declines. Festivals thus become more than cultural backdrops; they are spaces where transmission becomes visible, performative, and actively negotiated.

Figure 3. Dynamics of Cultural Transmission Across Generations



This framework reconceptualizes cultural transmission as an adaptive process shaped by institutional structures, generational shifts, and socio-economic change. It contributes to heritage studies by showing how tourism, rather than threatening traditional knowledge, restructures its modes of practice, legitimacy, and value. Li women across age cohorts do not passively reproduce culture but navigate transmission through strategies such as preservation, adaptation, innovation, or disengagement, depending on life stage and opportunity. Within tourism economies, where authenticity and performance often coexist in tension, cultural heritage emerges as a mediated and pluralized domain. This framework underscores the generationally situated and constructive nature of heritage work. Cultural transmission among Li women is not the static preservation of the past but a dynamic reconfiguration of meaning, value, and practice. Through their engagements with institutional systems and festival performance, Li women shape the evolving contours of cultural sustainability in contemporary tourism contexts.

5. Discussion and Implications

5.1 Discussion

This study contributes to the growing body of research on heritage transmission by revealing how cultural continuity among Li women is not simply sustained or disrupted by tourism, but is actively restructured through a generationally differentiated negotiation of institutions, economic opportunities, and mediated cultural environments. Rather than framing tourism as a unidimensional force that functions either as a commodifying threat (Devine, 2022) or as a preservation tool (Agoes, et al., 2021), this research shows that intergenerational cultural transmission unfolds as a dynamic and stratified process. Within this process, each age group navigates a distinct configuration of access, constraints, and agency. This reconceptualization advances critical heritage scholarship that calls for moving beyond dichotomies of tradition and modernity, and aligns with emerging paradigms that conceptualize culture as something performed, negotiated, and situated within broader social fields (Tri, 2024;Stromberg, 2021).

A key theoretical insight of this study lies in identifying a triadic interaction mechanism—generation, institution, and gender—that shapes cultural participation in festival contexts. While earlier studies have explored women's roles in tourism-based heritage economies (Sheikhi, 2015; Gu et al., 2024), few have examined how access to cultural roles varies across life stages. For instance, middle-aged women re-engage through institutional platforms and economic incentives, while younger women participate more selectively, influenced by education and digital exposure. Existing research shows that tourism does not empower all women equally; access to opportunities is often mediated by socio-cultural context, institutional structures, and household roles (Moswete & Lacey, 2015). Building on this, the present study demonstrates how schools, cultural cooperatives, digital platforms, and tourism markets mediate participation differently across generational groups, offering a more processual, life-course-informed understanding of cultural transmission.

In this evolving landscape, festival spaces play a critical epistemological role. Unlike previous scholarship that treats festivals as heritage showcases (Whyton, 2020), this study positions festivals as structured arenas of cultural re-production, where intergenerational interactions, institutional mechanisms, and touristic demands converge. The study reveals how festival participation enables middle-aged women to shift from domestic transmitters to public cultural educators, and how adolescents experiment with heritage through performative and media-driven practices. This supports emerging work on "festivalization" as a mechanism of socio-cultural reorganization (Kuzmina, 2021), while offering the novel insight that such festival settings do not merely display tradition but actively recalibrate the very conditions under which it is transmitted. At the same time, the theoretical model developed in this study clarifies how cultural transmission is shaped by the interaction of life stage, institutional access, and structural conditions.Rather than occurring automatically across generations, transmission is negotiated through everyday practices shaped by visibility, performance, and social opportunity. As Bourdieu (1986) argues, access to cultural roles is unequally distributed and depends on the possession and conversion of various forms of capital. Cultural continuity thus becomes an active process shaped by uneven agency rather than passive inheritance. This also suggests that sustainability arises not from freezing traditions but from enabling adaptive, age-responsive, and institutionally supported cultural ecosystems. It resonates with emerging heritage literature emphasizing "living heritage" approaches (UNESCO, 2021). Rather than viewing authenticity and innovation as opposites, this study shows how they operate in tandem within festival tourism contexts.

5.2. Academic and practical implications

Academically, this study proposes a grounded framework for understanding how cultural transmission is restructured under the intersecting forces of tourism, institutionalization, and generational change. While previous research has addressed heritage preservation at the policy level (Labadi et al., 2021) or examined women's roles in ethnic tourism in isolation (Su et al., 2023), few studies have explored how generational agency, gendered participation, and structural transformation jointly shape cultural continuity. Focusing on festival-based transmission, this study develops an integrated model that captures both the erosion of kinship-based teaching and the rise of new engagement modes through institutional education, economic empowerment, and digital mediation. It shifts the discourse from cultural "loss" to "reconfiguration," aligning with scholarship that views transmission as dynamic and stratified rather than linear (Abel, 2015). In doing so, it bridges the gap between descriptive accounts of heritage performance and theoretical understandings of transmission as contingent on generational positioning and institutional logics. This research also contributes to festival studies by showing that ethnic festivals are not merely symbolic or commercial events, but institutionalized spaces where transmission is actively produced, contested, and redefined. While earlier studies often emphasized celebration or commodification (Mokgachane et al., 2021; Perry et al., 2020), this study foregrounds festivals as mediating environments where Li women reposition

themselves as cultural agents through performance, teaching, and narration. This perspective offers broader relevance for heritage research in other contexts shaped by tourism, gendered labor, and state-supported programming.

Practically, this study offers valuable insights for policy-makers, educators, and cultural tourism developers aiming to support sustainable and inclusive heritage transmission. The findings suggest moving beyond standardized preservation models toward strategies sensitive to generational differences. In tourism-exposed festival contexts, younger generations engage with cultural practices voluntarily and selectively, often motivated by education or digital exposure rather than familial obligation. Cultural initiatives should therefore offer flexible pathways for participation that reflect varied motivations and life stages. The study also highlights the importance of institutional support. Schools, local governments, and tourism bodies play key roles in facilitating learning, legitimizing cultural labor, and creating intergenerational spaces for knowledge exchange. When coordinated effectively, festivals can serve not only as celebratory events but as active cultural interfaces connecting performers, educators, and audiences. This integration, however, must avoid reducing culture to spectacle. Cultural representations should remain rooted in community values and serve local practitioners. Finally, the research underscores the need to enhance the visibility of women's cultural work in both domestic and public spheres. Training, formal accreditation, and income opportunities can help middle-aged and elderly women transition from household-based knowledge holders to recognized cultural leaders. Supporting this process promotes cultural sustainability while advancing gender-inclusive development and community empowerment in ethnically diverse regions.

5.3 Limitations and Future Research

While this study offers grounded insights into the intergenerational transmission of cultural practices among Li women, several limitations suggest avenues for future research. First, the research is situated within a single ethnic group and a specific festival-oriented tourism context. Although this localized focus provides rich contextual depth, it limits the transferability of findings to other cultural or institutional settings. Future studies could employ cross-regional or multi-ethnic comparisons to explore how transmission strategies vary under different socio-political and tourism regimes. Second, the study focuses exclusively on women, reflecting their historical role as cultural transmitters. However, this leaves out perspectives from male family members, institutional actors, and tourists, all of whom influence how culture is interpreted and sustained. Including these voices could offer a more holistic understanding of how transmission is shaped across gendered and institutional boundaries. Third, the study captures a single moment in time, relying primarily on retrospective accounts. This temporal limitation constrains understanding of how transmission strategies evolve over time or across life stages. Longitudinal research could illuminate how generational shifts intersect with broader institutional and technological changes. In particular, as digital platforms increasingly mediate cultural circulation and performance, future studies might explore how online media reshape the meanings, audiences, and authority structures of cultural transmission.

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Meditation tourism in the digital age: How Xiaohongshu shapes Chinese tourists' decision-making in participating meditation experience programs (Paper#168)

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Abstract:

In recent years, the meditation experience program has become a tourism product in China and formed a community through users' sharing and discussion on Xiaohongshu. This study aims to deeply explore notes generated by different groups and comments on Xiaohongshu how to affect their decision-making. Based on the theory of social impact, this study designs interview questions from the three core elements of intensity, immediacy and quantity and analyze the data collected from 23 respondents through semi-structured interviews. The results show that most respondents trust the real experiences shared by ordinary users, rather than authoritative bloggers and official organizations. Meanwhile, their decisions were generally influenced by the timeliness of the interaction and the number of likes on their notes.

Keywords: Meditation experience programs; Decision-making; Xiaohongshu

1. Introduction

In recent years, meditation experience programs have gained widespread recognition as a unique and valuable tourism product, in China. These programs have significantly enriched the diverse range of tourism experiences available to travelers, offering not just a change of scenery, but also profound spiritual, psychological, and potential health benefits. During the course of these meditation experience programs, tourists walk into the temples, participate in communal meals, engage in daily chores and work alongside the resident monks, practice meditation techniques under the guidance of experienced practitioners, and even reside within the temple grounds (Sadhra et al., 2010). Through these experiences, they want find resolutions to personal issues, enriching their life experiences, or seeking refuge from the daily stresses (Jiang et al., 2018).

Xiaohongshu has become one of the important channels for the promotion of meditation experience programs. Founded in 2013, Xiaohongshu is a comprehensive e-commerce application that integrates life and shopping with a diversified mechanism (Xu et al., 2022). By browsing, liking, bookmarking, commenting and posting notes, users form and participate in online communities on different topics in Xiaohongshu, which influences their cognitions and decision-makings. (Tian et al., 2021). In December 2024, XiaoHongshu's monthly active users in China have reached 225 million (Thomala, 2025). On this platform, there are four meditation -related topics with more than 10 million page views, and at least 30 with more than 100,000

views. For instance, "meditation" has garnered over 270 million page views of notes, while notes related to the keyword "meditation camp" have received approximately 5.511 million views.

Through investigation, the existing foreign literature mainly studies Thailand and South Korea as cases, while the number of foreign studies on Chinese meditation tourism is small. Current research focuses on the motivation and function of meditation experience programs, but lacks the exploration of its information sources and factors affecting tourists' decision-making, so this research can fill this gap. Many scholars have researched user generated contents of Xiaoshongshu how to affect tourists' decision-making, but few researchers compared it with influence of generated contents by key opinion leaders and firms. Therefore, this study aims to investigate how Xiaohongshu affect Chinese tourists' decision-making to participate in meditation tourism programs. Under the guidance of social impact theory, this research starts from the three core elements of strength, immediacy and quantity to deeply analyzes the process of influencing tourists' participation in decision-making. There are three purposes: 1) Compare and evaluate the impact of notes generated by users, key opinion leaders, and firms on tourists' participation decision-making; 2) Explore how interactions in the comments section affect tourists' participation decision-making; 3) Compare the influence of the number of followers of the blogger and the number of likes of the notes; 4) Provide evidence-based recommendations for tourism marketers and Xiaohongshu platform managers to promote sustainable development of meditation tourism.

2. Literature Review

2.1 Meditation experience tourism

In recent years, meditation tourism has attracted wide attention in China, attracting more and more participants. Meditation and meditation experience programs are two different concepts. Meditation, as part of Buddhist practice, is the domain of religious practice, and it is a way for people to seek the release of the mind and reach a state of being carefree (Zhu, 2013). Buddhism not only integrates the spirit into daily life, providing a way for people to free themselves from the shackles of daily trivialities, but also becomes a philosophical and cultural phenomenon permeating many fields of modern life. In modern society, meditation tourism is a kind of tourism that people seek to escape from the increasing pressure of life and deeply experience Buddhist culture (Sadhra et al., 2010). It usually refers to the travel mode that tourists are allowed by tourism companies to participate in meditation activities of religious groups or places during travel, and combine the cultivation of meditation with leisure tourism (Norman & Pokorny, 2017). According to Jiang et al. (2018), four types of meditative tourists were identified based on motivation and interactive mode, and the temple, landscape, teaching, and practice worked differently for each category in obtaining a sacred experience. Meanwhile, through participant observation and readings from Buddhist texts, it found that tourists have secular and sacred experience. The secular experience enhances senses and appreciation of landscape and culture, while the sacred experience gives a sense of the divine and understanding of life's purpose.

2.2 Social Impact Theory

Social impact is defined as "any of the great variety of changes in physiological states and subjective feelings, motives and emotions, cognition and beliefs, values and behavior, that occur in an individual, human, or animal, as a result of the real, implied or imagined presence or actions of other individuals" (Latané, 1981, p. 343). The strength of social impact depends on three core factors: the strength of the source, immediacy, and quantity (Jackson, 1987). For example, experts, authorities, or individuals of high social status are more persuasive. Strength can be understood as the authority, status, or professionalism of the source of influence. For example, experts, authority, or individuals with high social status have more significant effects on individuals. Immediacy refers to how close the source of influence is to the individual in time and space. Quantity refers to the size of the influence source, and the larger the group size, the stronger the overall impact on the individual (Latané & Nida, 1980).

2.3 User generated content

User Generated Content (UGC) is defined as media content produced or created by ordinary people rather than paid professionals, primarily distributed on the internet (Akehurst, 2009). It takes the form of, but is not limited to, text, pictures, video, audio and comments, mainly reflects the interests, experiences and opinions of users, and is an integral part of digital platforms such as social media, online communities and e-commerce websites, which can enhance user engagement and enrich the platform content ecosystem (Naeem & Okafor, 2022). UGC has a significant impact on the information acquisition and decision-making processes of other users. It is often more relevant to daily life, providing first-hand experience sharing and real feedback, which makes other users more inclined to refer to UGC rather than traditional advertising or official publicity when facing purchase decisions, travel planning, product selection and other issues (Li et al., 2024). The diversity and immediacy of UGC also make it an important source of up-to-the-minute information, helping users quickly understand events, social trends or emerging topics (Akehurst, 2009). On Xiaohongshu, users are brought together by a common interest, point of view or experience to express themselves and exchange ideas through UGC, thereby feeling a strong sense of belonging and identity (Naeem & Okafor, 2022). In this study, accounts with less than 1000 followers in Xiaohongshu can be defined as ordinary users, who share their meditation experiences and feelings by pictures and texts.

2.4 Key opinion leader (KOL)

The development of social networks has promoted people's interaction and mutual conceptu-al influence in society, among which those who have the ability to influence and shape the opin-ions of others are considered opinion leaders or referred to as thought leaders (Bamakan et al., 2019). KOLs have a persuasive impact on followers' product purchases and evaluations by creating digital content and developing innovative solutions to meet the potential needs of niche consumer communities (Wu et al., 2022). Lyons and Henderson (2005) emphasized that online opinion leaders have distinct advantages over average users in terms of consistency, innovative thinking, and perceived expertise, as they accumulate travel-related information and experience by joining more clubs and going on more frequent and longer travel itineraries. In this study, KOLs are the accounts with more than 1000 followers in Xiaohongshu, who present their experiences and gains mainly through short videos.

2.5 Firm generated content

Firm Generated Content (FGC) refers to contents created by marketers on official brand pages on social media channels (Colicev et al., 2019). FGC involves different themes such as product attributes, product releases, promotional activities, and sponsorship, which creates engagement and increases the number of UGCs (Ceballos etal., 2016). Organizations use this content to build brand authority, increase awareness, enhance user trust, and ultimately drive sales and market share growth (Cheng et al., 2021). Compared with UGC, FGC focuses more on official positions and perspectives, often with higher professionalism and organization (Ceballos et al., 2016). Effective FGC can provide valuable information and solve users' pain points, but also inspire emotional resonance, build an emotional connection between brands and consumers, and help companies gain higher exposure and expand brand influence on search engines and social media platforms (Cheng et al., 2021). Since no official accounts of temples can be found in the Xiaohongshu, official organizations are regarded as tourism agencies, meditation studios and other accounts, which release the publicity information of meditation experience projects, including location, price, time and activity content.

3. Methodology

3.1 Data Collection

In this study, purposive sampling is useful to take into account the representativeness of the sample. Purposeful sampling selects typical samples directly related to the research topic through the subjective judgment of researchers to ensure deep coverage of core groups (Campbell et al., 2020). Based on the research objectives, two groups of people are sampled: (1) Content creators who actively publish meditation experience notes on XiaoHongshu platform; (2) Content recipients who have viewed or interacted with relevant information but have not posted notes.

There are two sampling approaches. On the one hand, through keyword search in Xiaohongshu, the researcher initially screened the content creators, screened the personal ac-counts that had published relevant pictures or videos in the past six months, excluded the official travel agency and other commercial subjects and marketing accounts with high content repetition, and gave priority to keeping real experience sharing notes. On the other hand, the researcher asked the publisher through the private chat function, invited them to participate in the online interview, and record the reason for no response or rejection. The research published recruitment announcements on Xiaohongshu personal account, explaining the research purpose, confidentiality terms and participation methods to attract potential content recipients. Two approaches can ensure that the interviewee is a Xiaohongshu user and has participated in both elements of the offline meditation experience program. The final sample size follows the principle of data saturation, and it is planned to recruit 20-25 people until there are no significant new topics in the new interviews. Meanwhile, the study followed strict ethical guidelines. Before the beginning of interviews, the researcher solemnly promises to the interviewees that all the interview content will only be used for this research, will not be leaked to others, and will not be used to make profits. After the consent of each interviewee, the researchers recorded and transcribed each online interview session.

This study uses a semi-structured interview method that retained room for flexible questioning within a designed framework of core questions to balance the focus of the study with the uniqueness of the individual experiences of the respondents (Magaldi & Berler, 2020). The whole interview was conducted through online conferences with Tencent conference. The duration was limited to 20-30 minutes. After the consent of the participants, the interview was recorded and transcribed verbatim into the text. Based on the strength of the core elements of social impact theory, respondents' views on the notes published by bloggers and officials are designed. Each respondent was asked to compare the trustworthiness and impact of notes posted by regular users and bloggers. According to the definition of immediacy, the interview questions were designed to ask whether the respondents had participated in the likes and comments of meditation-related notes. Quantity is also a core element of social impact theory, which explores how respondents perceive the number of likes and favorites of their notes.

3.2 Data Analysis

Table 1. Text coding

File	Open coding
Participation motivation	High pressure; escape; relax; poor mood; confused; curiosi-ty; search for meaning
Meditation experience program activities	Copy Buddhist scriptures; meditate; eat vegetarian meals; clean the temple; chant sutras; communicate with the monks; enjoy the scenery
The final harvest	Relax the mood; reduce confusion; calm; purify the mind; reduce stress; close to nature; adjust the state
Registration channel	Xiaohongshu; Wechat; private chat; reservation; offline
User generated content	Authenticity; small volume; the same class; no advertising; resonance; personal gains; arouse curiosity
KOL generated content	High quality; exquisite; large flow; advertisements; good reputation; high reliability; live streaming; authority; profit; care
Film generated content	Aversion; contradict; publicize; commercialization; effective; authority; reliability; beautiful; homogenization
Comment	Share personal experiences; registration information; refute; discussion; browse the comments section; get responses; improve participation intention
Give a like	Collect; the cover; credibility; quality; the identity of the publisher; the number of followers; high number of likes; no effect; improve participation intention

To process the interview data, this study adopts the inductive research method of topic modeling to conduct in-depth and detailed analysis of the recording materials and transcribed texts. Topic modeling method can identify recurring themes, patterns and potential relationships through repeated reading, understanding and summarizing interview content (Mohr & Bog-danov, 2013). This method is helpful to extract the core information from a large number of interview data and provide strong support for the subsequent research conclusions. To have a more comprehensive understanding of the basic characteristics of the research sample, EXCEL was used to conduct descriptive statistical analysis of part of the quantitative data, including the age distribution, gender ratio, program type and others. It can clearly reveal important clues about sample composition and background information, providing a deeper understanding of the generalizations and limitations of the findings.

4. Results

Table 1. Participant Profiles

Code	Gender	Age	Identity	Degree of Influence
N1	Female	25	Programmer	High
N2	Male	19	College student	Middle
N3	Male	22	Worker	High
N4	Female	1	College students	High
N5	Female	32	Sale	High
N6	Female	22	College student	High
N7	Female	28	Nurse	High
N8	Female	31	Nurse	High
N9	Female	22	College student	High
N10	Female	27	Worker	High
N11	Male	40	University teacher	High
N12	Male	23	College student	High
N13	Female	21	College student	High
N14	Female	45	University teacher	High
N15	Male	21	College student	High
N16	Male	19	Worker	High
N17	Male	20	Worker	High
N18	Male	20	College student	High
N19	Female	26	Freelance	Middle
N20	Female	26	Art teacher	High
N21	Male	25	Worker	High
N22	Male	27	Piano teacher	Low
N23	Female	24	High school teacher	High

Table 2. Basic information of respondents

Basic information		Number	Percent
Gender	Male	10	44%
	Female	13	56%
Age	18-25	14	61%
	26-30	4	17%
	Over 30	5	22%
Identity	Student	8	35%
	Worker	15	65%

A total of 23 people were interviewed, 82% the respondents were attracted by recruitment messages and contacted through private chats or comments, but none of them had publicly published their meditation experiences in the form of notes in Xiaohongshu. Through sending interview invitations to five bloggers with more than 1,000 followers who have shared their meditation experiences, but got no response. There were interview invitations to 8 ordinary us-ers who shared their meditation experiences, and succeeded in interviewing half of them. The interviewees recruited in the first time were mainly female, and the gender of the interviewees was clarified through the second recruitment information, so that the gender proportion gap of the interviewees was narrowed, including 44% male and 56% female. The respondents were aged between 18 and 45 years old, 61% of them were between 18 to 25 years old. Only two interviewees were over the age of 40, and both were university teachers. This age distribution is in line with the age distribution of Xiaohongshu, which is mainly composed of young users aged 18-34 (Wang et al., 2022).

Table 3. Meditation experience program information

Program information		Number	Percent
Program type	Free	13	57%
	Pay more than 1000 yuan	3	13%
	Pay less than 1000 yuan	7	30%
Project duration	One to three days	15	65%
	Four to five days	5	22%
	One week	3	13%

Respondents participated in free meditation experience programs, accounting for 57%, while other respondents participated in paid meditation experience programs with prices ranging from 500 to 1300 yuan. About 80% of the paying group have their own jobs and independent sources of income, and they are willing to pay for transportation and programs in order to participate in a meditation experience program at a well-known temple. The free group takes geographical factors into account and chooses temples close to where they live to participate in meditation. Most of these temples are not well known, which indicates that meditation experience programs have become a popular activity in Chinese temples, both large and small. The duration of participation ranged from one day to one week, with the largest number of meditation experience programs lasting three days, accounting for about 35%. With the exception of a high school teacher, all respondents said they had gained a lot and were highly satisfied with the experience. This can prove that the experience and feelings brought about by meditation are less influenced by the duration and the host of programs.

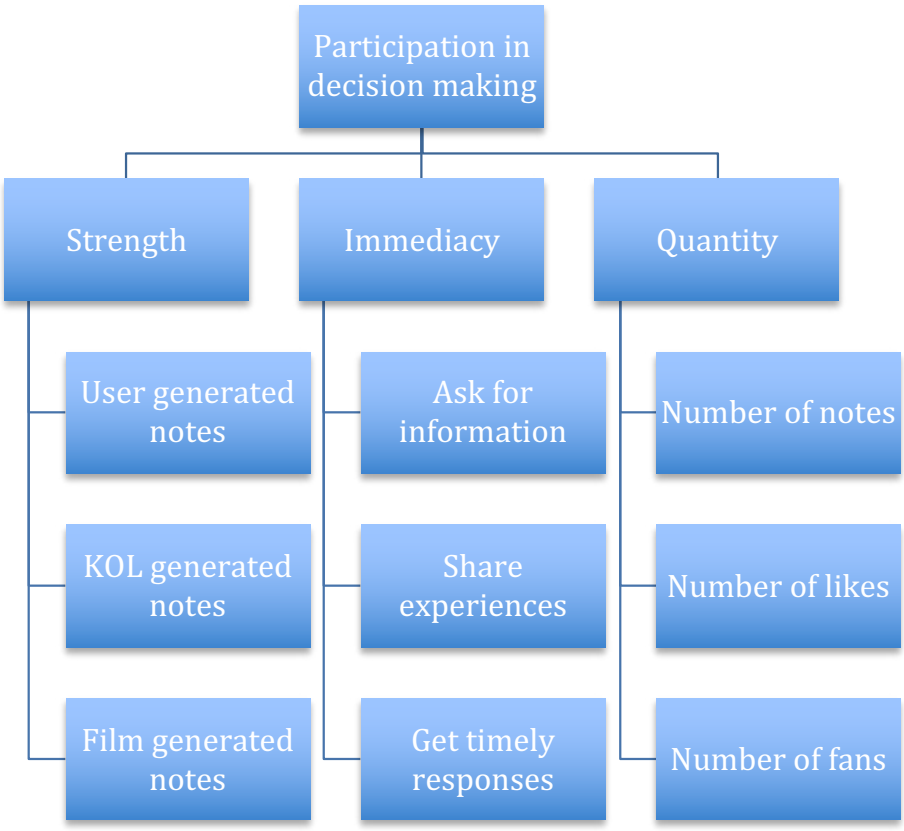
Table 4. Xiaohongshu usage information

Information		Number	Percent
Frequency of use	About one hour a day	13	57%
	Two to five hours a day	3	13%
	More than five hours a day	7	30%
Registration information source	Xiaohongshu	20	87%
	Offline	3	13%

All respondents indicated that they used XiaoHongshu for at least one hour every day and were loyal users of XiaoHongshu, which proves that the sampling strategy of finding respondents in XiaoHongshu is reasonable and effective. Nearly 90% of respondents had little or no knowledge of meditation before browsing through notes related to meditation in Xiaohongshu. They directly got registration information from Xiaohongshu, so felt that the Xiaohongshu had a strong influence on their decision to participate in a meditation experience program. Most of them communicated with the publisher of the notes through the private chat function, then ob-tained their Wechat contact information, and then further understand and pay from Wechat. This is due to the fact that the meditation experience item cannot be directly turned into a product that can be placed on Xiaohongshu, and the user cannot pay through the Xiaohongshu. Only 4 re-spondents registered directly to participate free programs through Xiaohongshu. Other re-spondents often go to temples, so their registration information sources are the offline channel from temples, so Xiaohongshu had little impact on their decision making.

The authority difference of the content source significantly affects tourists' choice. More than half of the respondents said they trust real experiences shared by ordinary users more easily, especially college students and young professionals. They all said they prefer to refer to the notes of other ordinary tourists because the content is not deliberately packaged, there is no advertising information, and it looks real. In contrast, those over 30 years old seem to be more likely to trust noted published by bloggers with a higher number of followers. For example, a university teacher pointed out that a high number of followers means that a blogger needs to keep the quality of his notes high to maintain a good reputation. Furthermore, promotional information published by official accounts was considered by about 30% of respondents that its clear guidance content still accelerates decision-making and attracts them to browse and learn more about the meditation experience, because trust the authenticity and authority of the content shared by bloggers. 70% of respondents were resistant to promotional messages. One piano teacher who has participated in multiple meditation experiences believes that such for-profit advertising messages make it overly commercialized and undermine the sanctity of the temple and meditation. Other respondents expressed similar concerns, arguing that temples and meditation are pure and sacred and should not be used as high-priced, profitable tourism products.

Figure 1. Factors influence Chinese tourists' decisions to participate in meditation experience programs



Timely interaction goes hand in hand with decision making. The vast majority of respondents liked the meditation notes they read, and about 80% were willing to comment on them. Their age, occupation, and gender had no significant effect on their interaction behavior. The main content of the comments is to share similar experiences, express different opinions, further inquire about the feelings of the meditation experience program and sign up. Respondents who participated in the review said that if their comments were answered in a timely manner, it would increase their willingness to participate and speed up their decision-making. For example, one nurse noted that she left a comment she wanted to register after seeing a comment from a regular user and was prompted to do so by a private message from the poster. 13% of respondents said the content and responses in the comments section had no impact on their decisions, and they rarely participated through likes or comments. This is because they do not like to disclose their experiences and thoughts on the Internet, which may be influenced by personal personality and privacy security.

The number of relevant notes, likes and the publishers' fans can influence the final decision. More than half of the respondents indicated that they had reviewed numerous meditation-related notes through active search or passive push before making a decision. It is helpful to understand the program content, understand the role of meditation, compare the cost and prepare the luggage. However, because the specific quantity is difficult to calculate and search, it is impossible to further analyze and compare the different influences caused by the high and low quantity. When asked if they would prefer to read meditation notes with more likes, 65% of respondents said yes. 17% of respondents obtained registration information and eventually participated as a direct result of a meditation note. The explanation for the highest rate of occurrence is that notes that feel approved by many users are more reliable and of higher quality.

When comparing the number of likes of the notes themselves with the number of followers of the publisher, only few respondents chose the latter, accounting 13%. They all trusted notes posted by bloggers with a high number of followers more than regular users. There are many meditation notes with high likes in Xiaohongshu, but their publishers are just ordinary users with no professional background and high followers. In contrast, they put more trust in authoritative bloggers, even if the meditation note itself received less than ideal likes. The rest of the respondents paid more attention to the notes themselves. The algorithmic mechanism of Xiaohongshu also plays a balancing role. The platform will recommend notes for each user based on their interests and behavior habits, rather than ranking publishers by the number of followers. This means that even a note posted by an average user has a chance of being seen and liked by a wide audience. Furthermore, when users browse notes, they cannot directly see the number of followers and identity of the blogger, and they need to click the profile picture to enter the home page to understand. This design allows users to make more judgments based on the quality, interest or usefulness of the content in their initial contact with the notes, rather than the number of fans of the blogger.

5. Discussion and Implications

5.1. Discussion

After analysis, the reasons to participate in meditation experience programs were basically con-sistent with previous studies. According to Jiang et al. (2018), curiosity, escape, confusion, pressure are respondents' main reasons to participate. In this study, curiosity and relaxation are the main reasons for college students to participate, but for the working group, high stress and bad mood are the main reasons. It is worth mentioning that several interviewees mentioned that the main reason driving them to participate is that they feel confused about life, think that their life lacks meaning, and want to escape the daily trivialities and troubles. Meanwhile, the main activities are similar with previous research results (Jiang et al., 2018), including meditation, copying Buddhist scriptures, meditating, listening to lectures, eat vegetarian meals and enjoying the scenery.

Most of the respondents had not been exposed to this concept and activity before browsing through notes related to meditation in Xiaohongshu, which can help them construct their perception of the meditation experience and let them have curiosity and yearning for this way of life, understand its cost and function, and judge whether it can meet their actual needs and solve some of the confusion in their minds. Meanwhile, they reviewed notes on their meditation experience at the same temple in Xiaohongshu before making a decision, which has a direct impact on their decision making. All in all, they believe that the Xiaohongshu plays a decisive role in their participation in the decision.

In terms of authority, the youth group poses a challenge. Compared with KOLs and films that have a high number of followers and high authority, they prefer to believe in the meditation experience shared by ordinary users. Because UGC is often more natural and real, which is not easy to be detected as commercial promotion and can win their trust, which is same with the study of Wang et al. (2022). Through the observation of their Xiaohongshu accounts, it can be found that they are not only content recipients, but also content creators, and have a clearer understanding of the traffic of Xiaohongshu. They are more alert to commercial promotion, can identify the commercial elements of the content shared by bloggers, and are skeptical and resistant to it. The reason is consistent with previous research, because they fear that the close relationship between advertising and profit leads to a gap between the content presented by bloggers or merchants and the actual experience, which has a negative impact on their personal travel decisions (Geng & Yi, 2024).

The impact of immediacy is mainly reflected through interactions such as timely comments and replies. A traveler's comments after a trip on Xiaohongshu can significantly influence what other readers or users think about a place and their intention to travel to that place (Nguyen & Tong, 2023; Si & Leou, 2024). This finding also appears this study, respondents can learn more real information and feelings through the content of the comments section, and by asking questions and receiving responses, they can reduce worries and increase confidence in participating (Tian et al., 2021). Some travelers search for "pitfalls posts" in advance to avoid

a bad experience (Kit, 2024). Also, several interviewees talked about how they actively search for and follow the comments section of pitfalls notes and discussion notes, where they can see more diverse feedback, generate a collision of opinions, and thus help them make decisions.

The quantity in social impact theory is reflected by the number of notes, likes and followers in the study. When assessing the credibility of Xiaohongshu travel bloggers' notes, tourists used methods similar to those used to judge ordinary user-generated content. Based on Kit (2024), these measures include multiple relevant notes, the number of followers following a blogger, the number of likes a note as received, the comments, and checking the real time IP address of the publisher. In this study, only the last keyword did not appear, probably because this factor was ignored in the design of interview questions and the guidance of dialogue.
Both studies assessed the relationship between these factors and tourists' decision making, but this study went a step further by comparing the number of followers versus the number of likes, which was a higher priority for tourists.

5.2. Academic and practical implications

By integrating social impact theory with the content ecology of digital platforms, this study expands the interpretation boundaries of traditional theories in the context of social media. It is found that the questionnaire designed from the three factors of intensity, immediacy and quantity can effectively analyze the path of user decision making, and is conducive to analyzing the differentiated impact of different accounts' published notes. The difference in authority is particularly striking among young and middle-aged people.

The results of this study provide practical suggestions for Xiaohongshu platform, tour opera-tors and temple managers. The resistance to promotional messages from travel agencies and meditation studios may be due to the fact that these organizations are primarily for-profit rather than the official accounts of temples, leading to a decrease in trust and acceptance among tourists. In order to dispel these conflicts and attract more tourists to participate, these accounts should pay more attention to the authenticity and objectivity of the content, and avoid exaggerating or fabricating the effects and experiences of meditation tourism. Furthermore, they can enhance the transparency and credibility of the information by providing detailed itineraries and cost descriptions. XiaoHongshu can invite some well-known temples to settle in, open and operate official accounts, allowing users to bypass intermediaries and directly connect with temples.

5.3. Limitations of this study and suggestions for future research

The study does have some limitations. First of all, this study mainly focuses on young users under the age of 30. There are significant differences between this age group and the middle-aged and elderly groups in terms of values, consumption habits and lifestyle. The failure to fully cover the user group in the important age group of middle and old age may affect the universality of the study conclusions at a wider age level. Meanwhile, each interviewee chose a different temple, and although the main meditation content is similar, the data bias

caused by different temples cannot be ruled out. Second, there are potential biases in the way the data is obtained. The collected data mainly rely on tourists' self-description, which can reflect their subjective feelings and cognition to a certain extent, but also has the risk of recall bias or social expectation effect. When users recall past experiences or express their own views, they may be affected by a variety of factors, such as personal memory, emotional tendencies, or social norms, resulting in the accuracy and objectivity of the data being affected to a certain extent.

To overcome these limitations, future research can adopt a series of improvement measures. On the one hand, the quantity of samples collected can be expanded through quantitative research methods to make the data more quantitative and representative. By increasing the diversity and universality of samples, the reliability and universality of research conclusions can be improved. On the other hand, researchers can choose the group participating in the same meditation experience project recruited from Xiaohongshu as the sample, track the actual behavior data of users, or combine the experimental design for further verification. By directly observing the behavior of users or exploring the relationship between variables through experimental manipulation, the influencing factors and mechanism of meditation tourism can be more accurately revealed.

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Theme: Transformations through Technology

The Transformative Power of Blended Learning: A Case Study of Culinary Training in China (Paper#131)

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Abstract:

This case study explores how a blended learning approach facilitates knowledge transfer and the establishment of learning organizations. Specifically, it examines a newly developed culinary training program for working professionals in China. Based on the findings, the study proposes a multi-level training framework designed for industry practitioners, demonstrating its potential to cultivate a learning organization.

Keywords: Education, Culinary, Hospitality, China

1. Introduction

In today's rapidly evolving business landscape, organizations face the ongoing challenge of maintaining a competitive edge. A key factor in achieving this is for leaders to inspire and develop a workforce equipped with the knowledge and skills necessary to adapt to changing demands. This requires fostering a culture of continuous learning within organizations. A learning organization, characterized by a commitment to employee development, knowledge sharing, and experimentation, is well-positioned to thrive in a competitive environment. However, building such a culture requires innovative approaches that empower employees to take ownership of their learning journey, thereby cultivating self-directed learners.

This study examines a training institution in China with a newly developed culinary training program for working professionals. We propose that by making conscious choices, establishing disciplined practices, and implementing clear guidelines, leaders can build an efficient organization. As Collins and Hansen (2012) state:

Greatness is not primarily a matter of circumstance; greatness is first and foremost a matter of conscious choice and discipline. The factors that determine whether or not a company becomes truly great, even in a chaotic and certain world, lie largely within the hands of its people. It is not mainly a matter of what happens to them but a matter of what they create, what they do, and how well they do it. (p. 180).

To understand how a blended learning approach can facilitate knowledge transfer and support the development of a learning organization, this article first explores the existing literature on blended learning and its benefits in fostering employee development. We then discuss the concept of learning organizations and highlight the critical role of self-directed learners within such systems. Subsequently, we provide background on the case study and explain the data collection process. Following the analysis of the data and the presentation of the findings, we propose a multi-level training framework tailored for industry practitioners, which is presented in Figure 3.

2. Literature Review

Recent research has extensively explored the impact of blended learning on student development. For example, Islam et al. (2021) conducted a quasi-experimental study to investigate a model for improving student interaction and collaboration in blended learning environments. Similarly, Li et al. (2022) presented an action research study focused on developing and improving a blended learning approach for university students in Hong Kong. Additionally, Li and Wang (2022) conducted a meta-analysis examining the effectiveness of blended learning in K-12 classrooms.

These studies consistently highlight the effectiveness of blended learning approaches in various educational contexts. By emphasizing student-centered practices and providing practical insights, these findings offer valuable guidance for educators seeking to enhance learning outcomes. However, a critical gap remains in our understanding of how these blended learning frameworks can be applied to foster learning organizations within professional settings. To address this gap, this study proposes a novel blended learning framework that integrates online modules, self-directed learning opportunities, and peer-to-peer knowledge transfer, specifically within a culinary training context.

Today's rapidly changing society demands that organizations constantly adapt. Employees must possess the skills and flexibility to keep pace with these changes and engage in continuous learning. As van Breda-Verduijn and Heijboer (2016) highlighted, a learning-conducive organizational culture is crucial for fostering innovation. Therefore, organizations seeking to maximize creativity and innovation must carefully examine their cultural landscape and consider how blended learning can contribute to a culture of continuous learning and knowledge sharing.

Blended learning, a strategic combination of in-person and online learning, has emerged as a powerful tool for organizational development. It offers significant flexibility in terms of when and where learning activities take place, making it particularly suitable for adult learners. This increased accessibility to education and training can expand learning opportunities. Furthermore, blended learning can foster valuable connections among participants, creating support networks that encourage lifelong learning (Georgsen & Løvstad, 2014). By integrating these approaches,

organizations can enhance employee development, engagement, and innovation capacity. To maximize employees' innovative potential, organizations should invest in well-designed blended learning programs and cultivate a supportive learning culture. This investment aligns with the emphasis on increased knowledge retention, skill development, and improved engagement within companies, which are crucial for driving sustainable innovation (Hitt et al., 2017).

However, effectively translating individual learning into collective organizational knowledge remains a fundamental challenge in cultivating a learning organization. To address this, organizations must evaluate whether their blended learning programs effectively foster engagement, meaningful learning, and a culture of knowledge sharing. This evaluation should consider how to combine various learning modalities to facilitate continuous learning and development, which aligns with Senge's (2006) concept of a learning organization.

To explore how to bridge the gap between individual and organizational learning, this study aims to identify the key components of an effective blended learning approach and examine how acquired knowledge can be transferred to enhance overall business operations. The critical issue lies in developing strategies to facilitate knowledge transfer from individual learners to the organizational level. Fostering a robust learning culture requires engaging learning content and self-directed learners who are intrinsically motivated to drive continuous organizational growth and improvement.

3. Methodology

To explore the complexities of implementing blended learning in a professional training context, this study conducted a case study of a novel culinary training program designed for working Chinese professionals. This program utilized a blended learning approach, combining online culinary modules with practical workshops and online support provided by a specialized culinary training center.

The program was structured into three levels: Essential, Professional, and Expert. All participants began with Level 1, the Essential level. The online curriculum for this level consisted of 68 modules covering both theoretical and practical aspects of culinary arts. To accommodate diverse learner preferences, content was offered in both Chinese and English, with the majority of participants choosing Chinese instruction.

To enhance the online learning experience, the specialized culinary training center provided regular webinars, personalized feedback, and a dedicated online community.

The program operated on a rolling admission basis to accommodate the schedules of busy professionals; at the time of this study, eight participants were enrolled.

Table 1. provides a general overview of the participants' background.

Table 1. *Participants*

Participant	Culinary Work Experience in Years	Current Position
P1	5	Sous Chef
P2	13	Western Kitchen Chef de Cuisine
P3	2	Demi-Chef - Western Kitchen
P4	30	Chef Consultant
P5	11	Sous Chef
P6	6	Western Kitchen Chef de Partie
P7	19	Western Kitchen Chef de Cuisine
P8	7	Chinese Kitchen Chef de Cuisine

The training participants possessed extensive practical culinary backgrounds, with experience ranging from 2 to 30 years. Their ages ranged from 23 to 53 years, with an average of 36 years. All participants were sponsored by their respective companies to attend the training program. At the time of the survey, participants had been in the program for five months. Seven participants had completed 25% to 40% of the program content, while one participant (P7) had completed only 10%.

To evaluate the program's effectiveness, a survey was administered to all eight participants. The culinary training center collected the survey data, which were then analyzed to assess program components, knowledge transfer, and overall satisfaction. The survey included Likert-scale questions to rate online modules, practical applications, and support webinars. Additionally, a Net Promoter Score (NPS) was used to measure the likelihood of participants recommending the program.

To gather qualitative data and enrich the quantitative findings, participants were asked to elaborate on their Likert-scale responses, identify their three most valuable learning outcomes, and suggest areas for program improvement.

The survey was designed to assess the extent to which participants applied their acquired knowledge in their workplaces and to evaluate the effectiveness of different learning modalities, such as online modules and webinars. Questions related to learning and desired learning areas helped identify program strengths and weaknesses. Workplace implementation questions served as an indirect measure of knowledge transfer, while the NPS provided an indicator of perceived value and potential knowledge sharing.

To identify the specific components of an effective blended learning approach and to determine the transfer of individual learning to organizational knowledge, a deeper analysis was conducted. This involved comparing and contrasting participants' backgrounds with their survey responses to assess whether the blended learning approach fostered self-directed learning and impacted overall business operations.

To ensure participant confidentiality, all identifying information was removed from the data. Participant names were replaced with unique identifiers, such as P1 and P2. This approach protected participant privacy and ensured anonymity.

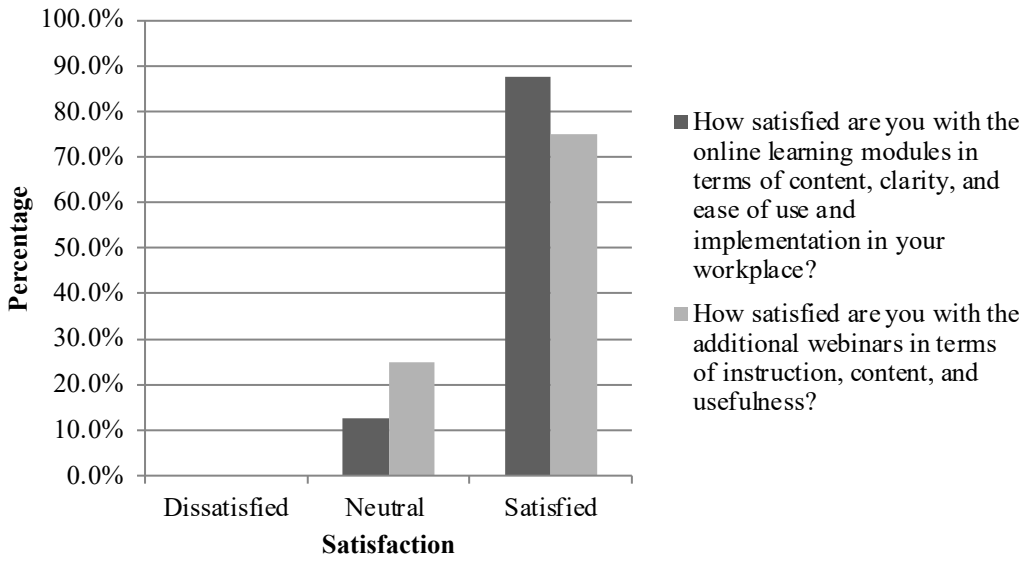
4. Results

Both quantitative and qualitative data were used to provide a comprehensive understanding of the findings.

4.1 Measuring Program Impact and Learner Satisfaction

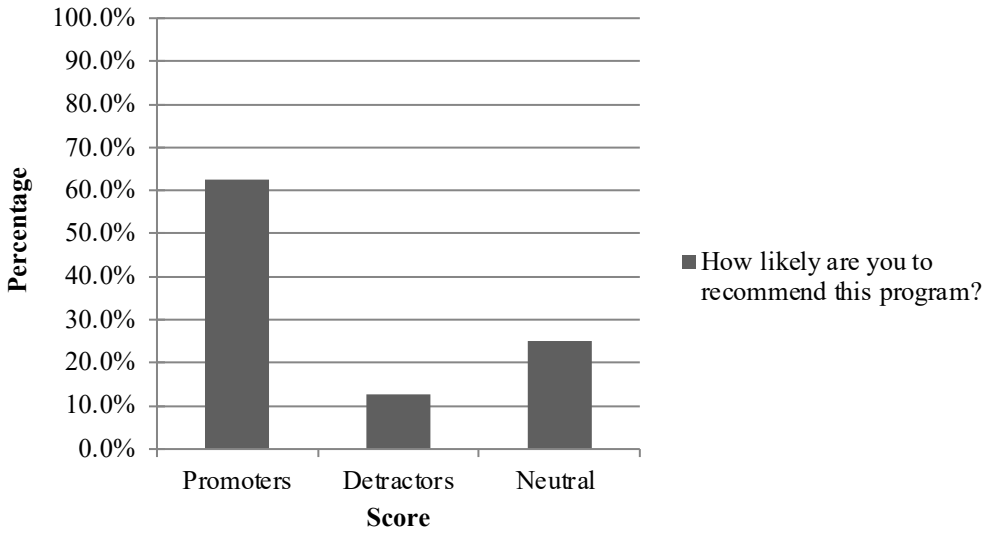
The quantitative data, derived from Likert-scale responses, as shown in Figure 1, demonstrated that the majority of participants (87.5%) strongly agreed that the online modules were of high quality, clear, and easy to use. Only 12.5% rated them on an average (score of 2). Similarly, 75% of the participants expressed high satisfaction with the webinars, citing their value in providing additional perspectives and enhancing learning.

Figure 1. Summary - Likert Scale



Quantitative data from the Net Promoter Score (NPS) for the overall program assessment, as shown in Figure 2, revealed a score of 50. On a 0-100 scale, an NPS of 50 indicates a neutral sentiment among participants. While this suggests a balance between promoters and detractors, it also suggests a strong likelihood of program recommendation, as scores above zero are generally considered positive.

Figure 2. Summary - Net Promoter Score



To further elucidate these positive sentiments, participant qualitative feedback was analyzed.

The analysis of participants' feedback on the culinary program revealed a generally positive assessment of its effectiveness. Participants highlighted their ability to enhance culinary skills, knowledge, and career prospects. For example, P1, who had prior experience, found the program's content directly applicable to their current job and easily integrated into daily work. Participants also appreciated the opportunities to discuss topics with teachers and colleagues, exchange experiences, and broaden their professional horizons.

However, some participants suggested areas for improvement. Specifically, they expressed a desire for more specific guidance on adapting recipes to their current menus and emphasized the importance of clear and concise communication to maintain enthusiasm for daily learning.

Based on these responses, the program has demonstrated value in providing practical knowledge and fostering professional development. However, ongoing evaluation and refinement are necessary to ensure it continues to meet the evolving needs of culinary professionals and remains relevant to the industry.

The following section identifies the specific components of this blended learning program that can be classified as effective.

4.2 Components of Effective Blended Learning

An analysis of participant feedback identified several key components of effective blended learning that can be applied to enhance learning outcomes in other programs. Participants consistently praised the Essential Chef program's high quality and well-structured content. For example, P6 noted, "The displayed content is smooth, clear, and understandable, and the pic-

tures and videos are also easy to comprehend." This highlights the importance of clear and engaging content, as further emphasized by P4, who stated, "The online learning courses are explained in great detail, with text and charts. Some materials can be expanded by clicking on the + symbol to see professional explanations."

Furthermore, participants emphasized the importance of a balanced approach between theoretical knowledge and practical application. P1 stated, "Through this program, I have had the opportunity to discuss topics with all the teachers and colleagues. These exchanges of experience have broadened my horizons. It also helped me learn about the development of the industry in different regions and types of restaurants." This underscores the need to provide opportunities for learner interaction through webinars and online forums to enhance engagement and knowledge sharing.

The focus on practical application was another crucial aspect of effective blended learning. P2 stated, "My personal feeling is that it is practical, professional, and very helpful for career development." This suggests that learners benefit significantly from applying their learned knowledge in real-world settings.

However, P5's feedback highlighted the importance of catering to diverse learner needs. P5 stated, "The Essential Chef program is not very practical for those with a certain professional foundation," suggesting that the program was too basic for his experience level. This indicates that offering advanced options for experienced learners could enhance program effectiveness. The program's focus raises the question of whether blended learning should prioritize individual development or organizational benefits through coaching and teaching. While the program successfully enhanced individual skills and knowledge, integrating soft skills and knowledge transfer strategies could further contribute to organizational success. A combined approach, ensuring both motivated individual learning and knowledge transfer, may be optimal.

The following section examines the transferability of individual learning from the Essential Chef program to create organizational knowledge.

4.3 Transferability of Individual Learning to Organizational Knowledge

The Essential Chef program established foundational culinary knowledge, including basic cooking techniques. Participants developed a solid understanding of fundamental cooking methods and processes, and gained familiarity with ingredients. For example, P1 explained, "I learned that ingredients are subject to regions, seasons, and other factors. Chefs must be flexible and adjust the menu according to the actual operational situation." Similarly, P8, working in a Chinese kitchen, gained a better understanding of Western food ingredients, and P6 learned about cooking with regional ingredients. This feedback indicates an increased knowledge of ingredient properties and culinary applications.

Participants also emphasized the importance of food safety and hygiene. P3 stated, "I learned that hygiene and safety are of the utmost importance." P7 and P8 reported positive outcomes regarding food and operational safety standards. Furthermore, participants improved their culinary skills and techniques, learning about kitchen equipment usage (P6, P7, P4) and recipe standardization (P1). P4 highlighted the program's impact on their professional development, stating, "The instructors explained well the combination, innovation, and fusion of different cuisines, ingredients, and cooking techniques. Learning in this course has broadened my horizons."

While the program effectively enhanced individual culinary knowledge and skills, directly observing the transfer of this learning to organizational knowledge was beyond the scope of this study. However, participant feedback suggests potential for knowledge transfer. For instance, P2's comment on the program's "theoretical knowledge needed for work" indicates potential on-the-job sharing. Similarly, P1's insights into industry trends and P4's learning about Western cuisine techniques suggest knowledge applicable to various organizational contexts. The webinar format also fostered knowledge sharing among participants, as noted by P8: "The webinars were excellent. Everyone can speak freely, express, and different views, unique skills and knowledge. It's very good."

In conclusion, the Essential Chef program successfully built a strong foundation in culinary knowledge and skills. The program's practical focus and collaborative learning opportunities suggest its potential to facilitate knowledge transfer. Future research should directly observe and measure how individual learning translates into organizational knowledge.

5. Discussion and Implications

The findings of this study highlight the potential for knowledge transfer from individual learners to the organization. However, the effective implementation of this transfer requires a supportive organizational culture. To foster a continuous learning culture, organizations must prioritize employee development and engagement, which can ultimately lead to increased entrepreneurship and innovation.

Edmans (2022), in "Grow the Pie," provides an example of this with Reckitt Benckiser under Bart Becht's leadership. By fostering an entrepreneurial and innovative culture, Reckitt Benckiser achieved significant transformations in headcount and skills, and also reduced greenhouse gas emissions. This example demonstrates how a culture that encourages idea contribution and risk-taking can drive organizational success. We suggest that this foundation of innovative ideas comes from knowledge acquisition. The Essential Chef program participants pointed out the high quality of the learning materials, which is crucial for fostering positive ideas and good industry practice.

The risk-taking emphasized by Edmans (2022) is closely linked to the implementation of effective learning content. Ions and Minton (2012) further support this, arguing that training programs aligned with organizational learning practices enhance employee collaboration, critical thinking, and change agency. Such collective aspirations, as Rupčić (2020) explains, resonate at the individual level, contributing to both organizational and personal growth.

Senge (2006) highlighted the destructive impact of reactive problem-solving on learning. To cultivate a proactive culture, leaders should empower individuals exposed to high-quality learning content. By facilitating knowledge transfer throughout the organization, leaders can create a learning organization, rather than limiting learning to individuals.

To achieve this, leaders should educate employees on organizational learning and advocate for learning-focused programs. This will help employees align their learning and practice with organizational goals and understand the role of social participation in knowledge transfer (Ions & Minton, 2012). In the context of the current study, this would mean that the culinary training program should be seen as a starting point, and that leaders should create structures to continue the knowledge sharing, and implement the learned skills, into the daily workings of the organization.

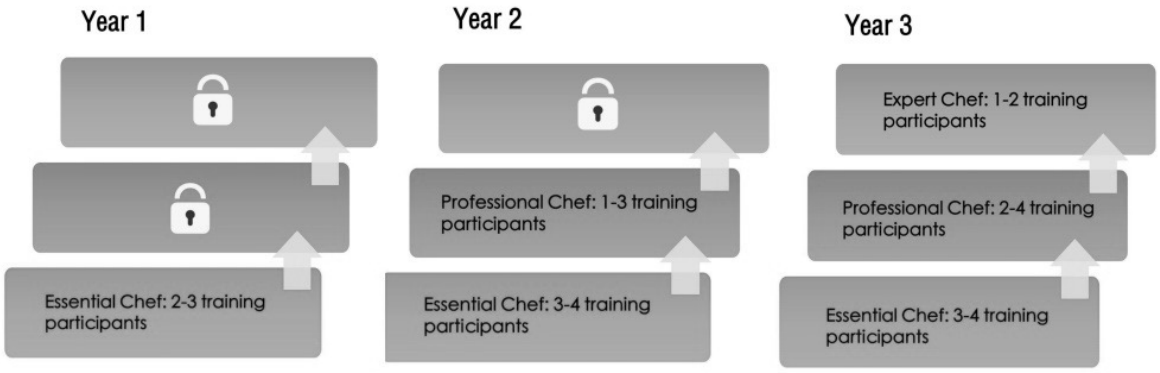
Leaders can increase the likelihood of successful change initiatives by developing skills in reflective practice and planning organizational changes that consider culture, leaders, and employees.

To support leaders in establishing a learning organizational culture, a formal system for capturing and disseminating knowledge is essential. By prioritizing learning and development, this system empowers learners to identify their strengths and weaknesses, fosters ownership and responsibility for their learning, and facilitates knowledge transfer. For example, within the culinary training program, a formal system could include a knowledge repository of best practices, online forums for knowledge sharing, and structured mentorship programs. Through such a system and the promotion of knowledge application from the blended learning program, organizational leaders can create an environment where employees are empowered to take initiative, learn from experiences, and contribute to the organization's success.

Establishing a learning organization through blended learning encourages continuous learning and development (Boone, 2015). This empowers employees to stay ahead of the curve, solve problems effectively, and drive innovation.

Based on this discussion, we propose a multi-level training framework to establish a learning organization within a culinary operation. This framework, illustrated in Figure 3, outlines a structured approach that can be adapted to various industries through an effective blended learning program supporting professional development.

Figure 3. Proposed Multi-Level Training Framework



As previously mentioned, the culinary program used in this case study was divided into three levels: Essential, Professional, and Expert, with each level involving approximately one year of learning and teaching. All participants commenced at the Essential Chef level (Level 1).

To build a strong internal talent pipeline, we recommend prioritizing the selection of employees with a growth mindset. Individuals with a growth mindset are eager to learn, embrace challenges, and continuously improve their skills (Dweck, 2017). Instead of focusing solely on prior experience, we suggest looking for employees who are passionate about development and willing to contribute to the company's success.

Furthermore, a formal train-the-trainer system should be established. For example, participants in the Essential Chef Program could share their knowledge through weekly teaching or knowledge-sharing sessions, becoming internal trainers for the rest of the staff. This reinforces learning and fosters a continuously developing culture. Organizational leaders should participate in these sessions to observe and assess staff motivation, identifying potential candidates to replace the initial participants as they progress to the Professional Chef level (Level 2), ensuring a continuous flow of talent development.

This multi-level training structure, where Professional Chef program participants teach Essential Chef concepts, Essential Chefs share knowledge with the rest of the staff, and Expert Chefs (Level 3) train Professional Chefs, fosters a collaborative corporate culture characterized by mutual support and service (Jamail, 2021). This structure equips employees with strong problem-solving skills, enabling them to identify new opportunities and develop innovative solutions. Engaged and motivated employees exhibit increased productivity, job satisfaction, and loyalty, positioning the organization as a market leader in adapting to evolving market conditions.

Our suggestions closely align with Senge's (2006) framework for learning organizations. By prioritizing employees with a growth mindset and implementing a train-the-trainer system, we

foster a culture of continuous learning and development. Additionally, our emphasis on collaboration and mutual support aligns with Senge's (2006) principles of systems thinking and shared vision. This transformation creates an environment where employees can learn, grow, and contribute to organizational success (Springmier et al., 2024). This process may also help create distributed leadership, involving community members and lessening the workload of leaders (Stöcklin, 2010). This aligns directly with the results of the study, which showed that the participants benefitted from the group learning, and that the webinars promoted knowledge sharing.

5.1 Implications and Conclusion

This study aimed to propose a multi-level training structure for establishing a learning organization within a culinary setting. By examining a culinary training program for working professionals in China, we identified key elements for fostering continuous learning and development. The proposed multi-level training structure, combined with a supportive organizational culture, offers a strategic approach for transforming organizations into learning entities.

Implementing this training structure can cultivate a workforce with strong problem-solving skills, adaptability, and a growth mindset, leading to increased innovation, productivity, and organizational performance. We argue that conscious leadership choices and a dedicated focus on building a learning culture are essential for realizing the structure's full potential.

Although this study focused on the culinary industry, the proposed multi-level training structure can be adapted to various sectors. For example, in a technology company, the structure could be used to facilitate knowledge sharing among software developers through peer-to-peer training and mentorship programs. Further research should explore the implementation and effectiveness of this multi-level training structure in diverse organizational contexts to validate its broader applicability

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Theme: AI in Management

AI-Generated QR Code as a Tourism Marketing Tool: A UTAUT2 Perspective (Paper#110)

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Abstract:

QR codes are very common in tourism sectors. Recently, AI-generated tools have become increasingly powerful, which can render an aesthetically pleasing appearance for traditional black-and-white ones. These novel QR codes have potential to attract travelers to scan and share. This study examines the effect of AI-generated QR codes on user behavior in a tourism setting. Through an online experiment, the findings reveal that AI-generated aesthetic QR codes positively influence user interaction by enhancing users' hedonic motivation and reducing perceived risk.

Keywords: AI-generated QR codes, Aesthetic QR codes, Hedonic motivation, Tourism marketing, UTAUT2

1. Introduction

The tourism and hospitality industry has undergone a huge transformation in recent years, which has been driven by the emergence of digital technologies, such as mobile technologies, artificial intelligence (AI) and big data (Arici et al., 2024). Over the past decades, tourism marketing practitioners have been increasingly incorporating Quick Response (QR) codes to provide travelers with rich information about tourist attractions, landmarks, and local experience. Governments have produced QR codes for each destination attraction with information in various languages, including local tourist information like maps, guides, or audio descriptions. During the COVID-19 pandemic (Liu & Zheng, 2023), mobile QR code payment has also been widely used by retailers in China (Lou et al., 2017). It seems that the application of QR code has been well adopted across different areas of the tourism industry. While the QR code technology was originally invented for tracking parts in manufacturing processes in 1994 (Pan et al., 2022), the accessibility of QR codes has been largely expanded to both organisations and consumers in today's society, such as the built-in QR code scanner that comes within a modern smartphone (Hernando & Macías, 2023).

With the recent development of AI generative technologies, the aesthetics of QR codes have drastically transformed from the traditional black and white design to aesthetically attractive ones (Wu et al., 2024). This transformation is changing how brands and businesses use QR codes for marketing purposes. Companies are converting QR codes into a visual asset that helps them reach out and connect with their customers through elements like color, logos, and unique factors in design (Chen & Ti, 2021). In addition, aesthetic appeal is one of the most important factors that can influence consumer's perception of brands and their interaction on social media (Dagalp & Södergren, 2024). Research shows that using emotional and informative message appeals in visual formats can greatly increase customer engagement, which suggests that brands should place a premium on their visual elements to effectively get the attention of customers (Rietveld et al., 2020). However, the concept of aesthetic appeal was not sufficiently discussed in the existing literature about QR code design. With the growing usage of AI-generated QR codes that can empower tourism operators to create a rather aesthetically attractive QR codes than the traditional black and white format, the question of how aesthetically designed AI-generated QR code could impact tourist's scanning behavior remains unknown. There is a lack of research on how aesthetic QR codes affect user experience and perceived brand image compared to traditional black and white QR codes.

Therefore, this study intends to fill this research gap by investigating the impact of aesthetically designed AI-generated QR code on user interaction in the context of tourism and hospitality industry.

2. Literature Review

2.1 The effects of aesthetic appeal in tourism

Aesthetic elements have been adopted in various phenomena in tourism, such as natural landscapes, architectural beauty and souvenir package design, which may strengthen the travel experience and are of great importance in the formation of tourist experiences and influencing their behavioral intentions.

In tourism, aesthetic experiences are directly related to tourists' satisfaction and their intention to revisit a destination (Zhou et al., 2021). A well-designed package can create unique destination experiences and improve the tourism offering. (Liao & Chuang, 2019). The aesthetic strategies cannot only foster consumer loyalty but also contribute to the sustainable development of tourism destination through creating a powerful brand image linked with local culture and aesthetics (Li & Cheng, 2022). In addition, the interrelationship between packaging aesthetics and cultural identity plays a tremendous role in affecting consumers' purchasing intentions. Past studies indicate that tourists are more likely to purchase authentic souvenirs with aesthetics packages that match a destination's cultural identity (Huang et al., 2025; Xie et al., 2012). Aesthetic packaging is therefore crucial in contemporary tourism marketing not only in terms of integrating emotional connection with tourists but also in enriching the whole travel experience.

Prior studies also indicated that tourists' joyful emotions can enhance their satisfaction, which in turn motivate them to recommend and share (Prayag et al., 2017). Therefore, we make the following hypothesis.

H1: *Tourists who are exposed to aesthetic QR codes will have a greater intention to scan/share than those who are exposed to normal QR codes.*

2.2 AI-generated QR codes

QR codes, or Quick Response codes, can store multiple types of information, such as URLs and product ID. QR codes with binary dataset be scanned by smartphones or other QR code readers and converted to readable information (Narayanan, 2012). QR code is a medium that tourists can use to access more information about the destination, tourism products and services. It is a sustainable way to promote the destination and increase the likelihood of repeat visits and purchases as it doesn't require much physical materials and allows tourists access valuable and dynamic information upon scanning. Traditional QR codes are often visually unappealing. However, recent developments in computer vision and generative AI are changing this (Xu, 2019).

AI image generation is a fast-advancing field that uses algorithms to make and change visual content. Generative Adversarial Networks (GANs) is a critical turning point, capable of generating high quality images which are highly similar to the real image data (Pan, 2019). Notable AI tools such as DALL-E, Stable Diffusion, and Midjourney have contributed to incredible capabilities of image generation that empower users to generate images from textual or graphical prompts, provide a way for users to express themselves artistically, and bring more creativity with technology.

The evolution of normal QR codes into aesthetic versions involves two distinct stages: from simply integrating colors and patterns into the code structure (Huang, 2023), to highly incorporating specific elements that creates a distinctly different appearance while retaining the functionality of a QR code with generative AI technologies. By using AI-generated aesthetic QR codes, business can enhance storytelling and emotional engagement in their products and marketing messages in tourism. To the best of our knowledge, this newly introduced technology as a marketing tool has not been studied in the tourism literature.

2.3 QR codes and UTAUT

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a framework for understanding user acceptance of technologies. Originally, UTAUT identifies some constructs determining an individual's decision to adopt a technology (Venkatesh et al., 2012). (1) Performance Expectancy (PE) represents the strength of belief in the individual that using a technology will increase their job performance. For example, a customer can use a QR code

to immediately obtain product information thereby improving the shopping experience. (2) Effort Expectancy (EE) is the user's perception of how much effort will be required to use a technology. Users are able to simply scan a QR Code to access information or take an action, without the need to go through menus, forms or typing. (3) Social Influence (SI) is the extent to which a person adopts a technology because of others. Due to the spread of QR codes in marketing campaigns and favorite channels in everyday interaction, social influence becomes a pertinent feature. For instance, one finds a QR code with an aesthetic appearance and shares with friends or family and asks them to try it. Thus, we propose the following hypotheses.

H2: *Tourists who are exposed to aesthetic QR codes will have a higher level of Performance Expectancy compared to those exposed to traditional QR codes, leading to an increased intention to scan/share the QR codes.*

H3: *Tourists who are exposed to aesthetic QR codes will have a higher level of Effort Expectancy compared to those exposed to traditional QR codes, leading to an increased intention to scan/share the QR codes.*

H4: *Tourists who are exposed to aesthetic QR codes will have a higher level of Social Influence compared to those exposed to traditional QR codes, leading to an increased intention to scan/share the QR codes.*

An extension of the original model, UTAUT2, has been developed by adding two new constructs: Hedonic Motivation and Price Value (Tamilmani et al., 2021). Hedonic Motivation is especially relevant to the adoption of aesthetic QR code, which refers to the pleasure or enjoyment of using a given technology. For instance, a user may be excited about successfully scanning a QR code, especially if it features visually interesting graphic patterns that deviate from the normal QR code appearance. Hence, we make this hypothesis.

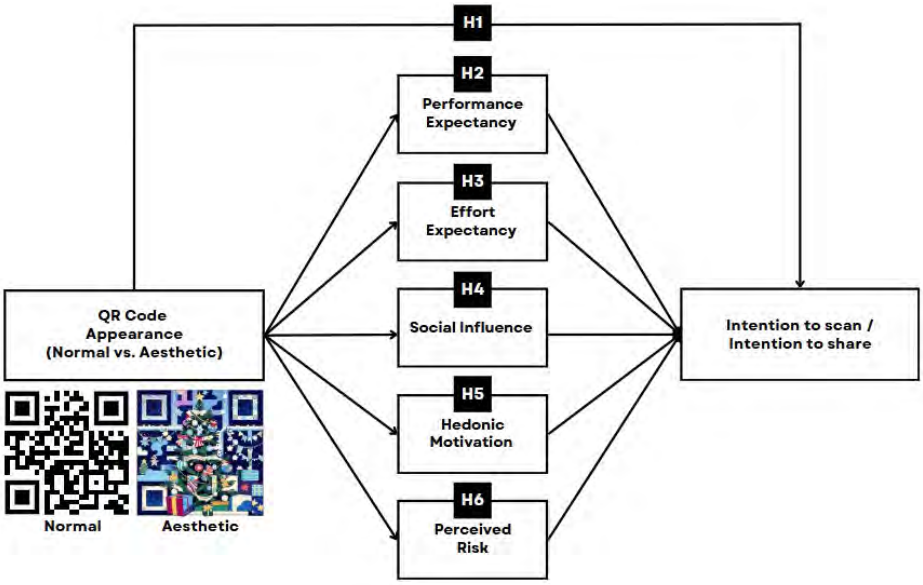
H5: *Tourists who are exposed to aesthetic QR codes will experience higher levels of Hedonic Motivation compared to those exposed to traditional QR codes, resulting in a greater intention to scan/share the QR codes.*

Many studies have shown that perceived risk significantly and negatively impacts the behavioral intention to adopt a technology (Al-Adwan et al., 2024). This means that the more risk perceived by an individual on a given technology, the less the likelihood of the intended use, and hence the lower the probability of actual use, such as performance risk, financial risk, social risk and privacy risk (Focardi et al., 2019). Accordingly, we make this hypothesis.

H6: *Tourists who are exposed to aesthetic QR codes will perceive lower levels of risk compared to those exposed to traditional QR codes, leading to a greater intention to scan/share the QR codes.*

Each UTAUT2 construct plays a significant role in aesthetic QR code adoption. Performance Expectancy, Effort Expectancy, Social Influence, Hedonic Motivation, as well as Perceived Risk. This study aims to fill the research gap in light of these constructs in UTAUT2 by exploring the relationship between aesthetic QR code and the UTAUT2 model and ultimately to provide a deeper understanding of aesthetic QR code adoption in the context of tourism. Figure 1 illustrates the research model.

Figure 1. Research Model



3. Methodology

3.1 Research design

A scenario-based experiment was conducted to test the hypotheses in previous section. Several studies have used scenario based experimental approach to investigate the effect of stimuli on people's attitude or reactions in tourism research (Kim & Jang, 2014; Rahman et al., 2023). Our experiment simulated a situation at a tourist information station, tourists were requested to acquire travel information at the information station. A structured questionnaire was used to collect the data. We designed two types of QR code appearance (normal vs. aesthetic). Participants were randomly assigned to one of these two QR codes that we created. After reading the instructions, the respondents were required to answer the survey questions.

3.2. Materials

The scenarios are shown as below:
"Welcome to participate in this survey about QR codes in tourism marketing. In this experiment, you will see a QR code for more travel information. Please imagine yourself as a tourist in a Tourist Information Station and answer the questions in the questionnaire. Your participation is voluntary, and all data will be kept confidential"

Figure 2. Normal QR code vs. aesthetic QR code in the two scenarios



3.3. Measurement

To evaluate the constructs in research model, this study used a 7-point Likert scale (1 = "strongly disagree" to 7 = "strongly agree"). The survey items in the questionnaire are illustrated below in Table 1:

Table 1. Measurement items

Constructs	Items	Reference
Performance Expectancy (PE)	Scanning the QR code will increase my productivity. I believe that using the QR code will improve my performance. I think that the QR code is useful for performing daily tasks while traveling. Using the QR code will enable me to access information more quickly.	Venkatesh et al., 2012
Effort Expectancy (EE)	I think it easy to use this QR code proficiently. I believe that learning to operate the QR code is easy for me. When using the QR code, scanning and accessing information is clear and understandable. I think the QR code easy to use for accessing information during my travels.	Venkatesh et al., 2012
Social Influence (SI)	In my social circle, people who influence my behaviour think that I should use the QR code. In my social circle, people who are important to me think that I should use the QR code. In my social circle, the QR code is considered important for accessing information.	Venkatesh et al., 2012
Hedonic Motivation (HM)	I believe that using the QR code is funny. I believe that using the QR code is enjoyable. I believe that using the QR code is very entertaining.	Venkatesh et al., 2012
Perceived Risks (PR)	Other people can know information about my online transactions if I scan the QR code. There is a high potential for money wasted if I scan the QR code. There is significant risk by scanning the QR code.	Liébana-Cabanillas et al., 2014
Intention to scan (ISCAN)	I would like to scan this QR code for more information. I would use this QR code. I would consider using this QR code in the future.	Vuong and Khanh Giao, 2020
Intention to share (ISHARE)	I would like to share this QR code. I would consider sharing this QR code in the future. I would recommend scanning this QR code to friends and family.	Vuong and Khanh Giao, 2020

3.4. Sampling

The experiment was conducted online on Credamo, a well-known online platform designed for conducting surveys and gathering data for academic and marketing research, with more than 2.6 million active users in China. A total of 180 valid responses (90 for each group) received from the participants who have completed the experiment. Of the 180 respondents, there were 45 (25%) men and 135 (75%) women. The majority of the respondents (90%) hold a Bachelor's Degree or above, indicating a highly educated group. Table 2 illustrates the details.

Table 2. Profile of respondents

Characteristics	Category	Frequency (n = 180)	Percentage
Gender	Male	45	25.00%
	Female	135	75.00%
Educational level	Senior High School	5	2.78%
	Associate Degree	13	7.22%
	Bachelor's Degree	126	70.00%
	Master's Degree	33	18.33%
	Doctorate	3	1.67%

4. Results

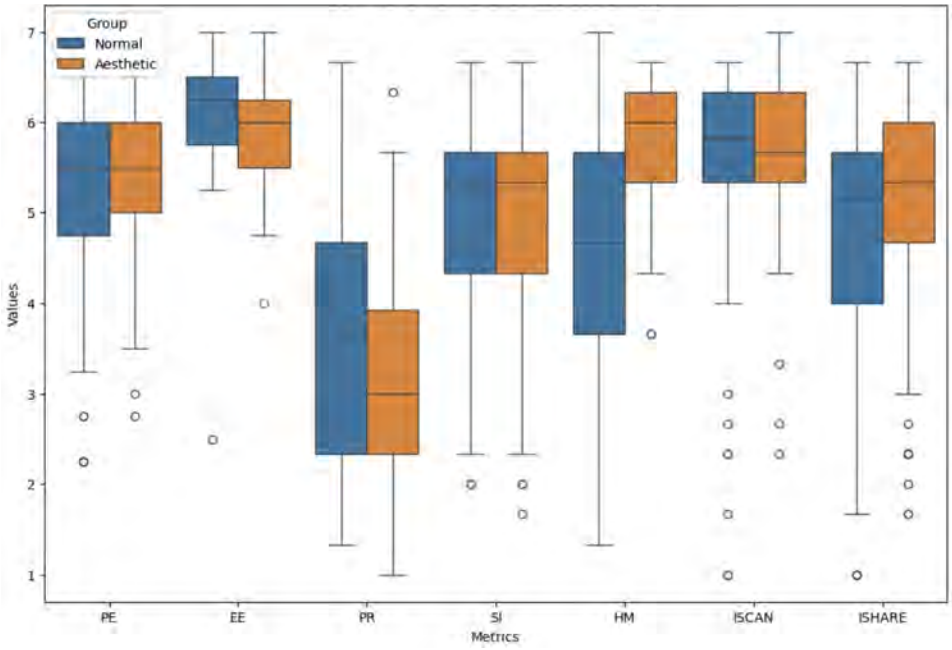
4.1 Manipulation check

A manipulation check was conducted to ensure that participants perceived aesthetic QR codes appeared more visually attractive than the normal one. The participants rated their visual appeal perception toward an attractive QR code using a seven-point scale from "not appealing at all" to "very appealing". The result demonstrated a significant difference between the two groups (M_{normal} = 4.01, SD_{normal} = 1.56, $M_{aesthetic}$ = 6.04, $SD_{aesthetic}$ = 0.86, $p < 0.001$). The manipulation check proved successful since participants constantly picked aesthetic QR codes as more visually attractive than regular QR codes.

4.2 Comparisons between groups

A boxplot analysis was used to identify the crucial constructs that should remain in our model. Based on their significance in differentiating between two groups - Normal QR code and Aesthetic QR code, the recommended dependent variables to reserve in the model are: Hedonic Motivation and Perceived Risks. Figure 3 shows the boxplot for the two groups of Normal QR code and aesthetic QR code. Therefore,

Figure 3. Boxplot for the two groups



4.3 Reliability and validity tests

Before testing the hypotheses, reliability and validity tests were conducted on the selected constructs using SmartPLS. The assessment of questionnaire validity and reliability are shown in Table 3. The constructs passed both a Cronbach's alpha test and a composite reliability (CR) check which reported better than 0.7 internal consistency. Various assessments were conducted to validate the questionnaire since each item demonstrated loadings above 0.7 and all AVE scores exceeded 0.5. The evaluation of discriminant validity through Fornell-Larcker criterion reveals that square roots of AVE values on diagonal that surpass the off diagonal inter-construct correlations, and each HTMT value is below the threshold 0.85, as illustrated in Table 4. The results support the reliability and validity of the model.

Table 3. Results of reliability tests

Construct	Items	Loadings	α	CR	AVE
Hedonic Motivation	HM1	0.910	0.864	0.916	0.785
	HM2	0.903			
	HM3	0.844			
Perceived Risks	PR1	0.730	0.832	0.897	0.745
	PR2	0.910			
	PR3	0.935			
Intention to Scan	ISCAN1	0.840	0.859	0.914	0.780
	ISCAN2	0.906			
I	SCAN3	0.902			
Intention to Share	ISHARE1	0.934	0.935	0.958	0.884
	ISHARE2	0.947			
	ISHARE3	0.94			

Table 4. Results of validity tests

	Fornell-Larcker criterion				Heterotrait-monotrait (HTMT) ratios			
	HM	ISCAN	ISHARE	PR	HM	ISCAN	ISHAR	PR
HM	0.886							
ISCAN	0.533	0.883			0.603			
ISHARE	0.597	0.683	0.940		0.658	0.760		
PR	-0.218	-0.306	-0.325	0.863	0.243	0.330	0.358	

4.4 Hypotheses tests

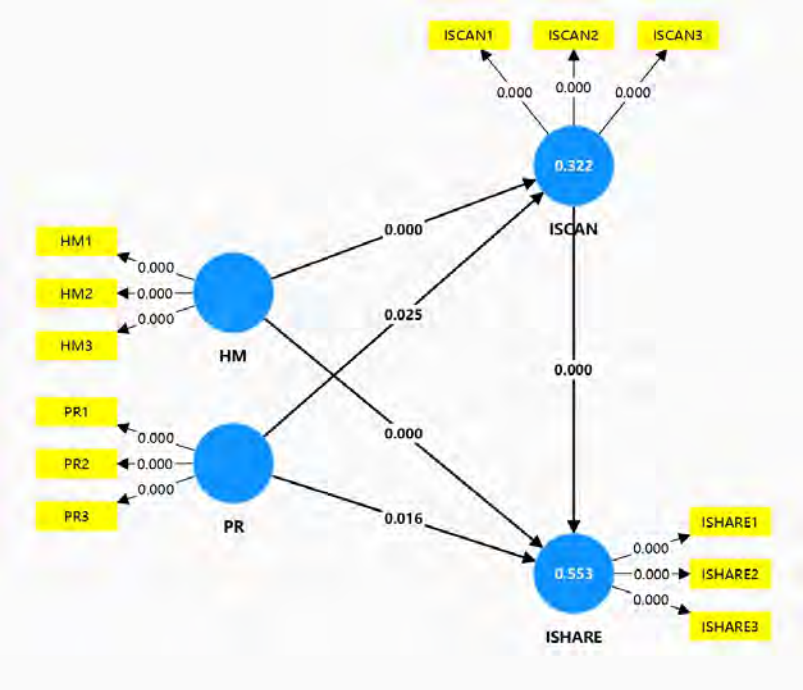
4.4.1 Tested Hypotheses and path coefficients

The SmartPLS results showed that the direct impacts of the select constructs on intentions are positive and significant: Hedonic Motivation positively influences both Intention to Scan (ISCAN) (0.490) and Intention to Share (ISHARE) (0.318). Both relationships are statistically significant. Intention to Scan (ISCAN) strongly and positively affects Intention to Share (ISHARE) (0.480), with high statistical significance. Perceived Risk (PR) negatively impacts both Intention to Scan (ISCAN) (-0.198) and Intention to Share (ISHARE) (-0.108), with significant impacts (see Table 5 and Figure 4).

Table 5. Path coefficients

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
HM -> ISCAN	0.490	0.485	0.086	5.691	0.000	Accepted
HM -> ISHARE	0.318	0.320	0.066	4.836	0.000	Accepted
ISCAN -> ISHARE	0.480	0.475	0.056	8.600	0.000	Accepted
PR -> ISCAN	-0.198	-0.206	0.089	2.241	0.025	Accepted
PR -> ISHARE	-0.108	-0.110	0.045	2.400	0.016	Accepted

Figure 4. Conceptual model with graphical output from SmartPLS



4.4.2 Mediation analysis

The indirect effect of Hedonic Motivation (HM) on Intention to Share (ISHARE) through Intention to Scan (ISCAN) is positive and statistically significant ($T = 4.889$, $p < 0.001$). Based on the Variance Accounted For (VAF), 42.5% of the total effect of HM on ISHARE is explained by the indirect path through ISCAN, which suggests partial mediation.

Moreover, the indirect effect of Perceived Risk (PR) on Intention to Share (ISHARE) through Intention to Scan (ISCAN) is negative and statistically significant ($T = 2.138$, $p = 0.033$), 46.6% of the total effect of PR on ISHARE is accounted for by the indirect path through ISCAN, which suggests partial mediation. Table 6 illustrates the results of indirect effects.

Table 6. Indirect effects

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	VAF
HM -> ISCAN -> ISHARE	0.235	0.230	0.048	4.889	0.000	42.50%
PR -> ISCAN -> ISHARE	-0.095	-0.098	0.045	2.138	0.033	46.57%

4.4.3 Multi-group analysis

In order to examine whether the tested hypotheses vary significantly between distinct groups, multi-group analysis comparing the Normal QR code and Aesthetic QR code groups was conducted in SmartPLS. Interestingly, in normal group, perceived risk has a negative but non-significant effect on intention to scan, however in the aesthetic group, the effect is significant with p=0.002. The negative effect of perceived risk is significant only in the aesthetic group (-0.359 vs. -0.135), suggesting that aesthetic QR codes can decrease perceived risk. Table 7 illustrates the results of multi-group analysis.

Table 7. Multi-group analysis

	Original (Aesthetic)	Original (Normal)	t value (Aesthetic)	t value (Normal)	p value (Aesthetic)	p value (Normal)
HM -> ISCAN	0.448	0.560	3.153	6.599	0.002	0.000
HM -> ISHARE	0.498	0.625	4.449	6.876	0.000	0.000
ISCAN -> ISHARE	0.376	0.521	3.279	7.443	0.001	0.000
PR -> ISCAN	**-0.359**	**-0.135**	3.13	1.224	**0.002**	**0.221**
PR -> ISHARE	-0.215	-0.217	2.126	2.733	0.034	0.006

5. Discussion and Implications

5.1. Discussion

This study explored the influence using AI-generated aesthetic QR codes in tourism marketing, by employing ATUAT2. Based on an initial analysis, only hedonic motivation (HM), perceived risk (PR), and users' intentions to scan (ISCAN) and share (ISHARE) QR code were reserved in the model for further analysis, comparing normal and aesthetic QR codes. Although we initially hypothesised that Performance Expectancy, Effort Expectancy and Social Influence would influence user intention to scan/share the QR codes, our data did not support these statistically, so they were excluded from the final model. The results showed that AI-generated QR codes positively impact user interaction in tourism context by significantly boosting hedonic motivation and reducing perceived risks, as illustrated in Table 8.

As this is an initial study about how a novel technology could be used in tourism marketing, we first tested which construct(s) are more sensitive in the experiment of introducing an AI-generated aesthetic QR code, accordingly, we understood that hedonic motivation (HM) and perceived risk (PR) are two important factors in the theoretical model.

According to Figure 3, hedonic motivation got higher ratings when respondents saw an aesthetic QR code, however, the influence of hedonic motivation on scanning and sharing QR code intentions is higher in the normal QR code group compared to the aesthetic group (e.g. HM → ISCAN: 0.560 compared to 0.448, see Table 6). The research findings indicate normal QR codes generate a stronger impact on hedonic motivations than the aesthetic one. This means that although aesthetic QR codes can bring more hedonic pleasure, this pleasure is more effectively converted into behavioural intentions in the normal QR code group. A possible explanation is that the familiarity and functionality of normal QR codes enhance the impact of hedonic motivation, while the visual appeal of aesthetic QR codes may be weakened when people think the QR code is not familiar or too new to them.

On another hand, perceived risk negatively impacted scanning and sharing intentions, but its effect on scanning was significant only for aesthetic QR codes (PR → ISCAN: -0.359, p = 0.002 for aesthetic; -0.135, p = 0.221 for normal, see Table 6). This aligns with extensive evidence that perceived risk hinders technology adoption, especially when security or privacy concerns arise (Featherman & Pavlou, 2003). The reduced risk sensitivity to aesthetic QR codes is a novel contribution in our study, suggesting that unconventional designs may mitigate suspicions, which is an interesting finding compared to the research on unfamiliar technology interfaces (Furnell & Thomson, 2009).

Table 8. Summary of results for all hypotheses

Hypothesis	Result
H1: Tourists who are exposed to aesthetic QR codes will have a greater intention to scan/share than those who are exposed to normal QR codes.	Supported
H2: Tourists who are exposed to aesthetic QR codes will have a higher level of *Performance Expectancy* compared to those exposed to traditional QR codes, leading to an increased intention to scan/share the QR codes.	Not supported
H3: Tourists who are exposed to aesthetic QR codes will have a higher level of *Effort Expectancy* compared to those exposed to traditional QR codes, leading to an increased intention to scan/share the QR codes.	Not supported
H4: Tourists who are exposed to aesthetic QR codes will have a higher level of *Social Influence* compared to those exposed to traditional QR codes, leading to an increased intention to scan/share the QR codes.	Not supported
H5: Tourists who are exposed to aesthetic QR codes will experience higher levels of *Hedonic Motivation* compared to those exposed to traditional QR codes, resulting in a greater intention to scan/share the QR codes.	Supported
H6: Tourists who are exposed to aesthetic QR codes will *perceive lower levels of risk* compared to those exposed to traditional QR codes, leading to a greater intention to scan/share the QR codes.	Supported

5.2. Theoretical and practical implications

The research theoretically extends the Unified Theory of Acceptance and Use of Technology (UTAUT2). The study demonstrates that hedonic motivation together with perceived risk creates unique adoption patterns between normal and aesthetic QR codes. Aesthetic QR codes create significant risks that produce novel findings about risk perception because their appearance deviates from conventional designs leading to decreased user concerns. The attractive appearance of QR codes boosts hedonic motivation which matches priorities from tourism and hospitality sectors about delivering enjoyable encounters. Higher levels of enjoyment derived from attractive QR codes might lead to better memory retention thus stimulating users to share and archive the marketing and promotional purpose. Users tend to share visually appealing QR codes with others because of their increased sharing motivation. The study results show that visual appeal alone does not increase individuals' decision to use and share the QR codes but functional benefits including familiarity to the newly invented QR codes. The significant risk effect for aesthetic QR codes adds a new dimension to risk perception research, suggesting that visual deviations from standard designs can mitigate user concerns. This finding enriches models predicting technology usage intentions. The research findings regarding PE, EE, and SI indicate that aesthetic beauty provides additional value to original technology acceptance model components but does not substitute their essential functions. Destination managers should consider creating visually appealing QR code for tourists to increase hedonic motivation which drives tourists toward sharing the QR codes, as aesthetic QR codes can reduce tourists' perceived risks.

5.3. Limitations of this study and suggestions for future research

There are several limitations to this research. (1) Self-reported data collection methods may produce inaccurate results which can produce wrong estimates. An advanced experimental system can be developed to collect the interaction behaviors from respondents, such as how long do they visit the contents and the clickstream data. (2) The current samples are mainly from China and are heavily skewed (75% female), which may not represent the broader population, limiting the findings' generalisability across diverse groups. (3) The current experiment did not require respondents to scan the QR code, which may introduce bias to the results.

Future research should (1) Analyse more different user groups to understand how different users perceived aesthetic QR codes under different contexts. (2) Changes in decorative design elements including color schemes, image customisation and inclusions of destination factors should be studied to demonstrate their influence on tourists' acceptance. (3) Actual scanning and sharing behavior measurements should replace intentions tracking by surveys because they provide evidence to validate research findings against real-life scenarios.

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The Cost of AI Innovation: A Case of Five-star International Tourist Hotels (Paper#112)

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Abstract:

This study is grounded in Regulatory Focus Theory and explores the influence of individual employee traits on technological transformation within the hotel industry. Specifically, it investigates the relationship between employees' personality traits—namely promotion focus and prevention focus—and the adoption of artificial intelligence (AI) technologies in the hospitality sector. An empirical analysis was conducted involving 373 online questionnaires distributed among employees in Taiwan's hotel industry. The questionnaire measured employees' regulatory focus traits, perceptions of AI innovativeness, and switching costs. In contrast to previous AI research that primarily emphasized technological factors, this study highlights the psychological traits of employees, particularly regulatory focus, and their relevance in adapting to new technologies. This focus addresses a significant gap in the existing literature. The findings reveal that employees exhibiting a promotion focus demonstrate significantly higher levels of AI innovativeness and lower switching costs, while those with a prevention focus tend to experience diminished innovativeness and increased switching costs. This research underscores the essential role of promotion-focused employees in enhancing innovativeness and reducing switching costs during periods of technological transformation. Furthermore, it provides practical recommendations for managers in the hospitality and broader service sectors to formulate effective strategies for successfully navigating rapidly evolving technological landscapes.

Keywords: Regulatory Focus Theory, Promotion Focus, Prevention Focus, Artificial Intelligence (AI), Innovativeness, Switching Costs

1. Introduction

1.1. Research background

Rapid technological advancement requires hospitality organizations to develop their technological competencies continuously. Recent literature emphasizes the importance of technological skills and emerging technology adoption for organizational productivity (Jayawardena et al., 2023). The COVID-19 pandemic has significantly impacted the hotel sector, requiring operational strategy changes and expanded employee roles.

The hotel industry's unique characteristics demand consistent service delivery and enhanced guest experiences. The pandemic has increased the need for staff flexibility and technological adaptation (Chen et al., 2023). As hotels implement artificial intelligence technologies, prioritizing employee support and training becomes crucial for successful adaptation and sustained growth.

Higgins' (1997) Regulatory Focus Theory explores how individuals modify their approach to complex tasks and align efforts with goals when confronting challenges. The theory identifies two distinct personality traits: promotion-focused individuals driven by aspirations and prevention-focused individuals motivated by obligations. Initially developed for organizational studies, this framework has expanded into psychology, marketing, and communication (Dai et al., 2020; Haws et al., 2010).

While the hotel industry emphasizes employee innovation, organizations must address the switching costs associated with new technologies and work methods. Klempner (1987) categorizes these costs into transactional (establishing new relationships), learning (adapting to new systems), and contractual costs (vendor retention incentives). Jones, Mothersbaugh, and Beatty (2002) further emphasize the importance of considering both financial implications and psychological factors, including adaptation discomfort and relationship building, particularly relevant in today's technology-driven environment.

Technological changes in hotel organizations often create employee discomfort, which requires targeted leadership intervention to address. The hotel industry is experiencing a significant transformation, with studies examining various aspects of IT management including digitalization, data analysis, and service innovations such as self-check-in systems, AI-based customer service, and robotic assistance (Buhalis & O'Connor, 2005; Ye & Chen, 2024). Successfully implementing these changes requires careful consideration of employee adaptation processes. Hotel management must strategically plan and optimize the transition to ensure a smooth implementation while maintaining employee comfort and engagement.

1.2. Research Purpose

The primary purpose of this research is to investigate the intricate relationship between employees' regulatory focus traits and technological transformation in the hotel industry, particularly during the adoption of artificial intelligence (AI) technologies. By examining how promotion-focused and prevention-focused employees respond differently to technological

changes, this study aims to uncover the psychological mechanisms that either facilitate or hinder successful technological implementation in hospitality settings. Furthermore, this research seeks to understand how different leadership styles - specifically transformational and transactional leadership - moderate the relationship between employees' regulatory focus and their adaptation to technological transformation.

This study addresses a critical gap in the existing literature by shifting focus from purely technological factors to the psychological aspects of technological adoption in the hospitality sector. While previous research has extensively documented the technical implementation of AI and digital technologies in hotels, limited attention has been paid to the individual traits and leadership dynamics that influence successful technological transformation. By integrating Regulatory Focus Theory with leadership perspectives, this research aims to provide valuable insights for hotel managers in developing targeted strategies that consider both employee characteristics and leadership approaches when implementing technological changes. This understanding is particularly crucial in the contemporary hospitality environment, where rapid technological advancement necessitates effective change management strategies that account for individual differences in employee adaptation capabilities.

2. Literature Review

2.1. Artificial Intelligence (AI)

Artificial intelligence (AI) refers to the ability of computers and technology to simulate human-like behavior and critical thinking (Amisha et al., 2019). The term "artificial intelligence" was coined during a brainstorming session held by a group of computer scientists in 1956. This marked the beginning of an exciting new era in AI development, with predictions that computer technology would significantly influence and even transform human life.

Many businesses are now integrating AI technology, including big data and machine learning, into their operations. Those that do not embrace these advancements risk becoming obsolete in the near future. In the hotel industry, AI technologies are increasingly being utilized in practical applications. Hotels are now using artificial intelligence for various functions such as wake-up calls, check-in and check-out services, and the recognition of guests' voices and faces (Nakamura & Sasano, 2022).

2.2. Regulatory Focus Theory (RFT)

The hedonic principle and Regulatory Focus Theory (RFT) by Higgins (1997) explain how individuals pursue goals differently despite sharing similar objectives. While people generally seek to maximize pleasure and minimize pain (Higgins, 1998; Molden, Lee, & Higgins, 2008), their behavioral adjustments are driven by needs for support and security (Galinsky et al., 2005).

RFT identifies two distinct motivational orientations: promotion-focused individuals who pursue success through positive aspirations (Higgins et al., 1994; Dai et al., 2021), and prevention-

focused individuals who emphasize avoiding negative outcomes (Das, 2020). Research demonstrates RFT's impact on various aspects, including task engagement (Dai et al., 2020), performance (Wallace, Little, & Shull, 2008), organizational behavior (Dewett & Denisi, 2007), and consumer decisions (Lin et al., 2018).

2.3. Innovativeness

Consumer innovativeness encompasses the willingness to adopt new products (Lionberger, 1960). Robertson and Myers (1969) proposed two aspects of innovation acceptance: individual purchasing behavior during product launch and companies' assessment of consumer needs through surveys. Rogers and Shoemaker (1971) further defined it as the degree of early product adoption within a social system, emphasizing independent decision-making. Research by Darden and Reynolds (1974) and Peat et al. (1975) expanded understanding of consumer behavior patterns and market trends through demographic studies and analysis of purchasing influences.

Midgley and Dowling (1978) delineated a framework for classifying individuals as innovators, focusing on their innovative behaviors within the consumer sector. In a subsequent contribution, Hirschman (1980) contended that the identification of innovators extends beyond mere temporal or observable criteria; rather, it is intricately linked to the exploration of consumer innovativeness tendencies, which are underpinned by stable personality characteristics. Further advancing this discourse, Ridgway and Price (1994) argued that consumer innovativeness should be conceptualized as a manifestation of personality traits, which significantly influence the manner in which consumers engage with and utilize novel products, rather than being solely characterized by observable behavioral outcomes. Their extensive research culminated in the development of the Model of Innovativeness, which expands upon these foundational ideas and offers a comprehensive perspective on consumer innovativeness. Manning et al. (1995) offered two key perspectives on consumer innovativeness: highly innovative consumers tend to make independent decisions, thus being less susceptible to external influences; and they demonstrate a strong interest in novelty, investing considerable time and effort into comprehensive information research. According to Chau and Hui (1998), highly innovative consumers are often initiators of new product purchases in the market and are influential in the diffusion of innovations. Steenkamp et al. (1999) argued that consumers with innovative traits seek novelty and are prone to abandoning established products for greater innovations.

Engel (2000) synthesizes multiple theoretical perspectives to frame innovation as both a personality reflection and marketing tool. Customer engagement drives innovation adoption (Morrison et al., 2000; Lilien et al., 2002), while consumer innovativeness encompasses both behavioral patterns and personality traits (Goldsmith & Foxall, 2003). This trait reflects an inherent desire for new experiences (Cotte & Wood, 2004) and makes innovative consumers ideal targets for new product marketing strategies (Ruvio & Shoham, 2007). The concept ultimately represents a multifaceted framework of consumer engagement with novel products and experiences.

Based on the above discussion, this study proposes the following hypotheses:
H1: Employees' promotion focus positively influences innovativeness.
H2: Employees' prevention focus also positively influences innovativeness.

2.4. Switching Cost

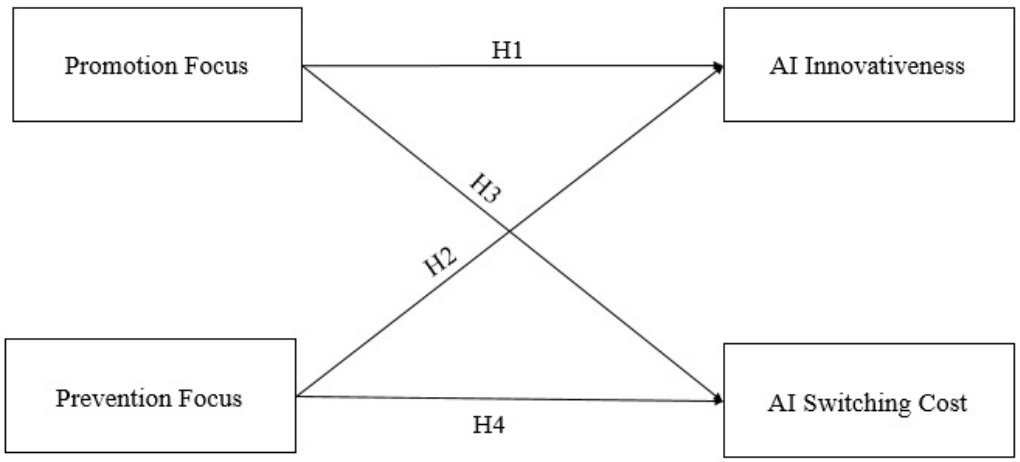
Porter (1980) established switching costs as crucial to competitive dynamics, defining them as one-time costs customers incur when changing vendors. These costs significantly influence customer retention, as high switching costs discourage customers from pursuing alternative suppliers, even when better options exist.

Subsequent research expanded this concept across multiple disciplines. Klemperer (1987) identified three primary types: transaction, learning, and contractual costs. Jones, Mothersbaugh, and Beatty (2000) emphasized both economic and psychological aspects, while Chen and Hitt (2002) contextualized switching costs within e-commerce as utility reductions during supplier transitions.

Recent frameworks have further refined our understanding. Lee, Lee, and Feick (2001) introduced search costs as an additional consideration, while Burnham, Frels, and Mahajan (2003) developed a comprehensive classification including procedural, financial, and relational switching costs. These perspectives highlight switching costs as strategic tools for enhancing customer loyalty and maintaining competitive advantage.

Building on the aforementioned discussions, this study posits the following hypotheses:
H3: Employees' promotion focus exerts a positive influence on switching costs.
H4: Employees' prevention focus exerts a positive influence on switching costs.

Figure 1: Research Framework and Hypotheses



3. Methodology

3.1. Measurement

This research endeavors to investigate the correlation between employee personality traits and the technological transformation within the hospitality sector through the lens of regulatory focus theory. The study's theoretical framework facilitates an empirical examination of how individual personality characteristics potentially influence the integration of artificial intelligence technologies in hotel operations.

The methodology adopted in this study utilizes the regulatory focus theory scale as delineated by Dai et al. (2021) to evaluate the work orientations of hotel employees, specifically distinguishing between promotion-focused and prevention-focused individuals. Promotion-focused individuals are characterized by a strong orientation towards goal attainment and the pursuit of aspirational objectives, as noted in the works of Crowe and Hymes (1994) and further elaborated by Dai et al. (2021) and Higgins and Roney. In contrast, prevention-focused individuals display a propensity for risk aversion, demonstrating a heightened sensitivity to the fulfillment of obligations and responsibilities, with their motivations primarily rooted in the avoidance of adverse outcomes, as discussed by Dai et al. (2020) and Higgins (1997). This theoretical framework thus provides a nuanced understanding of the varying motivational drives that influence employee behavior within the hospitality sector.

To assess employees' receptiveness to the implementation of artificial intelligence within the workplace, this research integrates Goldsmith's (1991) innovativeness scale alongside Aydin et al.'s (2005) switching cost scale. These complementary metrics function as counterbalancing indicators, enabling the measurement of varied outcomes across multiple variables. This approach yields a nuanced and comprehensive evaluation of employees' propensity for technological adoption, thereby enhancing our understanding of the factors influencing the integration of AI in organizational settings.

3.2. Data collection

In the execution of the survey, participants comprised employees from a selection of hotels situated in six specific urban centers—Taipei, New Taipei, Taichung, Tainan, Kaohsiung, and Taoyuan—who voluntarily opted to engage in the study. The research adopted a non-probability sampling framework, specifically employing judgmental or purposive sampling techniques as articulated by Patton (1990). This methodological approach is designed to target and select respondents who are particularly pertinent to the research objectives, thereby augmenting the overall validity and reliability of the findings.

In the context of determining an adequate sample size, Hair, Anderson, Tatham, and Black (1998) assert that a reliable questionnaire should be administered to a sample that encompasses between five and twenty times the total number of items included in the instrument. Considering that the current study's questionnaire comprises 36 items, the recommended sample size is therefore computed to fall within the range of 180 to 720 respondents. This specified range is vital to ensure the robustness and validity of the survey findings, thereby enhancing the overall credibility of the research outcomes.

3.3. Research Variables

The present study aims to rigorously examine the intricate relationships among employee personality traits within the context of international tourist hotels, alongside critical variables such as innovativeness and switching costs. Central to this investigation are the constructs of regulatory focus, specifically delineating between promotion focus and prevention focus, as well as their potential influence on innovativeness and the perception of switching costs.

To operationalize these constructs, the research employs a methodologically structured survey instrument utilizing a 5-point Likert scale, allowing respondents to express their levels of agreement ranging from "strongly disagree" to "strongly agree." This survey is designed not only to capture the core psychological traits and behaviors but also to gather pertinent demographic information, including gender, job type, age, educational background, marital status, job hierarchy, place of residence, departmental affiliation, and monthly income. Through this comprehensive approach, the study seeks to contribute to the understanding of how employee characteristics can impact organizational outcomes in the hospitality sector.

To measure regulatory focus, this research employs the Regulatory Focus at Work Scale (RWS) developed by Dai et al. (2021), which consists of a total of 12 items—six items each for the promotion and prevention focus constructs. Higher scores on this scale indicate a stronger emphasis on either promotion or prevention orientations among employees.

Complementing this, the study incorporates the Innovativeness Scale as proposed by Goldsmith and Hofacker (1991), which includes six items also assessed via a 5-point Likert scale. Higher scores on this scale are indicative of a greater receptivity to innovative practices and ideas.

Furthermore, the study adopts the Switching Cost Scale formulated by Aydin et al. (2005), comprising six items that explore the difficulties encountered by employees when hotels implement AI technologies. Responses to this scale are similarly measured using a 5-point Likert format. This multifaceted approach aims to elucidate how personality traits influence both the capacity for innovation and the perceived costs of adaptation within the hospitality context.

3.4. Research Variables

The present study employs SPSS version 29 to systematically analyze the data obtained from validated questionnaires. A range of statistical methodologies is applied in accordance with the established research framework, ensuring a robust and comprehensive examination of the collected data.

3.4.1. Descriptive Statistical Analysis

Descriptive statistics were employed to assess the fundamental demographic characteristics of the respondents, encompassing variables such as gender, age, marital status, job level, area of residence, departmental affiliation, monthly income, and work experience. Additionally, for the

constructs of promotion focus, prevention focus, innovativeness, and switching costs, both means and standard deviations were computed. This analysis aimed to elucidate the overall trends and patterns in responses related to these specific variables, thereby providing a clearer understanding of participants' perspectives.

3.4.2. Reliability Analysis

Reliability analysis serves to evaluate the consistency, stability, and dependability of research outcomes. In this context, Cronbach's alpha (α) is employed as a metric for assessing internal consistency among items within a scale. In general, an α value of 0.7 or higher is considered indicative of high internal consistency, while values below 0.3 are deemed unacceptable. Values falling within the range of 0.3 to 0.7 suggest moderate reliability (Hair, Black, Babin, & Anderson, 2009). It is noteworthy that while an α threshold of 0.7 is often cited as the benchmark for adequate reliability, certain contexts may permit a minimum α value of 0.5 as acceptable (Nunnally, 1978).

3.4.3. Regression Analysis

A regression analysis was performed to investigate the influence of employees' promotion and prevention focus on their levels of innovativeness and the associated switching costs. This study aims to elucidate the relationship between motivational orientations and organizational outcomes, thereby contributing to the existing literature on employee behavior and innovation dynamics.

4. Results

4.1. Survey Method and Employee Sample Structure Analysis

4.1.1. Survey Method

This study utilized a quantitative questionnaire survey methodology to gather data from international tourist hotels located in Taipei, New Taipei City, Taichung, Tainan, and Kaohsiung. A total of 373 questionnaires were systematically distributed to obtain a representative sample for analysis.

4.1.2. Employee Sample Structure Analysis

Out of 373 respondents, the study captured various demographic characteristics. The gender composition showed a moderate female majority of 57.4% (214 individuals) compared to 42.6% males (159 individuals). Employment status revealed a strong preference for full-time work, with 90.3% (337 individuals) being full-time employees and only 9.7% (36 individuals) working part-time.

Age distribution analysis showed a concentration in middle-age brackets. The largest group was 35-44 years (37.3%, 139 individuals), followed closely by 25-34 years (32.7%, 122 individuals). The remaining age groups were distributed among 45-54 years (16.4%, 61 individuals), 19-24 years (11.3%, 42 individuals), and a small proportion of 55+ years (2.4%, 9 individuals).

Educational attainment revealed a highly educated sample. University graduates, including junior college, formed the majority at 75.9% (283 individuals). High school or vocational school graduates represented 15.0% (56 individuals), while postgraduate degree holders comprised 6.2% (23 individuals). Lower education levels included junior high school (2.1%, 8 individuals), elementary school (0.5%, 2 individuals), and below elementary school (0.3%, 1 individual).

Marital status showed a nearly even split between unmarried (51.2%) and married respondents (48.8%), with married individuals further divided between those with children (37.5%) and without (11.3%). Job levels were predominantly front-line staff (55.5%) and supervisors (26.0%), with smaller proportions in management positions.

Geographic distribution centered around major cities, with Taipei region leading at 22.3%, followed by Taichung (18.8%), Tainan (16.1%), and Kaohsiung (15.8%). Department distribution showed food and beverage as the largest sector (28.2%), followed by front office (20.9%), housekeeping (18.5%), and administration (16.4%).

Monthly income data revealed that most respondents earned between NT$40,001-60,000 (44.5%) or NT$20,001-40,000 (34.3%), with smaller percentages in higher income brackets between NT$60,001-100,000+ (19.6%) and below NT$20,000 (4.3%).

Current job tenure showed notable concentrations in early-career ranges, with equal proportions (24.1%, 90 individuals each) having 1-2 years and 3-4 years of experience. The next largest group had 5-6 years tenure (20.9%, 78 individuals), while 13.4% had less than one year experience. Longer tenures were less common, with 7.8% at 7-8 years, 7.0% at 9-10 years, and only 2.7% exceeding 10 years.

Total hotel industry experience revealed a broader distribution: 19.8% had 3-4 years of experience, closely followed by those with 1-2 years (19.6%). Mid-range experience of 5-6 years and 7-8 years represented 14.5% and 14.2% respectively. Both extreme ends - those with less than 1 year and those exceeding 10 years - each comprised 10.5% of respondents.

Experience with AI technology tools showed a clear trend toward recent adoption: 38.3% had 1-2 years of experience, 26.5% less than 1 year, and 21.2% had 2-3 years. More extended experience was uncommon, with only 7.5% having 4-5 years of experience and a mere 6.4% reporting more than 5 years of AI tool usage.

Table 4.1. Overview of the demographic (n = 373)

Variables	Respondents	Sample Size (n)	Percentage (%)
Gender	Male	159	42.6
	Female	214	57.4
Employment type	Full-time	337	90.3
	Part-time	36	9.7
Age	19 to 24 years old	42	11.3
	25 to 34 years old	122	32.7
	35 to 44 years old	139	37.3
	45 to 54 years old	61	16.4
	55 years old and above	9	2.4
Education level	Below elementary school	1	0.3
	Elementary school	2	0.5
	Junior high school	8	2.1
	Senior high school/vocational school	56	15
	University (including college)	283	75.9
	Graduate school and above	23	6.2
Marital status	Unmarried	191	51.2
	Married	182	48.8
	Married without children	42	11.3
	Married with children	140	37.5
Job level	Frontline staff	207	55.5
	Team leader/Supervisor	97	26
	Section manager	30	8
	Assistant manager	19	5.1
	Manager	16	4.3
	Director	4	1.1

Residence	Taipei	83	22.3
	New Taipei	47	12.6
	Taoyuan	60	16.1
	Taichung	70	18.8
	Tainan	60	16.1
	Kaohsiung	59	15.8
Work region	Taipei	59	15.8
	New Taipei	68	18.2
	Taoyuan	69	18.5
	Taichung	66	17.7
	Tainan	60	16.1
	Kaohsiung	55	14.8
Department	Food and Beverage Department	105	28.2
	Housekeeping Department	78	20.9
	Front Office Department	69	18.5
	Management Department	63	16.9
Monthly income	Below NT$20,000	16	4.3
	NT$20,001–40,000	128	34.3
	NT$40,001–60,000	166	44.5
	NT$60,001–80,000	42	11.3
	NT$80,001–100,000	21	5.6
	Above NT$100,000	10	2.7
Current job tenure	Less than 1 year	50	13.4
	1–2 years	90	24.1
	3–4 years	90	24.1
	5–6 years	78	20.9
	7–8 years	29	7.8
	9–10 years	26	7
	More than 10 years	10	2.7

Total tenure in the hotel industry	Less than 1 year	39	10.5
	1–2 years	73	19.6
	3–4 years	74	19.8
	5–6 years	54	14.5
	7–8 years	53	14.2
	9–10 years	41	11
	More than 10 years	39	10.5
Tenure of using AI technology tools	Less than 1 year	99	26.5
	1–2 years	143	38.3
	3–4 years	79	21.2
	5–6 years	28	7.5
	7–8 years	12	3.2
	9–10 years	9	2.4
	More than 10 years	3	0.8

4.2. Reliability analysis

This research employs Cronbach's α coefficient as a metric for assessing the reliability of the constructs under investigation. Cronbach's α values range from 0.00, indicating a complete lack of reliability, to 1.0, representing perfect reliability. Higher values of α suggest a greater degree of internal consistency within the measurement scales employed (Vogt, 1999). According to Hair, Anderson, Tatham, and Black (1998), a Cronbach's α threshold of 0.7 is typically regarded as an acceptable standard for reliability. The reliability analysis of the identified factors yields the following results: Cronbach's α for Promotion Focus is 0.800, for Prevention Focus is 0.821, for Innovativeness is 0.785, and for Switching Cost is 0.700. These findings indicate satisfactory reliability across the measurement scales utilized.

Table 4.2. Reliability Analysis Results

Construct	Cronbach's α	Reliability Status
Promotion Focus	0.800	Satisfactory
Prevention Focus	0.821	Satisfactory
Innovativeness	0.785	Satisfactory
Switching Cost	0.700	Satisfactory

Note: Threshold for acceptable reliability $\alpha \geq 0.700$ (Hair et al., 1998)

4.3. Confirmatory Factor Analysis

The study's measurement model demonstrated good validity based on established criteria. All metrics met scholarly thresholds (Chin, 1998; Fornell & Larcker, 1981), with SFL values (0.564-0.797), CR values (0.801-0.896), and AVE values (0.404-0.591).

Discriminant validity was confirmed as the square roots of AVE (0.64-0.77) exceeded inter-construct correlation coefficients (Anderson & Gerbing, 1988; Hair et al., 1998), validating the measurement scales' distinctiveness.

4.4. Regression analysis

This chapter delves into the intricate relationship between Promotion Focus and Prevention Focus, alongside their association with perceptions of switching costs and innovativeness. To empirically investigate this dynamic, a multiple regression analysis was conducted to evaluate Hypotheses H1, H2, H3, and H4. In this analysis, Promotion Focus was positioned as the independent variable, while Switching Cost and Innovativeness were designated as dependent variables. Additionally, Gender, Age, Job Position, and Years of Service were incorporated as control variables to account for potential confounding effects. This methodological approach aims to provide a nuanced understanding of how these psychological constructs influence decision-making processes in contexts marked by innovation and cost considerations.

Table 4.4. Multiple Regression Results for the Relationship Between Promotion Focus (PMF),

Independent variable	Dependent variable			
	SC	Hypothesis	INV	Hypothesis
	β			
PMF	-0.840***	H3	0.903***	H1
R2	0.763		0.807	
Adjusted R2	0.747		0.794	
F	46.774***		60.585***	

Note: * p < 0.05, ** p < 0.01, *** p < 0.001, n= 373; β: standardized regression coefficient

Switching Cost (SC) and Innovativeness (INV)

The result of regression indicate PMF exhibits a significant positive relationship with innovativeness (INV), with a β of 0.903 (p < 0.001), thus supporting Hypothesis H1. On the other hand, a significant negative relationship between promotion focus (PMF) and switching cost (SC), with a standardized regression coefficient (β) of -0.840 (p < 0.001), supporting Hypothesis H2. Independent variable Dependent variable

Table 4.5. Multiple Regression Results for the Relationship Between Prevention Focus (PVF), Switching Cost (SC) and Innovativeness (INV)

Independent variable	Dependent variable			
	SC	Hypothesis	INV	Hypothesis
	β			
PVF	0.854***	H4	-0.904***	H2
R2	0.791		0.814	
Adjusted R2	0.777		0.802	
F	55.011***		63.663***	

Note: * p < 0.05, ** p < 0.01, *** p < 0.001, n= 373; β: standardized regression coefficient

The result of regression also reveals that prevention focus (PVF) has a significant positive relationship with switching cost (SC), with a standardized regression coefficient (β) of 0.854 (p < 0.001), supporting Hypothesis H4. However, PVF negatively affects innovativeness (INV), with a β of -0.904 (p < 0.001), supporting Hypothesis H3.

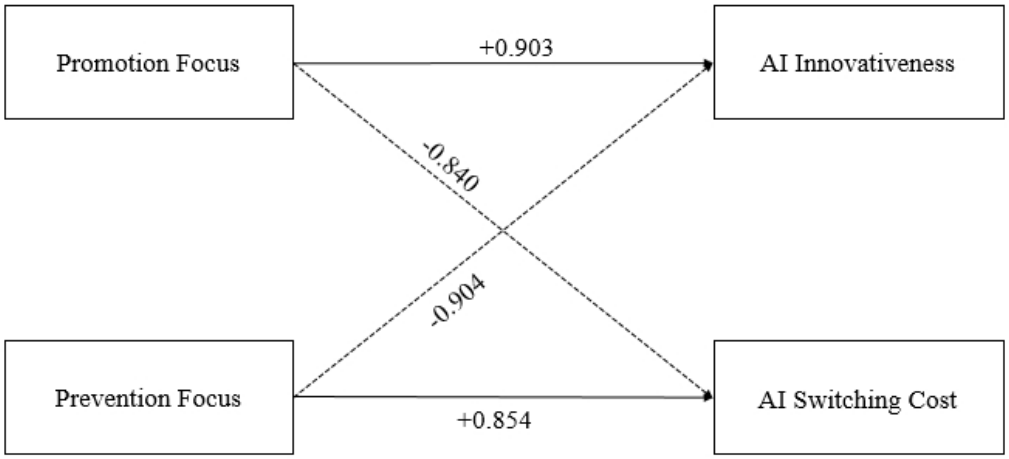
The model's explanatory power is slightly higher than that of PMF, with R^2 values of 0.791 for SC and 0.814 for INV, indicating that PVF explains 79.1% of the variance in SC and 81.4% of the variance in INV. Adjusted R^2 values of 0.777 and 0.802 further confirm the robustness of these models. The F-statistics (F = 55.011 for SC and F = 63.663 for INV, both p < 0.001) also underscore the models' strong significance.

Table 4.6. Hypotheses Testing Results - Regression Analysis

Hypothesis	Relationship	β	p-value	Result
H1	PMF → INV	0.903	<0.001	Supported
H2	PMF → SC	-0.84	<0.001	Supported
H3	PVF → INV	-0.904	<0.001	Supported
H4	PVF → SC	0.854	<0.001	Supported

Based on the results obtained from the analysis, it can be concluded that hypotheses H1, H2, H3, and H4 are supported. Additionally, a Confirmatory Factor Analysis (CFA) path model has been constructed to illustrate the interrelationships among the latent constructs. This model provides a comprehensive framework for understanding the dynamics of the variables under investigation and supports the validity of the theoretical framework presented in this study.

Figure 2. Confirmatory Factor Analysis Path Model



5. Discussion and Implications

5.1. Discussion

The integration of Artificial Intelligence (AI) within the hospitality sector necessitates a nuanced understanding of employees' regulatory focus, as underscored by the research of Huang and Rust (2018) and Nakamura and Sasano (2022). Employees exhibiting a promotion focus are generally more inclined to foster innovation, as evidenced by studies conducted by Wallace et al. (2008) and Wallace and Chen (2006). This propensity for innovation is further supported by a negative correlation between promotion focus and switching costs, suggesting that these employees demonstrate a heightened capacity for adaptation to AI, accompanied by diminished perceived switching costs.

Conversely, employees with a prevention focus are found to exert a positive influence on switching costs. This indicates their inclination to perceive higher costs associated with the adaptation to AI technologies, which may correlate with a comparatively lower level of innovativeness. Such dynamics highlight the critical role of regulatory focus in shaping employee responses to technological advancements in hotel operations and the subsequent implications for organizational adaptability.

5.2. Academic and practical implications

5.2.1. Academic Implications

The study contributes to existing literature by examining employee psychological traits (regulatory focus) in relation to AI adoption, addressing a gap in previous research that primarily focused on technological factors. The findings establish clear relationships between regulatory focus traits and technological adaptation, demonstrating that promotion-focused employees show higher innovativeness and lower switching costs, while prevention-focused employees show opposite tendencies. The research extends the application of Regulatory Focus Theory into the context of technological transformation in the hospitality industry, particularly regarding AI implementation.

5.2.2. Practical Implications

For hotel managers, understanding employee regulatory focus can help predict and manage resistance to technological change. Organizations can potentially use regulatory focus assessments in employee selection and team composition, particularly for roles requiring technological adaptation.

The findings suggest that managers should consider different approaches for promotion-focused versus prevention-focused employees when implementing new technologies. Hotels can develop targeted training programs and support systems based on employees' regulatory focus traits to facilitate smoother technological transitions.

5.3. Limitations of this study and suggestions for future research

The study faced several notable challenges in questionnaire design due to AI being a relatively new field in academia. Most existing research concentrates on technical aspects or customer perspectives, with limited studies addressing hotel employee needs. Additionally, while switching costs research has traditionally focused on consumer purchasing behavior across various businesses, it has proven valuable for understanding employee technological adaptation in the hotel industry.

The research limitations suggest opportunities for future studies. There remains a significant gap in understanding switching costs and innovativeness in the hotel workforce context. Future research could benefit from incorporating qualitative interviews to provide deeper insights into the findings and enhance the study's contributions to hospitality industry knowledge.

These challenges and limitations highlight the need for more comprehensive research exploring the intersection of AI implementation, employee adaptation, and technological innovation in the hotel sector.

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An Empirical Research on the Reconstruction Mechanism of AI Travel Agents for Generation Z's Travel Demands (Paper#102)

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Abstract:

This study examines how AI travel agents transform Generation Z's travel demands, balancing personalized needs and standardized service. Utilizing multimodal data from 500,000 users, the empirical findings revealed that AI agents reduce itinerary adjustment times by 83% and boost conversion rates by 30%. The findings of this study will contribute to developing a framework for intelligent tourism transformation.

Keywords: Multimodal large model, AI travel agent, travel demand, demand reconstruction, Generation Z

1. Introduction

The global tourism industry is experiencing a crisis of intergenerational demand discontinuity, with traditional OTA platforms facing over 40% churn among younger users (Phocuswright, 2023). As digital natives, Generation Z (born 1995–2009) displays unique travel characteristics of dynamic personalization and social currency driven behaviors. However, current service systems rely heavily on static label recommendations, resulting in mismatches between supply and demand. This study leverages a dataset of 500,000 users from the Vtrip-GPT large model, covering destinations like Hong Kong and Singapore, alongside multimodal AI technologies, to address two research questions: How can Generation Z's implicit travel demands be quantified and decoded? And how can a dynamically responsive AI service system be constructed? The findings of this research are expected to provide generalizable methodologies and valuable insights for the intelligent transformation of tourism enterprises.

2. Literature Review

2.1. Intergenerational differences in tourism consumption

The literature underscores notable generational disparities in travel behaviors. Distinct travel consumption preferences exist across Chinese generational cohorts, from the 1950s–60s to post-90s, particularly in their choice of information channels and activity preferences (Yu et al., 2017). Younger generations predominantly utilize social media, whereas older cohorts favor

traditional channels, necessitating tailored marketing strategies. Similarly, cultural and technological factors moderate intergenerational differences in Australia, where millennials are motivated by technological compatibility, while baby boomers are deterred by trust-related risks in online consumption (Sharma et al., 2020). These findings highlight the need for differentiated approaches in tourism marketing to effectively address generational preferences.

2.2. Digital twin tourism demand

Digital Twin technology offers enhanced tourism experiences through virtual-physical integration, yet its implementation is fraught with challenges. A rural smart guide framework underscores the potential of dynamic route planning, albeit constrained by real-time data limitations (He et al., 2024). Digital Twin technology in metaverse tourism enhances immersion and facilitates offline conversion (Deng et al., 2024). Meanwhile, the efficacy of Digital Twin in Smart Tourism Destinations hinges on robust predictive data capabilities (Florido-Benítez, 2024). Despite its promise, current research predominantly addresses technical potential, with a paucity of practical case studies. This suggests a need for further exploration into real-world applications of Digital Twin technology in tourism.

2.3. Large AI models and travel agents

Generative AI is revolutionizing travel decision-making processes, yet it is accompanied by trust and ethical dilemmas. Users favor AI for its perceived neutrality and customization, despite being cognizant of potential misinformation (hallucinations), indicating that emotional trust may supersede rational assessment (Christensen et al., 2025). AI's transformative potential in itinerary planning and bookings is highlighted, alongside unresolved ethical concerns, such as privacy issues and the necessity for multi-technology collaboration to achieve a balance between efficiency and reliability (Florido-Benítez & del Alcázar Martínez, 2025). These insights underscore the importance of addressing ethical considerations in the deployment of AI technologies in travel services.

3. Methodology

3.1. Measurement

To comprehensively assess the impact of AI travel agents on Generation Z's travel demands, a multidimensional indicator system was developed based on the literature and industry practices (see Table 1). This system encompasses three key dimensions: spatiotemporal behavior, social value, and service satisfaction. Spatiotemporal behavior is measured by attraction popularity, derived from itinerary planning data, capturing the dynamic interactions of users with various destinations. Social value is quantified through the POI content dissemination coefficient, utilizing data from the Xiaohongshu API to evaluate the reach and influence of social media content related to travel experiences. Service satisfaction is assessed by itinerary modification frequency and Net Promoter Score (NPS), sourced from interaction logs and survey responses, providing insights into user satisfaction and engagement.

Table 1. Multidimensional indicator system

Dimensions	Measurement metrics	Data source
Spatiotemporal behaviours	Attraction popularity	Itinerary planning data
Social value	POI content dissemination coefficient	Xiaohongshu API
Service satisfaction	Itinerary modification frequency and Net Promoter Score (NPS)	Interaction logs and survey responses

3.2. Data collection and analysis

The data collection process involved a comprehensive approach to gather both quantitative and qualitative insights. Quantitative data was obtained from 500,000 user travel orders, encompassing spatiotemporal behavior and consumption records, providing a robust dataset for empirical analysis. Qualitative data was collected through 100 Generation Z travel journals, which were meticulously analyzed using grounded theory with three-level coding to uncover underlying patterns and themes in travel preferences. Additionally, experimental data was gathered by comparing the behavior of 200 users between a control group using traditional OTAs and an experimental group utilizing AI travel agents, allowing for a direct assessment of the impact of AI integration on user experiences and decision-making processes.

4. Results

4.1. Profile of respondents

The experimental group consisted predominantly of users aged 17 to 26, accounting for 82% of the sample. On average, these users engaged with the app 7.2 times daily, with 87% drawing travel inspiration from social media platforms.

4.2. Results and findings

While data analysis of this study is still ongoing, our preliminary results have revealed several key findings. Firstly, 75% of users' itineraries included both popular social media attractions and cultural venues, highlighting a dual demand for trendy and immersive experiences. Secondly, the AI agent group demonstrated significant technical efficiency, reducing itinerary adjustment time from 6.3 hours to just 0.5 hours, with an 85% acceptance rate for emergency responses. Lastly, in terms of value creation, the experimental group saw a 30% increase in average spending, an NPS score of 90 compared to 68 in the control group, and a 4.8-fold increase in UGC conversion efficiency. The ongoing analysis of the data is expected to yield more comprehensive findings and further insights, including comparisons of tourists' spatiotemporal behaviors across different modes and in-depth analysis of AI agent interaction logs. The authors expect to present the complete results and findings in the final full paper to be submitted to APacCHRIE in April 2025.

5. Discussion and Implications

5.1. Discussion

Based on the preliminary results, the study identifies a "sandwich demand" characteristic among Generation Z, where decision-making follows a behavioral chain of "social validation–instant experience–digital archiving." Unlike traditional research that emphasizes price sensitivity, this study highlights the importance of social currency value in experiences for this demographic. The multimodal integration capability of AI agents effectively addresses the "scenario fragmentation" issue inherent in traditional recommendation systems. However, caution is advised regarding potential algorithmic biases affecting cultural cognition.

5.2. Academic and practical implications

Theoretically, this study is expected to propose a "Digital Twin Tourism Demand" framework, enhancing the understanding of intergenerational differences in tourism consumption. Practically, it offers tools for predicting POI lifecycle, thereby reducing marketing costs through AI agents.

5.3. Limitations and recommendations

This study was conducted based on data on urban tourism destinations only, and future research can include more comprehensive or complex tourism scenarios. In addition, to address concerns related to algorithm transparency and privacy protection, the establishment of an AI tourism ethics committee and the development of dynamic data authorization standards will be critical.

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Theme: Promoting Well-being

Will AI-Powered LLM Assistants Enhance Travelers' Long-Term Well-Being? (Paper#066)

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Abstract:

The rapid advancement of artificial intelligence (AI) has significantly transformed various aspects of tourism, enabling travelers to enhance their experiences through intelligent digital assistants. AI-powered large language models (LLM), such as ChatGPT and Deepseek, are increasingly integrated into travel decision-making, offering real-time information, itinerary recommendations, and interactive support (Chen & Wei, 2024; Kim et al., 2025). These AI assistants facilitate seamless travel experiences by reducing uncertainty, optimizing planning efficiency, and personalizing recommendations based on user preferences (Guttentag et al., 2024). However, while prior research has extensively explored the role of content of AI-powered LLM generated in the tourism decision making (Guttentag et al., 2024; Kim et al., 2025), limited attention has considered its long-term psychological impact on travelers. Specifically, how the use of AI assistants through different stages of tourism can enhance subsequent long-term well-being remains underexplored.

AI-powered LLM assistants are utilized throughout the travel journey, including pre-travel planning, in-travel assistant, and post-travel reflections (Lin et al., 2025; Kim et al., 2025). Before travel, AI facilitates destination selection, itinerary customization, and logistical arrangements, reducing travelers' cognitive burden (Li et al., 2024; Shin et al., 2025; Wong et al., 2023). During travel, AI provides real-time information, enhances real-time decision-making, assisting with language translation, navigation, and spontaneous activity selection (Gursoy et al., 2023; Xu et al., 2024). Post-trip, AI promotes in memory recall, documentation, develop tourism knowledge database and share word of mouth (Kim et al., 2024; Gursoy et al., 2023). While these functionalities provide clear advantages in terms of convenience and efficiency, how AI assistants impact on travelers' psychological perception, such as travelers' perceived autonomy and well-being, remains underexplored. Investigating AI's role beyond its functional benefits is essential for developing a more comprehensive understanding of its influence on tourists' experiences and long-term well-being.

The sense of autonomy is defined as the perception of self-directed decision-making (Deci & Ryan, 2000). In tourism context, tourists are often presented with a range of options, the experience of exploring a destination involves a continuous process of decision-making, including where to go, what to do, and which attractions to visit (Smith, 1994). As a result, plays a crucial role in shaping tourists' engagement and satisfaction across different travel stages. The use of AI-powered LLM throughout different tourism stages have the potential to either enhance the perception of autonomy by providing users with personalized insights or diminish it by fostering over-reliance on automated recommendations (Jaashan et al., 2025). Previous study suggests that the use of AI tools like ChatGPT may have a double-edged sword to students' mental well-being. However, whether and how the use of AI-powered LLM assistants influence tourists' well-being remains unknown.

Thus, through a three-wave longitudinal survey, this research aims to investigate whether the use of AI-powered LLM assistants influence tourists' well-being and to explore the underlying psychological mechanisms. In addition, it examines the differential roles of AI-powered LLMs across the in pre-travel, during trave and post-travel stages. Finally, this study considers the moderating effects of traveler type and travel companions in shaping the impact of AI-powered LLM assistants. The findings of this study contribute to tourism research by advancing the understanding of AI-driven psychological outcomes and provide managerial insights for designing LLM-driven, traveler-centric experiences. This study also provides strategic recommendations for effectively integrating AI-powered LLM assistants across different stages of the travel journey.

Keywords: AI-powered large language model, Well-being, AI assistant

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Stress Bragging: Unpacking the Behavioral Cues and Impacts of Stressful Status Signaling in the Workplace (Paper#154)

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Abstract:

Stress bragging, the act of boastfully emphasizing one's stress and workload, has been increasingly recognized as a toxic workplace behavior, particularly relevant in high-stress industries like hospitality. While media and research highlight its negative consequences, little is known about the behavioral cues that differentiate stress bragging from genuine venting. Through qualitative and experimental studies, we first explore what contributes to the formation of stress bragging behavior and its effects in coworker and leadership contexts, offering insights for workplace management and intervention strategies. (80 words)

Keywords: Stress bragging, Venting, Stress as badge of honor, self-presentation, social comparison

Introduction

The tourism and hospitality industry is widely recognized as one of the most stressful work environments, characterized by chronic workplace stress from high emotional labor demands, irregular working hours, and intense customer-facing pressures (Ma et al., 2021). This stress is particularly pronounced, with 80.3% of hospitality workers experiencing burnout and hotel managers facing stressors on 62% of their workdays, significantly higher than the 40% reported in other industries (Axonify, 2024; HR Dive, 2023). To cope with this stress, research has found that hospitality workers often share their experiences by venting to their coworkers and supervisors or on social media (Ma et al., 2021). Venting stress is considered one of the most common strategies for coping with stressful situations and emotions, especially in high-stress environments (Lazarus & Folkman, 1984). Given the hospitality industry's inherently demanding nature and high levels of coworker interaction (O'Neill & Davis, 2011), sharing stress seems to be a widespread practice. However, it also calls attention since previous studies have shown that expressing stress can harm those who receive it (Gabriel et al., 2024; Rodel et al., 2024; Rosen et al., 2021).

A recent study identified a new form of stress expression: stress bragging – a behavior in which individuals engage in "boastful talk about their high-stress levels" (Rodell et al., 2024, p. 2). This emerging form of stress-sharing behavior has gained attention because, unlike venting, which elicits sympathy and support from coworkers (Gabriel et al., 2024; Rosen et al., 2021), stress bragging involves expressing pride in one's stress. For instance, when you share your stress or anxiety with a coworker, they may respond by boasting about how much more they have on their plate, implying that their workload is heavier than yours and turning the conversation into a competition of who is more stressed. While venting stress can generate a favorable perception among coworkers, leading to helping behavior (Gabriel et al., 2024; Rosen et al., 2021), stress bragging significantly diminishes both likability and competence, and even spreads their stress levels to the recipients (Rodell et al., 2024).

Given that stress bragging behavior harms both the individuals who engage in it and those on the receiving end, but there has been little research done. Moreover, while media reports and academic studies caution against being a stress braggart due to its negative impact at workplace (Cost, 2024; Travers, 2024; Rodel et al., 2024), there is currently no empirical research that identifies specific behavioral cues or narrative patterns of stress bragging that distinguish it from genuine expressions of stress. This gap is significant because organizations cannot effectively identify or mitigate this toxic behavior without clear indicators. Furthermore, genuine venting, which is common in the hospitality industry and carries both positive and negative workplace implications, can be misinterpreted as dysfunctional behavior if confused with stress bragging. Therefore, before examining the workplace consequences of stress bragging, it is crucial to first establish how it can be identified. Taken together, the present study aims to explore stress bragging behavior by developing an empirical understanding of the behavioral and narrative cues that signal its presence and how it differs from venting. Gaining these insights can help inform workplace policies and training programs, encouraging healthier expressions of stress and minimizing dysfunctional workplace behaviors.

With this in mind, the present study has three main objectives and contributions.

First, Study 1 aims to demonstrate the transition from conceptual discovery to empirical validation of stress bragging behavior, building on the conceptualization of Rodel et al. (2024). Specifically, Study 1A serves as an exploratory investigation aimed at capturing a broad understanding of stress bragging through open-ended survey responses. Study 1B functions as a confirmatory study designed to test whether the behaviors and narratives identified in Study 1A, along with those from media sources, are consistently perceived as stress bragging and can be distinguished from venting. Drawing on self-presentation theory, Study 2 builds on these findings by developing an experimental design to analyze how recipients respond to stress bragging versus venting, clarifying the distinct social functions and workplace impacts of each approach. Finally, Study 3 explores stress bragging in coworker and leadership contexts, highlighting the role of power dynamics in shaping perceptions and assessing whether leaders' stress bragging worsens negative outcomes.

In sum, the present study seeks to bridge the gap between conceptual discussions and empirical understanding of stress bragging, a newly identified yet underexplored workplace behavior. Given the high-stress nature of the hospitality industry and the prevalence of stress-sharing among employees, distinguishing between stress bragging and genuine venting is crucial for fostering a supportive work environment. By identifying behavioral and narrative cues associated with stress bragging, this research is among the first to provide a foundation for organizations to recognize and address the negative impacts of behavior while preventing the misclassification of different coping mechanisms. Through a combination of exploratory, confirmatory, and experimental studies, this research enhances theoretical clarity on stress expression and provides practical insights for workplace policies and training programs designed to promote effective stress management.

Study 1: What is stress bragging

Stress bragging, defined as the habitual vocalization of one's stress to signal dedication or importance, has emerged as a counterproductive workplace behavior with cascading interpersonal and organizational costs (Rodel et al., 2024). Although this information has become widely disseminated, only a few studies have been conducted. Rodell et al. (2024) state that stress bragging consists of distinct elements of self-presentation: stress expression highlights negative attributes, while bragging through self-promoting emphasizes positive traits. Their findings suggest that employees who boast about their high stress levels are perceived by their coworkers as less competent and less warm, ultimately receiving less support and cooperation (Rodel et al., 2024). They also revealed that stress bragging contributes to increased burnout among colleagues due to stress crossover effects (Rodel et al., 2024).

In this way, after this study became viral, various media outlets warned that people should pay attention and avoid being the stress braggarts. However, these findings and cautions raise an important question:

Research Question 1a: What narratives or behaviors led people to recognize stress bragging?

Notwithstanding these valid findings, people recognize the phenomenon itself, yet empirical research on stress bragging and what cues people recognize as stress bragging behaviors remains limited. Therefore, we aim to ensure that stress bragging behavior and narratives emerge as a consequence of the perception that stress equates to professional importance and the tendency to engage in internal social comparisons. To investigate this further, we review the media and previous research explanations that identify stress bragging behaviors and examine if those two dimensions could be found in those narratives and behaviors.

Rodell et al. (2024) describe stress braggarts as individuals who view stress as a badge of honor, a concept previously examined by Black and Britt (2023). These scholars introduced the idea of stress badge perceptions, analyzing how individuals take pride in their stress levels as

symbols of achievement, tools for social comparison, and reflections of self-worth. Black and Britt (2023) conceptualized stress badge perceptions through a four-dimensional framework that explains how individuals experience, interpret, and display stress as a marker of self-worth and success. The first dimension, relaxation remorse, represents the affective state in which individuals feel guilty or uneasy when taking breaks, believing that rest is undeserved or a sign of inefficiency. The second and third dimensions, stress-related social comparison and stress as achievement, reflect cognitive perceptions of stress. Stress-related social comparison occurs when individuals evaluate their own stress levels in relation to others, using stress as a benchmark to gauge their effort and status. Stress as achievement involves perceiving stress as a symbol of success, where experiencing high levels of stress is equated with being hardworking, ambitious, and accomplished. Finally, stress-related impression management represents a self-presentation strategy in which individuals publicly highlight their stress levels to appear more dedicated, competent, or indispensable. Together, these dimensions illustrate how individuals may embrace stress not only as a personal experience but also as a means of shaping their professional image and social standing (Black & Britt, 2023).

Particularly, Black and Britt (2023) emphasize that those two cognitive states, such as stress as achievement and stress-related comparison will form their impression management strategies. Therefore, we aim to ensure that stress bragging behavior and narratives emerge as a consequence of the perception that stress equates to professional importance and the tendency to engage in internal social comparisons. To investigate this further, we review the media and previous research explanations that identify as stress bragging behaviors and examine if those two dimensions could be found in those narratives and behaviors. As shown in Table 1, the majority of these narratives align with either the stress as achievement or stress-related social comparison dimensions.

Table 1. Stress Bragging Narratives and Behaviors from the Media and Journals

Category	Narrative / Behavior	Reference
Stress as Achievement	*"I've been working 80-hour weeks to get this project done."* *"I barely have time to sleep with all these deadlines."*	Robinson (2024)
	"Ugh, I'm so busy these days I can barely think straight. It's so crazy."	Klein (2024)
	"Just one more thing on my full plate. And I was already stressed to the max… you have no idea the stress that I am under."	Torres (2024)
	"I have so much work to do, I can barely cope!"	Van Zyl (2024)

Category	Narrative / Behavior	Reference
	Show off their high standards, making sure everyone knows how important their work is and how much effort goes into it. *Attempt to prove their worth and importance by getting others to recognize their struggles and hard work.* *They want people to listen to them, admire them, and validate how busy they are.*	Thompson (2024)
	Signaling how important and needed the person is.	Klein (2024)
	They are often signaling that they are very important, in high demand, and indispensable to their teams or business units.	Van Zyl (2024)
	They constantly seek recognition.	Shivonne (2024)
	Hoping to garner validation or admiration from their peers and superiors.	HRD Connect (2024)
	Boast about the stress they are under. *Brag about how stressful things are for them.* *Gloat about the stress they are experiencing.* *Speak proudly about their level of stress.* *Flaunt about their level of stress.*	Rodel et al. (2024)
	Bragging about his stressful revision schedule and lack of sleep—4 hours a night.	Hansen (2024)
	They are working late nights. *Frequently mentioning the number of tasks they are juggling.*	HRD Connect (2024)
	They list off all their tasks to coworkers, expecting that their coworkers will recognize their high workload. *They give coworkers a rundown of their busy schedule, expecting to convey how hard they are working.* *They incorporate the amount of work they have into conversations with coworkers, aiming to highlight how much effort they are putting in.* *They sometimes exaggerate the amount of work they are doing to coworkers, seeking to emphasize their busyness.*	Black and Britt (2023)*

Category	Narrative / Behavior	Reference
Stress-Related Comparison	*"I have so much more work to do than everyone else!"*	Robinson (2024)
	"I'm better than you" dynamic.	Thompson (2024)
	How few hours of sleep they had / How many papers they have left to write.	McMahon (2019)
	They continuously talk about how much work they have to do.	Shivonne (2024)
	Outspoken talks non-stop about how stressed they are to someone who is more on the introverted side, the signals may get crossed, and the complaints may sound more like a brag.	Robinson (2024)
	Before I could even finish my sentence, he cut me off to tell me about the three essays he had to write, 70 pages he had to read, and the exam he needed to study for.	McMahon (2019)
	They feel competitive when coworkers share their workload, aiming to ensure that their coworkers recognize they have an equally high workload. *They publicly compete with coworkers about the amount of work they have, often stating they have more work than others.* *They respond to coworkers' descriptions of their workload by asserting that they are just as busy with work.*	Black and Britt (2023)*

** Note: Black & Britt (2023) items are modified as an objective behavior from the original scales*

Meanwhile, statements like "I've been working 80-hour weeks to get this project done," "I barely have time to sleep with all these deadlines," and "I have so much work to do, I can barely cope!" raise further questions. These expressions could simply be seen as a way of venting stress, seeking support, or merely releasing frustration. However, how recipients perceive and interpret these narratives remains unclear. Therefore, it leads to another research question as follows:

Research Question 1b: Are stress bragging narratives and behaviors always recognized as stress bragging rather than as genuine venting?

To gain a deeper understanding of the phenomenon, the present study conducted both a qualitative (Study 1a) and quantitative (Study 1b) investigation aimed at exploring and defining personal experiences with stress and bragging in the workplace, as well as examining whether individuals can differentiate stress bragging from venting. To address Research Question 1, Study 1a focuses on collecting firsthand accounts from participants, given that existing definitions of stress bragging in media and blogs are largely anecdotal. By capturing real-world experiences, this qualitative study aims to identify common behaviors and narratives associated with stress bragging, ensuring that the conceptualization of the phenomenon is rooted in participants' lived experiences rather than media portrayals. Subsequently, Study 1b addresses Research Question 1b by employing a Likert-scale survey to assess participants' perceptions of different stress-related expressions quantitatively. This structured approach allows for a more measurable comparison to determine whether stress bragging constitutes a distinct and recognizable behavior, separate from genuine venting.

1. Study 1a Methods: Exploratory Study

1.1. Data Collection and Samples

Participants were recruited through an online platform, Prolific. A total of 30 participants completed an online survey designed to collect qualitative descriptions of stress bragging encounters. The survey consisted of three main questions: (1) whether the participant had encountered stress bragging, (2) an open-ended response detailing an example, and (3) the verbal and nonverbal cues that made them perceive the statement as stress bragging rather than genuine venting.

1.2. Data Analysis

Responses were analyzed using thematic analysis to identify common patterns in the characteristics and expressions of stress bragging. Key themes included exaggeration, humble bragging, competitive stress-talking, and the use of stress as a status symbol.

1.3. Expected Results

Preliminary results indicated that majority of participants reported having encountered stress bragging in their workplace. The most frequently cited characteristics included verbal exaggeration (e.g., "I haven't slept in days!"), performative exhaustion (e.g., loud sighing), and over-broadcasting productivity (e.g., public complaints about long work hours). In addition to the previous two constructs, we found that some people perceive it as a pervasive/frequent phenomenon, and stress braggarts will not change their behaviors, although they frequently vent their emotions, which makes others perceive it as " they do not want to change, and being stressed may be what they also want." Indeed, it will lead to their recognition of "stress bragging" rather than venting.

2. Study 1b Methods: Confirming narratives and cues

2.1. Data Collection and Samples

A sample of 100 working professionals was recruited through online survey platforms. Building on the findings and empirical definitions of stress bragging from Study 1, participants were given definitions of stress bragging and stress venting and were then asked to rate a series of statements and behaviors using a 5-point Likert scale (1 = It seems "venting", 5 = It seems "stress bragging"). These statements included, in addition to simple stress disclosure, exaggeration, humblebragging, competitive stress-talking, viewing stress as a status symbol, and nonverbal behaviors such as performative exhaustion and over-broadcasting productivity.

2.2. Data Analysis

A combination of descriptive statistics and factor analysis was used to assess participant ratings. Mean scores were calculated for each category to determine the extent to which specific behaviors were perceived as stress bragging versus stress venting. A reliability analysis was conducted to ensure consistency in participant responses.

2.3. Expected Results

Initial findings suggested that statements featuring stress bragging were successfully perceived as stress bragging rather than venting. Nonverbal behaviors such as sighing loudly and excessively checking the phone were also associated with perceptions of stress bragging. In contrast, statements that explicitly expressed emotions without seeking validation were rated as genuine stress venting.

Study 2: The Different Effects of Stress Bragging versus Venting at Work

Our findings suggest that the signals of stress bragging differ from those of venting. While both stress bragging and venting involve expressions of stress, the present study argues that their underlying motives, interpersonal effects, and organizational consequences differ significantly. Venting is typically driven by emotional regulation and support-seeking, fostering social bonding and empathy in workplace relationships (Rosen et al., 2021). In contrast, stress bragging serves as a self-promotional tactic aimed at enhancing one's status (Rodell et al., 2024), often leading to perceptions of arrogance, reduced warmth, and lower coworker support.

Self-presentation theory (Goffman, 1959) provides a useful framework for understanding stress bragging. This theory suggests that individuals are motivated to control the impressions others form of them, often engaging in impression management tactics to enhance their social standing. Within organizational settings, employees may use stress bragging as a means of self-enhancement, positioning themselves as hard-working, indispensable, and highly committed to their jobs. However, the effectiveness of such self-presentation strategies depends on how they

are received by others. While some may admire an individual's apparent dedication, others may view stress bragging as insincere, performative, or even counterproductive to workplace dynamics.

Despite seemingly effective self-presentation tactics at first glance, previous literature has found that tactics implying ulterior motives backfire due to increased perceptions of insincerity among recipients (Turnley & Bolino, 2001; Sezer et al., 2018). Similarly, stress bragging may evoke skepticism among recipients, especially if it appears exaggerated or strategically deployed. Instead of earning admiration, individuals who engage in stress bragging may come across as insincere or even manipulative, ultimately undermining their social and professional standing.

Therefore, understanding these distinctions is crucial because workplace stress communication influences team dynamics, collaboration, and the overall organizational culture. If stress bragging triggers resentment or decreases social support, while venting strengthens social bonds, organizations must differentiate between the two to foster healthier communication norms. Additionally, distinguishing between these behaviors can help managers develop targeted interventions, ensuring that employees receive the support they need without reinforcing counterproductive self-presentation tactics.

Thus, the present study assumes that stress bragging may have more harmful impacts on the relationship compared to stress venting. Venting has been found to have dual effects, such that while support-seeking behavior will be seen as likable and increase coworkers' willingness to help, it may distribute stress levels among coworkers.

First, stress communication in the workplace can create a ripple effect, where the stress expressed by one employee influences the emotional state of others. This phenomenon, known as the stress crossover effect, suggests that when employees vocalize their stress, whether through bragging or venting, it can elevate stress levels among their coworkers (Gabriel et al., 2024; Rodell et al., 2024; Rosen et al., 2021). Venting, while intended for emotional regulation, can still transfer stress if recipients internalize the stressors being shared (Behfar et al., 2020). Similarly, stress bragging, which signals high workloads and pressure, can contribute to an environment where stress is normalized or even competitive, further exacerbating recipients' stress. Therefore, the present study hypothesis as follows:

Hypothesis 1: Both stress bragging and venting are positively associated with recipients' stress levels.

Secondly, Self-presentation theory (Goffman, 1959) suggests that individuals aim to maintain a favorable image in social interactions. However, prior research indicates that excessive self-disclosure, particularly regarding personal struggles, can diminish perceptions of competency (Rosen et al., 2021). Stress venting may highlight an individual's emotional struggles, potentially making them seem less capable of managing their responsibilities. Likewise, stress bragging,

while intended as a self-enhancement strategy, can backfire if it appears exaggerated or performative, leading to perceptions of inefficiency or insecurity (Turnley & Bolino, 2001; Sezer et al., 2018). In both cases, recipients may interpret frequent stress disclosures, whether through venting or bragging, as indicators of poor time management, low resilience, or incompetence in handling work-related challenges. Therefore, the present study hypothesizes as follows:

Hypothesis 2: Both stress bragging and venting are negatively associated with the perceived competency of actors.

Thirdly, while both stress venting and stress bragging involve the expression of stress, their interpersonal effects differ significantly. Venting is primarily an emotion-focused coping mechanism (Lazarus & Folkman, 1984), often perceived as a genuine plea for support (Aldwin & Revenson, 1987). Research shows that emotional self-disclosure fosters warmth and empathy in social interactions, increasing coworkers' willingness to provide emotional or instrumental support (Gabriet et al., 2024; Rosen et al., 2021). In contrast, stress bragging, which emphasizes self-promotion and impression management, may be perceived as self-serving or insincere (Rodell et al., 2024). Since impression management tactics that signal ulterior motives tend to backfire (Turnley & Bolino, 2001; Sezer et al., 2018), stress bragging is less likely to elicit genuine support from coworkers. Instead, recipients may feel less inclined to help because they interpret the actor's stress expression as a competitive or performative gesture rather than a genuine call for support.

Hypothesis 3: Venting is more likely to elicit coworker empathy and willingness to help compared to stress bragging.

Lastly, impression management strategies that appear manipulative or self-serving tend to provoke negative reactions (Sezer et al., 2018). Stress bragging, which presents stress as a status symbol, may be perceived as performative rather than an authentic expression of distress. This can lead to irritation, especially if recipients view the actor as engaging in one-upmanship or using stress as a means to appear superior (Rodell et al., 2024). Unlike venting, which is often associated with genuine emotional disclosure, stress bragging may be met with skepticism, annoyance, or even contempt from coworkers who perceive it as attention-seeking behavior. Since prior literature suggests that insincere self-promotion can reduce workplace cohesion and increase negative social judgments (Turnley & Bolino, 2001), stress bragging is expected to evoke stronger negative emotions compared to venting.

Hypothesis 4: Stress bragging is more likely to elicit coworkers' negative emotional state, such as annoyance and disgust, compared to stress venting.

3. Study 2 Methods

This study employs a between-subjects experimental design with two conditions: (1) Stress Bragging Condition and (2) Stress Venting Condition. Participants will be randomly assigned to one of these conditions, where they will read a written workplace scenario describing a coworker either engaging in stress bragging or venting about their workload. After reading the scenario, participants will complete a set of survey measures assessing their perceptions of the coworker (e.g., competence, warmth, and sincerity), their own emotional reactions, and their willingness to provide support.

3.1. Data collection and samples

The study will recruit working professionals from diverse industries via online survey platforms (e.g., Prolific) and professional networks. Inclusion criteria include:

(1) Being currently employed full-time or part-time
(2) Having regular coworker interactions
(3) Being fluent in English (to ensure scenario comprehension)

The target sample size is at least 150 participants (more than 50 per condition).

3.2. Experimental design

Participants will be randomly assigned to read one of two workplace scenarios:

• Stress Bragging Condition: A coworker describes their overwhelming workload in a way that emphasizes their dedication and importance to the company (e.g., "I barely sleep because I'm handling so many critical projects. No one else can do what I do!").

• Stress Venting Condition: A coworker expresses their overwhelming workload in a way that focuses on emotional distress and seeking support (e.g., "I feel exhausted from handling so many projects. It's really overwhelming, and I don't know how to manage it all.").

3.3. Measures

After exposure to one of two scenarios, participants will then complete survey measures assessing. All variables will be measured using validated multi-item scales adapted from previous research, with responses collected on a 5-point Likert scale (1 = strongly disagree, 7 = strongly agree).

Recipient Stress Levels: Measured using an adapted stress crossover scale (Gabriel et al., 2024), assessing the extent to which an individual's stress expression affects their coworkers (e.g., "Hearing my coworker talk about their stress makes me feel more stressed myself").

Perceived Competency of the Actor: Measured using a competence perception scale (Turnley & Bolino, 2001), capturing how coworkers evaluate the competence of those engaging in stress communication (e.g., "This person appears competent in managing their work responsibilities"). Empathy and Willingness to Help: Measured using an adapted organizational citizenship behavior scale (Rosen et al., 2021), assessing coworkers' willingness to provide emotional or

instrumental support (e.g., "I feel empathetic toward this person when they express stress" and "I would be willing to help this person with their work if needed").

Negative Emotional Reactions (Annoyance and Disgust): Measured using an adapted affective response scale (Sezer et al., 2018), capturing coworkers' emotional reactions to stress bragging and venting (e.g., "I feel annoyed when this person talks about their stress" and "I find their stress expression irritating").

Control variables such as job tenure, age, and gender will be included to account for individual and contextual differences in workplace stress communication.

Demographics and Manipulation Check: Participants will answer demographic questions and complete a manipulation check and realism check to ensure they accurately perceived the scenario as stress bragging or stress venting.

3.4. Data Analysis

To analyze the data, independent samples t-tests and ANOVA will be conducted to compare responses across the two experimental conditions. For Hypothesis 1, an independent samples t-test will compare the reported stress levels of participants in the stress bragging and stress venting conditions. A significant increase in stress levels in both conditions would indicate that exposure to coworkers' stress expressions leads to stress crossover. Hypothesis 2 will be tested using a one-way ANOVA, examining whether both stress expressions negatively impact perceived competency. If participants rate coworkers in both conditions as less competent compared to a neutral baseline, this would confirm the hypothesis. Hypothesis 3 will be analyzed using an independent samples t-test to determine whether participants in the stress venting condition report higher levels of empathy and willingness to help compared to those in the stress bragging condition. Finally, Hypothesis 4 will be assessed using another t-test to compare participants' reported annoyance and disgust across conditions. If participants report significantly greater negative emotional responses in the stress bragging condition, this would support the hypothesis. These analyses will provide insight into how different stress communication styles influence interpersonal perceptions and emotional responses in workplace interactions.

3.5. Expected Results

The expected results align with the hypotheses, suggesting distinct interpersonal and emotional effects of stress bragging and stress venting in workplace interactions.

For Hypothesis 1, it is anticipated that both conditions will lead to elevated stress levels among participants, confirming that exposure to coworkers' stress expressions can transfer stress to others. Regarding Hypothesis 2, both stress bragging and venting are expected to impact perceived competency negatively, but stress bragging is likely to have a stronger effect due to its association with self-promotion and insincerity. For Hypothesis 3, participants in the stress

venting condition are expected to report greater empathy and a higher willingness to help, as venting is often perceived as a genuine expression of distress, thereby fostering social bonding. In contrast, Hypothesis 4 predicts that stress bragging will evoke significantly higher levels of annoyance and disgust compared to stress venting, as it may be perceived as performative, insincere, or competitive.

Study 3: Stress Bragging and Workplace Dynamics

Based on the findings from the previous study, which demonstrated the more negative interpersonal effects of stress bragging compared to venting, the present study further investigates how the effects of stress bragging may vary depending on who engages in the behavior. While stress bragging generally leads to perceptions of incompetence, reduced warmth, and lower coworker support, its impact is likely to be shaped by workplace hierarchies. Leaders and coworkers occupy distinct social roles, which influence how their expressions of stress are interpreted and responded to.

Workplace hierarchies create different expectations for leaders and employees in terms of emotional regulation, resilience, and problem-solving (Epitropaki et al., 2017). When a coworker engages in stress bragging, it may be perceived as an individual trait or an attempt at self-promotion, eliciting mild annoyance or disengagement. However, when a leader engages in stress bragging, the consequences may be more severe. Leaders serve as role models and set the tone for organizational culture. If they frequently communicate stress in a self-aggrandizing manner, employees may interpret this as an endorsement of a work environment that glorifies overwork and stress as indicators of dedication. This, in turn, may lower employee morale, reduce trust in leadership, and contribute to stress contagion, where employees begin to internalize and mirror their leader's stress (Bakker & Demerouti, 2017).

Furthermore, because leaders hold positions of authority, their stress expressions are more likely to shape team dynamics. Employees may feel pressured to adopt similar stress-related behaviors to signal commitment or avoid appearing less dedicated. This effect may be amplified when leaders fail to acknowledge or manage their stress constructively, reinforcing unhealthy workplace norms. In contrast, stress bragging from coworkers, while still potentially detrimental, may not carry the same weight in shaping organizational culture and expectations.

Therefore, by differentiating between stress bragging from coworkers and leaders, the present study aims to provide a more nuanced understanding of how hierarchical workplace relationships moderate the effects of stress communication.

Thus, we propose:

Hypothesis 5a: Leaders' stress bragging will lead to a stronger stress crossover effect compared to coworker stress bragging, resulting in higher reported stress levels among recipients.

Hypothesis 5b: Leaders' stress bragging will result in lower perceived competency ratings compared to coworker stress bragging.

Hypothesis 5c: Leaders' stress bragging will elicit less empathy and willingness to help from recipients compared to coworker stress bragging.

Hypothesis 5d: Leaders' stress bragging will evoke stronger negative emotional responses (e.g., annoyance and disgust) compared to coworker stress bragging.

4. Methods

Study 4 aims to evaluate how individuals react to workplace dynamics and stress by assessing their responses to scenario-based situations. The study measured emotional and cognitive responses to stress bragging behaviors displayed by coworkers and leaders.

4.1. Data Collection and Samples

The survey employed an experimental design that presented stress communication scenarios, varying only in the source of stress (leader vs. coworker). (Please refer to Appendix A) Participants were randomly assigned to one of these conditions and then completed standardized measures assessing their own reported stress levels, perceptions of the communicator's competency, empathy, willingness to help, and their emotional responses (e.g., feelings of annoyance and disgust). In addition to them, demographic and occupational variables were collected to control for potential confounds.

4.2. Measurements

After exposure to one of two scenarios, participants will then complete survey measures assessing. All variables will be the same measurements as Study 3.

4.3. Data Analysis

A between-subjects ANOVA was conducted to compare differences in participant responses between the coworker and leader conditions. Correlation analyses were performed to examine the relationship between stress bragging perception and factors such as annoyance and perceived competence.

4.4. Expected Results

First, analyses revealed that stress bragging from leaders was associated with significantly higher reported stress levels among recipients compared to similar behavior from coworkers. Participants also rated leaders engaging in stress bragging as less competent, and reported lower levels of empathy and willingness to offer help. Additionally, leader-based stress bragging elicited stronger negative emotional responses, including increased annoyance and disgust, compared to the coworker condition. These results support Hypotheses 5a through 5d, indicating that the hierarchical position of the stress communicator plays a critical role in the magnitude of the interpersonal and emotional effects observed.

5. Expected General Discussion

The results of this multi-study investigation highlight the complex nature of stress bragging in the workplace. Study 1 provided an initial understanding of stress bragging, revealing key verbal and nonverbal indicators that differentiate it from stress venting. Study 2 further confirmed that exaggeration, competitive stress-talking, and performative exhaustion strongly contribute to perceptions of stress bragging. Furthermore, Study 2 confirmed that stress bragging leads to more negative reactions from coworkers compared to stress venting. Finally, Study 3 demonstrated that stress bragging has differential impacts depending on the source, with leader-driven stress bragging being perceived as more detrimental to workplace morale and stress contagion.

These findings suggest that stress bragging is not merely an individual behavior but one that influences workplace culture and employee well-being. The negative perceptions associated with stress bragging, particularly from leaders, may contribute to reduced respect and increased workplace stress. Given the rising awareness of mental health in professional settings, organizations may benefit from implementing strategies to discourage stress bragging while promoting healthier stress management approaches.

6. Expected Implications

6.1. Theoretical Implications

The present study advances self-presentation theory by demonstrating that individuals engage in stress bragging as a distinct form of impression management, separate from genuine stress venting. While traditional self-presentation research has explored how people selectively convey emotions to shape perceptions, this study highlights that individuals may deliberately showcase their stress not to seek support, but to signal status, productivity, or dedication. By clearly distinguishing between stress bragging and stress venting through qualitative and quantitative approaches, the study contributes to a more nuanced understanding of stress expression in workplace settings. This conceptual clarity enhances theoretical models of self-presentation by introducing stress bragging as a specific behavioral strategy, thereby expanding the literature on workplace communication, identity signaling, and emotional expression.

In addition, the present research represents one of the first systematic investigations into the behavioral cues of stress bragging, utilizing both exploratory and confirmatory studies within an experimental framework. The multi-method design strengthens the internal validity of the findings and establishes a foundation for future experimental work on stress-related communication. As such, the study not only introduces a novel construct but also sets a methodological precedent for examining behavioral cues in emotional self-disclosure.

6.2. Practical Implications

Clarifying the distinction between stress bragging and stress venting has important implications for workplace management and employee well-being. While venting can serve as a vital emotional outlet or a means of seeking support, this study demonstrates that stress bragging is a more dysfunctional form of stress expression. It is often used to highlight personal sacrifice or busyness in a way that may foster unhealthy competition, reduce psychological safety, and contribute to a toxic work environment. Managers should be trained to identify behavioral cues associated with stress bragging, such as repetitive mentions of workload intended to impress rather than to seek help. Recognizing these cues can help prevent the escalation of counterproductive workplace dynamics. Organizations can also implement specific training programs to help employees become more aware of their stress communication styles. These programs can provide guidance on how to express stress in constructive ways and support individuals who may unknowingly engage in stress bragging. By promoting healthier patterns of emotional expression, organizations can create more supportive and collaborative work environments.

6.3. Limitations

Despite the strengths of this multi-study approach, several limitations should be acknowledged. First, the reliance on self-reported perceptions introduces potential bias, as participants may interpret stress bragging differently based on personal experiences. Second, the experimental scenarios in Study 3 may not fully capture the complexity of real-world workplace interactions. Finally, the sample primarily consisted of online participants, which may not represent all workplace demographics or industries. Future research should consider longitudinal studies and real-world workplace observations to provide a more comprehensive understanding of stress bragging and its long-term effects on organizational dynamics.

7. Conclusion

This study provides a foundational step toward understanding stress bragging as a distinct communicative behavior in the workplace. By integrating qualitative narratives and quantitative validation, it successfully differentiates stress bragging from stress venting, offering conceptual clarity to an often-misunderstood expression of stress. Grounded in self-presentation theory, the findings suggest that individuals may strategically express stress not solely for emotional release, but also to signal competence, busyness, or dedication. Through the identification of behavioral cues and the use of a rigorous, mixed-methods design, this research contributes both theoretically and empirically to the emerging literature on stress-related communication. Future studies can build on these insights to further examine the motivations, perceptions, and organizational implications of stress bragging across different cultures and professional settings.

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Appendix A (Due to the word limit, information is summarized)
Scenario 1: Coworker Stress Bragging
On a busy Monday, you're in the break room chatting with your coworker, Alex, who talks about their heavy workload and stress. They mention working late every night for two weeks and emphasize that pushing through stress is necessary for success. While you feel overwhelmed, you're not pressured to follow their approach, but their words make you question whether your work habits are enough.

Scenario 2: Leader Stress Bragging
In the break room, your manager, Sarah, talks about her recent heavy workload. She mentions working late every night for two weeks, expressing pride in handling the stress as a requirement for success. You feel overwhelmed and question whether you should push yourself harder to match her pace, though you're unsure if it's a healthy approach.



Theme: Managing People and Innovation in Hospitality

Should I Share Information? A Study of Five-Star International Tourist Hotels (Paper#093)

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Abstract:

Employees' knowledge sharing is vital for creativity, yet some may engage in knowledge hiding due to self-interest. International tourist hotel operators must identify employees prone to sharing or hiding knowledge. Regulatory Focus Theory distinguishes between promotion focus and prevention focus. This study examines how these focus types influence knowledge sharing and hiding among hotel employees.

Keywords: Regulatory focus, promotion focus, prevention focus, knowledge sharing, knowledge hiding

1. Introduction

1.1. Research Motivation

In the hospitality industry, knowledge sharing among members is one of the key sources of organizational competitive advantage (Leonard-Barton, 1995). However, due to the social dilemma inherent in knowledge sharing, ensuring that team members willingly share their knowledge and retain it within the organization for continuity becomes a significant challenge for leaders (Cabrera & Cabrera, 2002). As organizations increasingly adopt a team-centric and flatter structure, leaders must transcend their narrow knowledge domains to encourage knowledge sharing and integrate members with diverse knowledge backgrounds, making knowledge sharing even more challenging (Hedlund & Nonaka, 1993; Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998).

For businesses, knowledge sharing is undoubtedly essential; more precisely, it serves as a critical means to foster creativity. However, according to the theory of social dilemmas, employees may not necessarily engage in knowledge sharing but instead resort to knowledge hiding

(Anser, Ali, Usman, Rana, & Yousaf, 2021; Connelly, Zweig, Webster, & Trougakos, 2012). Social dilemmas refer to situations where an action may benefit an individual member but does not yield favorable outcomes for the team as a whole (Kollock, 1998). In terms of knowledge sharing, organizational members have a need to acquire knowledge and recognize that knowledge sharing benefits the organization. However, the actual provision of shared knowledge within teams remains insufficient. The same applies to employee creativity—while individuals seek to access others' creative ideas and acknowledge that creative contributions benefit the organization, the volume of creative input within teams remains inadequate.

Given these challenges, hotel operators must consider which types of employees exhibit higher levels of knowledge sharing or lower levels of knowledge hiding to facilitate smoother hotel operations. Of particular interest is regulatory focus theory (Higgins, 1996, 1997), which distinguishes between two goal attainment strategies: promotion focus and prevention focus. Individuals with a promotion focus set their goals based on hopes and aspirations, while those with a prevention focus view their goals in terms of responsibilities and obligations. These two orientations are hypothesized to lead individuals to adopt either eagerness-related or vigilance-related strategies in pursuing their goals. The former involves ensuring the presence of positive outcomes and avoiding the absence of positive outcomes, whereas the latter involves ensuring the absence of negative outcomes and preventing their occurrence (Higgins, Friedman, Harlow, Idson, Ayduk, & Taylor, 2001).

From this perspective, hotel employees with a promotion focus aim to successfully accomplish their work tasks, while those with a prevention focus perceive assigned tasks as responsibilities and obligations. Since hotel operators consistently seek to enhance employees' knowledge sharing and mitigate knowledge hiding, understanding how promotion focus and prevention focus influence knowledge sharing and knowledge hiding becomes critically important. Surprisingly, however, research on this phenomenon remains limited. Therefore, this study seeks to examine whether the two types of regulatory focus among hotel employees influence their knowledge sharing and knowledge hiding behaviors—a question that constitutes the core research problem of this study.

1.2. Research Questions and Objectives

According to the interactionism perspective, behavior results from the interaction between personality traits and situational factors. This perspective has long been established in personality and social psychology research (Diener, Larsen, & Emmons, 1984; Endler & Edwards, 1986). Based on this perspective, this study aims to investigate whether forgiveness climate and workplace exclusion (situational factors) moderate the relationship between promotion focus/prevention focus (personality traits) and knowledge sharing/knowledge hiding (behavioral outcomes) among hotel employees.

Thus, the primary objective of this study is to examine the impact of regulatory focus on knowledge sharing and knowledge hiding among employees in international tourist hotels.

2. Literature Review

2.1. The Relationship Between Regulatory Focus and Knowledge Sharing/Knowledge Hiding

Individuals typically adjust their behaviors to align with their goals, and this adjustment stems from a fundamental motivational assumption—namely, that individuals have two distinguishable needs: nurturance needs and security needs (Galinsky, Leonardelli, Okhuysen, & Mussweiler, 2005). These needs drive individuals to maximize pleasure and minimize pain (Higgins, 1998; Molden, Lee, & Higgins, 2008). This widely accepted assumption also reflects a key psychological principle: people are strongly motivated by the desire to maximize pleasure and minimize pain. Consequently, individuals exhibit two distinct self-regulation modes, which literature refers to as either promotion focus or prevention focus (Higgins, 1996, 1997, 1998).

Individuals with a promotion focus adopt a strategy centered on aspirations and achievements, seeking to attain positive outcomes (Crowe & Higgins, 1997; Higgins, Roney, Crowe, & Hymes, 1994). In contrast, those with a prevention focus adopt a maintenance-centered approach, emphasizing responsibilities and obligations to ensure security and prevent negative outcomes (Higgins, 1997).

Regulatory focus theory (RFT) posits that individuals employ distinct goal-pursuit strategies to approach desired outcomes, such as improved job performance (Higgins, 1997, 2000). Behavioral strategies are built on approach motivation, which minimizes goal discrepancies (Higgins, 1997). Research has shown that regulatory focus influences various performance outcomes, including safety and productivity performance (Wallace & Chen, 2006), in-role performance (Wallace, Little, & Shull, 2008), task performance (Johnson, Shull, & Wallace, 2011), creativity, helping behaviors, deviant behaviors (Neubert, Kacmar, Carlson, Chonko, & Roberts, 2008), and task engagement (Forster, Higgins, & Idson, 1998).

However, promotion focus and prevention focus play distinct roles in achieving goal states (Higgins, 1997). Promotion-focused individuals are highly sensitive to the presence or absence of positive outcomes, whereas prevention-focused individuals are more sensitive to the presence or absence of negative outcomes (Higgins, 1998). Promotion-focused individuals operate in a state of eagerness, striving to ensure the realization of desired goals while avoiding errors of inaction (Higgins, 1998). This means that promotion-focused individuals proactively engage in behaviors necessary to achieve their goals. Conversely, prevention-focused individuals operate in a state of vigilance, aiming to correctly reject mistakes and prevent errors of commission (Higgins, 1998). Although regulatory focus theory has been extensively studied in general organizational settings, its application in hospitality, especially hotels, remains limited (Karatepe & Sokmen, 2006; Li et al., 2012). Recent studies have begun to explore knowledge behavior in hospitality contexts. For example, Li et al. (2012) examined the impact of HRM consistency on Chinese luxury hotel employees' job performance, revealing the role of motivational alignment. Karatepe (2013) further demonstrated how employee engagement mediates the relationship between HR practices and performance in hotels. These findings emphasize the need to examine psychological factors like regulatory focus within the specific operational dynamics of hotel environments.

By maximizing opportunities to ensure that the desired end-state aligns with actual outcomes, individuals with a promotion focus perceive outcomes in terms of gains (positive) or non-gains, and they strategically pursue these desired states. In contrast, prevention-focused individuals execute behavioral strategies to fulfill their obligations and responsibilities, focusing on error avoidance and risk mitigation (Higgins, 1997, 2000). By preventing errors of commission, they minimize the discrepancy between the desired end-state and actual outcomes, perceiving outcomes in terms of non-losses (positive) or losses and strategically striving for these desired states. In other words, prevention focus prioritizes error avoidance, which in turn facilitates successful goal achievement (Johnson et al., 2011).

Ultimately, promotion-focused individuals perceive the appropriate strategic orientation as "approach", whereas prevention-focused individuals perceive the appropriate strategic orientation as "avoidance" (Das & Kumar, 2011). In summary, individuals with a promotion focus exhibit a goal-directed attitude emphasizing the achievement of positive outcomes, while those with a prevention focus emphasize the avoidance of mistakes or losses (Higgins, 1997, 2000; Neubert et al., 2008; Wallace & Chen, 2006). Both dimensions of regulatory focus are driven by motivational aspirations, striving to bridge the gap between the current state and the desired end-state (Johnson et al., 2011).

2.2. Regulatory Focus and the Social Dilemma of Knowledge Sharing

The social dilemma of knowledge sharing arises because knowledge and creativity possess the characteristics of public goods (Samuelson, 1954). Public goods can be classified based on two key attributes: non-excludability and non-rivalry. Non-excludability means that once knowledge and creative ideas are shared, the provider cannot prevent other team members from using them freely. Non-rivalry implies that despite variations in how different team members evaluate the value of shared knowledge and ideas, the total available quantity remains unchanged.

Organizational knowledge clusters or knowledge-sharing platforms embody the characteristics of public goods (Wasko & Faraj, 2000), where members cannot restrict others from using shared knowledge and ideas, and each member has equal access to the shared resources. From another perspective, organizational members often enjoy the benefits of knowledge sharing and innovation without actively contributing to it—a phenomenon known as free-riding (Olson, 1965).

Within teams, members may conceal their true preferences regarding knowledge and creative ideas, attempting to contribute as little as possible while gaining as much knowledge and innovation from others as possible. This issue is compounded by the difficulty of quantifying individual contributions to knowledge and creativity (KPMG, 2000) and the fear of losing one's status or competitive advantage (Husted & Michailova, 2002). From both individual and collective perspectives, a fundamental contradiction arises regarding the provision of knowledge and creative ideas.

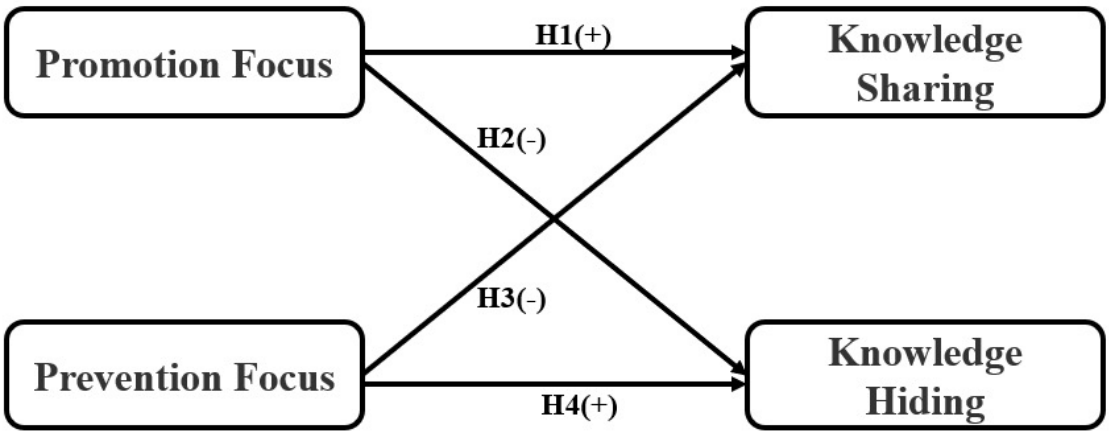
In other words, since the exact contribution of each member to team knowledge and creativity is difficult to measure, it becomes challenging to prevent free-riding behaviors. Consequently, individuals may conceal their true willingness to share knowledge and deliberately reduce their contributions (Olson, 1965), leading to a shortage of shared knowledge and innovation within teams.

2.3. Research Hypotheses

Based on the above discussion, employees with a promotion focus tend to be proactive and have high aspirations for their future performance. Therefore, employees with a promotion focus are more likely to engage in knowledge sharing. In contrast, employees with a prevention focus tend to be more conservative, making them more prone to knowledge hiding.
Thus, this study proposes the following research hypotheses:

- H1: Employees' promotion focus positively influences knowledge sharing.
- H2: Employees' promotion focus negatively influences knowledge hiding.
- H3: Employees' prevention focus negatively influences knowledge sharing.
- H4: Employees' prevention focus positively influences knowledge hiding.

Figure 1. Research Framework



3. Methodology

3.1. Measurement

3.1.1. Regulatory Focus

This study employs the Regulatory Focus at Work Scale (RWS) developed by Wallace & Chen (2006). The scale consists of two dimensions (promotion focus and prevention focus), each containing six items, totaling 12 items. The scale follows a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate a stronger promotion or prevention focus among employees.

3.1.2. Knowledge Sharing

The knowledge-sharing scale is based on prior research by Hedlund & Nonaka (1993), Nahapiet & Ghoshal (1998), and Tsai & Ghoshal (1998). It is measured using a 5-point Likert scale, where higher scores indicate a greater level of knowledge sharing.

3.1.3. Knowledge Hiding

Knowledge hiding is measured using the scale developed by Connelly, Zweig, Webster, & Trougakos (2012). The scale consists of 12 items, rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Higher scores indicate a greater tendency for knowledge hiding.

3.2. Data collection

This study focuses on employees from international tourist hotels in Taipei, Taichung, and Kaohsiung, specifically from the food and beverage, housekeeping, and front desk departments. Regarding sample size, Tinsley & Tinsley (1987) suggest that a sample of 100 is considered inadequate, while 200 is deemed acceptable. A sample size of 300 is considered good, and any number exceeding 300 is regarded as excellent. The sample size of this research is over 600 which is considered reliable.

4. Results

4.1. Profile of the respondents

Descriptive statistical analysis was conducted to summarize the demographic characteristics of the respondents, including gender, age, marital status, job position, department, monthly income, education level, and work experience. The sample consisted of 55.1% female (378 employees) and 44.9% male (309 employees), with all 687 respondents being full-time employees. In terms of age distribution, 0.1% were under 18, 9.1% were aged 19–24, 33.7% were aged 25–34, 39.4% were aged 35–44, 14.5% were aged 45–54, and 2.3% were 55 years and above. Regarding education levels, 0.2% had an elementary school education or below, 1.6% had completed junior high school, 16.7% had a high school or vocational school education, 73.7% held a university or associate degree, and 6.8% had completed graduate studies or higher.

Table 1. Overview of the demographic

Variables	Respondents	Sample Size (n)	Percentage (%)
Gender	Male	309	44.9
	Female	378	55.1
Employment type	Full-time	687	100
	Part-time	0	0
Age	Less than 18	2	0.1
	19 to 24 years old	62	9.1
	25 to 34 years old	233	33.7
	35 to 44 years old	272	39.4
	45 to 54 years old	101	14.5
	55 years old and above	17	2.3
Education level	Elementary school and below	2	0.2
	Junior high school	12	1.6
	Senior high school/vocational school	117	16.7
	University (including college)	508	73.7
	Graduate school and above	48	6.8

4.2. Results of data analysis

Reliability analysis was conducted using Cronbach's α coefficient to evaluate the stability and trustworthiness of the measurement scales. Each construct's internal consistency was assessed, with all Cronbach's α coefficients exceeded 0.7, indicating good internal consistency (Nunnally, 1978). The specific values are presented in Table 2.

Table 2. Cronbach's α list

Construct	Cronbach's α
Promotion Focus	0.81
Prevention Focus	0.79
Knowledge Sharing	0.83
Knowledge Hiding	0.87

Confirmatory Factor Analysis (CFA) was performed as a crucial step in the development of Structural Equation Modeling (SEM) to assess the relationships between observed variables and latent constructs. CFA ensures the validity of the measurement model and independently evaluates construct validity and theoretical soundness. The Composite Reliability (CR) values in this study ranged from 0.74 to 0.92, the Standardized Factor Loadings (SFL) values were all greater than 0.5, and the Average Variance Extracted (AVE) values exceeded 0.4, indicating an acceptable level of construct validity.

Regression analysis was used to examine the effects of promotion focus and prevention focus on knowledge sharing and knowledge hiding among hotel employees, as well as the moderating effects of forgiveness climate and workplace exclusion on these relationships. The study explored how regulatory focus (personality trait) influences knowledge sharing and knowledge hiding in the workplace, while also considering the impact of environmental factors such as workplace forgiveness and workplace exclusion. The results confirmed that all proposed hypotheses were statistically significant ($p < 0.001$).

Table 3. Multiple Regression Results for the Relationship Between Prevention Focus, Prevention Focus, Knowledge Sharing and Knowledge Hiding

Independent variable	Dependent variable			
	Knowledge Sharing	Hypothesis	Knowledge Hiding	Hypothesis
	β			
Promotion Focus	0.52***	H1	-0.41***	H2
Prevention Focus	-0.36***	H3	0.45***	H4
R^2	0.62		0.58	
Adjusted R^2	0.60		0.56	
F	48.21***		42.57***	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, n= 373; β: standardized regression coefficient

5. Discussion and Implications

5.1. Discussion

This study confirms that employees' regulatory focus significantly influences their knowledge-related behaviors, reinforcing the applicability of Regulatory Focus Theory (RFT) in workplace knowledge management. Employees with a strong promotion focus, driven by achievement and growth, actively engage in knowledge sharing, while those with a strong prevention focus, concerned about failure and negative evaluations, are more inclined to knowledge hiding. These findings extend previous knowledge management research by illustrating how intrinsic motivation influences knowledge flow and demonstrating that knowledge hiding is not simply the opposite of knowledge sharing but is driven by distinct psychological mechanisms.

5.2. Academic and practical implications

This study highlights the critical role of intrinsic motivation in knowledge management. Organizations should actively cultivate an innovation-driven and knowledge-sharing culture while reducing employees' fear of failure. By facilitating effective knowledge flow, companies can enhance organizational learning capacity and strengthen their competitive advantage.

Organizations should cultivate promotion focus while minimizing excessive prevention focus to foster knowledge sharing and reduce knowledge hiding. Several key strategies can support this objective. First, organizations should implement performance evaluation and incentive mechanisms that encourage employees to prioritize success and innovation rather than solely avoiding errors, thereby increasing their willingness to share knowledge actively. Second, establishing a psychologically safe environment is essential, where employees do not fear failure and, consequently, do not resort to knowledge hiding. A culture that reduces the fear of negative consequences encourages open knowledge exchange. Third, organizations should adopt differentiated management strategies based on employees' regulatory focus. Promotion-focused employees should be provided with more collaboration and competition opportunities to enhance their motivation to share knowledge. Meanwhile, for prevention-focused employees, implementing anonymous knowledge-sharing platforms or structured knowledge management systems can help alleviate their concerns about failure or criticism.

This study enriches the theoretical discourse by showing that knowledge hiding is not merely the absence of knowledge sharing, but a distinct construct driven by prevention motivation, as supported by Connelly et al. (2012) and Neubert et al. (2008).

5.3. Limitations of this study and suggestions for future research

Several questions remain for future research. For instance, how do organizational culture, leadership styles, and industry characteristics influence regulatory focus? Moreover, in highly competitive environments, could promotion-focused employees intentionally hide critical knowledge to maintain a personal competitive advantage? These issues warrant further investigation to deepen the understanding of regulatory focus in knowledge management.

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Diversity Management of Human Resources for Promoting Employee Loyalty in Independent Hotels System Business (Paper# 125)

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Abstract:

This ongoing research explores human resource diversity management in independent hotels, examining its impact on employee loyalty and proposing effective management strategies. Workplace diversity, including gender, age, religion, ethnicity, and job roles, significantly influences employee commitment. Using qualitative research through in-depth interviews with managers and employees in large independent hotels in Northern Thailand, the findings highlight key factors that enhance employee loyalty: fostering an inclusive organizational culture, implementing fair management practices, and investing in employee development through training and appropriate benefits. The results provide valuable insights for improving workforce diversity management in the hotel industry, contributing to employee satisfaction and long-term organizational stability.

Keywords: Human resource diversity, Diversity management, Employee loyalty, Independent hotels, Organizational culture

1. Introduction

In today's competitive hospitality industry, employees are the most valuable assets, particularly in the hotel business. They serve as the frontliners who represent the business, directly shaping guest experiences. This is especially crucial in the independent hotel system where service personalization, adaptability, and human connection are critical to maintaining competitiveness. As emphasized by Doumbalian (2017), employee development through effective training is essential to delivering service excellence and achieving long-term organizational sustainability.

Human diversity has emerged as a key area of focus in both academic and practical domains of human resource management. Diversity in the workplace refers to the range of differences among employees, including but not limited to gender, age, nationality, religion, values, cognitive styles, and cultural backgrounds. According to Hiles (2007) and Chawanowanich (2023), embracing diversity is essential for fostering inclusive workplace environments, encouraging mutual respect, and promoting harmonious coexistence.

However, the increasing diversity in the workplace has also introduced new challenges. Differences in generational perspectives (e.g., Baby Boomers vs. Gen Z), cultural backgrounds, or language abilities can lead to miscommunication, interpersonal tension, or bias – driven group conflict. Without proper management, diversity may be perceived as a source of division rather than an asset. This underscores the importance of diversity management as a deliberate and strategic organizational approach.

For independent hotels, diversity can be a powerful driver of creativity and innovation. When recognized and managed positively, it can lead to improved decision-making, enhanced collaboration, and a stronger organizational reputation. Employees from different backgrounds bring a variety of perspectives, which can enrich problem – solving and promote inclusivity. However, without a shared sense of values and trust, these differences can also cause fragmentation.

To mitigate these challenges, the concept of value congruence has gained relevance. It refers to the alignment between individual values and organizational culture, which can help reduce internal conflict, strengthen trust, and enhance organizational commitment. Hotels can foster value congruence through the promotion of a strong, inclusive organizational culture that all employees can identify with and uphold.

Additionally, organizational justice plays a key role in diversity management. Fairness in decision – making, performance evaluation, promotions, and resource distribution increases employees' trust and loyalty. Bias – free policies are vital to ensuring that diversity is not just acknowledged but respected and effectively integrated into the organizational fabric.

Ultimately, diversity management should not be viewed as a reactive process to social issues, but as a proactive strategy for achieving competitive advantage and organizational excellence. McKinsey & Company (2020) reports that companies with high levels of gender and ethnic diversity significantly outperform their less diverse counterparts in terms of productivity and profitability.

Independent hotels, characterized by unique cultural identities, localized management styles, and non-franchise operations, are especially well-positioned to benefit from strategic diversity management. However, they must adopt an intentional and inclusive approach to realize these benefits.

Diversity encompasses more than just gender or age differences. It involves a wide array of attributes, including gender identity, cultural background, religion, work experience, and cognitive styles. In the context of the hospitality industry, this diversity presents both opportunities and challenges. On the one hand, it fosters creativity and innovation through diverse perspectives; on the other hand, it may lead to misunderstandings and conflict if not managed strategically.

Organizations that recognize and manage diversity effectively tend to experience higher employee satisfaction, increased collaboration, and stronger organizational loyalty. The independent hotel sector, often characterized by personalized management styles and less formal organizational structures, must pay special attention to this issue to maintain workforce stability and deliver high-quality service.

This study aims to explore how diversity management practices influence employee loyalty in independent hotels in Northern Thailand. By doing so, it contributes to the body of knowledge in tourism and hotel management and provides practical strategies for human resource development in culturally diverse environments.

1.1 Research Objectives

1) To study the forms and practices of diversity management of human resources in independent hotel businesses.

2) To examine the relationship between diversity management and employee loyalty, focusing on how diversity affects the attitudes, behaviors, and engagement levels of employees in independent hotels.

3) To propose strategic guidelines for managing human resource diversity that can enhance employee loyalty and promote a positive organizational culture in the independent hotel sector.

1.2 Research Hypotheses

Based on the literature and theoretical frameworks, the study proposes the following hypotheses:

H1: Diversity management practices positively influence employee loyalty in independent hotels.

H2: Value congruence among employees mediates the relationship between diversity management and employee loyalty.

H3: Perceived organizational justice moderates the relationship between diversity management and employee loyalty.

H4: Demographic variables such as age, gender, and education level have a significant impact on employee perceptions of diversity management.

1.3 Scope of the Study

1) Geographical Scope

The study focuses on independent hotel businesses located in 17 provinces of Northern Thailand. Data collection is conducted through purposive interviews and surveys within these designated areas.

2) Population Scope

The research includes three main groups of participants:

2.1) Independent large-scale hotels officially registered in Northern Thailand.

2.2) Key Informants: Personnel responsible for human resource policy and development in these hotels, selected through purposive sampling using in-depth and semi-structured interviews.

2.3) Stakeholders (Hotel Employees): Employees involved in HR development across three organizational levels:

2.3.1) Operational Staff Level

2.3.2) Supervisor Level

2.3.3) Management Level

Data from this group is collected using structured questionnaires.

3) Content Scope

The study addresses the following areas:

3.1) Identification and evaluation of diversity factors—including personal identity (e.g., gender, age, religion) and organizational role diversity (e.g., job positions and responsibilities).

3.2) Focus Group discussions to analyze how diversity influences employee loyalty in independent hotel organizations.

3.3) Designing a diversity management model for promoting employee loyalty in independent hotel networks throughout Thailand, evaluating its operational effectiveness.

1.4 Definitions of Specific Terms

1) Employee Loyalty (Natthanun Sodmalai & Thossaporn Mahamat, 2018) Employee loyalty refers to the positive feelings and attitudes that employees have toward their organization. It includes dedication, satisfaction, commitment to the organization's goals, pride in being part of the organization, and a willingness to continue working with full effort. Loyal employees not only stay with the organization but also act as ambassadors who protect and promote the organizational identity.

2) Diversity Management (Yap & Ineson, 2016) Diversity management is the strategic approach to recognizing and valuing differences among people in the workplace. It involves planning, implementing, and evaluating policies that foster inclusion, equal opportunity, and the effective use of diverse human capital. Diversity management enhances innovation, organizational competitiveness, and the ability to adapt in an increasingly globalized environment.

3) Human Resources (Mohsin, Lengler, & Aguzzoli, 2015) Human resources refer to the workforce of an organization and the processes related to their recruitment, development, performance, and retention. HR management aims to optimize individual capabilities and align them with organizational objectives through strategic planning, skill development, motivation, and supportive work environments.

4) Independent Hotels System (Phinyapat Nakphiban, 2019) Independent hotels are establishments not affiliated with hotel chains, franchises, or management companies. They are often family – run or locally managed, emphasizing personalized service and unique identity. Employees in such hotels often have broader roles and responsibilities and are expected to engage in multi-tasking across service areas.

5) Large – scale Hotels (Phinyapat Nakphiban, 2019) Large – scale hotels are defined in this study as properties with more than 100 rooms. These establishments require more structured human resource systems and strategic diversity management practices due to their larger and more complex operational environment.

In the evolving landscape of the hospitality industry, especially within the independent hotel sector, the ability to manage human diversity has become a critical factor for organizational success. Diversity in the workforce – spanning gender, age, religion, ethnicity, values, and cultural identity – offers both challenges and opportunities. While such differences can lead to miscommunication and workplace friction, they also foster innovation, broaden perspectives, and enhance service quality when effectively managed.

This research highlights the importance of achieving a strategic balance between diversity and unity within the organization. Concepts such as value congruence and organizational justice are key to integrating diverse human capital into a cohesive workforce. Creating inclusive organizational cultures where all employees feel valued, respected, and aligned with the company's core values is essential for building trust and reducing turnover.

Moreover, when diversity management is executed thoughtfully – incorporating equitable policies, inclusive leadership, and fair treatment not only promotes employee loyalty but also enhances operational efficiency and customer satisfaction. Organizations that embrace diversity as a strategic resource, rather than a challenge, position themselves for long-term sustainability and competitive advantage.

This study therefore aims to explore and propose effective strategies for managing workforce diversity to promote employee loyalty in independent hotel businesses. Its findings will contribute both theoretically and practically to the development of human resource practices in the hospitality sector, particularly in the culturally diverse and rapidly changing context of Northern Thailand.

2. Literature Review

2.1 Hotel Concept and Operation Review

The concept of a hotel encompasses a range of services and operational models developed to accommodate and satisfy travelers. Scholars have defined hotels in various ways. According to Lundberg (1974), a hotel is a commercial establishment created to provide lodging, food, and related services to travelers. Hotels typically consist of multiple rooms arranged within one or several buildings and offer various amenities to ensure guests' comfort and satisfaction. The term "hotel" originates from the French word Hôtel, with the first European hotel—Hotel de Hanri IV—established in 1788.

Phinyapat Nakphiban (2019) defines a hotel as a service-oriented establishment focused primarily on providing accommodation, along with facilities and services to create a comfortable, relaxing, and satisfying experience for guests. Doumbalian (2017) expands this view by emphasizing that hotels are not only businesses but also powerful tools for adding value. Outstanding service can differentiate hotels in competitive markets, foster guest loyalty, and build brand identity.

Hotels can vary greatly in their operations and offerings. Common services include short-term lodging, food and beverage outlets, laundry, meeting rooms, and recreational facilities such as swimming pools or gyms. Hotels are also increasingly venues for conferences and events, contributing to the broader tourism and hospitality industry.

In the Thai context, the legal definition of a hotel aligns closely with international standards. According to the Thai Hotel Act B.E. 2547 (2004), hotels must be officially registered and must provide temporary lodging and related services in exchange for payment. Hotels are classified into four main types under Thai law:

1) Type 1: Accommodation only
2) Type 2: Accommodation and dining facilities
3) Type 3: Accommodation, dining, and entertainment or seminar rooms
4) Type 4: Full-service hotels with accommodation, dining, entertainment, and conference facilities

Moreover, hotels can be categorized by size:

1) Small hotels: Fewer than 30 rooms
2) Medium hotels: Between 30–150 rooms
3) Large hotels: Over 100 rooms, typically with comprehensive facilities and luxury services

From a business perspective, hotel operations are typically structured in one of two models:

1) Independent Hotels: Operated and managed by the owner or a small management team. These establishments often have limited funding, conduct localized marketing, and prioritize personal service. They are common in rural or seasonal tourist destinations. Employees are typically multi-skilled and flexible in their roles.

2) Hotel Chains or Groups: Operate under a unified brand and management structure. These may include self-managed groups, management contract models, or franchises. Chain hotels benefit from centralized systems, standard operating procedures, and stronger brand recognition, making them popular in large cities and tourist hubs.

Independent hotels offer personalized and flexible services that create unique guest experiences. However, they face challenges such as limited marketing budgets, slower expansion, and less formal HR development. Nevertheless, technological advancements—particularly online booking platforms and digital marketing—have empowered independent hotels to reach broader markets more effectively.

In conclusion, the hotel industry plays a vital role in the global service economy. Whether independently owned or part of a chain, hotels must continuously evolve to meet changing consumer demands while adhering to legal standards and offering competitive services. Understanding the hotel concept and its operational variations lays the groundwork for exploring the broader human resource dynamics within the sector.

2.2 Human Resource Management and Development in Hotels

Human resource management (HRM) in the hotel industry plays a crucial role in ensuring service quality and organizational performance. As hotels are labor-intensive service businesses, their success depends heavily on the capabilities and attitudes of their employees. HRM encompasses a wide range of activities including recruitment, selection, training, development, performance appraisal, and employee retention. In the context of hospitality, where guest satisfaction is paramount, well-managed human capital is indispensable.

One of the foundational theories informing modern HRM is the Hawthorne Effect, developed by Elton Mayo in the early 20th century. The theory reveals that employees perform better when they feel observed, valued, and involved. Changes in work conditions, such as lighting or break schedules, were found to improve worker productivity – not due to the physical changes themselves, but because workers felt that management cared about their wellbeing. This emphasizes the importance of engagement, trust, and psychological investment in managing hotel staff.

Building on this, Frederick Herzberg's Two – Factor Theory (1990) identifies two critical dimensions affecting employee satisfaction and performance:

Motivation Factors (Intrinsic): These include achievement, recognition, the nature of the work itself, responsibility, and advancement. They contribute to positive job satisfaction and internal motivation.

Hygiene Factors (Extrinsic): These include salary, job security, work conditions, company policies, supervision, and interpersonal relationships. Their absence can cause dissatisfaction, but their presence alone may not motivate them.

Effective HR management in hotels, therefore, must provide both satisfactory hygiene conditions and intrinsic motivators to foster loyalty and productivity.

HRM in hotels is also evolving to align more closely with strategic business goals. According to Carrell, Elbert, and Hatfield (2000), HR functions are now designed to improve organizational efficiency and fulfill individual employee needs. Noe, Hollenbeck, Gerhart, and Wright (2000) highlight how HR policies and practices influence employee attitudes, behaviors, and performance. Meanwhile, DeNisi and Griffin (2001) stress the importance of HR activities in enhancing the quality of work and organizational effectiveness.

Thai scholars such as Chutarat Phetsuwan (2019) have also observed a shift from traditional personnel management to more strategic HRM approaches. In the past, HR roles were administrative and reactive; today, they involve proactive planning, performance management, and aligning HR strategies with business objectives. The focus has shifted to Human Capital Management (HCM), which emphasizes developing employee capabilities, maximizing potential, and recognizing individual value.

Key strategies in modern HRM include:

1) Job Enrichment: Redesigning jobs to increase skill variety, task identity, autonomy, and feedback.

2) Job Rotation: Allowing employees to experience different roles to build versatility and reduce monotony.

3) Flexible Welfare Systems: Designing benefits that align with employee needs and preferences.

4) Performance-Based Rewards: Linking compensation and recognition with individual contributions.

Ultimately, people are the most valuable assets in any hotel business. Effective HRM ensures that employees are motivated, skilled, and aligned with organizational values and goals. Especially in independent hotels, where staff often wear multiple hats and operate in less formal structures, tailored HR strategies are essential for employee satisfaction and retention.

As the hospitality industry continues to adapt to rapid technological, social, and economic changes, HRM must also evolve. The success of hotels – independent or otherwise – relies on their ability to attract, develop, and retain a diverse and competent workforce capable of delivering high-quality service in a dynamic environment.

2.3 The Concept of Employee Loyalty

Employee loyalty is a critical element of organizational success, particularly in the hospitality industry where employee attitudes and behaviors directly impact guest satisfaction. Loyalty refers to the psychological attachment, commitment, and long-term wishes of employees to remain with an organization, contribute to its goals, and act as ambassadors for its values.

According to Niwat Chantrach (2023), organizational loyalty reflects an employee's behavioral engagement, emotional connection, and cognitive understanding of their relationship with the organization. It is expressed through a desire to remain with the company, pride in being part of it, and confidence in its direction and leadership. This loyalty helps organizations use resources effectively and adapt to internal and external challenges.

Employee loyalty can be viewed through three primary dimensions:

1) Behavioral Aspect: Demonstrated through consistent job performance, a reluctance to leave the organization, and a willingness to follow the organization to new locations or transitions.

2) Affective Aspect: Refers to the emotional bond employees feel, including pride, satisfaction, and a sense of belonging within the organization – like being part of a family.

3) Cognitive Aspect: Reflects employees' beliefs and trust in the organization, understanding of its mission, and alignment with its goals and values.

Fletcher (1993) defines loyalty in terms of three essential components:

1) Historical Self-Expression: Loyalty is tied to one's personal history and identity within the organization.

2) More than Habitual Attachment: Loyalty is an intentional and value-driven commitment beyond mere routine.

3) Avoidance of Betrayal: Loyal employees protect and uphold the organization's values, avoiding actions that would harm its reputation or interests.

Adler & Adler (1988) propose five loyalty-generating conditions within organizations:

1) Domination – Structure and leadership that provide direction and stability.

2) Identification – Recognition of personal and group identity within the organization.

3) Commitment – Willingness to adhere to organizational policies and contribute to success.

4) Integration – A sense of unity and shared ownership among employees.

5) Goal Alignment – Internalization of the organization's goals by its members.

Fullagar & Barling (1989) summarize loyalty traits into three core characteristics:

1) A positive attitude toward organizational values and goals.

2) Pride in being a member of the organization.

3) A strong desire to remain part of the organization.

Wipa Chanla (2016) further consolidates these views into a model of organizational loyalty with the same three dimensions: behavioral, affective, and cognitive.

As workforces become more diverse and dynamic, organizations must invest in strategies that foster loyalty. This is particularly important among younger generations, such as Gen Y, who may exhibit different career expectations. Research by Chatchawan Orarungsupatat (2023) indicates that understanding generational behavior and adjusting HR practices accordingly can enhance loyalty, reduce turnover, and maintain competitive advantage.

In conclusion, employee loyalty is more than just retention—it is about fostering trust, pride, and engagement. Independent hotels, with their close-knit environments and personal management styles, are uniquely positioned to cultivate this loyalty through thoughtful leadership, inclusive culture, and clear value alignment.

2.4 The Concept of Workforce Diversity

Workforce diversity refers to the range of differences among individuals in an organization, encompassing visible and invisible attributes such as gender, age, race, religion, culture, language, education, values, experiences, and cognitive styles. In the hospitality industry, diversity is especially pronounced due to its service-oriented nature and multicultural clientele. Managing this diversity effectively is vital to building an inclusive, productive, and innovative workplace.

Verna Myers (2021) defines diversity as "being invited to the party" and inclusion as "being asked to dance," emphasizing the need for intentional inclusion in organizational practices. Diversity, in itself, offers a competitive advantage when employees' varied perspectives lead to enhanced creativity, problem-solving, and decision-making. However, without strategic management, diversity can also result in misunderstandings, biases, and workplace conflict.

According to Guillaume et al. (2017), the impact of demographic differences on organizational outcomes is influenced by moderating factors such as team structure, leadership style, and organizational culture. When effectively managed, diversity fosters collaboration, mutual respect, and adaptability – key traits in the dynamic environment of hotel operations.

Diversity can be broadly categorized into:

1) Surface – Level Diversity: Observable characteristics such as gender, age, and ethnicity.

2) Deep – Level Diversity: Non-visible traits such as values, beliefs, attitudes, and personalities.

Managing both types of diversity requires understanding individual needs and creating policies that support equity and inclusion. This includes fair recruitment and promotion practices, flexible scheduling, sensitivity training, and creating opportunities for all employees to voice their ideas.

In the hotel sector, embracing diversity has been linked to improved guest experiences and employee satisfaction. A diverse workforce mirrors the global clientele and allows hotels to better cater to varied cultural preferences. Moreover, research by McKinsey & Company (2020) found that companies with high ethnic and gender diversity are significantly more likely to outperform their peers financially.

The increasing presence of generational diversity, especially with the rise of Gen Y and Gen Z in the workforce, brings new expectations regarding work – life balance, inclusion, and social responsibility. This generational shift challenges traditional HR approaches and requires organizations to adopt more flexible and employee-centric policies.

In the context of independent hotels, diversity management must be tailored to local cultural norms and business capacities. These hotels often operate with leaner teams, which increases the need for multi-skilled employees and close interpersonal collaboration. Diversity in such environments must be managed with sensitivity and strategic foresight to prevent exclusion and promote harmony.

Ultimately, workforce diversity is not just about representation; it is about creating an organizational culture where everyone feels respected, heard, and empowered. By fostering diversity and inclusion, hotels can build resilient teams that are better equipped to serve diverse guests and navigate the challenges of the global hospitality industry.

2.5 Related Research Studies

To support the conceptual foundation of this study, several related research works have been reviewed. These studies provide empirical evidence and theoretical insights into the relationships among diversity management, human resource practices, and employee loyalty within hospitality and service industries.

Chen et al. (2016) investigated the factors influencing employee loyalty in international hotels. The study found that loyalty was significantly affected by internal service quality, including empowerment, training, and communication. The findings support the need for strategic HR interventions to build employee commitment.

Doumbalian (2017) conducted a case study on diversity and inclusion in a 4-star hotel in Beverly Hills. The study emphasized the value of cultural competence and inclusive practices in promoting a respectful work environment. It concluded that hotels must embed diversity into their core strategies to drive innovation and employee engagement.

Farrukh et al. (2019) examined the role of job satisfaction and mutual trust on employee loyalty in the Saudi hospitality industry. The results showed that mutual trust between leaders and employees plays a critical mediating role in fostering long-term organizational loyalty.

Guillaume et al. (2017) explored how demographic differences affect team performance and cohesion. They identified key moderate factors, such as leadership and organizational climate, that determine whether diversity leads to synergy or conflict. These findings reinforce the importance of managing diversity intentionally and contextually.

Zhao (2021) conducted a study on workforce diversity and performance in the hospitality industry. The research showed that gender and age diversity positively impacted team effectiveness and guest satisfaction, particularly when supported by inclusive leadership and transparent communication.

McKinsey & Company (2020) reported that companies with greater gender and ethnic diversity on executive teams are more likely to achieve above – average profitability. The study concluded that diversity is a key driver of innovation, performance, and reputation in competitive service industries.

Nakphiban (2019) focused on independent hotel operations in Thailand and highlighted the role of employee flexibility and multi – skilling. The study suggested that independent hotels benefit significantly from strategic HR practices, including diversity management, to optimize limited resources and retain valuable staff.

Hiles (2007) and Myers (2021) contributed theoretical frameworks for understanding diversity and inclusion as organizational assets. Their work emphasizes the need to go beyond token representation and create cultures where every employee feels seen, heard, and valued.

These studies collectively underscore the necessity of effective diversity management and human resource strategies in fostering a loyal and high – performing workforce. They serve as a foundation for this research, which seeks to integrate these concepts into the context of independent hotel businesses in Northern Thailand.

2.6 Conceptual Framework

The conceptual framework of this study is developed based on an integration of theories, empirical research, and contextual insights into the hotel industry. It outlines the relationships among key variables including diversity management practices, employee loyalty, value congruence, and perceived organizational justice. The framework serves as a basis for examining both the direct and indirect effects of diversity management on employee loyalty within independent hotels in Northern Thailand.

1) Independent Variable:
    1.1) Diversity Management Practices (DMPs)
        1.1.1) Inclusive recruitment and selection
        1.1.2) Diversity training and development
        1.1.3) Equitable policies and communication
        1.1.4) Multicultural team integration
2) Dependent Variable:
    2.1) Employee Loyalty
        2.1.1) Affective commitment
        2.1.2) Behavioral intent to stay
        2.1.3) Organizational identification
3) Mediating Variable:
    3.1) Value Congruence
        3.1.1) Alignment between individual and organizational values
        3.1.2) Shared vision and norms
4) Moderating Variable:
    4.1) Perceived Organizational Justice
        4.1.1) Distributive justice (fairness in resource allocation)
        4.1.2) Procedural justice (fairness in processes)
        4.1.3) Interactional justice (respectful interpersonal treatment)

Theoretical Foundations

1) Herzberg's Two-Factor Theory: Explains how intrinsic motivators and hygiene factors contribute to employee satisfaction and loyalty.

2) Hawthorne Effect: Highlights the importance of employee perception and recognition in influencing performance.

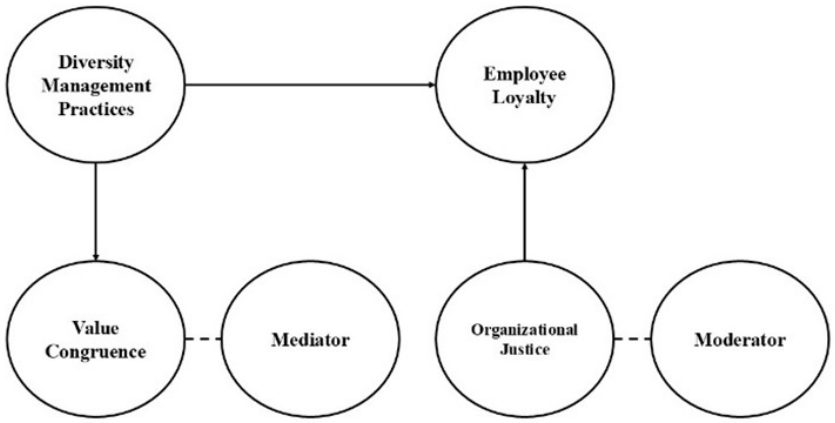
3) Organizational Justice Theory: Emphasizes the role of fairness in cultivating trust and commitment.

4) Value Congruence Theory: Suggests that alignment of personal and organizational values fosters employee engagement and loyalty.

2.7 Conceptual Model

The model hypothesizes that diversity management has a positive effect on employee loyalty. This relationship is mediated by value congruence – employees who feel aligned with the organization's values are more likely to remain loyal. Additionally, perceived organizational justice acts as a moderator, enhancing or weakening the effect of diversity management depending on how fair employees perceive organizational practices to be.

Figure 1: Conceptual Framework'



This conceptual framework provides a structured approach to investigating the impact of diversity management within independent hotels. It integrates psychological, behavioral, and organizational perspectives to offer a comprehensive view of the mechanisms influencing employee loyalty in a diverse workforce.

The literature review affirms that managing diversity in the workforce is not only a moral imperative but also a strategic necessity, especially within the service-oriented hotel industry. Independent hotels, by their very nature, rely on human interaction and personalized service, making human resource management a pivotal factor in operational success.

Studies on hotel operations underscore the significance of flexible management structures and localized decision-making in independent hotels. These characteristics present both

opportunities and challenges for diversity management and employee engagement. Strategic human resource practices – such as job enrichment, skill development, and performance-based rewards – have been shown to enhance employee satisfaction and loyalty.

The concept of employee loyalty is multifaceted, encompassing behavioral, emotional, and cognitive dimensions. Research indicates that loyalty is influenced by intrinsic motivation, trust in leadership, and alignment with organizational values. This highlights the importance of fostering a culture where employees feel valued, supported, and connected to the organization's mission.

Workforce diversity, both visible and invisible, is increasingly relevant in today's hospitality landscape. When managed effectively, it can drive innovation, improve service quality, and strengthen team collaboration. However, unmanaged diversity can lead to conflict, bias, and reduced employee morale. Therefore, diversity management must be proactive, inclusive, and contextually grounded.

Related research studies further confirm the positive relationships between inclusive practices, organizational justice, and employee loyalty. The integration of theories such as Herzberg's Two – Factor Theory, the Hawthorne Effect, and Organizational Justice Theory into the conceptual framework reinforces the importance of value congruence and fairness in the workplace.

In conclusion, the literature reviewed provides a robust foundation for investigating how diversity management influences employee loyalty in independent hotels. It sets the stage for empirical exploration guided by a well – defined conceptual framework, aiming to generate actionable insights for hospitality leaders and policymakers.

3. Methodology

This study employs a mixed – methods research design, combining qualitative and quantitative approaches to comprehensively explore diversity management practices and their impact on employee loyalty in independent hotel businesses in Northern Thailand. The methodology is structured according to the study's three research objectives.

Objective 1: To study the forms and practices of diversity management of human resources in independent hotel businesses.

1) Population and Sampling: Purposive sampling was used to select key informants—hotel managers or HR personnel—from large independent hotels in 17 northern provinces of Thailand. These individuals are directly involved in shaping and implementing HR policies.

2) Research Instruments: Semi – structured interviews were developed, focusing on various dimensions of diversity such as gender, age, job roles, cultural background, education, and professional skills. The interview guide also integrates aspects from the Employee Satisfaction Model, including compensation, job security, and work environment.

3) Instrument Validation: Tools were reviewed for content validity using a Table of Specification and evaluated by experts using the Index of Item Objective Congruence (IOC). Refinements were made based on expert feedback.

4) Data Collection: In – depth interviews were conducted across the 17 provinces.

5) Data Analysis: Qualitative data were analyzed using thematic analysis to identify patterns in diversity management practices.

For the first objective, qualitative methods—primarily semi-structured interviews—are utilized to explore diversity management patterns from the perspective of hotel decision-makers. This approach provides rich, context-specific insights into current practices and challenges.

Objective 2: To examine the relationship between diversity management and employee loyalty, focusing on how diversity affects the attitudes, behaviors, and engagement levels of employees in independent hotels.

1) Population and Sampling: Employees from independent hotels were selected via purposive sampling across three levels: operational staff, supervisors, and management.

2) Research Instruments: A structured questionnaire was developed using constructs from diversity management literature and the Hawthorne Effect. Key variables included diversity policies, training, inclusive communication, and evaluation practices. A total sample of 600 respondents was targeted for analysis using Structural Equation Modeling (SEM).

3) Instrument Validation: Content validity was assessed through expert evaluation and IOC analysis. The questionnaire was piloted and adjusted based on try-out results.

4) Data Collection: Questionnaires were distributed across the 17 northern provinces.

5) Data Analysis: Descriptive statistics were used to profile respondents, while inferential statistics (e.g., ANOVA and SEM) assessed the impact of diversity management on loyalty.

The second objective is addressed through quantitative analysis using a structured survey distributed to employees across different organizational levels. With a sample size appropriate for structural equation modeling (SEM), this phase enables the testing of theoretical relationships and hypotheses related to diversity, organizational justice, and employee loyalty.

Objective 3: To propose strategic guidelines for managing human resource diversity that can enhance employee loyalty and promote a positive organizational culture in the independent hotel sector.

1) Population and Sampling: Focus group discussions were held with HR managers and decision-makers from independent hotels in the region.

2) Research Instruments: A focus group guide was created based on the "3C + BEVP Model", covering six dimensions: challenge, pride, diversity, coworkers, work-life balance, and workplace environment. It was supported by Herzberg's motivation theory (e.g., salary, promotion, job security, working conditions).

3) Instrument Validation: The guide underwent expert review for content accuracy and alignment with research goals.

4) Data Collection: Focus groups were conducted to evaluate and validate proposed diversity management strategies.

5) Data Analysis: Responses were analyzed using frequency distribution and multiple regression analysis to identify effective diversity practices linked to employee loyalty.

The third objective incorporates focus group discussions to validate and refine strategic recommendations. By integrating both managerial and employee perspectives, the study captures a holistic view of diversity management and its influence on employee engagement and retention.

This structured approach allows the study to address each objective rigorously, integrating theory and field evidence to formulate meaningful and actionable conclusions.

Each research tool was developed with rigorous attention to validity and reliability, including expert review and pilot testing. The use of both qualitative and quantitative data strengthens the credibility and applicability of the findings.

4. Conclusion

This ongoing research explores the vital role of diversity management in promoting employee loyalty within independent hotel businesses in Northern Thailand. In an increasingly diverse and competitive hospitality industry, employees are not only service providers but also critical contributors to organizational success. This research highlights how well-managed human diversity can be a strategic advantage that drives engagement, innovation, and organizational sustainability.

The Introduction framed the need for diversity management in the context of independent hotel organizations characterized by localized management, personalized service, and limited formal structures. Through a well – defined set of research objectives and hypotheses, the study establishes a roadmap for investigating how diversity practices, value congruence, and organizational justice shape employee loyalty.

The Literature Review synthesized key concepts and theories related to hotel operations, human resource development, workforce diversity, and employee loyalty. Drawing from established frameworks such as Herzberg's Two – Factor Theory, the Hawthorne Effect, and Organizational Justice Theory, the review built a solid foundation for the study's Conceptual Framework, which guided the empirical investigation.

The Research Methodology employed a mixed – methods approach tailored to each of the study's three objectives. Qualitative interviews captured in – depth perspectives from hotel managers on diversity practices. Quantitative surveys assessed how these practices influence employee loyalty across various staff levels. Focus group discussions then supported the formulation of strategic recommendations. This methodological rigor ensures that the research findings are grounded in both theoretical understanding and practical relevance.

Through this integrated approach, the study anticipates finding that diversity management, when practiced strategically and inclusively, contributes significantly to employee loyalty. Factors such as value alignment and perceived fairness amplify this effect, while poor or absent diversity strategies may undermine employee morale and retention.

In conclusion, diversity should not be viewed merely as a demographic variable but as an asset to be cultivated. Independent hotels that embrace inclusive leadership, align employee values with organizational culture, and uphold justice in workplace practices are better positioned to retain loyal, motivated staff. The study provides valuable implications for hotel managers, Human Resource Management practitioners, and policymakers aiming to build resilient, high – performing organizations in the evolving landscape of the hospitality industry.

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Theme: Special Topics in Hospitality

The Economic Implications of Hosts' Guest-Side Experience: How Stays Shape Property Performance on Peer-to-Peer Platforms (Paper#130)

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Abstract:

This study uses an Airbnb dataset and the difference-in-differences method to explore how a host's experience as a guest shapes the demand for his/her properties and to identify the associated internal mechanisms and heterogeneous effects. The results indicate that a host's guest-side experience significantly increases property demand.

Keywords: host's guest-side experience, peer-to-peer platform, difference-in-differences

1. Introduction

As a two-sided platform, Airbnb uniquely bridges hosts (supply) and guests (demand) within a dynamic ecosystem that enables users to fluidly switch roles: a guest today may become a host tomorrow, and vice versa. According to role theory, this role reversal facilitates empathy enhancement through cognitive restructuring and affective alignment (Yaniv, 2012). In other words, the role reversal between host and guest can enhance an understanding of the other. On the other hand, this role reversal generates a feedback loop, where experiential knowledge acquired in one role systematically informs behaviours in the other (Chen et al., 2024; Wang and Qiu, 2024). In this study, we focus on a critical dimension: how hosts experience as guests shapes their strategies and outcomes as suppliers. This question is central to understanding the dynamics of peer-to-peer (P2P) platforms yet lacks a clear answer in the literature.

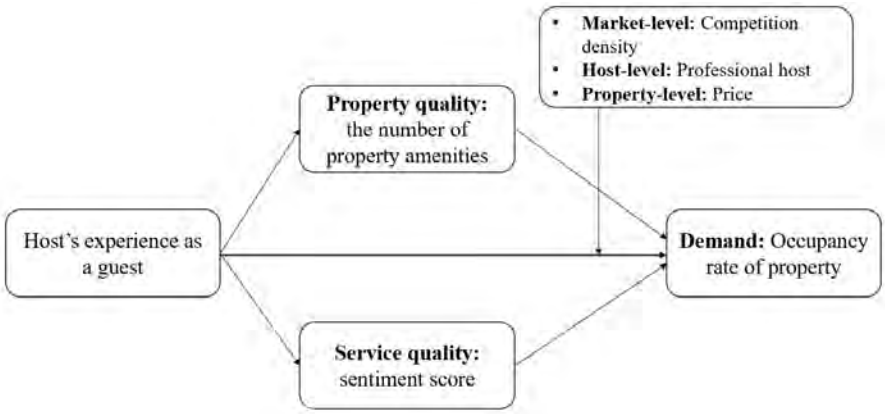
2. Literature Review

Previous study has explored the economic impact of several host behaviors (Dewan et al., 2023; Li et al., 2023). For example, Zhang et al. (2024) found that a smile in the host's profile photo could significantly increase their property demand, especially when there is greater uncertainty regarding either the quality of the accommodations or the interaction with the host.

However, the effect of a host's experience as a guest on his/her property performance has not been analyzed. One the one hand, hosts who frequently use Airbnb as guests may adopt innovative practices observed during their stays, for example, optimizing communication strategies or introducing amenities that enhance perceived value (e.g., portable Wi-Fi hotspots or curated local guides), which could directly improve demand or customer satisfaction. Conversely, negative experiences as guests may equip hosts to preemptively identify and avoid service-related pitfalls. For instance, a host who encountered unclear check-in instructions during their stay as a guest may proactively provide detailed step-by-step guides or video tutorials to mitigate similar frustrations for their own renters.

On this basis, we propose the following questions: (1) does a host's experience as a guest have a positive impact on the demand of their property? (2) If the effect exists, what are the mechanisms underlying it? (3) how do these effects vary across market (e.g., lower competition vs. higher competition), property types (e.g., lower-priced vs. higher-priced) and host characteristics (e.g., multi-listing vs. single-listing hosts)? The framework of this study is shown as

Figure 1. The framework of this study.



3. Methodology

3.1. Data Collection

To address these research questions, we utilize property-level data from AirDNA covering Austin, Dallas, and Fort Worth over the period of July 2022 to December 2023, which provides monthly performance metrics (e.g., occupancy rates, revenue) alongside detailed property and host characteristics. However, a critical limitation of this dataset is the absence of direct indicators reflecting whether hosts have prior experience as guests on Airbnb. To overcome this gap, we supplement the AirDNA data with scraped Airbnb host profile data. Leveraging Airbnb's innovative platform design—where host profiles publicly display reviews both from guests and other hosts—we construct a proxy variable to identify the hosts with guest experience: the presence of reviews from other hosts on a host's profile. Specifically, hosts with at least one review authored by another host are classified into the treatment group and the time of the first review from another host is viewed as treatment time; otherwise, they are assigned to the control group. Furthermore, we use the Airbnb host ID to match these two datasets, setting the analysis unit to listing-year-month.

3.2. Method and empirical design

The staggered adoption of guest roles among hosts—where individuals transition into guest activities at varying time points—creates a natural quasi-experimental framework. To address potential sample selection bias caused by observable, we implement a staggered difference-in-differences (DID) design coupled with propensity score matching (PSM), which enables causal identification of the host's guest experience effect on his/her listing demand while accommodating heterogeneous treatment timing. Parallel trends validation via event-study models, which confirm statistically indistinguishable pretreatment trends between treated and control groups.

To unpack the mechanisms, we assessed how the host's guest experience influences the number of property amenities and consumer sentiment toward host Airbnb properties. In addition, we conduct a heterogeneous analysis across three key dimensions: (1) the market level, measuring the density of competing listings in the vicinity; (2) the host level, examining the host's professional status; and (3) the listing level, assessing the listing's price.

4. Results

The result of DID indicates that experiencing as a guest demonstrated a positive impact on their listings' occupancy rate. According to the mechanism analysis, hosts with guest experience expand their amenity offerings, and sentiment scores also show a significant increase. These findings suggest that experiential learning enables hosts to improve listing quality and enhance their service quality and customer satisfaction, thereby driving demand.

However, the above effects exhibit heterogeneity. Specifically, the coefficient for lower-priced listings is statistically positive while that for higher-priced listings is statistically insignificant. Notably, the effect is pronounced in markets with low competition intensity compared with in highly competitive markets. Furthermore, the impact is stronger among professional hosts who appear more attuned to innovative practices observed during their stays as guests.

5. Discussion and Implications

5.1. Academic and practical implications

Our research contributed to the literature on the sharing economy and peer-to-peer accommodation by introducing the host's guest experiential learning as a novel determinant of listing performance. While existing studies primarily focus on host characteristics, this study highlights the importance of a host's firsthand guest experience in shaping his/her managerial practices. Additionally, the study contributes to tourism and hospitality research by bridging the gap between consumer and provider roles in the peer-to-peer accommodation sector, showing how role-switching influences the economic outcomes.

Our findings also offer actionable insights for both Airbnb hosts and platform operators. For hosts, the results suggest that staying as a guest can be an effective, experience-driven strategy to improve listing performance, encouraging new and existing hosts to engage with the platform beyond their hosting role. Platforms like Airbnb could leverage these insights by promoting experiential learning programs, such as incentivizing hosts to book stays as guests or providing training modules based on guest experiences.

5.2. Limitations of this study

This study relays on reviews left by other hosts as the primary indicator of a host's prior experience as a guest. If a host has stayed in another property as a guest but did not receive, their guest experience would remain undetected, potentially introducing sampling bias or measurement error into the results.

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Woke washing won't work: The effects of inclusive cues on online employee review sites on job seekers' application intentions (Paper #147)

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Abstract:

Although online employee reviews assess hospitality organizations' inclusiveness from internal (stated values) and external (crowdsourced reviews) perspectives, scant research uses this feature to understand diversity management. This research examines 117 lodging companies on Glassdoor.com and conducts a scenario experiment on job seekers. Thematic analysis supports that 55.1% of companies have inconsistencies between organizational overviews and diversity reviews. Cue incongruence affects application intentions through organizational hypocrisy when organizational inclusive cues are present and reverse discrimination is low, supporting organizational trust theory.

Keywords: Inclusive cues, Cue consistency, Organizational hypocrisy, Reverse discrimination, Application intentions, Diversity management

1. Introduction

While recent political trends, including left-wing and right-wing movements, have brought diversity management and inclusive practices into the spotlight (Russen & Dawson, 2024), effectively managing inclusive cues defined as information related to organizational diversity management and inclusiveness is particularly critical for hospitality organizations. Although previous studies examined how inclusive cues can enhance stakeholders' satisfaction (Gajjar & Okumus, 2018), not all organizations practice what they preach (Manoharan et al., 2021). Prior research primarily utilized company websites and financial reports to examine organizations' inclusive cues (Im et al., 2023). However, there remains a limited understanding of how the incongruence between organizationally communicated inclusive cues and publicly crowdsourced inclusive cues, such as those in online employee reviews, jointly affects job seekers' evaluations. To address this research gap, we used a mixed-method approach and grounded on organizational trust theory to examine inclusive cue incongruence within the hospitality industry.

2. Literature Review

Organizational trust theory studies people's willingness to rely on others despite the risks involved (Mayer et al., 1995). According to organizational trust theory, trustees' integrity –consistency and honesty in actions– can contribute to perceptions of their trustworthiness, especially when people are less familiar with them (Mayer et al., 1995; Schoorman et al., 2007). Trust can motivate people to take risks in relationships (Mayer et al., 1995), including job seekers applying for jobs in unfamiliar organizations (Gupta & Saini, 2020).

Hospitality researchers show that diversity management practices increase customer satisfaction and firm performance (Im et al., 2023; Jin et al., 2024; Manoharan et al., 2024), as well as improve talent recruitment and employee performance (Manoharan & Singal, 2017; Pointing & Dillette, 2023; Walker et al., 2012). Accordingly, organizations often advertise their dedication to diversity by offering inclusive cues on their websites and financial reports (Gajjar & Okumus, 2018; Madera, 2013).

Online employee review sites, like Glassdoor, are a new communication channel for organizations to attract talent (Stamolampros et al., 2020; Zhang et al., 2023, 2025). Organizations use these platforms to communicate their values, including workplace inclusiveness (Glassdoor, n.d.), while employees share their opinions through reviews. Cue incongruence occurs when signals conflict (Eklund & Helmefalk, 2022), increasing perceived hypocrisy (Wagner et al., 2009). Organizational trust theory demonstrates that integrity aligning actions with stated values is critical to trust (Mayer et al., 1995).

3. Methods and Results

First, we used the data of 117 hotel management companies on Glassdoor with the thematic analysis based on the suggestion from Madera (2013) to explore the organizational overview and inclusive cues on Glassdoor, to comprehend diversity review ratings, and to build a realistic profile for the experiment design. The results revealed that although limited companies provided inclusive cues, diversity talent management, corporate diversity councils, and/or cultural awareness programs were most mentioned by organizations. Additionally, many companies have "walk the talk" or "under-promise and over-deliver" forms of inclusive cue incongruence.

With the findings from thematic analysis, we recruited 264 US hospitality and tourism workers on Prolific to finish a two (inclusive cue incongruence: congruent vs. incongruent) by two (organizational inclusive cues: present vs. absent) by job seekers' reverse discrimination between-subject quasi-experiment. Participants reported their reverse discrimination (Schnake & Ruscher, 1998; α=0.93) and were randomly requested to read one of four scenario conditions of Glassdoor pages. Next, participants completed the manipulation check and realism check questions (Shum et al., 2024) and answered questions to assess their perceived organizational hypocrisy (Boğan et al., 2024; α=0.96) as well as application intentions (Highhouse et al., 2003; α=0.92). The results revealed that inclusive cue incongruence did not impact the perceived

organizational hypocrisy (Mincongruence=2.60, Mcongruence=2.72, t=1.04, df=262, ns). However, organizational inclusive cues can magnify this impact (F(1, 260)=88.78, p<0.001), and three-way interaction among reverse discrimination, organizational inclusive cues, and inclusive cue incongruence on perceived organizational hypocrisy (b=-0.90, p<0.001). Moreover, perceived organizational hypocrisy was negatively associated with application intentions (b=-0.78, p<0.001), and the overall three-way moderated mediation is significant (index of three-way moderated mediation=-0.70, 95% CI=[-1.11, -0.34]).

4. Discussion and Implications

This research expands the growing body of research on diversity management (e.g., Im et al., 2023; Tracey et al., 2023) by broadening the focus from the narrow lens of organizational disclosure of diversity management to a dual emphasis on both organizational disclosures and employee perceptions. It also shifts prior research focus on large multinational firms (e.g., Gajjar & Okumus, 2018; Madera, 2013) to small and medium enterprises, which may have fewer resources and less commitment to diversity initiatives. Third, while Russen et al. (2021) and Russen et al. (2025) remain the first studies to examine reverse discrimination in a gender context, this research responds to their call by examining the moderating roles of general perceptions of reverse discrimination. Practically, this research can guide organizations in communicating inclusive cues and managing online employee reviews.

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The Impact of Superstitious Beliefs on Guest Satisfaction in Thai Hospitality Industry (Paper#076)

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Abstract:

As a multicultural country, Thais have been adopting practices and beliefs form different culture. This study aims to understand the context of Thais or people who have been live in Thailand about how their concern over superstition affect their hotel selection and satisfaction during their stay. We gathered information from various studies, online sources and survey. The findings offer practical implications for hotel managers to design culturally sensitive services, while also advancing the academic understanding of culturally embedded consumer behavior in Thailand.

Keywords: Superstition, Thais, Beliefs, Culture

1. Introduction

Cultural and spiritual practices, such as feng shui, play a significant role in shaping guest expectations and experiences in the hospitality industry. Superstition is deeply ingrained in Thai culture, influencing daily life, business decisions, and even government policies. Rooted in a blend of Buddhism, Hinduism, and local animist traditions, many Thais rely on rituals, charms, and fortune-telling to guide their actions.

Despite the strong influence of cultural beliefs on consumer decisions, superstitions often go unnoticed in the hospitality industry. While hotels primarily focus on key elements such as room quality, amenities, and customer service, recognizing small details related to superstitious beliefs can leave a lasting impression on guests. A subtle acknowledgment of these beliefs based on guests' cultural backgrounds can foster a sense of connection and demonstrate that the hotel values their personal traditions and preferences.

This study explores how incorporating superstitious and spiritual practices into hotel services enhances guest satisfaction. By examining the relationship between superstition beliefs and guest demographics, the research aims to understand how these factors shape guest expectations and experiences. Recognizing the significance of superstitions allows hotels to move beyond standard services and offer more personalized and culturally attuned experiences.

From an academic perspective, research on superstitions in the hospitality industry is limited, despite the growing recognition of cultural influences on consumer behavior. While studies have explored guest satisfaction and cultural influences, there is little empirical evidence on how superstitious beliefs affect hotel experiences. This study contributes to the academic field by bridging the gap between cultural beliefs and hospitality management, offering insights into how spiritual and superstitious elements can be integrated into hotel services to enhance guest satisfaction.

From a practical perspective, understanding superstitions can provide hospitality businesses with a competitive advantage. In a globalized industry where customer expectations are increasingly shaped by cultural values, recognizing and accommodating superstitions can lead to better guest experiences, higher satisfaction rates, and increased brand loyalty. In Thailand alone, approximately 52 million people are considered superstitious, according to Boonying Kongarchapatara, a marketing expert at Mahidol University. This large demographic highlights the potential impact of incorporating culturally relevant practices such as lucky room numbers, spiritual rituals, and feng shui elements. Hotels that embrace these cultural nuances are more likely to attract and retain culturally conscious travelers, particularly from regions where superstition plays a significant role in decision-making. (Jitpleecheep, 2022)

2. Literature Review

2.1 Superstitious Belief

Superstition is the belief that certain actions, events, or objects can bring good or bad luck, even if there is no logical reason behind it. Fear is the main source of superstition, and one of the main sources of cruelty. To conquer fear is the beginning of wisdom (Russell, 1950). This means that superstition often comes from fear of the unknown, leading people to rely on certain beliefs or rituals to feel safe. Superstitions are common in many cultures and influence the way people think and act.

In daily life, this can be seen in avoiding unlucky numbers, carrying lucky charms, or following certain rituals before making decisions (The Psychology of Superstition, 2024). In the hospitality industry, superstitions affect consumer choices, such as guests avoiding hotel rooms with certain numbers or travellers choosing destinations based on lucky symbols (Buzinde et al., 2012).

2.1.1 Numerological Beliefs (Lucky & Unlucky Numbers)

Numerical beliefs have influenced human societies for millennia, shaping decisions in various domains, including real estate (Crossman, 2024). Numerology plays a role in property pricing, bidding strategies, and the numbering of floors in high-rise buildings, as certain numbers are perceived as either auspicious or inauspicious.

Buyers may seek properties with numbers associated with prosperity, while avoiding those linked to misfortune. The number 13 is widely considered unlucky in North America, leading many buildings to exclude it from floor numbering. In Manhattan, 91% of buildings with more than 13 floors use alternatives such as 14, 12A, or M. Similarly, in Chinese culture, the number 4 is avoided due to its phonetic similarity to the word for "death," influencing the labelling of addresses and floors. In contrast, numbers like 8, 6, and 9 are highly valued. The number 8 symbolizes wealth due to its pronunciation, while 6 is linked to smooth progress, and 9 represents longevity.

These numerical superstitions have tangible effects on real estate trends, influencing both consumer behaviour and market strategies. Further research could examine how these beliefs affect housing prices and investment patterns across different cultural contexts. (Fudge, 2019)

2.1.2 Spiritual and Religious Beliefs

Beliefs in ghosts can serve as a significant travel barrier, particularly in destinations affected by disasters. (Kittipornpaiboon et al., 2023) highlights how cultural differences influence perceptions of haunted locations, with Asian tourists, particularly from Thailand and China, exhibiting stronger beliefs in ghosts and supernatural consequences compared to Western tourists, who prioritize physical recovery and safety. This belief system leads to travel hesitations, as destinations associated with tragic deaths are perceived as sites of bad luck, restless spirits, and potential misfortune.

In some countries, spirit houses are built to protect inhabitants from unseen forces, and in Thailand, this tradition is deeply rooted in a blend of animism, Hinduism, and Buddhism. Spirit houses, or San Phra Phum, serve as homes for displaced spirits when land is disturbed for construction, ensuring harmony between the physical and spiritual realms (Singh, 2019). It is believed that appeasing these spirits brings prosperity and prevents misfortune. To maintain their favour, offerings such as food, incense, and flowers are regularly placed at the shrine (Mary, n.d.). Many Thai people attribute their well-being and success to the presence of a well-maintained spirit house, as it is thought to ward off negative energy and safeguard both homes and businesses.

2.1.3 Object and Room Arrangement Superstitions (Feng Shui)

Feng Shui is a set of principles that helps individuals to create a harmonious environment with optimal comfort and aesthetic satisfaction, thus leading to improved health and well-being. It also guides the placement of objects based on the flow of chi and on patterns of yin and yang. (Lin, 2017)

Feng Shui, a traditional Chinese practice, influences real estate decisions through beliefs about energy flow in living spaces. One principle suggests that a mirror facing the bed depletes personal energy and may cause distress upon waking (Eileen, 2024). Similarly, staircases facing the front door are believed to allow energy to escape, weakening the home's vitality. Spiral staircases, while visually appealing, are thought to disrupt positive energy flow (Fudge, 2019).

2.1.4 Rituals and Practices Before Entering the Room

Specific superstitions differ across cultures. The relativity of superstition is illustrated that the same belief or practice can be superstitious to one person, non-superstitious to another: non superstitious to one person at one time, superstitious to the same person at a different time. (Kittipornpaiboon et al., 2023)

Many cultures observe rituals to maintain harmony and ward off negative energy in living spaces. Knocking three times before entering a room is believed to show respect to spirits, while entering sideways allows them space to pass. Similarly, scattering salt near windows and doors is thought to create a protective barrier against malevolent entities. In Chinese tradition, toilets are considered sources of negative energy, as chi (positive energy) is believed to escape through drains. (Eileen, 2024)

2.1.5 Hotel-Specific Superstitions

Beliefs in ghosts can affect travel, especially in disaster-stricken destinations. (Rittichainuwat, 2011) explains that Asian tourists, particularly from Thailand and China, are more likely to avoid places associated with death due to fears of bad luck and restless spirits.

At Sindhorn Kempinski, the hotel celebrated its third anniversary with grand festivities, offering unique cultural experiences such as a Thai Buddhist blessing ceremony for prosperity, reinforcing local traditions and positive energy within the establishment (Sindhorn Kempinski Celebrated the 3rd Anniversary, 2023). Similarly, the Resotel Group in Samui also conducted an annual merit making ceremony, inviting monks for a blessing to promote business success and employee morale, emphasizing the importance of spirituality in hotel operations (ผู้บริหารโรงแรมเครือรีโซเทลกรุ๊ป เกาะสมุย ทำบุญประจำปีเพื่อความเป็นสิริมงคล, 2017)

2.2 Guest Demographics

Guest demographic factors such as gender, education level, social class and religion are highly associated with superstition. These factors are shaping people's beliefs and behaviours as they are growing up. Understanding demographic differences help hospitality providers deliver personalized services to guests from various backgrounds.

Studies have shown that demographic factors influence superstition in many ways. For example, back in historical age women were suppressed by social roles and religious and it affect how women perception nowadays. In some aspects of superstition practices in hospitality context such as avoiding the 13th floor in order to have an inner calm and 'protect' themselves.

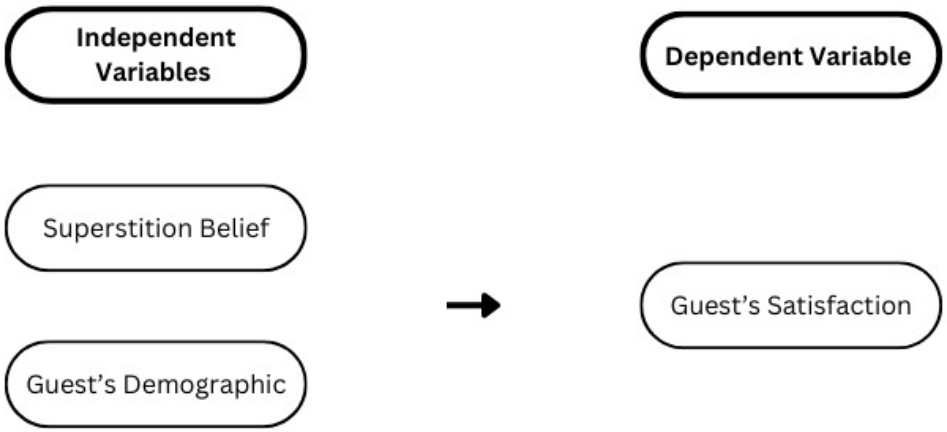
Education is another important factor that impacts superstition. The studies found that the higher education ones have, the lower superstition they tend to be, due to their critical thinking and logical reasoning. Providers should be aware of different expectations or perceptions of certain practices. By recognizing these demographic factors, hospitality providers can ensure that they are culturally sensitive and offer a more inclusive experience for all guests, regardless of their background or beliefs. Understanding these factors helps create an environment where guests feel respected and valued. (Keng Ng et al., 2021)

2.3 Guest satisfaction

Guest satisfaction in hospitality is deeply tied to harmony, balance, and a sense of well-being—principles central to Feng Shui. Insights from the study on online assessment in Hong Kong emphasize adaptability and responsiveness, which align with creating a hotel environment that flows smoothly and meets guest needs effortlessly. Just as students valued fairness and clarity, hotel guests appreciate transparent service, intuitive design, and personalized experiences that foster comfort and tranquillity.

Applying Feng Shui principles, hotels can enhance guest satisfaction by optimizing spatial flow, incorporating natural elements, and maintaining positive energy through rituals like spiritual blessings. A well-balanced environment, both physically and energetically, reassures guests, fostering a sense of harmony that elevates their overall experience. (Wu et al., 2023)

Conceptual Framework



H_1: Superstition Belief has a significant impact on Guest Satisfaction.
H_2: Guest's Demographic characteristics significantly influence Guest Satisfaction.

3. Research methodology

The study basically adopted the quantitative approach to test comprehensive understanding of how superstitious beliefs influence guest satisfaction in the hospitality industry. The questionnaire is considered an appropriate strategy to gather demographic information and ask general questions about superstitious beliefs related to hotel stay, guest satisfaction, and open-ended questions. Terms were defined firmly to avoid confusion or interpretation so all survey participants would start with a similar understanding of a term, which would leave less chance and variation in personal interpretation. The Questionnaire is broken into FOUR different sections including section A: respondents' demographics, section B: superstitious beliefs, section C: guest satisfaction, and section D: open-ended questions.

Pilot study

In this study, pilot questionnaires were distributed on 50 respondents who use services in hospitality industry to check how superstitious belief influence guest satisfaction. Afterward, the questionnaire was revised to be the final one and ready for collecting data.

Sampling

The participants were people in the hospitality industry and potential guests. The questionnaire was distributed during March 2025 until 50 valid responses were collected through online formats. Questionnaires collected are (50), with a response rate of 33.33%, as illustrated in table 1.

Table 1. Response rate

Distributed Questionnaire	Received Questionnaire	Response Rate
150	50	33.33%

The random sample was employed to collect data from people in the hospitality industry and potential guests due to its advantage in collecting perceptions and to decrease the bias level in responses. To answer the questions of the study and to test the validity of the hypotheses, quantitative analysis is employed. The data collected has been coded and put into a database using a statistical method. The study will use appropriate statistical methods and processers that have been made by using the statistical package for social sciences (SPSS), version 23.

Reliability

To confirm the reliability of the applied questionnaire, the Cronbach's Alpha test was employed. The results show that Cronbach's Alpha value is 0.949, as shown in table (2). Because Cronbach's Alpha value exceeded 0.7, the researcher has concluded that the scale of the questionnaire is reliable (Nunnally, 1978).

Table 2. Reliability statistics

Cronbach's Alpha	N of Items
.949	19

Factor Analysis

Table (3) shows that KMO values is 0.871 greater than 0.8, this indicates that the sample size is adequate for all statistical analysis (Cerny & and Kaiser, 1977)

Table 3. KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.871
Bartlett's Test of Sphericity	Approx. Chi-Square	789.019
	df	171
	Sig.	.000

Results and discussions

This part will elaborate more on the findings compiled from the questionnaire which distributed to people in the hospitality industry and potential guests to investigate the influence of superstitious belief on guest satisfaction.

Demographic and general information Gender of the participants

34 respondents of the 50 respondents who made the total number, identified themselves as females, and this represented 68 % of the whole sample size, while 16 females made up 32 % of the sample, as illustrated in table 4.

Table 4. Gender of participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	16	32.0	32.0	32.0
	Female	34	68.0	68.0	100.0
	Total	50	100.0	100.0	

Hypotheses-Testing

The study includes (4) hypotheses which are based on the linear relationship and will be tested using multiple linear regression. Table (5) explains Model Summary

Table 5. Model Summary

Model	R	R Square	Adjusted R Squares	Std. Error of the Estimate
1	.751	.563	.525	.70998

Table (6) illustrates the results of Analysis of Variance (ANOVA) to verify the significance of analysis model of Multiple Linear Regression.

Table 6. Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.272	4	7.318	14.517	.000[b]
	Residual	22.683	45	.504		
	Total	51.955	49			
a. Dependent Variable: Guest Satisfaction b. Predictors: Spiritual and Religious Superstition, Pre-stay Rituals, Numerological Superstitions, Room Arrangement and Object Placement						

Table 7. Model Summary as well as the Regression Coefficients

Model		Understand Coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.705	.313		2.250	.029
	Numerological	.298	.157	.350	1.893	.065
	Room Arrangement	-.103	.198	-.124	-.657	.514
	Pre-stay Rituals	.091	.158	.092	.575	.568
	Spiritual	.529	.149	.493	3.546	.001
a. Dependent Variable: Guest Satisfaction						

4. Discussion and Implications

Accordingly, it can be concluded that both superstition beliefs and guest demographic characteristics influence the dependent variable, guest satisfaction. The results show that certain superstition-related factors have a significant or marginal impact, while demographic characteristics may moderate the strength of these effects across different guest profiles.

4.1. Discussion

H1: Superstition Belief has a significant impact on Guest Satisfaction.

The regression table includes two predictors that may relate to superstition belief: Numerological and Spiritual factors. Among them, the Spiritual factor shows a highly significant effect (B = 0.529, β = 0.493, p = 0.001), indicating that spiritual-related aspects strongly influence guest satisfaction. This supports H□, suggesting that superstition-related beliefs, particularly those tied to spirituality, contribute positively to guest satisfaction.

However, the Numerological factor (B = 0.298, β = 0.350, p = 0.065) falls just outside the conventional significance level ($p < 0.05$). While it shows a positive relationship, its marginal significance suggests that numerology may influence guest satisfaction, but additional research is needed to confirm its impact.

H2: Guest's Demographic characteristics significantly influence Guest Satisfaction.

The table does not directly present demographic variables, but the varying significance of different factors implies that the effects of superstition beliefs on satisfaction may depend on guest demographics. For example, the strong effect of spirituality suggests that certain demographic groups, such as those with strong cultural or religious backgrounds, might find these aspects more meaningful. Meanwhile, the lack of significant influence from Room Arrangement (p = 0.514) and Pre-stay Rituals (p = 0.568) suggests that these factors might not be universally important across all demographics.

Thus, while the model does not explicitly test demographic influences, the findings indicate that certain superstition-related factors (especially spirituality) significantly shape guest satisfaction, potentially varying across different demographic groups. Further research incorporating demographic data would help clarify this relationship

4.2. Academic and Practical Implications

From an academic perspective, this study provides empirical evidence on the importance of superstitions in shaping guest satisfaction, a topic that has not been extensively studied within hospitality research. By demonstrating that spiritual beliefs have a significant influence on guest satisfaction, the study adds to the literature on cultural factors in hospitality and helps expand our understanding of non-physical factors that contribute to guest experiences.

For practitioners in the hospitality industry, the results suggest that understanding and accommodating guests' superstitious beliefs, especially spiritual practices, can enhance satisfaction and foster better guest relations. Hotels and resorts may consider offering culturally sensitive amenities or services that align with guests' beliefs, such as offering rooms with numerologically favorable arrangements or incorporating elements of spiritual significance into room décor. The findings emphasize the importance of culturally aware service design, which can be a key differentiator in attracting and retaining guests, particularly in markets with diverse customer bases.

4.3. Limitations of this Study and Suggestions for Future Research

Despite the valuable insights, this study has several limitations. The sample size of 50 respondents, although adequate for a pilot study, may not be representative of the broader hospitality market. Future research should consider larger and more diverse sample sizes to improve the generalizability of the findings. Additionally, the study was conducted using an online questionnaire, which may have excluded certain demographics that are less likely to participate in online surveys, such as older guests or those from rural areas. Therefore, future studies should include diverse methods, such as face-to-face interviews, to reach a wider audience and capture more varied perspectives.

Furthermore, the study focused primarily on the influence of superstitions on guest satisfaction without delving deeply into the underlying mechanisms of how these beliefs influence decision-making processes and behavior. Future research could explore how specific superstitious beliefs impact guests' decision-making processes, such as their choice of accommodation or the selection of services during their stay. Additionally, cross-cultural studies could provide a more nuanced understanding of how superstitions vary across different cultural contexts and their impact on guest satisfaction.

Lastly, the study did not account for other variables that may also influence guest satisfaction, such as service quality, price sensitivity, or loyalty programs. Including these factors in future research could help to better understand the interplay between superstitious beliefs and other key drivers of satisfaction.

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ผู้บริหารโรงแรมเครือรีโซเทลกรุ๊ป เกาะสมุย ทำบุญประจำปีเพื่อความเป็นสิริมงคล. (2017, August 2). MGRonline. https://mgronline.com/south/detail/9610000076564



Theme: Gastronomy

Intertwined cancel culture challenges from the perspectives of foodservice entrepreneurs: A conceptual framework (Paper#040)

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Abstract

This qualitative study explores how foodservice entrepreneurs in Malaysia perceive and navigate the challenges of cancel culture. By applying stakeholder theory, it examines micro- and macro-level factors influencing cancel culture's impact, offering insights into crisis management and strategic responses in cancel culture and foodservice entrepreneurship.

Keywords: Cancel culture, cancellation, foodservice entrepreneurship, crisis management

1. Introduction

Cancel culture is the withdrawal of support from high profile individuals and brands that are perceived to be unethical. However, foodservice entrepreneurial ventures can become a target of cancellation. In Malaysia, attempts were made to "cancel" major foodservice brands due to perceived political ideologies (Fong, 2023; Goh et al., 2024), sometimes escalating to employee harassment and property damage at store locations (Wisker & McKie, 2021).

Cancel culture threatens the resilience of foodservice entrepreneurs. Thus, this study aims to (i) Identify and explore how foodservice entrepreneurs perceive cancel culture; (ii) Examine the micro- and macro-level challenges that foodservice entrepreneurs face due to cancel culture; and (iii) Apply stakeholder theory to understand the strategic responses and stakeholder dynamics that influence resilience.

2. Literature Review

2.1. What is cancel culture?

Cancel culture has been conceptualized from varying perspectives: media (Tandoc et al., 2022), contested heritage (Jelincic & Reap, 2022), criminal justice (Koh, 2022), academic freedom (Norris, 2023), and marketing (Demsar et al., 2023). Cancel culture is driven by the views of dominant societal groups, defining what constitutes acceptable behavior (Norris, 2023). In this study, cancel culture is defined as deliberate withdrawal of support, retaliating against entities perceived as unethical, initiated by the views of a dominant group.

2.2. Case examples of cancel culture

Empirical research on cancel culture and foodservice entrepreneurship is limited but has been examined in consumer behavior and social media (Demsar et al., 2023; Tandoc et al., 2022). These studies highlight the profound impact of cancel culture on trust and reputation of targeted high-profile individuals or brands.

In the hospitality industry, cancel culture has been understood through the lens of heritage tourism (Jelincic & Reap, 2020). Other examples include: (i) boycott of destinations (Yousaf et al., 2021); and (ii) religiosity of food consumption (Perry, 2017). These examples exhibit that cancel culture extends beyond individuals or brands. Given the significant harm that cancel culture poses, it can be framed as a crisis. However, research on the micro- and macro-level challenges of navigating cancel culture within the foodservice industry remains limited.

2.3. Micro-level challenges

2.3.1. Intersectionalities between cancel culture and entrepreneurship

In crisis management literature, McCarthy (2003) posited that the size of an entrepreneurial venture plays a vital role in crisis management, where smaller ventures often lack financial and nonfinancial resources. Unlike branded entities, foodservice entrepreneurs manage crises through informal structures. Their "entrepreneurial mindset" enables them to adapt to crisis shocks (Pongtanalert & Assarut, 2022). They also rely on "social capital", various stakeholders who share updates, expertise, and other resources, particularly during crises.

2.3.2. Employee reactions

In the event of cancellation, some employees overtly cancel the establishment they work for by resigning or leaking information to the public (Demsar et al. 2023). Others face emotional and physical harassment due to their association with a cancelled entity, impacting their morale, well-being and job security.

2.4. Macro-level challenges

2.4.1. Consumer culture

Consumer culture evolves but is constantly influenced by entrenched economic, political, and sociohistoric patterns (Arnould & Thompson, 2005). These macro-level forces shape consumers' identities and aspirations (Niinimaki, 2010). Across different contexts, such forces produce distinct consumer cultures through varying interpretations of values and beliefs. Within each consumer culture, dominant consumer ideologies emerge, shaping consumer communities. These ideologies may restrict free speech, giving rise to cancel culture (Norris, 2023).

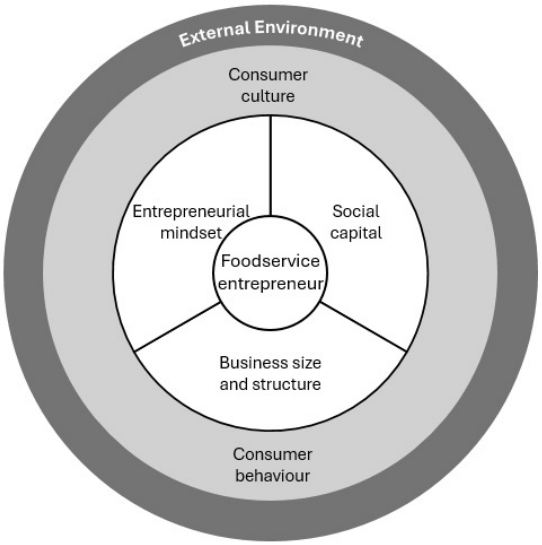
2.4.2. Consumer behaviour and digital hostility

The glorification of consumer-centricity shaped the "sovereign rights" of consumers, necessitating businesses to comply. While consumers are vital for economic survivability, this entitlement may lead to aggression when expectations are unmet. The digital space enables consumers to exchange information and interact but has also fostered excessive negative conversations. Consumers are also increasingly polarized, forming distinct communities where controversies could spark online animosity (Neureiter & Bhattacharya, 2021).

2.5. Stakeholder theory

This study applies the stakeholder theory, which emphasizes strategic stakeholder management in an unpredictable business environment. In crisis management and entrepreneurship studies, the stakeholder theory has been applied to develop stakeholder frameworks, guide strategic responses, and establish structured approaches to address a crisis (Bhattacharya et al., 2021; Canhoto & Wei, 2021). Crises may alter stakeholder dynamics, potentially maintaining stability, facilitating recovery, or exacerbating cancel culture disruptions. The conceptual model based on the stakeholder theory on cancel culture and foodservice entrepreneurship is exhibited in Figure 1.

Figure 1. Stakeholder dynamics in cancel culture



3. Methodology

This study adopts a qualitative approach starting with serial interviews (Phase I) to capture foodservice entrepreneurs' perspectives towards cancel culture, followed by focus groups (Phase II) to explore the topic through participant discussions. The number of participants will depend on data analysis while considering data saturation, contact hours, participant homogeneity, and resource constraints. Semi-structured interviews, comprising open- and close-ended questions, will be conducted.

Data will be analyzed through open and axial coding using NVivo software. Open coding contextualizes the experiences of foodservice entrepreneurs, whereas, axial coding assists in forming overarching codes. These codes will then be thematically analyzed to identify and explain emerging themes.

4. Implications

4.1. Academic and practical implications

Adopting the stakeholder theory, this study is expected to contribute in several ways. Firstly, cancel culture is conceptualized as a crisis, challenging foodservice entrepreneurs' resilience. Secondly, it illustrates the micro- and macro-level forces shaping cancel culture in foodservice entrepreneurship. This study also contributes to practical implications potentially revealing the macro-level challenges that foodservice entrepreneurs must address. By understanding these challenges, foodservice entrepreneurs can identify salient stakeholders that strengthen their position or mitigate crisis impacts, helping them develop strategies to enhance resilience.

4.2. Limitations of this study and suggestions for future research

This study is constrained to analyzing cancel culture in Malaysia. Notably, varying geographical locations are shaped by distinct sociohistoric patterns, contributing to unique factors of cancel culture. Future studies could replicate this research in other regions. Another limitation is its entrepreneur-focused perspective. This study could explore the perspectives of other stakeholders such as employees who could offer unique insights into their responses to cancel culture including resistance, neutrality, or resignation. Another limitation of this study is its focus on foodservice entrepreneurship. A similar study can be applied to other hospitality-related industries such as hotels or events.

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Gastronomic experiences and place attachment in independent restaurants: Effects on customer behaviour (Paper#073)

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Abstract:

This study investigates the influence of gastronomic experiences in independent restaurants on customer behavior through place attachment. Using focus groups and in-depth interviews, Van Manen's interpretive phenomenology and Braun & Clarke's thematic analysis, three themes emerged: unique ambience, unexpected delight, and emotional connection. The results revealed that these experiences foster place attachment and drive behaviors such as revisit intentions and word-of-mouth. This study provides insights for improving customer experience in independent restaurants, contributing to their sustainable competitiveness.

Keywords: Gastronomic Experiences, Place Attachment, Customer Behavior, Independent Restaurants, Hermeneutic phenomenology, Thematic analysis

1. Introduction

The restaurant industry is undergoing continuous change due to rapidly changing customer preferences, socioeconomic changes, and fierce competition. Many studies have shown that sensory and emotional experiences related to food and dining spaces have a significant impact on customer behavior as experience-oriented customers increase (Kovalenko et al., 2023; Cankül et al., 2024). This trend suggests that food service establishments must provide more unique experiences to meet customers' changing needs. In this context, independent restaurants have emerged as key players in providing unique experiences. These restaurants provide unique value to customers by offering personalized services that reflect customers' individual preferences and local identities (Chen & Rahman, 2018; Nyamekye et al., 2023). The recent emergence of fandom culture in the independent restaurant sector in Korea has played a significant role in strengthening customer loyalty and attachment. For example, according to a report by Catchtable, a Korean restaurant reservation platform, the popularity of restaurants featured in the Netflix show Culinary Class Wars has led to a sharp increase in customer interest. After the broadcast, searches for the featured chef's restaurant increased 74 times and the number of reservations increased by 4937.5%, showing that customers formed a strong emotional attachment to a particular restaurant (Catchtable, 2024). According to data from the Korea Statistical Information Service (KOSIS, 2024), approximately 71.4% of food service businesses in Korea are independent restaurants owned by individuals, meaning that they

account for a significant portion of the industry. Furthermore, Farrer (2022) explains that independent restaurants promote community interaction due to their small size and provide a more personalized experience that reflects the local architectural environment. However, the recent economic downturn and changes in customer patterns have presented significant challenges to the Korean food service industry. According to a survey conducted by the Korea Agro-Fisheries & Food Trade Corporation (aT) in 2024, approximately 60.9% of food service businesses experienced a 10-30% decrease in sales. On the other hand, segments such as cafes and dessert shops continue to grow, suggesting that customers increasingly prefer certain types of dining experiences (aT, 2024). This shift indicates a fundamental shift in customers' expectations of restaurant experiences.

Previous studies have investigated the impact of gastronomic experiences such as sensory engagement, emotional interaction, and food quality on customer behavior and place attachment (Kovalenko et al., 2023; Cankül et al., 2024; Chen & Rahman, 2018), but they have mainly focused on chain restaurants or large-scale foodservice operators, which do not adequately reflect the unique characteristics and customer experiences of independent restaurants. In particular, there is a lack of research investigating how gastronomic experiences in independent restaurants contribute to place attachment and customer behavior. This gap highlights the need for more in-depth investigation into how the unique experiences provided by independent restaurants promote customers' place attachment.

Therefore, the purpose of this study is to explore how gastronomic experiences provided by independent restaurants influence customers' place attachment and behavioral intentions. This study systematically analyzes the physical, culinary, and social experiences customers encounter in independent restaurants by combining Van Manen's interpretive phenomenology with Braun & Clarke's thematic analysis. This qualitative approach allows for an in-depth exploration of customer experiences and meanings that are often not captured in quantitative research. The results are expected to provide actionable insights for independent restaurant operators seeking to enhance customer experiences, strengthen place attachment, and ultimately achieve sustainable competitive advantage. The results are also expected to provide valuable implications for revitalizing local economies and supporting the long-term sustainability of independent restaurants.

2. Literature review

2.1. Independent restaurants and gastronomic experiences

Independent restaurants play a critical role in providing personalized dining experiences that are distinct from chain restaurants. By focusing on local identity, cultural uniqueness, and innovative use of locally sourced ingredients, these restaurants attract customers seeking unique culinary experiences and strengthen emotional connections to places (Farrer, 2022; Lee, Hallak, & Sardeshmukh, 2016). Existing research emphasizes the importance of these differentiated experiences, particularly the impact of sensory and emotional experiences on place attachment

and customer behavior. Farrer (2022) argues that independent restaurants need to build strong social connections with local customers to maintain a sustainable food culture during crises such as pandemics, emphasizing that the experiences provided play an important role in forming emotional bonds beyond just food.

In this regard, Hsu and Scott (2020) explored the impact of culinary experiences on place attachment and destination image, concluding that food-related personality traits play a significant role in forming these relationships. In particular, traits such as food neuroticism and food engagement significantly influence the formation of place attachment, reinforcing the idea that gastronomic experiences in independent restaurants play an important role in forming emotional bonds with places.

Kovalenko et al. (2023) and Kim et al. (2024) emphasize that sensory experiences and emotional interactions in independent restaurants enhance the memorability and uniqueness of dining experiences. These studies shed light on how customers create special experiences through novel tastes, aromas, textures, and visual presentations, and explain how sensory and emotional connections contribute to creating unique customer experiences in independent restaurants.

2.2. Place attachment and customer behavior

Place attachment refers to the emotional bond formed between an individual and a specific place, and it is considered an important determinant of customer behavior such as revisit intention and positive word-of-mouth (Chen & Rahman, 2018; Kovalenko et al., 2023). Previous studies have mainly focused on the influence of factors such as food quality, service satisfaction, and cultural characteristics on loyalty and revisit intention, but the role of place attachment in shaping these behaviors has not been sufficiently explored.

Hidalgo and Hernandez (2001) define place attachment as an emotional connection formed through experiences and emotions related to a specific place. This connection is essential for customers to develop an enduring bond with an independent restaurant. Low and Altman (1992) also emphasize the interaction between emotional, cognitive, and behavioral factors in place attachment, explaining that it is important to understand how customers' attachment to a specific restaurant influences their future behavior.

Milligan (1998) emphasizes the role of social interaction in the formation of place attachment, which is consistent with the importance of customer interaction in independent restaurants. Relationships formed with staff and other customers reinforce the meaning attached to the restaurant and strengthen the emotional bond that promotes customer loyalty (Hidalgo & Hernandez, 2001). Scannell and Gifford (2017) explain that place attachment satisfies psychological needs and provides a sense of security and belonging. This understanding is central to explaining why emotional ties to a restaurant can lead to repeat visit intentions and positive word-of-mouth.

Lee (2024) also emphasizes that regular restaurant consumption experiences influence place attachment and behavioral intentions. However, these studies often overlook the nuanced experiences that independent restaurants provide, such as the unique ambience, unexpected delights, and emotional connections that cannot be easily replicated in large establishments. This study seeks to address this gap by exploring how these factors contribute to place attachment and subsequent customer behavior.

2.3. Methodological approaches in previous studies

Previous studies that explored the relationship between gastronomic experience and place attachment have mainly used quantitative methods. Zhang, Chen, and Elston (2021) investigated the effects of transparency and authenticity on customers' purchase intentions, and Cankül, Kaya, and Kızıltaş (2024) analyzed the effects of gastronomic experience on customer loyalty and satisfaction through a survey. These quantitative studies effectively analyze the relationships between variables, but they have limitations in exploring the emotional and sensory layers of customer experience.

In addition, many studies rely on structured questionnaires and statistical analysis to explain customer behavior. For example, Kovalenko et al. (2023) used questionnaires to investigate the characteristics of customer experience, and Kim et al. (2024) statistically analyzed the relationship between gastronomic experience and customer loyalty. These methods verify the relationships between variables, but they fall short of providing deep insights into the emotional and cognitive dimensions of customer behavior in a specific environment.

Despite the valuable contributions of these studies, their reliance primarily on quantitative methodologies or loosely structured qualitative approaches has the limitation of lacking the rigorous analytical framework necessary to fully understand the multilayered meanings embedded in customer experiences. To address these limitations, this study integrates Van Manen's interpretive phenomenology and Braun & Clarke's thematic analysis. These qualitative methods provide a more nuanced and systematic approach that allows for a deeper exploration of the complex interplay between sensory perception, emotional engagement, and place attachment.

3. Methodology

3.1. Research design

This study employed qualitative research methodology to explore customer experiences in independent restaurants. To achieve a deeper understanding of these experiences, we combined Van Manen's (1990) interpretive phenomenology with Braun and Clarke's (2006) thematic analysis. The integration of these two approaches allows for both a structural categorization of themes and a deep interpretive analysis of participants' experiences.

Interpretive phenomenology, as proposed by Van Manen (1990), focuses on understanding participants' lived experiences and uses a hermeneutic cycle to do so. This iterative process

involves a continuous movement between parts and wholes of the text, allowing the researcher to refine their interpretations and derive meaning through repeated engagement with the data. Through this cycle, the researcher attempts to identify the essential meanings embedded in participants' expressions and connect these meanings to broader empirical phenomena by revisiting the data.

In contrast, thematic analysis, as described by Braun and Clarke (2006), provides a structured framework for identifying, categorizing, and organizing themes within qualitative data. This method involves coding meaningful data segments, grouping these codes into broader themes, and refining themes to establish consistent patterns. The structural approach of thematic analysis helps to systematically categorize the data, while interpretive phenomenology allows for continuous reinterpretation, providing depth and richness to the analysis. The combination of these two methodologies provides a comprehensive analytical framework that ensures both methodological rigor and interpretive depth.

3.2. Data collection

3.2.1. Data collection procedures

The data for this study were collected through one focus group interview (FGI) and two individual in-depth interviews (IDI) conducted in March 2025. Purposive sampling was used to select participants who frequently visit independent restaurants and actively participate in gastronomic experiences. Participants were residents of Seoul and the metropolitan area, and they were professionals or managers between the ages of 20 and 40, as this age group is likely to seek out unique gastronomic experiences.

According to the 2023 Food Consumer Behavior Survey Report published by the Korea Rural Economic Institute (KREI), the participation rate in dining out was the highest among those in their 20s (89.0%), 30s (91.5%), and 40s (88.1%). In addition, Seoul had the highest participation rate in dining out nationwide at 86.6%, and professionals and office workers (91.3%) had a significantly high rate of eating out and spending. These statistics indicate that this demographic group is actively seeking out unique gastronomic experiences offered by independent restaurants.

Focus group interviews with five participants helped to identify common themes and shared experiences regarding gastronomic experiences and place attachment. This interactive discussion contributed to uncovering collective perceptions. In contrast, individual in-depth interviews provided an opportunity to explore each participant's unique experiences in greater detail, and were not influenced by group dynamics. Each interview was conducted face-to-face and lasted approximately 60 minutes. All sessions were audio recorded and transcribed verbatim to ensure data accuracy and preserve the richness of the participants' narratives.

Participants were recruited by direct invitation after the purpose of the study was clearly explained, and their participation was voluntary, ensuring strict adherence to ethical standards. The selection criteria and diversity of participants contributed to the validity and reliability of the study, and allowed for a comprehensive exploration of diverse perspectives and experiences related to gastronomic experiences and place attachment in independent restaurants.

This study adopted a semi-structured interview approach based on a prepared interview guide. This guide follows the interview process of Krueger & Casey (2009) and consists of opening, introductory, core, and closing questions. The interview guide provided a framework, but the interviews were flexible so that participants could freely express their experiences. This approach allowed the researcher to adjust or add questions as needed, allowing for a deeper exploration of participants' experiences (Kvale & Brinkmann, 2009; Creswell & Poth, 2018).

Table 1. FGI and IDI question procedure and content.

Question type	Question content
Starting question	Have you ever visited an independent restaurant? Which ones have you visited?
Introductory question	What was the reason for visiting that restaurant? What made it special?
Core question	What was the most memorable experience at the restaurant? What makes you want to return to that place, or what makes you not want to return? What impression did the restaurant's atmosphere, menu, and service leave on you? Why did that experience feel special or meaningful to you?
Closing question	If you had a positive experience, have you ever recommended the restaurant or talked about it to others? Is there anything else you would like to add regarding this topic?

Table 1 outlines the interview guide used during the study to categorize questions and logically explore the participants' gastronomic experiences. This structure supports Van Manen's interpretive phenomenology and aims to elicit meaningful insights through open and flexible questions.

3.2.2. Reliability and validity of data collection

This study strengthened methodological rigor by applying the criteria of reliability, transferability, dependability, and confirmability suggested by Lincoln and Guba (1985). Reliability was secured through methodological triangulation combining focus group interviews (FGI) and individual in-depth interviews (IDI). This approach allowed for the exploration of both collective perceptions and individual experiences, enabling cross-validation of research results from different perspectives.

In addition, peer review contributed to the reliability of the study by qualitative research experts reviewing the interview protocol, transcription accuracy, and coding framework. The feedback obtained through this process improved the consistency and accuracy of data analysis. All interviews were transcribed verbatim to maintain transparency and reproducibility, ensuring that participants' expressions were accurately reflected in the analysis. The coding framework was systematically documented, contributing to the dependability and confirmability of the research findings. These strategies collectively enhanced the reliability and validity of the study by providing a structured approach to data collection and analysis.

3.3. Data analysis

This study analyzed the collected data using an approach that combined Braun and Clarke's (2006) thematic analysis and Van Manen's (1990) interpretive phenomenology. Thematic analysis provides a systematic way to organize and categorize participants' expressions into themes, while interpretive phenomenology allows for a deeper exploration of the meanings behind these experiences.

The coding process began with a close review of the interview transcripts to identify significant statements or phrases that captured participants' perceptions of their emotions, sensory experiences, and place attachments. These initial codes were grouped into broader thematic categories, which were refined and synthesized into final empirical dimensions. Each theme was analyzed in depth to understand how specific gastronomic experiences (e.g., taste, smell, social interaction) contributed to participants' emotional engagement and place attachment.

The analysis process followed a non-linear and circular approach, guided by the hermeneutic circle. The researcher moved iteratively between individual parts of the text and the overall context to refine the interpretation and ensure that each theme was rooted in the participants' lived experiences. This approach enabled a rich and in-depth understanding of the complex interactions between sensory perception, emotional engagement, and place attachment.

The integration of thematic analysis and interpretive phenomenology provided structural categorization and deep interpretation, enhancing the depth and richness of the findings. The final thematic categories included sensory experiences, emotional engagement, and social

interaction, which were identified as key elements in the formation of place attachment and customer loyalty. The analysis procedure is summarized in Table 2 , and the structural approach adopted in this study is graphically represented in Figure 1 . The integration of thematic analysis and interpretive phenomenology enabled systematic categorization and in-depth interpretation of the data, further enhancing the depth and richness of the research findings.

Table 2. Summarizes the coding process.

Stage	Description	Output
Initial coding	Identified significant quotes from participants.	73 Codes
Axial coding	Grouped related codes into broader themes.	20 Themes
Selective coding	Refined themes into final experiential dimensions.	3 Final Themes

Figure 1. An Integrated Analysis Process of Thematic Analysis and Hermeneutic Phenomenology.

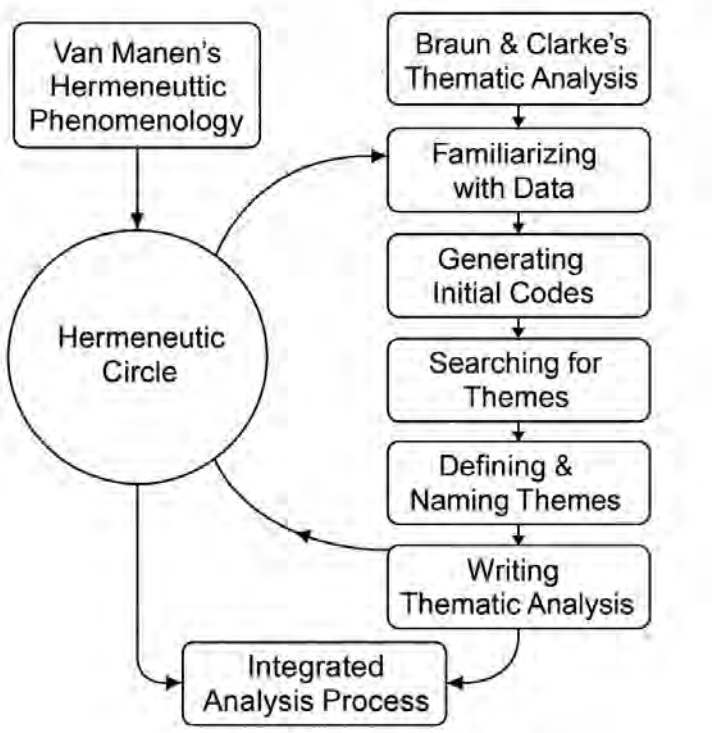


Figure 1 illustrates the integrated analysis process that combines Braun & Clarke's thematic analysis with Van Manen's interpretive phenomenology. This process reflects the iterative nature of the hermeneutic circle, where interpretation is achieved through ongoing interaction between parts of the text and the whole.

Thematic analysis consists of six stages according to Braun & Clarke (2006). The first stage involves familiarizing the researcher with the data by reading and rereading it. The second stage involves identifying meaningful segments and categorizing them to generate initial codes. The third stage involves organizing related codes into potential themes. The fourth stage involves reviewing themes against the entire data set, and the fifth stage involves clarifying, defining, and naming the essence of each theme. Finally, the sixth stage involves synthesizing the findings in a coherent manner to produce a final report.

These stages are not linear, but occur in an iterative process facilitated by the hermeneutic circle. Each time the interpretation is revisited, themes are refined and deeper meaning is revealed. The integrated analysis process represents a combination of thematic analysis and interpretive phenomenology, ensuring consistency and depth of interpretation by continuously revisiting thematic categories and their underlying meanings. By iteratively refining themes through hermeneutic circles, the analysis simultaneously achieves structural categorization and interpretive depth. This approach contributes to a comprehensive understanding of how gastronomic experiences impact place attachment and customer behavior.

3.4. Ethical considerations

This study adhered to ethical principles throughout the research process. All participants were fully informed of the purpose and procedures of the study, their right to voluntary participation, and their right to withdraw at any time without penalty. Written informed consent was obtained from all participants prior to data collection, and the purpose of the study, scope of data use, and confidentiality policy were explained in detail.

To protect privacy, all responses were collected anonymously, and no personally identifiable information was recorded or stored. The collected data was used solely for the purpose of the study and was securely destroyed after the study was completed.

Since this study used a non-invasive approach that focused on the personal experiences of the participants without collecting sensitive or identifiable information, it was determined that formal approval from an institutional ethics committee (IRB) was not required. Nevertheless, strict adherence to ethical standards was maintained throughout the research process, with particular attention paid to respecting the rights of the participants, ensuring confidentiality, and protecting voluntary participation.

4. Results

4.1. Profile of the respondents

This study included participants from focus group interviews (FGI) and in-depth individual interviews (IDI), all of whom resided in the Seoul metropolitan area. The demographic information of the participants (age, gender, place of residence, frequency of eating out, and main criteria used when selecting restaurants) is summarized in Table 3. The selection process took into

account diverse backgrounds to broadly reflect the motivations for choosing independent restaurants and their eating out preferences. This diversity contributed to a comprehensive understanding of the diverse gastronomic experiences of the participants and attachments to local restaurants.

Table 3. Demographic characteristics of interview participants.

Interview Type	Participant ID	Gender	Age Group	Residence	Dining Frequency	Selection Criteria
FGI	P1	Female	30s	Seoul	Frequent visitor	Atmosphere
FGI	P2	Female	30s	Seoul	2-3 times/week	Recommendations
FGI	P3	Female	20s	Seoul	1-2 times/week	Social media influence
FGI	P4	Female	30s	Seoul	3-4 times/week	Regional specialties
FGI	P5	Male	40s	Seoul	Frequent visitor	Curiosity
IDI	M1	Male	40s	Seoul	Frequent visitor	Curiosity
IDI	F1	Female	40s	Seoul	3-4 times/week	Cultural Uniqueness

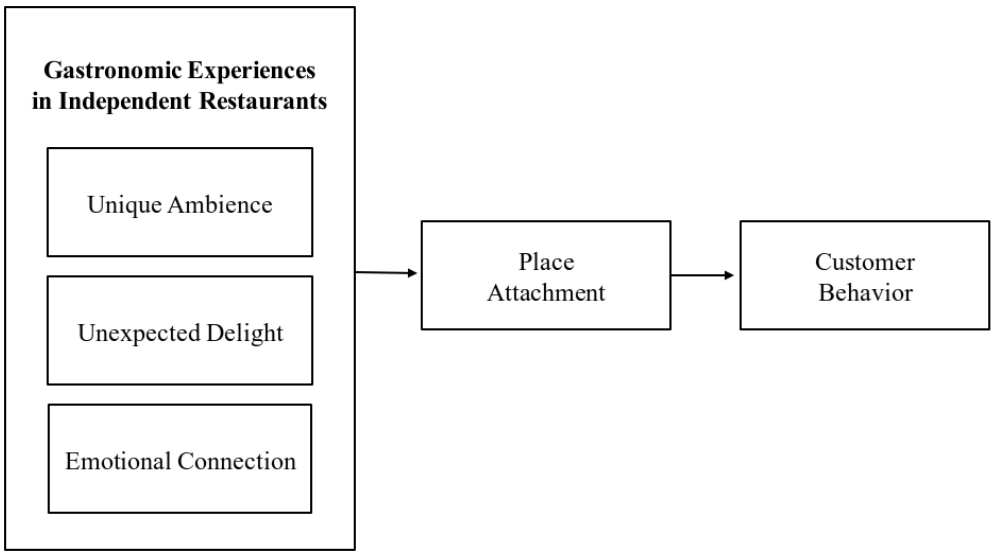
The criteria that participants considered when choosing a restaurant reflected a variety of factors, including unique menu items, local brands, personalized service, and the influence of social media. These diverse motivations allowed the study to explore multidimensional gastronomic experiences at independent restaurants, which directly contribute to participants' place attachment and behavioral intentions.

4.2. Identified Key Themes and Their Impact

The key themes identified in this study are Unique Ambience, Unexpected Delight, and Emotional Connection. These themes provide deep insight into how gastronomic experiences in independent restaurants influence customer attachment and behavior. Each theme is explained based on participant quotes collected during the interviews, and demonstrates the factors that lead to emotional responses and unique experiences.

Furthermore, each of these themes plays a significant role in influencing customer attachment and behavior. Through customer experiences, the themes of Unique Ambience, Unexpected Delight, and Emotional Connection form an emotional bond, ultimately resulting in increased repeat visit and recommendation intentions.

Figure 2. Conceptual model diagram.



4.2.1. Unique ambience

unique ambience refers to the impact of the physical environment, especially the interior design and atmosphere, on the customer experience. This theme emphasizes the uniqueness and sensory appeal that customers feel when visiting an independent restaurant. The gastronomic experience provided in a unique space is closely linked to the reason customers visit. One participant said:

"I went there because I wanted to eat in a special place with a unique ambience that I can't find anywhere else" (P3).

This shows that the reason for visiting an independent restaurant is not just the food but also the uniqueness and atmosphere of the space. Another participant said:

"I think the atmosphere of the neighborhood influences my choice. It influences my decision to go there" (P1).

This emphasizes that the atmosphere and characteristics of the area have a significant impact on the customer's decision. These quotes reinforce that the unique ambience of an independent restaurant makes the customer's experience more special and meaningful. The desire to experience an atmosphere or unique interior that can only be felt in a particular place plays an important role in the motivation to visit. unique ambience has a strong influence on the customer's attachment to the place. One participant expressed it as follows:

"It's a place that's not common, it's not well known, so it feels like my own place" (P1).

This shows that customers feel attached to places that they find unique. These places play a vital role in creating emotional connections that encourage customers to return. Another participant also noted:

"I think people go there because they like the neighborhood vibe... When people meet that expectation, the commercial area starts to develop" (P3).

This highlights how the local atmosphere contributes to the uniqueness of independent restaurants. Customers perceive the restaurant as part of the character of the area, not just a place to eat. Integrating local elements into the atmosphere of a restaurant strengthens customer attachment, stimulates repeat visit intentions, and promotes word-of-mouth recommendations.

4.2.2. Unexpected delight

Unexpected Delights is a theme related to the gastronomic experience, highlighting the pleasure customers get from unexpected new tastes, fresh ingredients, and seasonal offerings. This theme highlights the strong emotional response and interest that food evokes when it provides an experience that goes beyond a simple meal. As one participant put it:

"The combination of ingredients...the unexpected delights of the place were impressive and memorable" (P5).

This highlights the pleasure of experiencing unexpected tastes and unique dishes. As another participant put it:

"When I travel and eat food that is only available there, it feels like a really special gastronomic experience" (P3).

These quotes demonstrate the impact of unexpected taste experiences and novel food combinations on customers' intention to revisit and recommend a restaurant. Unique gastronomic experiences leave a lasting impression on customers and play a key role in forming a sense of attachment to a restaurant. Unexpected delights have a powerful impact on customer behavior. When customers experience gastronomic delights through novel combinations, their intention to revisit and recommend increases. One participant shared:

"When I experienced a truly unique food combination that I had never tried before, I felt like I had a true gastronomic experience" (P3).

This demonstrates that surprise and delight lead to intention to revisit. Another participant also stated:

"When I go to an independent restaurant, I feel like I have had a unique experience that I can't get anywhere else" (P1).

This highlights the profound impact that unique tastes and combinations have on their experience. These experiences often lead customers to share on social media or leave reviews.

4.2.3. Emotional connection

Emotional connection involves social experiences derived from interactions between customers, staff, and other guests. These interactions go beyond simple service transactions to create emotional bonds, which are important in fostering customer attachment and positive behavioral intentions. Personalized service, attentive communication, and consistent hospitality help customers feel a deeper connection with the restaurant, enhancing their overall experience.

Personal communication between staff and customers is an important aspect of this theme. As one participant put it:

"The chef explained each dish in detail and made eye contact throughout the process" (P2).

This highlights the connection that direct eye contact and detailed explanations from the chef create, making the gastronomic experience more personal and engaging. Another participant also said:

"The chef tried to build a bond with me by asking me what I thought of the food, and that made a big difference" (P2).

This shows that follow-up interactions and personalized conversations contribute to creating a strong bond between the customer and the restaurant. In addition, the restaurant owner's commitment to creating a welcoming atmosphere was also mentioned by other participants.

"The owner puts a lot of effort into preparing the food using seasonal ingredients, and that makes it feel really special" (P3).

The owner's efforts reflect the care and attention that contributes to customer satisfaction and attachment. The consistency of personalized service and genuine hospitality creates a memorable experience that goes beyond the food itself. Customers describe these interactions as meaningful and unique, contributing to their attachment to the place. When customers feel recognized and valued, their emotional connection to the restaurant is strengthened. This emotional connection not only increases their intention to return, but also encourages them to spread word of mouth about their positive experience, making the restaurant a special and welcome place.

4.3. Key findings and new insights

This study provides important insights into the impact of gastronomic experiences in independent restaurants on customer attachment and behavior. In contrast to previous studies that have primarily focused on functional aspects such as food quality or service efficiency, this study highlights the importance of emotional, sensory, and social dimensions within the gastronomic experience.

The three main themes identified—unique ambience, unexpected delight, and emotional connection—do not operate independently. Instead, these elements interact dynamically to create consistent, memorable gastronomic experiences that contribute to strong place attachment. For example, enjoying a novel dish (unexpected delight) is often enhanced when consumed in a cozy, aesthetically appealing environment (unique ambience) and is further enhanced by friendly, personalized service (emotional connection). Participants frequently noted that experiencing multiple pleasurable elements simultaneously deepens their emotional bond with the restaurant. As one participant put it:

"When the atmosphere and the taste come together, it feels really special" (P1).
Another participant added:

"When the feeling of the space, the music, and the connection with the owner came together, the experience was good." (P2).

The interaction between these themes contributes to a holistic experience that goes beyond simply consuming food. Customers form attachments through the process of integrating these sensory, emotional, and social elements. As the hermeneutic circular approach suggests, their experiences are continually interpreted and reinterpreted, strengthening their attachment to a place over time.

Furthermore, this study found that the strong place attachment resulting from the integration of these themes led to a range of positive customer behaviors, including revisit intentions, positive word-of-mouth, social media sharing, and writing reviews. Participants frequently expressed a desire to return to a restaurant when they felt a deep emotional connection. As one participant put it:

"I made another reservation when I was meeting a friend in the area because I was so satisfied with the restaurant" (F2).

Positive word-of-mouth was another frequent outcome, as one participant noted:

"If I have a good memory of a restaurant, I will go back even if the interior is not so great. I definitely recommend it to my friends" (P4).

Additionally, customers often shared their experiences online. One participant said:

"When the food is visually stunning, delicious, and makes me feel good, and all those multi-layered experiences accumulate, I want to share them on my social media" (P5).

Another participant noted:
"I left a positive review because I wanted others to know about this hidden gem" (P1).

These findings suggest that independent restaurants can strengthen place attachment and foster positive customer behavior by creating integrated, multidimensional experiences. The successful combination of a unique ambience, unexpected delights, and emotional connection creates a strong emotional bond that encourages customers to return, recommend, share their experiences on social media, and leave positive reviews.

5. Discussion and implications

This study investigates the impact of gastronomic experiences in independent restaurants on customers' place attachment and behavioral intentions. The results of the study identified three key themes: unique ambience, unexpected delight, and emotional connection, which significantly contribute to place attachment and drive behaviors such as revisit intentions, recommendation, and social media sharing. While previous studies have mainly focused on functional aspects such as food quality or service satisfaction, this study shifts the focus to sensory and emotional dimensions, providing new insights into customer loyalty in independent restaurants.

5.1. Discussion

The results of this study contribute to a multidimensional understanding of how gastronomic experiences in independent restaurants affect place attachment and behavioral intentions. One of the main contributions of this study is the emphasis on sensory and emotional aspects that have been largely overlooked in previous studies. Unlike studies that have primarily focused on food quality or service satisfaction, this study demonstrates that the physical environment and sensory experiences are central to customers' emotional attachment to independent restaurants. unique ambience plays a significant role in creating emotional bonds, and the unique ambience of independent restaurants can induce attachment and intimacy. This is consistent with the conceptual framework presented in Chapter 2, where physical space is considered an important element in the formation of place attachment (Kovalenko et al., 2023).

Similarly, the theme of unexpected delight contributes to the formation of emotional bonds by providing customers with new tastes and experiences. Customers' restaurant engagement extends beyond simple food consumption to the surprise and delight that comes from discovering new dishes or seasonal ingredients. This finding challenges the traditional focus on food quality and emphasizes the importance of novelty and surprise in the customer experience, which is known to increase revisit intentions and recommendations (Chen & Rahman, 2018).

The theme of emotional connection emphasizes the importance of social interaction in forming emotional bonds with restaurants. Personalized service and direct communication between customers and staff create a sense of belonging and attachment. This emotional connection is essential to fostering customer loyalty, a finding that differentiates it from previous research that treated service interactions as merely functional (Kovalenko et al., 2023). The importance of these personalized interactions in independent restaurants highlights the need for operators to focus on developing meaningful customer relationships beyond transactional service.

These findings suggest that place attachment is not simply a product of satisfaction with food or service, but is deeply influenced by sensory, emotional, and social experiences. This broader perspective on customer experience calls for a more comprehensive understanding of what drives customer loyalty in the hospitality industry.

5.2. Academic and practical implications

From an academic perspective, this study contributes to the existing literature by extending the concept of place attachment. While previous studies have primarily focused on functional factors such as food quality and service, this study highlights that affective and sensory dimensions play an equally important role in shaping customer loyalty. By illuminating the interplay between sensory experiences, emotional connections, and social interactions, this study provides a more comprehensive framework for understanding customer behavior in the independent restaurant context.

This study presents a dynamic perspective on place attachment, suggesting that emotional bonds develop over time as customers continue to interact with the restaurant environment. These findings encourage future research to explore how sensory and emotional experiences interact with place attachment to drive loyalty, providing an opportunity to expand the scope of existing models in the hospitality and food service literature.

From a practical perspective, the insights from this study provide useful strategies for independent restaurant operators seeking to enhance customer loyalty. Creating a unique ambience and a distinctive environment are essential for fostering emotional attachment. Independent restaurants should focus on creating an environment that meets the sensory and emotional needs of customers. Carefully designed spaces that reflect local culture and provide an intimate and exclusive experience can differentiate independent restaurants from large chains and foster customer loyalty.

In addition, offering unexpected gastronomic experiences, such as seasonal dishes or unique flavor combinations, can strengthen customers' emotional attachment to a restaurant. These experiences provide customers with something beyond their everyday dining experience, creating a sense of discovery and surprise, increasing satisfaction and encouraging repeat visits.

The role of personalized service is also important in creating emotional connections. By fostering genuine interactions between staff and customers, restaurants can create a sense of belonging and value. Operators should invest in training staff to engage in meaningful conversations with customers, remember their preferences, and provide tailored recommendations. Such personalized service can enhance the overall gastronomic experience and foster long-term loyalty.

5.3. Limitations of this study and suggestions for future research

While this study provides useful insights, it has several limitations. The small number of participants (seven) limits the generalizability of the results. Future research should increase the sample size to reach data saturation and provide more comprehensive insights into customer experiences. Including participants from diverse demographic backgrounds would enhance the applicability of the findings.

In addition, this study focused solely on the consumer perspective, which, while providing rich insights, does not capture the full spectrum of factors that influence place attachment. Future research should integrate the perspectives of restaurant operators and staff to explore how their behaviors and interactions with customers contribute to place attachment. This would provide a more comprehensive understanding of the dynamics at play.

Future research could also employ mixed methodologies that combine qualitative and quantitative data to explore the causal relationships between various gastronomic experience elements and place attachment. Longitudinal studies that track customers' attachment and behavioral intentions over time would provide useful insights into how these experiences develop and influence long-term customer loyalty.

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Assessing the dimensions of local gastronomic image amongst the foreign tourists in Fiji: A comparative evaluation (Paper#165)

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Abstract:

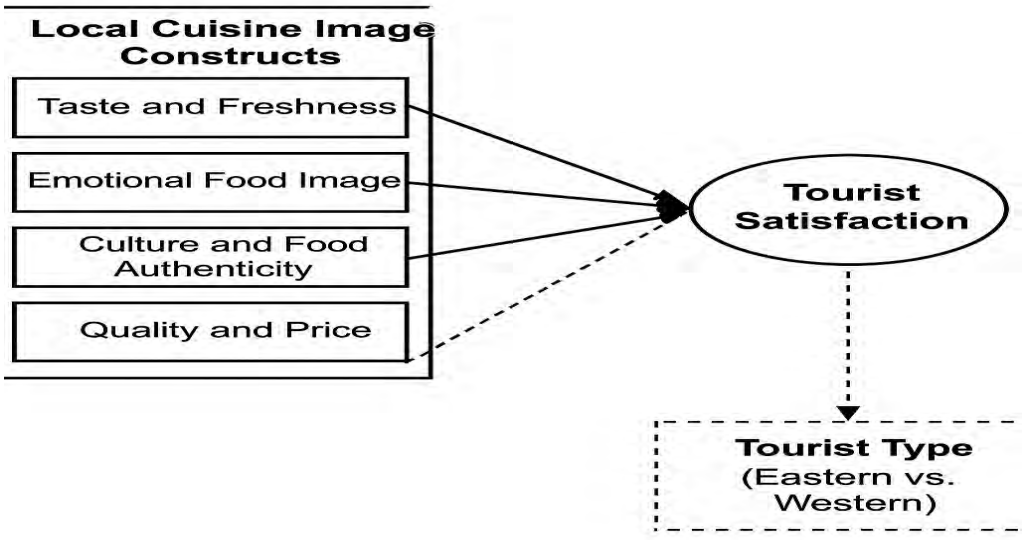
This study seeks to assess the important dimensions of Fiji's local gastronomic image by classifying the significant traits tourists use to evaluate local cuisine, while also exploring probable differences in the perceptions of gastronomic image perceptions between Western and Eastern foreign tourists. It employed mixed methods, using survey responses from 221 international visitors and seventeen in-depth interviews of stakeholders at local restaurants, which were analyzed using descriptive and multivariate statistics. 25 local gastronomic traits were assessed using Exploratory Factor Analysis to organize into the core constructs. Our findings revealed that dishes like Kokoda, Palusami, and Lovo were most preferred amongst both Western and Eastern tourists for their delicate flavors. Amongst the four main dimensions of Fiji's gastronomic image, "Freshness & Taste" revealed to have the strongest impact on tourist satisfaction, while "Digestibility & Nutrition" had least. This study builds on how a place's gastronomic image affects tourists' perceptions and how it may be utilized to portray the cultural distinctiveness of countries like Fiji.

Keywords: Gastronomic image, Fiji, Tourist, local foods, Mixed methods

1. Introduction

Fiji's local cuisine plays a crucial role in shaping its identity as an emerging gastronomic destination for international travelers (Loehr et al., 2023). Despite its rich culinary heritage, there remains a significant lack of empirical research exploring Fiji's unique food identity and its impact on tourism. Previous studies have primarily focused on aspects like the authenticity of street food (Chen & Chen, 2023), price equality in food consumption (Dedeoğlu et al., 2023), and domestic tourists' gastronomic behaviors (Lin et al., 2023), leaving a gap in understanding how foreign visitors perceive and engage with Fiji's local cuisine. The study's objectives are as follows: 1. identifying local food preference among foreign tourists and evaluate their satisfaction in Fiji, 2. analyzing the key dimensions of Fijian cuisine, and 3. examining variations in perceptions of local gastronomic image amongst Eastern and Western tourists.

Figure 1. Conceptual Model of the study
Source: Author



2. Literature Review

Research on gastronomic tourism highlights how local cuisine shapes the perception of a place and improves visitor satisfaction. Local food is a significant draw for tourists since it represents their cultural and social identity and a sensory experience (Chen & Chen, 2023; Lin et al., 2023; Gupta and Sharma, 2023). Although previous studies have examined topics such as food authenticity (Gupta & Sharma, 2023), culinary inclinations (Dedeoğlu et al., 2023), and tourist categories (Singh et al., 2022), little is known about how Fijian cuisine affects explicitly the nation's image as a travel destination.

Local cuisine significantly affects how visitors perceive their trip overall, emotionally and cognitively (Henderson, 2009). However, Fijian food's contribution to this process is mostly disregarded (Sharma et al., 2022). Furthermore, cultural and visitor demographic characteristics also influence gastronomic perceptions and satisfaction. In order to close these gaps, this study investigates the effects of local cuisine on visitor satisfaction, the perception of the destination, and regional variations, thereby advancing our knowledge of culinary tourism in emerging locations such as Fiji.

3. Methodology

3.1. Measurement

A two-phase mixed-methods technique was used in this investigation. In phase 1, 17 interviews were conducted with restaurant stakeholders from Suva, Nadi, and Lautoka, Fiji. Using NVivo, 20 popular local dishes, and 25 significant culinary image attributes were identified. In Phase 2, a structured survey focused on visitors dining experiences in Fiji, was informed by our findings. The survey, which was given to both Eastern (Europe, Americas, and Africa) and Western (Asia, Oceania) tourists, assessed overall gastronomic satisfaction using a semantic differential scale, food recognition, and image characteristics (on a 7-point Likert scale).

3.2. Data collection

Convenience sampling was used, with 29 tourists declining participation. Eligibility required participants to be above eighteen years, non-Fiji citizens, and have consumed local food. The location intercept technique helped to get high response rates. Multiple imputations replaced missing data to address biases, and 11 responses were removed due to outliers. Skewness results were from -0.720 to -0.478 (threshold: 1), and kurtosis from -0.507 to 1.162 (benchmark: 3). Data collection yielded 256 responses, with 221 examined after exclusions.

4. Results

4.1. Profile of the respondents

Table 1. Interview respondents

Coding	Gender	Age	Occupation	Establishment Type	Guest Capacity	Place
R1	Male	47	Owner	IR	44	Suva
R2	Female	58	Manager	CR	45	Savusavu
R3	Female	54	Owner	HR	35	Rakiraki
R4	Female	39	Owner	IR	55	Labasa
R5	Male	29	Manager	IR	45	Suva
R6	Female	41	Owner	SF	Nil	Lautoka
R7	Male	52	Owner	IR	35	Sigatoka
R8	Male	36	Chef	HR	35	Rakiraki
R9	Male	48	Owner	IR	40	Nadi
R10	Male	46	Owner	SF	Nil	Tavua
R11	Female	64	Owner	OR	65	Suva
R12	Male	69	Owner	SF	Nil	Nadi
R13	Female	42	Owner	IR	42	Suva
R14	Female	46	Manager	OR	35	Suva
R15	Female	68	Owner	IR	35	Taveuni
R16	Female	57	Manager	CR	46	Nadi
R17	Male	45	Chef	IR	50	Ba

**IR- Independent restaurant, CR- Chain restaurant, HR- Hotel Restaurant, SF- Street food joint, OR-others*

Source: Author

Table 2. Tourist's Socio-demographics (N=221)

Parameters	Frequency	Percentage	Parameters	Frequency	Percentage
Tourist Type			**Religious Orientation**		
Western Tourists	131	59.27	Hinduism	30	13.57
Eastern Tourists	90	40.73	Christianity	149	67.42
			Islam	19	08.59
			Buddhism	18	08.14
			Sikhism	02	00.90
			Any other	03	01.30
Age			**Type of Employment**		
21-30	68	30.76	Student	13	05.88
31-40	97	43.89	Self Employed	82	37.10
41-50	35	15.83	Salaried	102	46.15
51-60	15	06.78	Home Maker	16	07.23
Above 60	06	02.71	Any other	08	03.62
Gender			**No. of Visits to Fiji Islands**		
Male	91	41.17	Once	165	74.66
Female	128	57.91	2-3 times	32	14.48
Non-Binary	02	00.90	More than three times	24	10.86
Marital Status			**Annual Household Income (in US$)**		
Unmarried	88	39.82	Below $25,000	05	02.26
Married	109	49.32	$25K to $ 45K	32	14.48
Separated	11	04.98	$ 45K to $ 65K	109	49.32
Divorced	13	05.88	$ 65K to $95K	08	03.61
Any other	00	00.00	$ 95K to $ 125 K	17	07.69
			Above $ 125K	04	01.80
Education Attainment			**Type of local food outlet visited**		
High-School	16	07.23			
Graduate	123	55.65	Street food joint	57	25.79
Postgraduate	61	27.59	Independent Restaurant	103	46.60
Professional Education	21	09.50	Hotel Restaurant	43	19.46
			Quick service restaurant	14	06.33
			Any other	04	01.81
Occasion of Visit			**Visit patterns to local food outlets**		
Recreation	119	53.84			
Business	06	02.71	Visit alone	42	19.00
Seeking Novelty	34	15.38	Along friends	97	43.89
Education	37	12.09	Along spouse	46	20.81
VFR	20	09.04	Along family & children	36	16.28
Adventure	05	02.26			
Any other	00	00.00			

Source: Author

4.2. Results of data analysis

This study employed mixed methods, using survey responses from 221 international visitors and 17 in-depth interviews of stakeholders at local restaurants, which were analyzed using descriptive and multivariate statistics. Twenty-five local gastronomic traits were assessed using Exploratory Factor Analysis to organize into the core constructs.

According to the majority of stakeholders interviewed, the most popular dishes amongst foreign visitors are Kokoda, Palusami, and Lovo. Major challenges were found to be attracting tourists to sample local cuisine and preserving consistent food quality at busy times.

Our quantitative results show that Western and Eastern tourists preferred lightly flavored meals like Kokoda. Although the differences were not statistically significant (p = 0.255 and 0.000), Western tourists preferred spicy meals such as curry and roti packs (38.00%) and duck curry (18.55%) slightly more than Eastern tourists (26.24% and 14.48%).

Table 3. Regression Analysis (Model 4)

Gastronomic Image dimensions/Constructs	Unstandardized coefficients		β	t-value	p-value
	B	Standard Error			
Constant	0.363	0.182	-	0.812	0.293
Taste and Freshness	0.480	0.071	0.418	10.228	0.000***
Quality and Price	0.224	0.032	0.201	2.063	0.003***
Culture and Food Authenticity	0.363	0.077	0.293	5.248	0.000***
Emotional food image	0.405	0.042	0.358	9.017	0.000***

*Notes: *** indicates p < 0.001*
Source: Author

"Taste and Freshness" was the found to be the best indicator of overall satisfaction with Fijian cuisine, explaining 63.3% of the variation (R2 = 0.621), according to the results of multiple regression analysis. "Taste and Freshness" (β = 0.418, p < 0.001), the best-fitting model (R2 = 0.670) in Model 4, had the most significant influence, followed by "Emotional Food Image," "Culture and Food Authenticity," and "Quality and Price."

Table 7. t-test scores for Eastern and Western tourists

Gastronomic Image Constructs	Mean values		t-value	Level of Sig.
	E T	W T		
Taste and Freshness	4.53	4.11	-4.529	0.001
Quality and Price	4.22	4.08	0.709	0.532
Culture and Food Authenticity	4.43	4.17	-3.109	0.002
Emotional Food image	4.39	4.11	-2.110	0.037
Digestibility and Nutritional Value	3.20	3.5	0.153	0.702
Satisfaction with overall culinary experience	4.10	4.42	-2.723	0.041

**E T- Eastern tourist, W T- Western tourist*
Source: Author

Findings revealed that both Eastern and Western tourists gave Fijian food an average rating of 4.3 out of 5, indicating good overall satisfaction. Four significant gastronomic traits were positively assessed by both groups with Eastern tourists scoring somewhat higher. Both gave "Digestibility and Nutrition" their lowest scores. Both tourist groups' perceptions and levels of satisfaction were also compared using an independent t-test presented in table 4.

5. Discussion and Implications

5.1. Discussion

Our study confirmed previous findings on the appeal of authentic indigenous experiences (Gupta & Sharma, 2023) by revealing that foreign visitor value Fijian food, especially dishes like Kokoda, Palusami, and Lovo. "Taste and Freshness" was identified by multiple regression analysis as a significant factor influencing gastronomic satisfaction, confirming research by Khoshram et al. (2023) on the significance of fundamental gastronomic components in travel.

5.2. Academic and practical implications

These findings can guide government initiatives to market Fijian food as a distinctive cultural asset in international culinary tourism. Local eateries may highlight Fiji's culinary traits by improving service, appearance, and marketing by matching menus to these preferences. DMOs can arrange gourmet excursions via markets, farms, and restaurants for immersive experiences. By providing statistical information into how local cuisine affects tourist perception and visitor satisfaction, this study adds to the limited literature on island-specific culinary tourism.

5.3. Limitations of this study and suggestions for future research

The study's narrow focus on some aspects of gastronomic preference could restrict the analysis by ignoring important elements including exposure, prior experience, and health concerns. Furthermore, because the research was carried out within a certain period, it might not have considered changes in local food availability and seasonal variations in visitor tastes.

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Theme: Restaurant Management

Diners' Value Co-Creation Behaviour in Robot-Serviced Restaurants: The Role of Perceived Restaurant Innovativeness and Self-Concept Congruency (Paper#174)

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Abstract

While the impact of robots on consumers' value co-creation behavior (CVCB) has been explored, the mechanisms driving this behavior are not well understood. Therefore, this study proposed a conceptual framework that identifies the factors influencing CVCB in restaurants and hypothesize relationships.

Keywords: CVCB, self-concept congruency, innovativeness, restaurants

1. Introduction

Robots are replacing the human labour in many hospitality encounters, opening a new way for businesses to make interactions with their customers, and disrupting the established provider-customer relationships (Mukherjee et al., 2023). Accordingly, service robots are applied in the hospitality and tourism industry to make interactions with and provide assistance for customers (Liu et al., 2024), thereby facilitate value co-creation efforts (Song et al., 2023; Zhang et al., 2022). Value co-creation has become a focal point for improved business and consumer outcomes (Vargo & Lusch, 2004), particularly among firms in the hospitality and tourism industry (Carvalho & Alves, 2023). Despite the importance of value co-creation in human-robot interaction hospitality service contexts, its determinants have not yet been comprehensively explored. Previous studies have primarily focused robot characteristics (Song et al., 2023; Zhang et al., 2022) and consumer value perceptions (Tian & Liu, 2024). Therefore, this study intended to propose a conceptual framework and hypothesized relationships aiming at exploring the link between customers perception of restaurant innovativeness, their self-concept congruency, and value co-creation behaviour.

2. Literature Review

2.1 The concept of perceived firm innovativeness

Despite firms' commitment and willingness to engage in innovative activities, studies indicate that the success of any innovation largely depends on customers' attitudes (Yen. 2023). Customers are assumed to be the final judges to decide on the success and failure of innovative products and service offerings (Xu, 2020). Therefore, adopting a customer-centric view of product and service innovations is fundamental for the effective diffusion of innovations. In the restaurant service setting, Kim et al. (2018) proposed a four-dimensional firm innovativeness scale encompassing menu, technology, experiential factors. Thus, this study relaying on this scale for measuring customers perceived robot service restaurant innovativeness.

2.2 Customers value co-creation behaviour

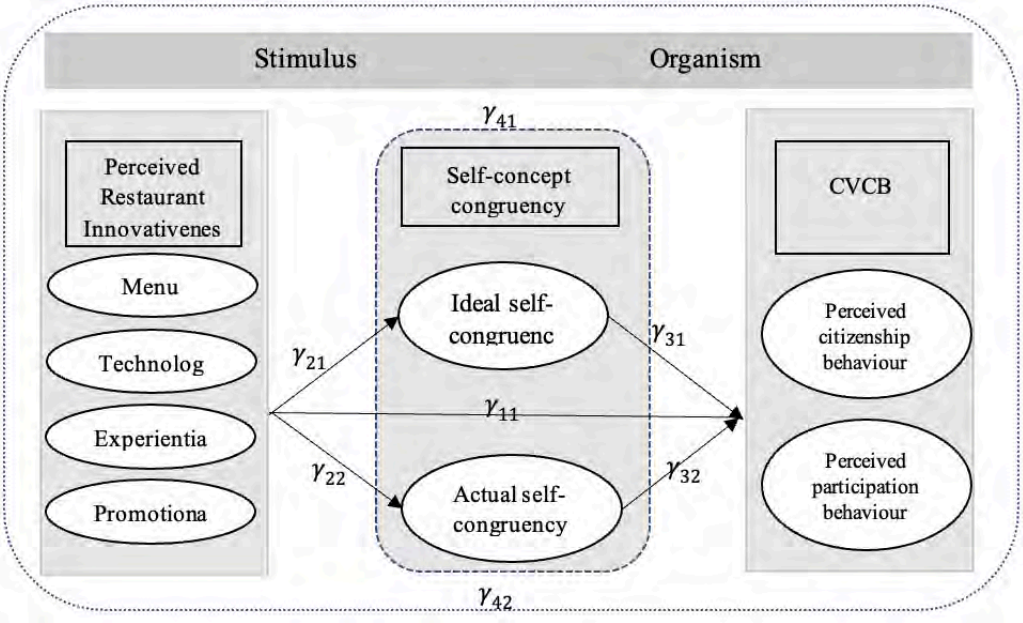
In light of this view service-dominant (S-D) logic paradigm (Vargo and Lusch 2004), customers are often considered partial employees, and both customers and employees are actively involved in the creation of value (Prahalad and Ramaswamy 2004). The rapid growth of technology has also created an opportunity for collaborative value co-creation between consumers and service providers (Song et al., 2024). Service robots are integrated into hospitality encounters to enhance efficiency, provide personalized services, and facilitate customers' value co-creation efforts (Zhang et al., 2022). CVCB has been studied as a multidimensional concept having two higher order constructs; customer participation behaviour (CPB) and customer citizenship behaviour (CCB) (Yi and Gong, 2013). CPB describes the customer's required, explicit, and enforceable in-role behaviour relevant to co-creation (Groth 2005).

2.3 Consumers' self-concept congruence

The term "self-concept" refers to the overall attitude individuals have about themselves, encompassing a brief self-description of their ideal and actual selves (Goldsmith et al., 1999). This concept has significant implications in marketing, as it helps explain consumer behavior. In this regard, customer motivation and behavior are conceptualized under the self-concept congruency theory (Sirgy, 1985). According to this theory, the image of a product or service interacts with a consumer's self-concept, reflecting the degree of congruence between the consumer's self-image and the product or service image (Sirgy et al., 2016). Similarly, a customer's choice of interactive objects, such as service robots, largely depends on their perception of congruency between the robot or provider and their ideal and actual self-concept (Gao et al., 2024).

3 The conceptualization and hypothesis development

Figure 1. The conceptual framework



4 Methodology

The study will follow a quantitative research design based on dinners of robot-served restaurants in the United States and South Korea. Data will be collected over 600 dinners robot service restaurants through online survey. Measurement items were drawn from previously validated sources and are planned to be measured using a seven-point Likert scale, ranging from 1 (strong disagreement) to 7 (strong agreement).

5 Discussion and Implications

5.1 Discussion

This study outlined the conceptual framework and hypothesized the relationship between firm innovativeness, the actual and ideal self-concept congruency, and customers' value co-creation behaviour. Relying on the innovation of diffusion (Rogers et al., 2014) and the self-concept congruency theory (Sirgy et al., 1982), the current study heightened the cognitive and psychological mechanisms that drive customers' value co-creation behaviors in a robot-service hospitality setting.

5.2 Academic and practical implications

This study contributes in two significant ways. First, it is the initial to examine the relationship between firm innovativeness and CVCB in the context of robot-serviced restaurants. Second, the study expands the self-concept congruency theory (Sirgy et al., 1982) within the innovativeness-value co-creation framework in the emerging context of robot-serviced restaurants. Practically, the study will provide insights for restaurant business and leaders to effectively addressing customers psychological factors in designing robot service encounters.

5.3 Limitations and future research directions

One of the key limitations of this study is its reliance on cross-sectional data. Thus, a longitudinal research design would yield more conclusive results. Additionally, this study focuses solely on self-concept congruency as a psychological process for customers. Future researchers could explore other cognitive and psychological mechanisms.

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From 'Honeymoon' to 'Hazard': Why COVID-19 Turned New Restaurants into High-Risk Ventures (Paper#046)

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Abstract:

This study analyzes how COVID-19 affected restaurant survival through short- and long-term survival analyses of publicly accessible big data from Seoul, Korea. Before the pandemic, new entrants faced lower closure risks than mature competitors. During COVID-19, however, they experienced double the risk, losing their honeymoon advantage. Small newcomers were especially vulnerable. Findings suggest the pandemic's negative impact was far harsher for younger, smaller restaurants, prompting policymakers to prioritize supporting them. This study also underscores an urgent need for targeted assistance.

Keywords: COVID-19 pandemic, restaurant survival, survival analysis, liability of newness; liability of smallness

1. Introduction

Various factors influence a firm's capacity to endure (Cader and Leatherman, 2011). For instance, new entrants sometimes thrive if they possess an innovative edge over incumbents (Audretsch, 1991), yet in industries where established players profit from innovation, newcomers tend to have shorter lifespans (Audretsch and Mahmood, 1995). Empirical research further suggests that larger entrants enjoy a higher likelihood of staying in business, while smaller ones face elevated closure risks (Das and Srinivasan, 1997). Additionally, entirely new independent businesses generally experience higher hazard rates than branches of existing enterprises (Audretsch and Mahmood, 1995). Scholars have explored multiple factors that affect a small firm's survival. Especially, external economic conditions cannot be overlooked, since region-specific dynamics help explain shifts in demand and competition (Keeble and Walker, 1994). Nevertheless, direct evidence on how pandemics specifically alter firm survival remains limited. Early indications suggest that non-employer ventures rely on lean operating structures, whereas firms with

workforces ranging from 6 to 50 employees need labor flexibility (Bartlett and Morse, 2021). Those smaller firms, however, faced a 10–20% higher probability of shutting down during the pandemic. Although incomplete, these findings underscore the destructive impact of COVID-19 on countless small businesses worldwide.

Surviving the COVID-19 pandemic represents a primary challenge for small business owners and managers worldwide. As of August 21, 2021, Johns Hopkins University recorded over 211 million global COVID-19 cases and approximately 4.4 million deaths. This health crisis triggered widespread economic disruption. China posted -6.8% economic growth in the first quarter of 2020, while the Eurozone contracted 14.8% (Barrero, Bloom, and Davis, 2020). The United States underwent a 32.9% annualized decline in the second quarter of 2020—its steepest drop since World War II (Rushe, 2020). Restaurants, typically dependent on in-person service, were hit especially hard. Before COVID-19, the U.S. restaurant sector employed 15.6 million people and had been expanding (National Restaurant Association, NRA). Yet dining dropped by 85.2% after the pandemic began (PYMNTS), causing the NRA to estimate revenue losses of about USD 240 billion in 2020 alone. Given restaurants' central economic role, it is imperative to explore how COVID-19 has influenced survival and closure rates in this industry.

Therefore, the primary objective of this study is to analyze whether the pandemic changed restaurant failures by comparing data before and during COVID-19. Utilizing public big data from Seoul, Korea—where official records detail restaurant openings and closings, along with licensing data—offers a unique lens on actual closure patterns. Additionally, this study examines how COVID-19 has affected the liability of newness for restaurants. Earlier findings reveal that new ventures struggle with higher early-stage failure rates (Parsa et al., 2015; Self, Jones, and Botieff, 2015). However, a counterpoint suggests the so-called "honeymoon effect," in which early injections of capital or investor backing shield newcomers from closure for a limited time (Fichman and Levinthal, 1991). By investigating closure risk over varying intervals, this research seeks to clarify whether COVID-19 has intensified the liability of newness or negated the honeymoon advantage. A second focus involves the liability of smallness, particularly whether the crisis exacerbated the historically weaker survival odds for smaller establishments. Although studies often affirm that size correlates positively with survival (Audretsch, Santarelli, and Vivarelli, 1999), contradictory evidence exists (Wagner, 1994). Consequently, this analysis will help ascertain whether the pandemic enlarged the gulf between larger and smaller operators. Ultimately, the findings offer guidance on whether COVID-19 induced a more severe structural shock to newly established or small-scale restaurants than to their more mature or larger-scale counterparts.

2. Literature Review

2.1. The influence of age on survival

According to the organization life-cycle hypothesis, all new entrants, like biological entities, go through a series of stages (Dodge, Fullerton and Robbins, 1994). Every company has two distinct stages: inception and demise (Kimberly, Kimberly and Miles, 1980). Previous research on business survival looked into a variety of aspects of the business life cycle. The element that has received the most attention is age. In a variety of research, a link between age and risk has been discovered (Baum, 1999; Sutton, 1997). According to Phillips and Kirchhoff (1989), 76 percent of new businesses fail within two years. Furthermore, many businesses fail due to a lack of managerial expertise (Tornhill and Amit, 2003). This is called 'the liability of newness' and refers to the fact that risk of failure is highest when a business first enters a market and consistently decreases over time (Hannan et al., 2007). The liability of newness has been supported by both conceptual studies (Abatecola, 2013) and empirical research (Dobson et al., 2013).

The liability of adolescence, on the other hand, claims that the resources available to new entrants in the early phases of a business may help them survive and make them less likely to collapse (Fichman and Levinthal, 1991). This is commonly referred to as the honeymoon effect (Levinthal and Fichman, 1988). According to Audretsch (1991), new restaurants may provide clients with benefits, such as different culinary styles and flavors, ambiance, and service. In addition, new entrants usually begin with enough working cash to go through the early stages of entry. As a result, entrants are less likely to close during their honeymoon period. Despite this argument, there is scant empirical evidence from the pandemic period. Simply put, the worsening business scenario due to the pandemic might be much more problematic for entrants since the economic conditions could quickly deplete the buffer that entrants typically enjoy. Further, their ability to recruit clients could be harmed as well.

2.2. Size effect and restaurant survival

In prior studies, the size of a business was also found to be an important predictor of survival. In these studies, size was measured by the number of employees (Audretsch and Mahmood, 1995; Segarra and Callejón, 2002) or initial capital inputs (Simón-Moya and Revuelto-Taboada, 2016). The majority of studies found that smaller firms had a worse chance of survival- a concept known as 'the liability of smallness.' Santarelli (1998), for example, substantiated the liability of smallness in the Italian tourism industry. According to Lucas (1978), the risk of smallness stems from the fact that small enterprises have lower managerial competency. However, a few empirical studies have shown contradictory results. In the Italian and German industrial sectors, for example, Wagner (1994) found little evidence of the liability of smallness. Despite the paucity of data to prove the liability of smallness during pandemics, the impact of COVID-19 on small businesses can be deduced based on Lefebvre's (2020) results. Managing working capital at a small business is demanding in normal times. Lack of external financial resources is one of the most critical challenges that small firms face (Lefebvre, 2020). As a result, the risk of being a small business could increase during a pandemic.

2.3 Restaurant survival and the pandemic effect

Opening a restaurant is exceedingly challenging, with most failing soon after launch and only a small portion persisting long-term (Fritsch et al., 2006). English (1996) noted that although 74% survive their first year, only 40% remain after five years. Similarly, Parsa et al. (2011) observed that 25 ~ 40% failed within a year in Georgia. Despite doubts over whether restaurant closure rates are exceptionally high (Muller and Woods, 1991), researchers have sought to quantify survival patterns. Early attempts drew on localized data—Muller and Woods (1991) used telephone directories; Parsa et al. (2005) examined Ohio health department records and interviews. In subsequent studies, Parsa et al. (2011; 2015) and Self et al. (2015) focused on small samples from Georgia, Colorado, and Los Angeles. Such localized approaches risk reflecting only regional conditions, limiting their broader applicability. Hence, the present work addresses this gap by deploying a large dataset from Seoul, covering restaurant survival.

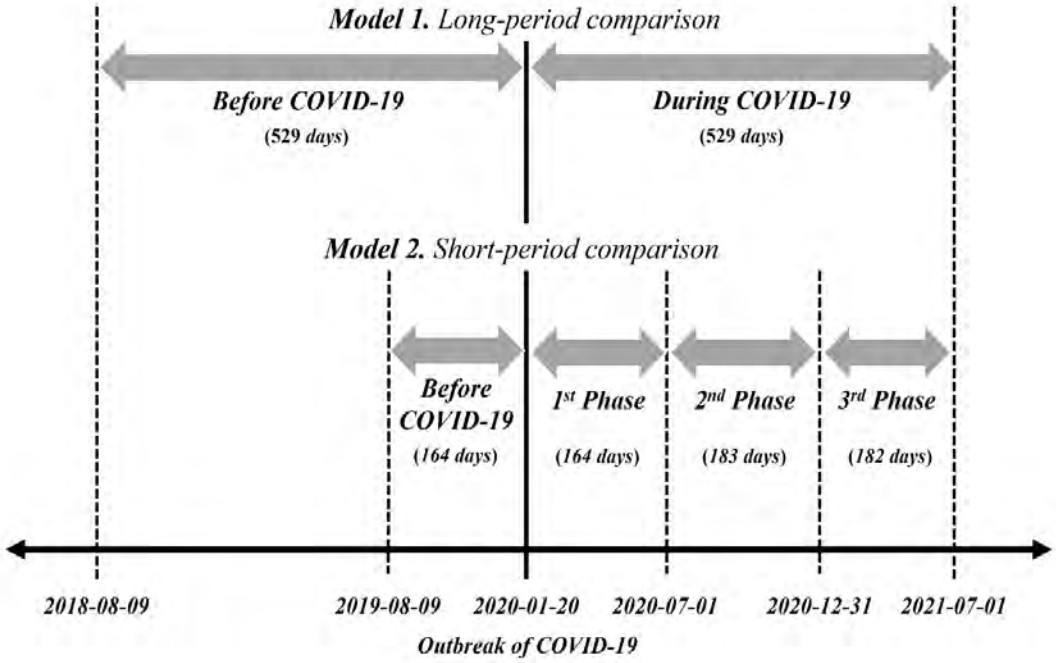
Although little research exists on pandemic effects in the restaurant sector, reports on SARS in 2003 illustrate how outbreaks can reduce revenues and force cost-cutting measures (Lee and Warner, 2005; Tse, So, and Sin, 2006). Hong Kong's restaurant industry alone suffered losses of USD 0.26 billion in one quarter (Keogh-Brown and Smith, 2008). Interestingly, many restaurants closed in June 2003, after revenue had partially rebounded, reflecting the tenuous nature of marginal operations. These observations emphasize restaurants' vulnerability to pandemics, highlighting the importance of large-scale data to capture realistic closure rates and survival trends. By bridging prior local findings with contemporary data from Seoul, this study aims to clarify how health crises affect restaurants differently based on timing, location, and preexisting business conditions.

3. Methodology

3.1 Data and event window

This study relies on publicly accessible big data provided by the city of Seoul, Korea (https://data.seoul.go.kr), which compiles restaurant licensing information. This dataset includes opening and closing dates, addresses, segments, and floor sizes of restaurants. Although small businesses sometimes close without official procedures (Crane et al., 2021), data reliability is relatively high here because local regulations mandate timely reporting of closures. Under Korean law, failing to inform authorities can result in significant fines or imprisonment (Korean Food Sanitation Act, Article 97 No. 1). Moreover, operators must pay taxes and file closure reports within 25 days of shutting down (Korean Value Added Tax Act, Article 49 No. 1), encouraging accurate data submission to municipal offices. Consequently, unreported closures are presumably minimal, and the Seoul government has verified data accuracy.

Figure 1. Description of survival analysis models



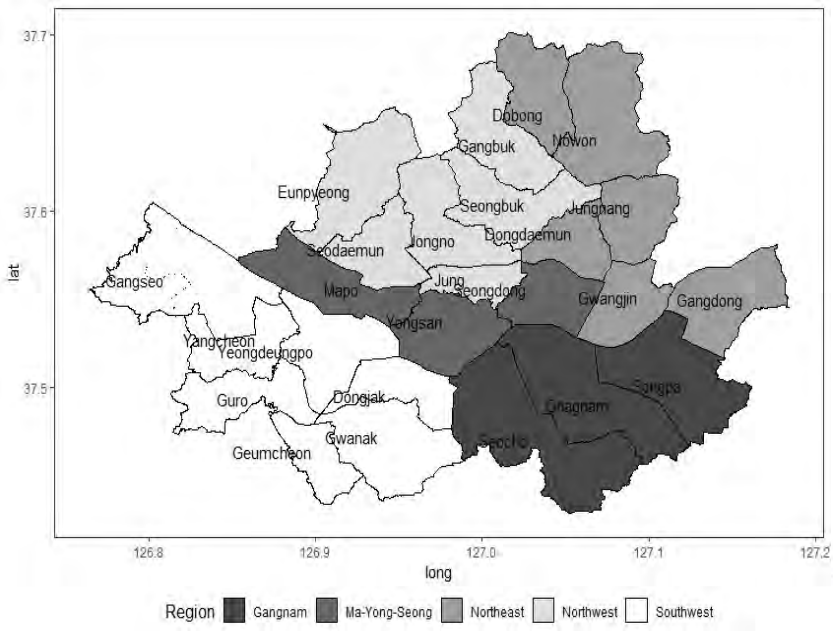
Two temporal comparisons were conducted: a long-period and a short-period analysis. The long-period comparison defines "during COVID-19" as a 529-day window (January 20, 2020 to July 1, 2021). An equivalent 529-day stretch (August 9, 2018 to January 19, 2020) served as the "before COVID-19" benchmark. This approach facilitated examining differences in survival rates across two comparable timeframes. Data preparation entailed several steps. First, because the raw data extend back to the mid-2000s, any restaurants opened more than 10 years before the pandemic's official start (i.e., before January 20, 2010) were excluded to bolster reliability. The Korean Rural Economic Institute (KREI) reports an average seven-year lifespan for non-franchise restaurants (6.8 years for franchises), so a 10-year cutoff reduces confounding from older establishments. Furthermore, removing restaurants predating 2010 also avoids impacts from the 2008 global financial crisis. After these exclusions, multiple survival samples were constructed. For the "before COVID-19" sample, the analysis window began on August 9, 2018 and ended on January 19, 2020. Restaurants that ceased operations prior to August 9, 2018 were dropped, as they could not meaningfully inform survival statistics within this period. Likewise, those that opened after January 19, 2020 were excluded. Any restaurants that had seemingly "closed" between January 20, 2020 and July 1, 2021 were reclassified as operating if their closure fell outside the timeframe of interest. A separate "during COVID-19" sample—covering January 20, 2020 to July 1, 2021—was formed similarly, excluding entities that closed prior to January 20, 2020. In the short-period analysis, this "during COVID-19" timeframe was split into three phases for more granular comparisons: the 1st, 2nd, and 3rd phases. Each phase had a distinct start and end date, which enabled assessing closure risk progression as the pandemic evolved. Detailed sample windows appear in Figure 1.

3.2 Survival factors

To investigate whether newness or adolescence (the "honeymoon effect") affects restaurant survival, this study created age cohorts based on opening dates. The first cohort comprises restaurants that opened within one year of the pandemic and are thus relatively new. The second includes those opened one to three years before COVID-19, while the third covers establishments opened three to five years prior. A fourth cohort includes restaurants opened five to seven years earlier. Finally, the oldest cohort consists of restaurants opened seven to ten years prior. The most mature cohort serves as the reference category. To examine smallness, restaurant size (total floor area) was grouped into quantiles. The smallest 25% measure less than 30.0 square meters (≈ 322.9 square feet), forming the first quantile. The second quantile ranges from this first quartile to the median (50.24 sqm; ≈ 540.8 sqft), while the third spans the median to 90.0 sqm (≈ 968.8 sqft). The largest group exceeds this third quartile and serves as the reference.

In line with Falck (2007) and Fritsch et al. (2006), the study also incorporates segment and region as control variables. Segments include Alcohol, Beer and Chicken, Buffet, Café, Chicken, Chinese, Ethnic, Fast food, Korean, Seafood, Snack, and Western food. Alcohol serves as the reference segment. For region, Seoul's 25 districts are condensed into five regions (See Figure 2). Gangnam (the reference) in the southeast is an affluent hub featuring extensive commercial development. The Ma-Yong-Seong region, combining Mapo, Yongsan, and Seongdong, has seen robust redevelopment. The Northeast and Northwest regions encompass older, more residential or administrative areas, including the Blue House and parts of the central business district. The Southwest region once housed factories but has shifted toward technology companies, finance, and an international airport. Using these regional and segment variables helps control for heterogeneous local conditions influencing restaurant survival.

Figure 2. Five Regions of Seoul



3.3 Parametric survival analysis with a Weibull distribution

This study applied survival analysis to explore how COVID-19 influenced restaurant closures. A hazard model is more appropriate than ordinary least squares (OLS) for such data because it accommodates both the probability of closure and the timing of that event (Nilsson, 2016). OLS cannot correct for right censoring, which arises when restaurants remain open at the study's end. Although survival analysis originated in medical research, it has limited application in the tourism field. Gokovali, Bahar, and Kozak (2007) used it to investigate length of stay at destinations, while Parsa et al. (2011) employed Kaplan-Meier (K-M) plots and the Cox proportional hazard (PH) model to examine restaurant failures. The Cox PH model is often favored for not assuming a specific underlying distribution of survival times (Lee et al., 2018). This study likewise utilized K-M plots, revealing that the median survival time for restaurants in the full sample is approximately 5.8 years (See Figure 3). Plots stratified by size, region, and segment showed similarly monotonically declining survival curves.

Additionally, the Cox PH technique was used to estimate a baseline hazard, which aligned with either a Weibull or log-normal shape. Based on the Akaike information criterion (AIC) and Bayesian information criterion (BIC), the Weibull distribution offered a better fit than log-normal. In this context, the survival function S(t, η) indicates the probability that a restaurant endures beyond time t. Meanwhile, the hazard ratio measures the probability a restaurant closes at time t given it has survived until that point. Here, T is the restaurant's survival time; F(t) and f(t) are cumulative and probability density functions, respectively. The Weibull survival function is:

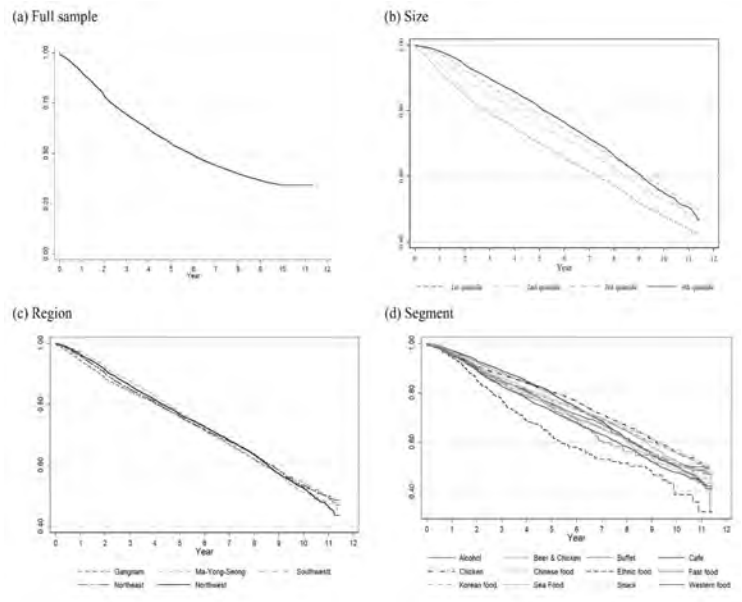
$$S(t, X) = \exp\left[-(\lambda t)^{p}\right]$$

λ and p are positive, and X was a vector of risk factors including newness, size, segment, and region. The hazard function h(t, X) was defined as:

$$h(t, X) = \lambda^{p} p t^{p-1}, \text{ where } \lambda = \exp\left(X\beta + \varepsilon\right)$$

If p > 1, hazard is monotonically increasing; if p < 1, hazard is monotonically decreasing; if p = 1, it is constant (an exponential distribution). Parameter p is identified by checking whether its 95% confidence interval includes one. If it does, hazard remains constant; otherwise, the Weibull shape applies.

Figure 3. Kaplan–Meier plots



4. Results

4.1 Closure rates before and during COVID-19

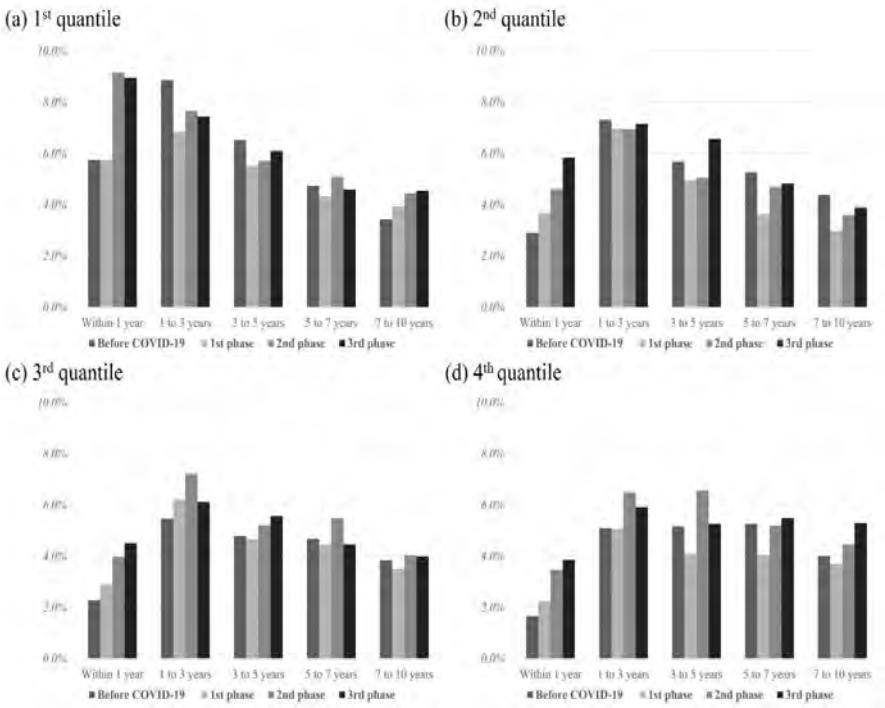
Table 1 presents descriptive statistics categorized by age cohort and size, illustrating how a restaurant's age and size typically correlate: older age cohorts tend to have larger floor space, while smaller restaurants on average are younger. Age was measured from a restaurant's opening date to either its closing date or the end of the study period (July 1, 2021), if it remained open.

Additionally, the study conducted log-rank tests for equality across survival factors (e.g., age, size, segment, and region). In both the long-term pre- and during-pandemic samples, differences among age cohorts were statistically meaningful, suggesting consistent patterns of survival across these comparisons. However, in the short-period analysis, particularly after the pandemic reached its second phase, significance for age-cohort differences weakened. This outcome implies that as COVID-19 continued, its negative effects became more widespread across all age groups, diluting the distinction between newer and older restaurants in statistical terms. Nonetheless, size and segment factors remained significant in most short- and long-term samples, while region showed mixed results—meaning it was significant only in a few cases. These patterns suggest that certain restaurant characteristics persistently influence closure risk, whereas others (like location) may matter only at specific points in time.

Table 1. Descriptive statistics

Group		Obs.	Mean floorspace		Mean age	Median age
			Square meter	Square feet		
Size	1st quantile	21,218	21.56	232.07	3.79	2.85
	2nd quantile	21,143	39.63	426.57	4.19	3.50
	3rd quantile	21,330	67.88	730.65	4.44	3.84
	4th quantile	20,184	164.42	1,769.80	4.77	4.30
Age Cohort	7 to 10 years	13,336	79.07	851.10	9.55	9.62
	5 to 7 years	11,626	79.31	853.69	6.95	7.09
	3 to 5 years	13,766	76.11	819.24	4.95	5.11
	1 to 3 years	18,645	72.88	784.47	2.94	3.05
	Within 1 year	26,502	63.34	681.79	1.09	1.09
Total		**83,875**	**72.27**	**777.91**	**4.29**	**3.65**

Figure 4. Closure rates by size and age cohorts



To visualize closure-rate shifts, Figure 4 displays results by both size and age cohorts. A clear size effect emerges: smaller restaurants tend to have higher closure rates, and in most cohorts, these rates escalated in the 2nd pandemic phase. Notably, newly opened small restaurants (the 1st quantile within one year of operation) faced a marked spike, further underscoring how limited initial resources appear ill-suited for withstanding severe, prolonged disruptions like the pandemic. While the first phase saw a mild dip in some groups' closure rates, the subsequent rise in the second phase suggests that many businesses, even those that initially weathered the crisis, could no longer remain viable as the pandemic persisted.

4.2. Survival analysis of short and long-period comparisons

Table 2 presents the hazard ratios from the long-period survival analysis, comparing pre-pandemic and pandemic-era restaurant closures. Before COVID-19, the estimated parameter p in the hazard function was less than 1, meaning the overall hazard decreased over time. However, once the pandemic took hold, p exceeded 1, indicating that hazard rose as time progressed. This clear shift implies a worsening risk environment: whereas the probability of closure diminished over time before COVID-19, it began increasing throughout the pandemic, signifying a fundamental change in business risk after the outbreak.

These findings underscore the significant impact of COVID-19 on survival patterns. Not only did restaurants confront unprecedented operational constraints, but the data also suggest a time-dependent rise in closures that had not been present previously. In other words, what had once been a gradually improving environment for continuing businesses turned into a situation where staying open became more difficult with each passing day during the pandemic. Consistent with arguments by Fichman and Levinthal (1991) and Levinthal and Fichman (1988), the results confirm that new entrants (i.e., restaurants open for a relatively short time) benefited from a so-called "honeymoon effect" before COVID-19. Specifically, entrants showed significantly reduced hazard ratios compared to established competitors. In Table 2, before COVID-19, new entrants' hazard ratio is 0.602 relative to the reference group of mature establishments (seven to ten years old). Interpreted differently, mature restaurants had about a 66% higher closure probability than new entrants in that pre-pandemic period. However, the hazard ratio for entrants skyrocketed to 2.163 during the pandemic. This drastic shift means new establishments became over twice as likely to fail compared to the most mature restaurants. In other words, although "fresh" ventures enjoyed safer footing in normal times, the pandemic abruptly destroyed that advantage. Mature restaurants suddenly found themselves in a stronger position, presumably because of deeper capital reserves, more loyal customer bases, or stable supplier relationships, whereas newer entrants lacked such defenses. Hence, the results make clear that COVID-19 eliminated the typical honeymoon period for newly opened restaurants.

Table 2 also highlights that smaller restaurants (e.g., the first size quantile) face consistently higher closure hazard ratios both before and during COVID-19, validating the "liability of smallness." This aligns with prior research (e.g., Santarelli, 1998), suggesting smaller ventures are generally less resilient due to lower managerial capabilities or fewer financial resources (Lucas, 1978). Interestingly, while small establishments remained more vulnerable in both periods, the pandemic further reinforced these challenges, as indicated by hazard ratios that continue to favor larger operations. Nevertheless, not all size categories experienced identical shifts. Table 2 reveals variation among medium-large and large restaurants, with some groups exhibiting comparatively mild changes. This finding suggests that size alone does not fully explain differences in pandemic survival; other factors—such as location or segment—play roles as well.

Table 2. Long-period comparisons of before and during COVID-19

Variable	Group	Long-period Comparison	
		Before COVID-19	During COVID-19
		Hazard ratio	Hazard ratio
Age Cohort	7 to 10 years	-	-
	5 to 7 years	1.181***	1.223***
	3 to 5 years	1.182***	1.482***
	1 to 3 years	1.123***	1.984***
	Within 1 year	0.602***	2.163***
Size	4th quantile (large)	-	-
	3rd quantile (med-large)	0.981	1.043
	2nd quantile (med-small)	1.200***	1.125***
	1st quantile (small)	1.460***	1.494***
Segment	Alcohol	-	-
	Beer & Chicken	0.935	1.132*
	Buffet	0.978	1.356**
	Cafe	1.009	1.054
	Chicken	0.823***	1.014
	Chinese food	0.781***	1.004
	Ethnic food	1.043	1.107
	Fast food	1.055	1.083
	Korean food	0.883**	1.066
	Sea food	0.957	0.987
	Snack	0.929	1.104
	Western food	1.027	1.159**
Region	Gangnam	-	-
	Ma-Yong-Seong	0.919**	0.938*
	Southwest	0.944**	0.905***
	Northeast	0.919***	0.889***
	Northwest	0.898***	0.926**
95% confidence interval of *p*		(0.90, 0.96)	(1.10, 1.17)
Number of observations		69,264	73,953
Analytical window		*08/09/2018 ~ 01/19/2020* (529 days)	*01/20/2020 ~ 07/01/2021* (529 days)

*Note: *** p<0.01, ** p<0.05, * p<0.1; Reference groups are "7 to 10 years (the most mature cohort) before the COVID-19" for age cohort, "4th quantile" for size, "Alcohol" for segment, and "Gangnam" for region.*

Table 3 drills down on short-period comparisons, dividing the pandemic into three phases to assess how closure risks evolved over shorter intervals. This granularity uncovers sharper insights into which groups suffered most. Consistent with the long-period analysis, new entrants (less than one year old) had a minimal hazard ratio of 0.305 before COVID-19, confirming their pronounced honeymoon advantage. But during Phase 1 (i.e., the earliest months of the pandemic), that ratio soared to 1.138, then 2.071 in Phase 2, and 2.162 in Phase 3, indicating a persistent and accelerating deterioration in survival prospects for new establishments. This lopsided negative effect underscores the rapid erosion of any initial buffers that entrants might have held during the first phase of the pandemic.

Moreover, Table 3 reaffirms the liability of smallness. Restaurants in the smallest quantile displayed a considerably higher hazard ratio in each phase, although the exact magnitude differed among the phases. Another interesting result arises from the regional variable: certain districts (including Ma-Yong-Seong, the Northeast, and Northwest) showed lower hazard ratios than Gangnam before COVID-19, yet these advantages dissipated in the 2nd and 3rd phases, eventually rendering regional differences statistically insignificant. Put another way, early-phase data suggested geographic variation in closure risk, but as the pandemic endured, its negative effects washed over virtually all regions, nullifying any preexisting local protections.

Table 3. Short-period comparison of before and three phases during COVID-19

Variable	Group	Short-period comparison			
		Before COVID-19	1st phase	2nd phase	3rd phase
		Hazard ratio	Hazard ratio	Hazard ratio	Hazard ratio
Age Cohort	7 to 10 years	-	-	-	-
	5 to 7 years	1.123*	1.153**	1.294***	1.147**
	3 to 5 years	1.045	1.312***	1.473***	1.453***
	1 to 3 years	0.940	1.685***	1.981***	1.777***
	Within 1 year	0.305***	1.138**	2.071***	2.162***
Size	4th quantile (large)	-	-	-	-
	3rd quantile (med-large)	1.018	1.169***	1.009	0.987
	2nd quantile (med-small)	1.236***	1.215***	0.990	1.173***
	1st quantile (small)	1.456***	1.473***	1.424***	1.496***
Segment	Alcohol	-	-	-	-
	Beer & Chicken	0.892	1.082	1.051	1.261**

	Buffet	0.978	1.066	1.529**	1.324
	Cafe	0.932	1.055	0.905	1.214*
	Chicken	0.806*	0.960	0.969	1.105
	Chinese food	0.909	1.133	0.849	1.084
	Ethnic food	1.185	1.358**	0.979	1.049
	Fast food	0.952	1.209	0.745**	1.310**
	Korean food	0.880	0.994	0.999	1.188*
	Sea food	0.999	1.242*	0.843	0.967
	Snack	0.963	1.106	1.059	1.147
	Western food	1.023	1.235*	1.066	1.185
Region	Gangnam	-	-	-	-
	Ma-Yong-Seong	0.814***	0.916	0.970	0.935
	Southwest	0.930	0.816***	0.978	0.915*
	Northeast	0.864**	0.871**	0.879**	0.921
	Northwest	0.794***	0.893*	0.941	0.950
95% confidence interval of *p*		(0.63, 0.75)	(0.89, 1.03)	(1.05, 1.18)	(1.09, 1.19)
Number of observations		62,522	63,187	65,442	67,378
Analytical window		*08/09/2019 ~ 01/19/2020* (164 days)	*01/20/2020 ~ 07/01/2020* (164 days)	*07/02/2020 ~ 12/31/2020* (183 days)	*01/01/2021 ~ 07/01/2021* (182 days)

*Note: *** p<0.01, ** p<0.05, * p<0.1; Reference groups are "7 to 10 years (the most mature cohort) before the COVID-19" for age cohort, "4th quantile" for size, "Alcohol" for segment, and "Gangnam" for region.*

To probe whether the "liability of smallness" changed over time, the study tested separate survival analyses by size quantile in each of the four short-period windows. Table 3 summarizes 16 hazard models—four size groups (small, med-small, med-large, and large) each examined across four distinct intervals (pre-COVID-19, Phase 1, Phase 2, and Phase 3). This arrangement clarifies how size interacts with age (i.e., new vs. mature) as the pandemic unfolds. According to Table 3, small (1st quantile) and med-small (2nd quantile) restaurants saw their hazard ratios rise most sharply immediately after the pandemic outbreak. Before COVID-19, these small entrants had hazard ratios around 0.482 and 0.282, respectively, meaning they enjoyed robust honeymoon effects relative to older restaurants. Yet, as soon as Phase 1 began, these ratios climbed to 1.499 (small) and 1.331 (med-small), illustrating the sudden demise of any honeymoon advantage among smaller ventures. Medium-large (3rd quantile) entrants' hazard ratio, though

initially favorable (0.423), did not spike until the pandemic's second and third phases, reaching 1.747 and 2.578, respectively. Thus, bigger restaurants appear to have a delayed vulnerability—once strong enough to endure Phase 1, they later succumbed to the pandemic's sustained economic pressures.

Table 3. Summary of size group-wise survival analysis comparisons

Size	Age cohort	Short-period comparison			
		Before COVID-19	1st phase	2nd phase	3rd phase
		Hazard ratio	Hazard ratio	Hazard ratio	Hazard ratio
1st quantile (small)	7 to 10 years	-	-	-	-
	5 to 7 years	1.211	1.109	1.192	1.035
	3 to 5 years	1.376**	1.381**	1.350**	1.398**
	1 to 3 years	1.330**	1.633***	1.877***	1.759***
	Within 1 year	0.482***	1.499***	2.841***	2.596***
2nd quantile (med-small)	7 to 10 years	-	-	-	-
	5 to 7 years	1.061	1.202	1.448**	1.386**
	3 to 5 years	0.983	1.568***	1.714***	2.138***
	1 to 3 years	0.987	2.180***	2.822***	2.776***
	Within 1 year	0.282***	1.331**	3.268***	3.759***
3rd quantile (med-large)	7 to 10 years	-	-	-	-
	5 to 7 years	1.144	1.256*	1.458***	1.228
	3 to 5 years	1.081	1.314**	1.440***	1.699***
	1 to 3 years	1.071	1.746**	2.219***	2.165***
	Within 1 year	0.423***	0.941	1.747**	2.578***
4th quantile (large)	7 to 10 years	-	-	-	-
	5 to 7 years	1.128	1.084	1.227	1.136
	3 to 5 years	0.946	1.103	1.701***	1.202
	1 to 3 years	0.676**	1.354**	1.913***	1.574***
	Within 1 year	0.141***	0.685**	1.527	1.603**

*Note: *** p<0.01, ** p<0.05, * p<0.1; Reference groups are "7 to 10 years (the most mature cohort) before the COVID-19" for age cohort. Coefficients of segment and region were not reported for the brevity.*

Perhaps the most striking pattern involves the largest entrants (4th quantile). Even after COVID-19 began, they maintained a low hazard ratio of 0.685 in Phase 1 and a non-significant ratio in Phase 2, indicating near equivalence to older restaurants. Only in the 3rd phase did large entrants' ratio climb to a statistically significant 1.603, placing them at higher risk than their mature counterparts. This delayed effect underscores that while size can temporarily buffer an entrant, a long-lasting crisis ultimately erodes that advantage. One plausible explanation for the stronger performance of large restaurants concerns consumer behavior in a respiratory-disease pandemic. Customers might consider bigger dining spaces safer, given the ability to maintain social distance. Smaller establishments, by contrast, may be perceived as higher risk for virus transmission, driving consumers away during longer pandemic durations. Hence, the "spaciousness effect" presumably protected bigger entrants from early closures.

However, as Table 3 and subsequent analyses confirm, even large entrants eventually faced hazard ratios that surpassed those of older restaurants, once the pandemic's economic disruptions became prolonged. In that sense, no group was entirely immune to the sustained business downturn.

5. Discussion and Implications

5.1. Discussion

This study investigated how COVID-19 influenced restaurant survival and closures, presenting novel insights into how the industry's closure patterns shifted during the pandemic. Initially, the hazard function for restaurants followed a Weibull distribution with a downward trajectory, but it turned constant at the onset of COVID-19 and subsequently trended upward. This progression underscores the mounting business shock that restaurants continued to face as the pandemic persisted. The analysis indicates that closure rates briefly appeared lower right after COVID-19 began, aligning with Crane et al. (2021), who observed actual closures falling short of expectations in the early stages. Many restaurants seemingly weathered the crisis by reducing operating expenses and relying on government subsidies. However, by the second pandemic phase, closures rose sharply, suggesting an initial buffer gave way to more serious disruptions that demanded sustained attention. This shift cautions industry managers and government bodies about the extended nature of pandemic impacts.

Another key observation is that while restaurants enjoyed a honeymoon effect before the pandemic, newly opened ones quickly lost that benefit and proved more vulnerable than mature establishments after the outbreak. The timing and severity of this transition invite deeper reflection. Alekseev et al. (2020) found that older businesses were likelier to operate during this period, whereas younger ones faced higher odds of shutting down. Cowling, Brown, and Rocha (2020) reinforced this concern by indicating that only a fraction of small and medium-sized enterprises (SMEs) had sufficient cash in reserve. Bartik et al. (2020) observed that many SMEs held a mere two weeks' worth of cash, emphasizing the critical role of

precautionary capital in sustaining operations. These findings help clarify why larger or more established restaurants fared better initially and why smaller or younger operations, lacking deep resources, succumbed sooner.

Furthermore, the study highlights the close relationship between cash balance and the pandemic's adverse effects. In normal circumstances, businesses might rely on growth to survive, but abrupt shocks demand liquidity and resilience. Fairlie (2020) supports this, demonstrating that large firms managed to remain in operation at higher rates than smaller counterparts. These insights reinforce that the liability of newness can easily shift under crisis conditions, which effectively transform any early advantage into intensified risk. This real-world application of competing theoretical perspectives on newness—honeymoon effect versus heightened liability—offers both conceptual and empirical contributions.

5.2. Academic and practical implications

This study contributes to the theoretical understanding of how external shocks, specifically the COVID-19 pandemic, modify well-established survival patterns in the restaurant industry. By integrating perspectives on the liability of newness and the liability of smallness, it extends organizational ecology theory to crisis contexts. The findings demonstrate that a sudden, large-scale disruption can dissolve any initial "honeymoon" advantages for new restaurants, highlighting the fragility of novelty under sustained stress. Additionally, linking survival to a cash balance perspective offers empirical support for resource-based views of organizational endurance. This study's adoption of a parametric survival analysis with large-scale, official data further strengthens methodological rigor. Ultimately, the research bridges competing concepts—honey moon effects versus liabilities of newness—within a real-world crisis, refining existing theories on firm age, size, and financial resilience by illustrating how a pandemic can invert or intensify traditional survival trajectories.

Policy implications include recognizing that initial financial support, though valuable, might only postpone closures. Restaurants lacking established customer bases or managerial experience need enhanced assistance. Policymakers should consider prioritizing small, recently launched businesses when allocating funds, while also acknowledging consumer perceptions of safety. Although smaller restaurants may struggle to retain customers worried about crowded spaces, the general shortage of long-term clients for new ventures further amplifies their risk.

5.3. Limitations of this study and suggestions for future research

The observation that new restaurateurs continued to enter the market despite deteriorating conditions suggests that some entrants may perceive competitive edges or innovative concepts. Future research could examine the unique qualities enabling certain new ventures to survive and perhaps thrive, even under pandemic constraints. More broadly, analyzing entrant characteristics across pandemic and non-pandemic periods might clarify which competencies most effectively insulate entrepreneurs from environmental shocks.

Finally, although this study provides important empirical evidence drawn from a major urban area in Korea, the results might not wholly generalize to other countries or contexts. Nonetheless, they demonstrate how pandemics can affect restaurant survival. Future investigations could extend the timeline beyond COVID-19's most intense phases to reveal how long such shocks persist, whether closure patterns eventually revert, and whether further data—such as sales figures and staffing levels—affirm or refine the conclusions. By incorporating additional proxies for size and exploring cross-regional differences, researchers could enhance the reliability of these findings and contribute to a more complete understanding of crisis-driven business failure.

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Theme: Virtual Experience

Virtual Destinations, Real Emotions: An Experimental Study on VR Tour (Paper#022)

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Abstract

The use of Virtual Reality (VR) technology in the tourism industry has grown in the recent decade, with more focus being placed on how it influences visitors' interest in tourist spots. Despite this, there has not been much research into the emotional excitement and engagement of VR tourism. In particular, questions about how VR experiences might alter users' emotions need more exploration. This study uses an experimental approach to measure changes in emotional states before and after a VR tour. The initial findings showed some notable shifts in participants' emotions following the VR experience.

Keywords: VR, Tourism, Emotions

1. Introduction

The adoption of Virtual Reality (VR) technology in tourism has gained significant attention, offering travelers immersive and engaging experiences. VR enables users to explore destinations virtually, overcoming physical and geographical limitations. By creating interactive environments, VR enhances engagement, making tourism more accessible and stimulating. As interest in VR tourism continues to grow, its potential to revolutionize travel experiences by providing realistic and emotionally engaging virtual journeys becomes increasingly evident.

The VR market is expanding rapidly, with forecasts predicting a significant rise in global consumer and enterprise revenue by 2024 compared to 2020 (Dluhopolskyi et al., 2021). Within the tourism sector, various research and review articles have examined different aspects of VR tours (Alyahya & McLean, 2022; de Lurdes Calisto & Sarkar, 2024; Fan et al., 2022; Gao et al., 2022; Godovykh et al., 2022; Li et al., 2024; McLean et al., 2023; Merkx & Nawijn, 2021; Subawa et al., 2021; Wan et al., 2024; Wang et al., 2022; Yung et al., 2021; Zhu et al., 2023; Zhu et al., 2024; Zhu et al., 2024), exploring their potential to enhance travel experiences and engagement (Mura et al., 2017; Iftikhar et al., 2023; Zhu et al., 2023). As technological advancements continue to shape the industry, VR tourism is emerging as a valuable tool, offering immersive experiences that overcome physical limitations while redefining how travelers interact with destinations.

However, there is limited research on the emotional change as a result of the VR tour itself. Emotions such as pleasure, attractiveness, excitement, interest, fun, and satisfaction play pivotal roles in shaping behavioural intentions (Chang, Shu, and King, 2014; Santos et al., 2022). These affective experiences significantly influence individuals' inclinations towards various tourism activities, destinations, and services, ultimately impacting their decision-making processes (Huang et al., 2016) and subsequent behaviours (Kinasz, 2017). Furthermore, as suggested by Santos et al. (2022), travel may lead to heightened mood, pleasure, and engagement.

Understanding the emotional aspects of virtual reality (VR) in tourism is crucial. According to Huang et al. (2016), emotions play a crucial role in shaping tourism experiences, influencing decision-making, satisfaction, and post-experience behaviors. Positive emotions, such as happiness and a strong sense of engagement, enhance attachment to travel destinations and increase the likelihood of revisits (Yung et al., 2021). Additionally, virtual reality (VR) can evoke emotional responses in simulated travel settings. Travel, whether physical or virtual, has the potential to improve mood, foster happiness, and generate feelings of pleasure and excitement, reinforcing the idea that both forms of travel can provide positive and stimulating experiences. By examining the psychological responses of virtual travellers to VR experiences, we can gain deeper insights into human interaction with technology. This knowledge can enhance our understanding of how simulation technologies like VR can transform travel experiences.

It is valuable to evaluate the emotional states of individuals, especially before and after they participate in VR-based virtual tourism experiences, which is also the aim of this research. There is a lack of research in the tourism field on the emotional effects of virtual reality (VR). This study examines how VR technology triggers users' emotions during simulated tourism experiences.

2. Literature Review

2.1. Impact of VR in Tourism

VR offer remarkable potential to elevate the tourism industry, providing excellent experiences compared to traditional virtual environments (Willems et al., 2019). According to Guttentag (2010), VR serves as an experiential tool that allows users to engage with virtual environments, sometimes perceived as substitutes for real visits to unsettling or frightening sites. The rise of 3D virtual worlds has created new chances for destination marketers to connect with travellers by offering pre-travel and post-travel simulated experiences. These experiences enable future travellers to explore destinations (Huang et al., 2016) from the comfort of their preferred homes before deciding to travel (Kinasz, 2017). Such immersive interactions not only enhance the appeal of travel spots but also foster a greater sense of emotional attachment and excitement among prospective visitors

2.2 Emotional Responses to VR

Virtual Reality (VR) enhances emotional involvement in tourism experiences by creating a strong sense of presence and interaction. Research by Tussyadiah et al. (2018) found that tourists reported higher levels of happiness and interest when engaging with VR compared to traditional video previews. This aligns with Gilbert & Wilson's (2007) concept of "affective forecasting," where individuals anticipate emotional rewards from future experiences. VR tourism leverages this effect by allowing travelers to preview destinations, stimulating their emotions and engagement before embarking on physical journeys. However, research on how Virtual Reality (VR) change emotional attachment in virtual travel experiences is still limited. However, findings from other fields indicate that VR's immersive qualities can cause intense emotional responses.

3. Methodology

3.1. Measurement

We have selected an experimental design to collect and measure people's emotional changes before and after using VR technology in virtual tourism settings. In this experiment, the participants were required to have an experience of a virtual tour created by the Hong Kong Railway Museum. Emotions (i.e., Arousal) were assessed using a 7-point Likert scale of four semantic items adopted by Donovan and Rossiter (1982). This approach enables a systematic evaluation of how VR influences emotional engagement, providing valuable insights into its potential impact on tourism experiences and user perceptions.

3.2. Data collection

Participants first completed pre-test questionnaires to establish baseline emotional states before engaging with VR technology. They then experienced a virtual travel tour created by the Hong Kong Railway Museum. Immediately after the VR session, post-experience questionnaires were administered to assess emotional changes. To analyze the effects of VR tourism, paired t-tests were conducted, comparing participants' emotional states before and after the virtual tour. This methodological approach provides valuable insights into how VR influences emotional engagement, helping to evaluate its effectiveness in enhancing tourism experiences and its potential implications for future applications in the industry.

4. Results

4.1. Profile of the respondents

Table 1 presents the demographic information of the study participants, highlighting age distribution and educational background. Among them, 43% were between 18 and 35 years old, representing the largest age group in the sample. Educational levels varied significantly, with the majority holding a bachelor's degree (54%), followed by those with secondary education (26%). A smaller proportion of participants had attained a master's degree or higher (17%), while only 2% reported completing primary school education or less.

Table 1.

		Frequency	Percentage
Age	18-35	176	43%
	36-45	149	36%
	46-60	77	19%
	60+	10	2%
Education	Primary or below	7	2%
	Secondary	109	26%
	Bachelor	224	54%
	Master or Above	72	17%

4.2. Results

Table 2 shows that when comparing the average values before and after the VR tour, two emotional items changed significantly. In specific, participants are more excited (mean pre-tour score = 4.29 out of 7, mean post-tour score = 4.88; $p < 0.001$) and feel more pleasure (mean pre-tour score = 4.79 out of 7, mean post-tour score = 5; $p < 0.001$). However, there are no significant differences in the scale "Not aroused—aroused" and "Sleepy—wide awake."

Table 2.

	Mean (Pre)	Mean (Post)	t-test	Sig.
Not aroused—aroused	5.54	5.62	-1.413	0.158
Sleepy—wide awake	5.59	5.63	-0.678	0.498
Calm—excited	4.29	4.88	-7.108	0
Sluggish—Frenzied Pleasure	4.74	5	-4.561	0

5. Discussion and Implications

5.1. Discussion

The results of this study show that VR technology can induce significant emotional changes in users during the virtual tourism experience. This study contributes to a growing body of research on the emotional impact of VR on tourism, especially enhancing feelings of excitement and pleasure and providing empirical evidence of how VR technology affects user emotions. While "Not aroused—aroused" and "Sleepy—wide awake" remained unchanged, levels of excitement

(calm–excited) and hedonic engagement (Sluggish—Frenzied Pleasure) increased significantly, highlighting VR's ability to increase specific emotional dimensions during virtual travel. These results add to the empirical foundation of research on the emotional effects of VR in tourism contexts. This study argue that VR does not affect all psychological states uniformly, but rather selectively targets emotions. Tourism expertise and practitioners can influence the emotional part of virtual reality to develop more magnificent and remarkable virtual travel experiences for tourists or potential users.

5.2. Academic and practical implications

The findings highlight VR's unique ability to evoke rich and diverse emotional responses, making it a transformative tool for enhancing virtual travel experiences. From an academic perspective, this study contributes to the growing discussion on the role of VR in tourism by demonstrating how immersive technologies can simulate emotional engagement similar to real-world travel, i.e. excitement and hedonic engagement. In fact, VR offers a solution to global disruptions such as physical barrier limitations, financial restrictions, or pandemics. For example, during the pandemic, VR has become an important alternative, enabling people to "travel" remotely while still stimulating a sense of discovery and connection

Tourism stakeholders can use this potential to design emotionally meaningful experiences, whether for marketing a destination, preserving cultural heritage, or providing viable alternatives for protected populations. By prioritizing emotionally rich content, such as interactive landscapes or culturally rich narratives, practitioners can create memorable virtual journeys that inspire travel desire and deepen engagement, even for those who are unable to make a physical trip.

5.3. Limitations of this study and suggestions for future research

This study establishes a foundation for further exploration of the emotional dimensions of VR in tourism. A key limitation of this research is its focus on the immediate stage, capturing only general reactions to VR experiences. Future studies could investigate the long-term emotional effects of VR tours on users' travel intentions and behaviours, as well as how individual differences, such as personality traits and prior travel experiences, influence emotional responses to VR.

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Riding in Virtual Reality: How Content Quality, Flow, and Presence Affect Usage Intention (Paper#100)

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Abstract:

This study investigates key determinants of behavioral intention to use virtual reality (VR) cycling. By integrating content quality, flow, and presence into the Unified Theory of Acceptance and Use of Technology (UTAUT), we examine how these factors shape performance and effort expectancies, ultimately influencing adoption intention.

Keywords: Virtual Reality, Cycling, UTAUT, Content Quality, Flow, Presence

1. Introduction

In recent years, immersive fitness solutions have gained momentum, driven by technologies that let users exercise in interactive virtual spaces. VR cycling, for instance, merges VR headsets and stationary bikes to simulate real-world routes, often doubling as virtual tourism experiences. Virtual reality has gradually emerged as an alternative or supplementary form of tourism, particularly suited for those who are unable to travel physically or wish to preview a destination in an immersive way. Through virtual reality, tourists can experience a destination virtually without the need to travel while enjoying an immersive and highly realistic sensory experience (Gibson & O'Rawe, 2018; Mura et al, 2017). The VR exercise bike solution market was valued at USD 1.2 billion in 2022 and is projected to reach USD 4.5 billion by 2030 (Verified Market Reports, 2025). However, adoption remains disparate. Academically, few studies have examined how immersive factors like flow and presence intersect with technology acceptance constructs. The VR cycling platform can offers value in destination marketing and alternative tourism experiences, fostering users' attachment to a destination and increasing the likelihood of future visits, thus expanding the tourism market. This study draws on the Unified Theory of Acceptance and Use of Technology (UTAUT), integrating experiential factors relevant to VR to provide a more holistic perspective. We aim to (1) determine how core UTAUT constructs affect VR cycling intention, (2) assess how content quality, flow, and presence shape performance and effort expectancies, and (3) identify which factors most strongly drive adoption.

2. Literature Review

2.1. Technology Acceptance Factors

The UTAUT model synthesizes previous acceptance theories, positing that performance expectancy, effort expectancy, social influence, and facilitating conditions are principal predictors of users' behavioral intentions toward new technology (Venkatesh et al., 2003). **Performance expectancy** is the user's belief that technology will improve their performance (Venkatesh et al., 2003). **Effort expectancy** is the degree of ease in using the system; simpler interfaces enhance adoption likelihood (Agarwal & Prasad, 1999; Venkatesh & Davis, 2000). **Social influence** reflects how important others' opinions affect the decision to use a technology, while **facilitating conditions** concern resource availability and technical support (Venkatesh et al., 2003).

H1: Performance expectancy positively influences behavioral intention.
H2: Effort expectancy positively influences behavioral intention.
H3: Social influence positively influences behavioral intention.
H4: Facilitating conditions positively influence behavioral intention.

2.2. Content Quality, Flow and Presence

Content quality refers to the perceived excellence, relevance, and timeliness of materials delivered by a system (Jung, et al., 2009). In VR cycling, content encompasses the environments, routes, and visual or auditory elements users encounter. When content quality is high, individuals are more likely to believe the VR application will meet their exercise goals (boosting performance expectancy) and that the experience justifies potential learning curves (enhancing effort expectancy). Almaiah et al. (2016) argue that well-developed features and content quality can serve as antecedents to beliefs about a system's overall value, thereby reinforcing adoption intentions.

H5: Content quality positively influences performance expectancy.
H6: Content quality positively influences effort expectancy.

Flow refers to a deeply engaging psychological state where individuals become fully absorbed in an activity, often losing track of time and external distractions (Csikszentmihalyi, 2014). Shin and Kim (2008) found that the synergy between flow and technology acceptance models better explained user behavior compared to traditional acceptance models alone. Experiencing flow can heighten perceived ease of use (effort expectancy) and perceived benefits (performance expectancy) because the activity is gratifying, manageable, and motivating.

H7: Flow positively influences performance expectancy.
H8: Flow positively influences effort expectancy.

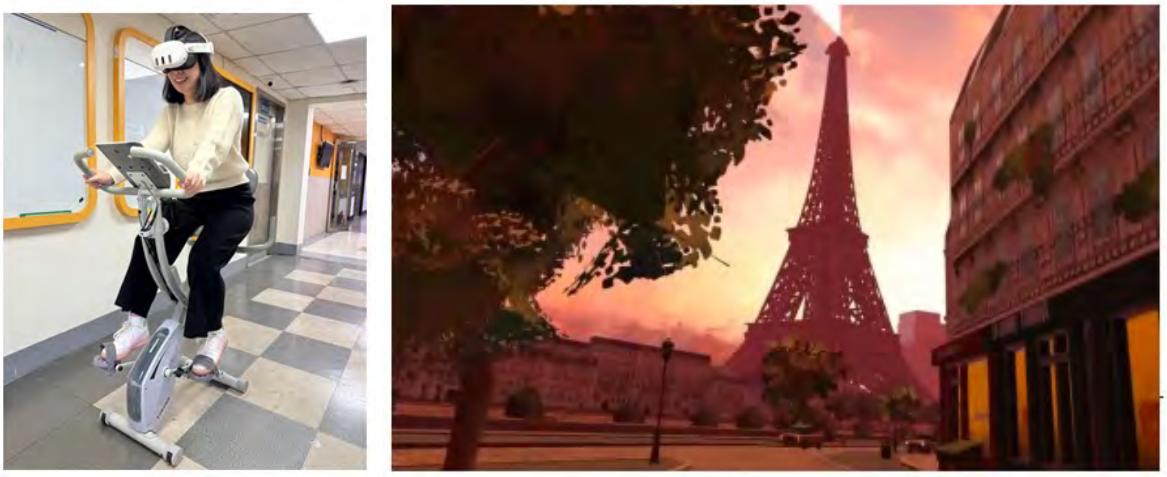
Presence is the sense of "being there" in a virtual environment (Sheridan, 1992). Presence can enhance performance expectancy by making the activity more convincing and potentially beneficial (Weibel et al., 2008). It also supports effort expectancy, as a sense of immersion often coincides with natural, intuitive interaction. If the VR environment feels realistic, riders may intuitively move, look around, and adapt to the surroundings in ways that mimic real cycling (Lee, 2004).

H9: Presence positively influences performance expectancy.
H10: Presence positively influences effort expectancy.

3. Methodology

We adopted a convenience sampling approach. Participants were invited to a lab setting equipped with the Meta Quest 3 headset and a stationary bike. After informed consent, each participant experienced a virtual cycling tour in a simulated Paris environment, featuring prominent streets and landmarks to stimulate realism (Figure 1). The VR session lasted about 10 minutes, during which participants pedaled and navigated the streets. Immediately after, they completed a self-administered questionnaire measuring the main constructs. All items were adapted from validated scales, using a 7-point Likert-type format. Flow is measured as a high-order construct through two sub-constructs: temporal dissociation and focused immersion.

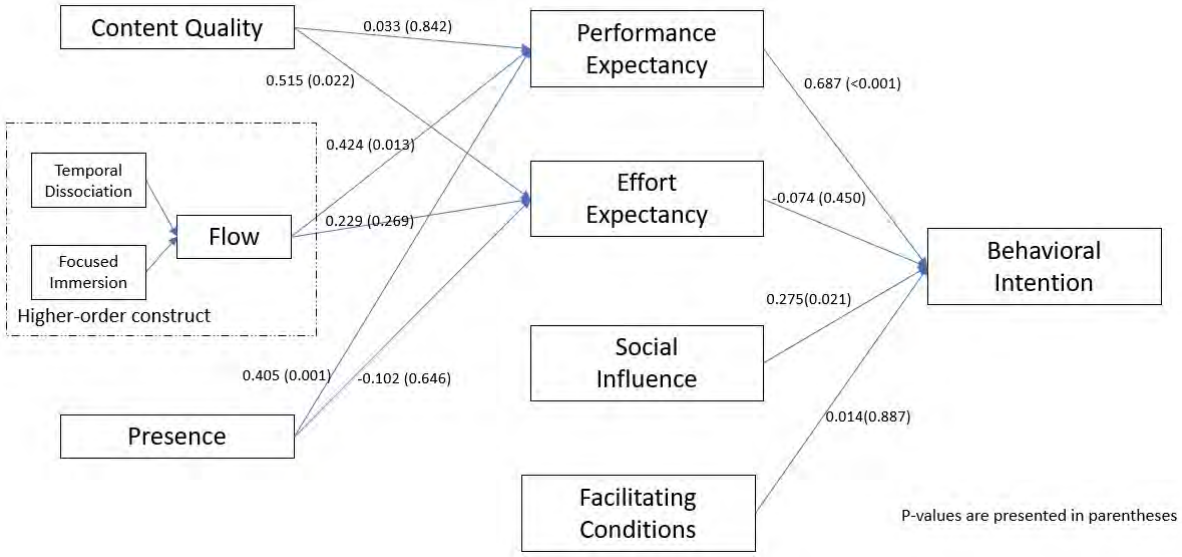
Figure 1. VR cycling hardware (left) and content (right)



4. Results

We recruited 51 participants for the experiment and used Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. Flow was modeled as a high-order reflective-formative construct, with temporal dissociation and focused immersion as reflective lower-order dimensions. Following a disjoint two-stage approach, we first derived latent variable scores for these lower-order constructs, then used those scores as indicators for Flow in Stage 2. Factor loadings, Cronbach's alpha, composite reliability, average variance extracted, and HTMT ratios met reliability and validity thresholds for reflective constructs. We also checked the significance of outer weights for Flow (formative) and performed a redundancy analysis to determine its validity. Finally, hypotheses were examined through the structural model using bootstrapping. The result is presented in Figure 2.

Figure 2. Bootstrapping Result



5. Discussion and Implications

Our results show that content quality significantly influences effort expectancy but fails to affect performance expectancy, contradicting prior research (Almaiah et al., 2016; Kunz & Santomier, 2020). This might be because high-quality visuals and well-structured routes help users navigate the system, making it feel simpler, even if they do not necessarily see that content as boosting tangible outcomes or performance. Both flow and presence enhance performance expectancy but not effort expectancy. A plausible explanation is that perceptions of immersion (flow and presence) can make the cycling activity feel more authentic or impactful, reinforcing perceptions that it will yield tangible benefits, but do not simplify the mechanics or reduce the cognitive or physical effort required to use VR cycling technology. Additionally, effort expectancy and facilitating conditions did not predict behavioral intention, which differed from traditional UTAUT findings (Venkatesh et al., 2003). This may be because the interface is simple enough; therefore, users perceive little need for extra support, diminishing the impact of ease-related factors on their adoption intentions.

This study explores the relationship between immersive factors and technology acceptance, an area that has been relatively underexplored in previous research. Practically, understanding the reasons behind users' adoption of VR cycling can help hospitality and tourism service providers design and promote immersive travel experiences more effectively. VR cycling can foster immersive travel experiences by letting users virtually explore destinations, potentially sparking curiosity or attachment. This heightened interest may translate into stronger motivation to visit actual locations. Identifying factors that drive VR cycling adoption can inform marketing strategies and content design, expanding audiences and enhancing engagement. Future research can directly measure outcomes such as "intention to visit," examining whether VR cycling effectively leads to greater tourism demand and actual visitation.

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Paying More for Sustainability: The Role of ESG in Hotel Choices (Paper#217)

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Abstract

This study examines how environmental, social and governance (ESG) factors influence customers' willingness to pay (WTP) a premium for hotel stays. Using quantitative analysis of 400 survey responses, the study finds that social factors awareness, positive sustainability attitudes, supportive social norms and strong perceived behavioural control significantly affect the WTP more. Practical insights guide hoteliers and policymakers in promoting ESG practices to create awareness among hotel customers. Theoretically, it advances the understanding of sustainable tourism through the Theory of Planned Behaviour. The study's originality lies in its holistic integration of ESG variables.

Keywords: ESG factors, subjective norms, attitudes, perceived behavioural control, willingness to pay

1. Introduction

The hospitality industry plays a vital role in global sustainability efforts, with hotels at its core. Environmental concerns have prompted a shift towards sustainability, and research has emphasized the positive impact of eco-friendly measures on customer perceptions (Balaji et al., 2019). Despite these findings, there is a need for a comprehensive understanding of how environmental practices, social responsibility, corporate governance, subjective norms, attitudes, and perceived behavioural control collectively influence customers' WTP more for hotel stays. The willingness of hotel guests to pay for hotel stays varies; some are willing to pay regular prices, while others hesitate to invest more (Han, 2010; Manaktola & Jauhari, 2007; Millar & Mayer, 2013; Ogbeide, 2013). Understanding these preferences is crucial for tailoring strategies that maximize guest satisfaction and financial performance. Moreover, this study explores the integration of ESG principles and its impact on customers' WTP a premium. ESG, viewed as a data-driven mechanism and risk management tool, has gained prominence across sectors (The Star, 2022). Sustainable development, initially environmental-centric, now encompasses environmental, social, and economic dimensions (Sachs, 2015), with governments and corporations worldwide embracing ESG principles as an imperative (UN PRI, 2018).

The challenge addressed in this study is the lack of a comprehensive investigation into the collective influence of ESG factors, subjective norms, attitudes, and perceived behavioural control on customers' WTP a premium for hotel stays. Existing research has often examined these aspects in isolation, leaving a gap in understanding the holistic impact of these variables on customer choices and willingness to invest (Yadav et al., 2019).

The purpose of this study is to provide insights into the impact of ESG factors, attitudes, subjective norms and perceived behavioural control on customers' WTP a premium for their hotel stays.

1.1 Research Objectives

The objectives of this research are as follows:

1. To examine how ESG factors affect customers' WTP
2. To investigate the impact of attitudes, subjective norms and perceived behavioural control on customers' WTP

1.2 Research Questions

The research questions aim to address the key aspects of the study by exploring the level of customers' WTP, ESG factors as well as the role of attitudes, subjective norms and perceived behavioural control. By investigating these questions, the study aims to provide insights into the factors that drive customers' WTP.

1. How do ESG factors affect customers' WTP?
2. What is the role of attitudes, subjective norms and perceived behavioural control on customers' WTP?

The findings will contribute to the understanding of consumer behaviours in the context of sustainable tourism and provide valuable insights for hoteliers and policymakers in promoting and implementing eco-friendly practices within the hospitality industry. This study holds significance for academia, hotel management, policymakers, and the sustainability sector. Academically, it contributes empirical evidence to the fields of sustainable tourism, consumer behaviour, and corporate social responsibility. Managerially, it offers practical insights for hotel managers to tailor strategies and attract environmentally conscious customers. It also highlights the importance of sustainability in the hospitality industry.

2. Literature Review

2.1 Overview of ESG in Hotel Industry

The hotel industry is increasingly focusing on sustainable business practices due to its substantial environmental impact. Studies highlight the positive effects of green human resource management and ESG initiatives on both environmental and financial performance within the industry. Stakeholders, especially hotel managers, are key in driving sustainability efforts. Aligning ESG-per-

formance criteria with the UN's Sustainable Development Goals (Sachs, 2015) is essential for attracting investments and promoting sustainable development. The industry is also encouraged to adopt practices that protect public health and reduce environmental footprints, such as environmentally friendly cleaning (Kandampully & Suhartanto, 2003). This approach not only benefits the environment but also supports the industry's financial outcomes and contributes to a responsible future. To accurately capture the features of the hotel industry, Bae (2022) developed an ESG evaluation index.

2.2 The Importance of ESG for the Hotel Industry

The hotel industry is a large and growing sector, with the global market estimated to be worth over $550 billion in 2020 (Hotel Industry Worldwide, 2022). With this growth comes increased responsibility for the industry to consider the impact of its operations on the environment and society. ESG considerations are becoming increasingly important for companies in the hotel industry as they seek to maintain their social license to operate, attract and retain customers, and create long-term value (Lokuwaduge & Heenetigala, 2017).

For hotels, ESG considerations can impact the bottom line through a range of areas, including energy and water usage, waste management, human rights, labour practices, and community engagement. For example, reducing energy and water usage can reduce operational costs, while improving waste management can enhance reputation and customer loyalty (Úbeda-García et al., 2021). Hotels that prioritize ESG considerations also benefit from increased investor interest, as ESG investing has become increasingly popular in recent years (McCalla-Leacy, 2022). ESG research in the hospitality industry typically involves assessing the sustainability and social responsibility practices of hotels and other lodging establishments (Wang et al., 2021). This includes factors such as energy efficiency, waste management, water conservation, human rights, labour practices, community engagement, and ethical business practices. Third-party certification organizations such as EarthCheck, Green Globe, and LEED provide independent assessments of a hotel's environmental and sustainability practices, which can be used as a benchmark for measuring and improving sustainability performance (Velaoras et al., 2025).

2.3 ESG Awareness in Malaysia

In Malaysia, tackling ESG awareness and knowledge is vital. Based on the popular English-language national newspaper, StarESG's (2022) survey, Malaysians are not only aware but also concerned about how business can bring positive influence on the environment and the people within the communities they operate in. 78% of the respondents claim that they are exposed to ESG considerations. The most common channel of getting information for the consumers are through print media, 23% of the respondents stating they heard of sustainability and ESG via newspaper (StarESG, 2022). As consumers become increasingly aware of the importance of sustainability and ESG considerations, businesses must adapt and strive to strike a balance between profit and positive impact. Consumers are the driving force behind this

change in business practices. According to the StarESG's survey (2022), a vast majority of respondents (83%) believe that companies should commit to ESG practices. Environmental concerns were the top priority, with 64% of respondents selecting it as the main focus for companies, followed by governance (24%) and social (12%). The survey found that respondents believe companies should focus on promoting the use of recyclable and eco-friendly materials (76%), reducing carbon emissions (66%), and mitigating resource waste (62%). Under the governance pillar, respondents highlighted the importance of anti-bribery and corruption policies (87%), fair trade policies (60%), and promoting social diversity and human rights (58%). The survey results indicate a new wave of Malaysians determined to make a difference and create a better world. The call for ESG and sustainability practices is growing louder, and it is up to all Malaysians to come together to do good.

2.4 ESG in the Malaysia Hotel Industry

In Malaysia, the Malaysian Association of Hotels (MAH) has implemented several initiatives to promote sustainable tourism practices, including a Green Hotel Recognition Program that recognizes hotels that demonstrate environmental responsibility and sustainability in their operations (Yusoff, 2019). This program evaluates hotels on their energy efficiency, water conservation, waste management, and other sustainable practices. Hotels that prioritize ESG practices may see benefits such as cost savings, increased customer loyalty, and a positive reputation (Alsheyab et al., 2023). For example, hotels that invest in energy-efficient lighting and appliances can reduce their energy consumption and save on utility costs (Noranai et al., 2022). In addition, consumers are increasingly choosing hotels that prioritize sustainability and social responsibility practices, which can lead to increased customer loyalty and positive word-of-mouth advertising (Alsheyab et al., 2023).

2.5 ESG factors towards willingness to pay (WTP)

ESG practices, such as energy-efficient measures, water conservation, and sustainable waste management, are crucial for reducing environmental impact and operational costs, enhancing the hotel's reputation and customer loyalty (Úbeda-García et al., 2021). Beyond environmental sustainability, ESG in hospitality also includes social responsibility, like ensuring human rights and fair labour practices, and engagement with local communities. These practices attract socially conscious guests and positively impact the hotel's reputation (Wang et al., 2021). The increasing importance of ESG factors in the hotel industry is closely linked to a growing consumer preference for sustainable and ethically managed accommodations. Customers today are more environmentally conscious and socially aware, leading them to favour hotels that demonstrate commitment to reducing their environmental impact, uphold fair labour practices, and engage in ethical governance (Wang et al., 2021). This shift in consumer values is reflected in their WTP a premium for hotels that align with their principles of sustainability and social responsibility. Hotels that integrate strong ESG practices not only differentiate themselves in a competitive market but also build stronger brand loyalty and trust with their customers. Drawing on the findings from these research studies, this paper proposes the following hypotheses:

H1. The Environmental factor in ESG significantly influences the WTP
H2. The Social factor in ESG significantly influences the WTP
H3. The Governance factor in ESG significantly influences the WTP

2.6 Attitude, Subjective norm and Perceived behavioural control

Essentially, attitude represents an individual's consistently positive or negative evaluations, emotions, and inclinations toward a specific behaviour or ideas (Aman et al., 2012). It can be understood as the psychological sentiment and the positive or negative appraisal that individuals associate with certain behaviours (Chen & Tung, 2014). When individuals have a more positive attitude towards a behaviour, it tends to strengthen their intention to perform that behaviour (Ajzen & Fishbein, 1980; Chen & Tung, 2014). Numerous studies have emphasized that the relationship between green attitude and intention/behaviour is particularly robust when individuals hold positive attitudes toward specific environmentally friendly actions, rather than general environmental issues (Vazifehdoust et al., 2013). For instance, Sinnappan et al. (2023) investigated factors influencing green purchase behaviour in Malaysia and found that attitude was the most significant predictor of green purchasing among all variables. Based on the insights derived from these studies, this paper formulates the following hypothesis:

H4. Attitude significantly influences the WTP

Subjective norm

The subjective norm, the second determinant variable in the Theory of Planned Behaviour (TPB), signifies the social pressure individuals feel when deciding whether to engage in a specific behaviour (Ajzen, 1991). This influence often stems from significant people in an individual's life, such as close friends, relatives, co-workers, or business partners (Paul et al., 2016). Essentially, the subjective norm represents how an individual perceives the opinions and expectations of these important others regarding a particular behaviour (Ajzen & Fishbein, 1980). Similarly, Chen and Tung (2014) demonstrated that the subjective norm positively impacted consumers' intentions to visit green hotels. Building on the knowledge gained from these studies, this paper presents the following hypothesis:

H5. Subjective Norm significantly influences the WTP

Perceived behavioural control

Numerous studies have applied the Theory of Planned Behaviour (TPB) to understand consumer intentions regarding green practices in the hotel industry, highlighting the role of attitudes, subjective norms and perceived behavioural control in shaping these intentions (Han et al., 2010; Verma & Chandra, 2018). According to Ajzen (1991), attitudes refer to consumers' general positive orientation towards a behaviour, while subjective norms involve the perceived social pressure from close contacts like friends and family in decision-making. Additionally, the TPB theory suggests that perceived behavioural control is influenced by a person's expectation that they can perform the behaviour. In this context, the research incorporates the WTP a premium as situational determinants alongside the attitudinal factors of the TPB (Yadav et al., 2019).

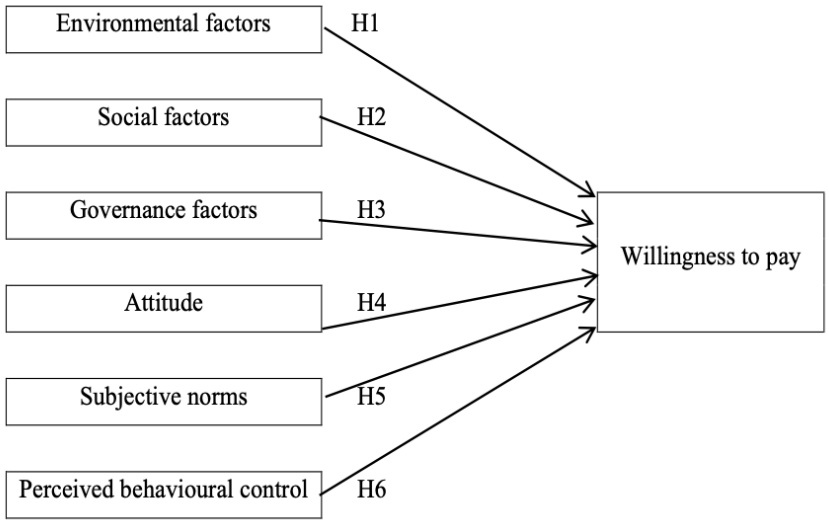
WTP a premium refers to how much more consumers are prepared to spend for hotel stays (Chaudhary, 2018). Leveraging on the insights derived from these studies, this paper proposes the following hypothesis:

H6. Perceived behavioural control significantly influences the WTP

2.7 Willingness to pay (WTP) a premium for hotel stays

When choosing hotels, environmental factors are often overshadowed by price, facilities, and overall enjoyment considerations (Kasim, 2004; Manaktola & Jauhari, 2007; Yeh et al., 2003). Studies have explored the connection between price and the selection of green hotels, with some examining whether guests are willing to pay more for eco-friendly accommodations (Han & Kim, 2010; Han et al., 2009, 2011; Lee et al., 2010; Manaktola & Jauhari, 2007). However, the empirical findings on this topic are inconsistent, and the WTP a premium may be influenced by consumers' environmental concerns (Kang et al., 2012). Consumers' WTP a premium for hotel stays is tied to their perception of added value associated with sustainable practices. This positive relationship between a hotel's environmental image, guests' green behaviours, intentions to stay, positive word-of-mouth, and WTP a premium underscore the importance of incorporating sustainable practices as a strategic advantage in the hospitality industry (Lee et al., 2010). According to the literature above and proposed hypothesis, the following framework as depicted in Figure 1 was adapted from Chen and Tung (2014), Dwivedi et al. (2022) and TPB (Ajzen & Fishbein, 1980)

Figure 1. Proposed conceptual framework



3. Methodology

The research design used in this study is characterized as a cross-sectional survey design. Cross-sectional studies collect data at a single point in time, providing a snapshot of the variables of interest. A quantitative research methodology was applied to explore ESG factors, attitude, subjective norms and perceived behavioural control among hotel customers on the WTP.

3.1 Measurement

Data collection involved the administration of a questionnaire survey using the Likert scale. Section A of the survey aimed to collect demographic information, while Section B focused on assessing awareness of ESG factors, attitude, subjective norm and perceived behavioural control while Section C measured hotel customers WTP. Section B and C consist of statements using a 5-point Likert scale in which 1 represented "Strongly Disagree" and 5 represented "Strongly Agree". The standard instruments included in this study are constructs adopted in previous research work in various organizational settings. The researchers had the four-item scale with items acquired from Kilbourne and Pickett (2008) to measure environmental concern. Measurement items for social factors (2 items), governance factors (2 items) and perceived behavioural control (3 items) were adapted from Dwivedi et al. (2022) and Bae (2022). The three-item scale was adapted for the subjective norms and five-item scale for attitude with items acquired from Chen and Tung (2014) and Han et al. (2010) to gather responses for these constructs. Lastly, a three-item scale from Rahman and Reynolds (2016) was used to measure WTP a premium.

3.2 Data collection

Convenience sampling was used to target respondents who had previously stayed in hotels in the Klang Valley, Malaysia. A self-administered questionnaire was distributed to them via online channels. Sample size estimation was conducted using a sample size calculator with a recommended minimum sample size of 370 for this study. However, the researchers managed to collect 400 responses. Descriptive analysis was executed via SPSS v26 and further structural equation modelling was examined using SmartPLS v4 software to analyse measurement and structural models.

4. Results

4.1 Profile of respondents

Table 1 presents the socio-demographic characteristics of the study's participants. The sample consisted of a slight majority of female respondents, accounting for 64.3% of the total. The largest age group among the respondents was those aged 30-39, comprising 38.5% of the sample. In terms of educational attainment, 46.8% of the participants held a bachelor's degree. Overall, 60% of respondents indicated that they had between one and more than 15 years of experience staying in hotels.

Table 1. Demographic characteristics (n=400)

Characteristics	Total	Percentage %
Gender		
Male	257	64.3
Female	143	35.8
Age		
20 and below	3	0.8
20-29	124	31.0
30-39	154	38.5
40-49	76	19.0
50 and above	43	10.8
Education		
High School or below	12	3
Diploma	109	27.2
Bachelor's degree	187	46.8
Master's degree	52	13
Ph.D	40	10
I have been staying in hotels for .... year(s)		
Less than 1 year	158	39.5
1-5 years	99	24.8
6-10 years	51	12.8
11-15 years	37	9.3
More than 15 years	55	13.7

4.2 Results of the measurement model

The first step of the PLS-SEM assessment is the assessment of constructs by analysing results of convergent validity through outer loadings, average variance extracted (AVE), composite reliability (CR) and Cronbach's alpha (CA). The outer loading values for all constructs are above 0.7 and AVE values above 0.50, as Hair et al. (2019) suggested, and met the internal consistencies. The CA for all variables were between 0.76 to 0.89. Next, this model also examined the discriminant validity using Heterotrait-Monotrait (HTMT) ratio. Hair et al. (2019) justified that the value should be lower than 0.85.

4.3 Results of the structural model

The structural model analysis was executed to test the hypothesised relationship between constructs. The outcomes of the path coefficient after the bootstrapping are presented in Table 2.

Table 2. Results of hypotheses testing

Hypotheses	Path Coefficient	Std Deviation	t-value	p-value	Decision
H1. The Environmental factor in ESG significantly influences the WTP	0.112	0.061	1.837	0.066	Rejected
H2. The Social factor in ESG significantly influences the WTP	0.118	0.057	2.051	0.040	Accepted
H3. The Governance factor in ESG significantly influences the WTP	-0.073	0.062	1.179	0.238	Rejected
H4. Attitude significantly influences the WTP	0.181	0.054	3.328	0.001	Accepted
H5. Subjective Norm significantly influences the WTP	0.117	0.055	2.145	0.032	Accepted
H6. Perceived behavioural control significantly influences the WTP	0.292	0.083	3.538	0.000	Accepted

The structural model analysis was executed to test the hypothesised relationship between constructs. The outcomes of the path coefficient after the bootstrapping are presented in Table 2. The path analysis results provide valuable insights into the relationships between ESG factors, attitude, subjective norms, perceived behavioural control and WTP. The first hypothesis (H1) proposed that the environmental factors significantly influence WTP. The path coefficient for this relationship was calculated to be 0.112, with a standard deviation of 0.061. The t-value for this path was 1.837, and the associated p-value was 0.066. Given that the p-value is greater than the conventional significance level of 0.05, the result indicates that there is no statistically significant direct effect of environmental factors on WTP. Thus, H1 is rejected. This finding suggests that environmental factors alone does not directly influence the WTP for hotel stay within the scope of this study. The second hypothesis (H2) posited that social factors have a significant impact on WTP. The analysis yielded a path coefficient of 0.118, with a standard deviation of 0.057. The t-value for this relationship was 2.051, and the p-value was 0.040. The less than 0.05 p-value indicates a significant effect. Therefore, H2 is accepted, demonstrating that social factors play a role in influencing WTP. This result underscores the importance for the hotels to share their social contribution and community engagement activities. The third hypothesis (H3) proposed that the governance factors significantly influence WTP. The path coefficient for this relationship was calculated to be -0.073, with a standard deviation of 0.062. The t-value for this path was 1.179, and the associated p-value was 0.238. Given that the p-value is greater than the conventional significance level of 0.05, the result indicates that there is no statistically significant direct effect of governance factors on WTP. Thus, H3 is rejected. This finding suggests that governance factors alone does not directly influence the WTP for hotel stay.

The fourth hypothesis (H4) posited that attitude has a significant impact on WTP. The analysis yielded a path coefficient of 0.181, with a standard deviation of 0.054. The t-value for this relationship was 3.328, and the p-value was 0.001. The exceptionally low p-value indicates a highly significant effect. Therefore, H4 is accepted, demonstrating that attitude plays a substantial role in influencing WTP. This result underscores the importance of having a positive attitude towards ESG factors and the WTP for hotel stays in the context of this research. The fifth hypothesis (H5) posited that subjective norms has a significant impact on WTP. The analysis yielded a path coefficient of 0.117, with a standard deviation of 0.055. The t-value for this relationship was 2.145, and the p-value was 0.032. The p-value indicates a significant effect. Therefore, H5 is accepted, demonstrating that subjective norms play a substantial role in influencing WTP. This result underscores the importance of social norms and expectations having an influence towards ESG factors and the WTP. The sixth hypothesis (H6) posited that perceived behavioural control has a significant impact on WTP. The analysis yielded a path coefficient of 0.292, with a standard deviation of 0.057. The t-value for this relationship was 3.538, and the p-value was 0.000. The exceptionally low p-value indicates a highly significant effect. Therefore, H6 is accepted, indicating that perceived behavioural control plays a substantial role in influencing WTP. This result highlights the importance of having a strong personal intention to engage in choosing hotels that practice ESG and having the WTP more for hotel stays in the context of this research.

5. Discussion and Implications

The findings of this study provide valuable insights into the factors influencing consumers' WTP a premium for environmentally friendly initiatives in the context of the hotel industry. Several significant findings emerged from the analysis. Firstly, the analysis revealed that social factors, attitude, subjective norms and perceived behavioural control are strong predictors of WTP for hotel stays. These findings align with previous research, highlighting the importance of consumers' intentions, trust in particular social factors, and overall attitudes, subjective norms and perceived behavioural control towards environmentally friendly initiatives as key drivers of WTP.

5.1 Discussion

However, it is interesting to note that environmental and governance factors exhibited an insignificant influence on WTP. This could be explained by the possibility that environmental concerns may not be a top priority for respondents when choosing or paying more for hotel stays possibly due to customer segments where price or convenience dominate decisions. Another factor to consider is the impact of green washing on hotel customer perceptions (Chen & Cheng, 2013; Wang, 2024). It is also possible that hotels in these areas may be less likely to adopt environmentally sustainable practices because they lack certain resources or information (Le et al., 2006). As for governance factors, respondents may feel detached from these decisions e.g. make up of Board of Directors members, data privacy actions, which are usually made by senior-level hotel management.

5.2. Academic and practical implications

The academic implications of this research is the proposed framework that combined ESG factors with the theory of planned behaviours to predict and understand behaviour e.g. WTP. Also, the findings have several important managerial implications for hotel businesses. Firstly, understanding the significance of social factors, attitude, subjective norms and perceived behavioural control as drivers of consumers' WTP for green initiatives is crucial. Hotel managers should focus on fostering trust in their green practices, shaping positive attitudes among guests, and aligning their services with consumers' intentions to support environmentally friendly initiatives. Hotels can tailor their communication and marketing efforts to resonate with specific demographic groups. For example, targeting younger and female consumers with messaging that emphasizes trust in green practices can be effective. Furthermore, hotel management could highlight the positive impacts of their ESG practices to create awareness among hotel customers of the positive impact on the wider community.

5.3. Limitations of this study and suggestions for future research

Despite the valuable insights provided by this study, several limitations need to be acknowledged. Firstly, the study's data is based on survey responses, which may be subject to self-reporting bias. Respondents might provide answers that align with societal expectations rather than their true attitudes and behaviours. Secondly, the study focused on a specific context, the hotel industry. Different industries may have unique drivers of WTP for green initiatives, and future research should explore these variations. Additionally, the study examined only a subset of ESG factors. A more comprehensive analysis that includes a broader range of ESG elements could provide a more holistic understanding of their impact on WTP.

Future research in this area can build upon the findings of this study in several ways. Firstly, the proposed framework could be enhanced by including variables such as green trust, impact of climate change, or supply chain management. Secondly, cross-cultural studies can explore how cultural factors influence consumers' WTP for green practices, as attitudes and behaviours may vary across different cultural contexts. Lastly, investigating the role of emerging technologies, such as blockchain and artificial intelligence, in enhancing consumers' trust in green practices and influencing WTP could be a promising avenue for future research.

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Theme: Transformation in Education

Entrepreneurship Education in Tourism: Fostering Thinking Skills, Creativity, and Entrepreneurial Intentions (Paper #010)

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Abstract

In the post-pandemic era, entrepreneurship has surged, with emerging technologies transforming opportunities. This study examines how business simulation teaching enhances thinking skills, creativity, and entrepreneurial intentions in tourism entrepreneurship education. Using an 18-week quasi-experimental design with 120 learners, findings show that simulation-based teaching significantly improves these competencies compared to traditional methods. The study underscores the effectiveness of business simulations in fostering entrepreneurial readiness and innovation in tourism education.

Keywords: Creativity; Entrepreneurial Intention; Business Simulation; Tourism Education; Quasi-Experimental Design

1. Introduction

Entrepreneurship has emerged as a key driver of economic recovery and growth in the post-pandemic world. Entrepreneurs now have unprecedented opportunities to access funding, resources, and innovative technologies such as e-commerce. As businesses and trade across various countries gradually rebound, the demand for skilled business professionals is expected to rise significantly in the coming years. Training these future business leaders presents a multifaceted challenge, as they will need to navigate a rapidly evolving global landscape. This includes addressing complex issues such as international trade, shifting geopolitical dynamics, industry trends, and other global challenges (Simanjuntak et al., 2021; Mehmood et al., 2021; Rauch & Hulsink, 2023).

In an increasingly competitive business environment, entrepreneurship courses play a crucial role in shaping the economic, political, and social landscapes of a country or region (Hudnut et al., 2010; Montiel & Clark, 2018). Within the field of business and management, business simulation games (BSGs) have become a widely utilized tool for management training (Siddiqui

et al., 2008). Business simulation teaching involves the use of simulated environments and scenarios that mimic the operations and decision-making processes of real enterprises. These simulations serve as valuable tools for training, education, and analysis, allowing participants to hone their skills in a risk-free setting (Faria & Wellington, 2004). By replicating work scenarios, BSGs enhance student engagement and interactivity, foster better communication in the classroom, increase student motivation, and ultimately improve learning outcomes (Kent et al., 2016; Romero-Martín et al., 2017; Pando-Garcia et al., 2016). The design of these virtual scenarios allows learners to apply their knowledge without the fear of real-world repercussions, enabling them to better understand and address their own weaknesses (Zantow et al., 2005). Additionally, business simulations provide an excellent platform for learners to experiment with innovative strategies and develop their entrepreneurial skills in a simulated environment (Anderson & Lawton, 2009).

With the ongoing expansion of the tourism industry, tourism entrepreneurship has increasingly become a focal point of interest (Bhaskara et al., 2023). Previous studies have highlighted the critical role of business simulation teaching in the tourism sector, as it aids aspiring tourism entrepreneurs in exploring emerging market trends, formulating innovative business strategies, and enhancing their creativity and entrepreneurial intentions within a simulated environment. Astutik and Prahani (2018) found that simulation-based teaching encourages team members to collaboratively explore ideas, engage in collective problem-solving, and identify optimal solutions. During these simulated scenarios, learners and group members generate original ideas and share their solutions, which not only allows them to appreciate alternative approaches but also significantly enhances their creative thinking abilities (Simanjuntak et al., 2021). Badghish et al. (2024) proposed that design-based situational simulation teaching is a vital tool for entrepreneurship education and an effective method for nurturing students' entrepreneurial potential. Similarly, Aliedan et al. (2022) emphasized that practical courses and situational simulation teaching related to entrepreneurship offer learners direct experience, thereby fostering the development of entrepreneurial intentions through simulated exercises.

Therefore, to determine whether business simulation teaching can enhance students' creativity and entrepreneurial intentions, this study employs a quasi-experimental design. The research method consists of two key components: first, a quantitative analysis to assess whether significant differences exist in creativity and entrepreneurial intentions between the experimental group and the control group following different teaching methods; second, semi-structured interviews to gain insights into learners' perceptions of the characteristics of business simulation teaching. Through this approach, the study seeks to explore the effectiveness of business simulation teaching in enhancing students' creativity and entrepreneurial intentions. Accordingly, the study addresses the following two research questions:

1. Does business simulation teaching effectively enhance learners' entrepreneurial intentions?
2. Does business simulation teaching effectively enhance learners' creativity?

2. Literature Review

2.1 Entrepreneurial business simulation

Business simulation teaching encompasses a range of programs and activities designed to foster and develop entrepreneurial skills and spirit among young individuals. These programs are typically initiated by governments, educational institutions, non-profit organiz ations, or businesses, with the goal of assisting young people in launching and growing their entrepreneurial ventures through training, financial support, mentorship, and resource provision (Hoffmann et al., 2015). Previous research indicates that business simulation games (BSGs) enhance essential skills in the business domain, such as decision-making, teamwork, communication, problem-solving, and information analysis (Borrajo et al., 2010; Pasin & Giroux, 2011; Loon et al., 2015). However, despite the recognized benefits of BSGs, there is ongoing debate in the literature regarding their effectiveness in improving learning outcomes (Tao et al., 2015).

In the context of tourism and tourism entrepreneurship, BSGs offer a crucial platform for aspiring entrepreneurs to explore market trends, design tourism products, and develop decision-making skills in a simulated environment. As the tourism industry continues to expand, the potential of business simulation teaching to cultivate entrepreneurship and relevant skills within this field has gained increasing recognition. University educators are progressively incorporating simulation games to provide students with immersive entrepreneurial experiences (Pando-Garcia et al., 2016; Pittaway & Cope, 2007; Usart & Romero, 2014). These games simulate various entrepreneurial business activities, thereby facilitating knowledge acquisition and enhancing students' capabilities (Leemkuil & De Jong, 2012; Moizer et al., 2006; Newbery et al., 2016). This approach is particularly valuable for students enrolled in higher education business and management courses, as many of these students consider pursuing entrepreneurial endeavors either during their studies or upon graduation.

Business simulation teaching offers young people not only valuable entrepreneurial experience but also the opportunity to enhance their business skills and entrepreneurial qualities through practical exercises. It immerses learners in simulated work environments, allowing them to acquire knowledge, skills, and hands-on experience, thereby simulating real-world situations (Sookpatdhe & Soranastaporn, 2016). Experiential Learning Theory (ELT) emphasizes learning through a cycle of four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984) (Figure1). This theoretical framework supports the exploration of how business simulation teaching can enhance students' creativity and entrepreneurial intentions.

Research has shown that entrepreneurial simulations help students apply theoretical knowledge in practice, which boosts their self-confidence, problem-solving abilities, and ultimately, their entrepreneurial intentions (Pittaway & Cope, 2007). Additionally, Neck et al. (2014) highlighted that simulation teaching in entrepreneurship education allows students to reflect and experiment within simulated scenarios, fostering more creative solutions and enhancing their innovation capabilities. In the context of the tourism industry and tourism entrepreneurship, business

simulation teaching is particularly crucial. It provides a safe and low-risk environment where aspiring tourism entrepreneurs can repeatedly test and refine different business strategies, experiencing the complexities of business operations and the various challenges of real-world entrepreneurship. This simulated experience not only deepens students' understanding of the tourism industry but also significantly enhances their entrepreneurial intentions and creativity.

2.2 Creativity

Creativity is defined as an individual's ability to generate novel and practical ideas or concepts based on existing products, processes, and services within a specific organization (Wang et al., 2022). Liu (2023) further suggests that creativity can be understood from different perspectives, involving personality traits, cognitive processes, environmental variables, and the creation of novel and useful products defined within a social context. Xu (2024) argues that creativity is a key competence in contemporary society and is essential for the personal growth and future career development of university students. Researchers have expanded the concept of student creativity to include the ability to think creatively in solving complex problems and preparing for future challenges (Richardson & Mishra, 2018). In this context, student creativity emphasizes innovative problem-solving skills over traditional academic performance in various subjects. Creative students are distinguished by their ability to view problems from multiple perspectives, devise unconventional solutions, and demonstrate perseverance and independent thinking (Gomez, 2007). Creativity holds particular significance in the tourism industry and tourism entrepreneurship (Mittal & Dhar, 2016; Hou et al., 2024). It enables tourism entrepreneurs to design innovative products and services, allowing them to differentiate themselves in a highly competitive market. Cultivating creativity in students, especially within the realm of tourism entrepreneurship, enhances their capacity to plan and execute tourism projects effectively, thereby better preparing them to tackle industry challenges and succeed in the global tourism market.

Sookpatdhe and Soranastaporn (2016) conducted a study involving 90 learners, revealing that simulation teaching provides a simulated work environment that helps learners acquire knowledge, skills, and experience, while also motivating them to engage more deeply in their studies, thereby enhancing creativity. During situational simulations, learners and their team members generate original ideas in response to given problems and share their solutions with others, allowing them to explore alternative approaches presented by peers. This process significantly enhances learners' creative thinking abilities (Simanjuntak et al., 2021). These findings indicate that business simulation teaching holds substantial potential for fostering creativity among learners, suggesting that educators can effectively incorporate this method into their teaching practices. The results underscore the potential of business simulation teaching in entrepreneurship education to enhance learners' creativity, and recommend its strategic application by teachers.

2.3 Entrepreneurship intension

Beck and Ajzen (1991) proposed that entrepreneurial intention can be seen as a plan for starting a new business, serving as a predictor of future individual behavior and organizational outcomes. Entrepreneurial intention refers to "an individual's self-acknowledged belief that they intend to establish a new business venture and consciously plan to do so at some point in the future" (Elnadi & Gheith, 2023). During the preparatory phase of entrepreneurship, the intentions and beliefs entrepreneurs hold regarding the creation of a company or organization are crucial (Souitaris et al., 2007). When an individual develops the desire and attitude toward owning a business or starting a new venture, this marks the formation of entrepreneurial intention—a key element in understanding the entrepreneurial process (Krueger & Carsrud, 1993). Koh (1996) further noted that individuals with strong entrepreneurial tendencies often exhibit higher achievement motivation and self-confidence. Entrepreneurial activities are, in essence, a series of planned ideas and actions, with the entrepreneur's mindset and intention forming the foundation for launching a new business and representing the starting point of the entrepreneurial journey (Krueger et al., 2000). In the context of tourism and tourism entrepreneurship, entrepreneurial intention plays a particularly vital role. The entrepreneurial intentions of tourism entrepreneurs not only influence their success rates within the industry but also drive the innovation of tourism products and services to meet market demands. Thus, understanding the entrepreneurial intentions of tourism entrepreneurs is essential for supporting and advancing the tourism industry and ensuring the successful implementation of tourism projects.

Existing studies have demonstrated that simulation teaching methods are effective in enhancing learners' entrepreneurial intentions. For instance, Lu et al. (2021) found that university-based entrepreneurship training, through simulation exercises, enables college students to gain direct entrepreneurial experience. This hands-on approach increases opportunities for entrepreneurial practice, fostering the belief that they possess the necessary skills to engage in entrepreneurial activities. Similarly, Kadir et al. (2012) and Debarliev et al. (2022) emphasized that if the goal of education is to develop future entrepreneurs, the most effective approach is to facilitate entrepreneurial experiences in a controlled environment. Business simulations allow students to actively engage in practical learning, formulate business plans, and simulate operations, thereby helping them accumulate entrepreneurial experience and build confidence (Smolka et al., 2024). In conclusion, business scenario simulation teaching plays a critical role in enhancing learners' entrepreneurial intentions and serves as an indispensable educational tool for nurturing future entrepreneurs.

3. Methodology

3.1 Participants

The participants will focus on the tourism industry, a sector rich with potential and diverse business models, ranging from tourism planning and travel agency operations to online travel service platforms. Students will engage in learning how to analyze market trends, develop effective marketing strategies, and design appealing tourism products. Furthermore, the program

will guide students in honing essential skills in key areas such as financial management, brand development, and customer service. By engaging in interactions with successful entrepreneurs, conducting case analyses, and participating in simulated business activities, students will gain a clearer understanding of the feasibility and potential returns of entrepreneurial ventures, thereby enhancing their entrepreneurial intentions.

This study selected students enrolled in the innovation management course as participants. These students have a strong interest in Asian culture and are eager to explore entrepreneurship in the bed-and-breakfast and service industries. Before completing the survey, the entrepreneurship program instructor explained that the survey was for research purposes. Participants were informed that their personal information would be kept confidential and that they could withdraw from the study at any time without any personal consequences, fully respecting the participants' wishes. After agreeing to participate, respondents completed and submitted the survey on-site, and all participants signed informed consent forms. The study sample included all students who participated in the business simulation teaching. A total of 60 students in the experimental group and 60 students in the control group completed pre-tests and post-tests utilising the Creativity Scale and Entrepreneurial Intention Scale. In the qualitative phase, semi-structured interviews were conducted with students in the experimental group. Table 1 provides demographic information for students in both the experimental and control groups.

Table 1. Demographic data of students in the experimental and control groups.

Variable	Group	Options	n	%
Gender	Experimental Group	male	18	30
		female	42	70
	Control group	male	17	28.3
		female	43	71.7
Have you taken any innovation and entrepreneurship courses?	Experimental Group	yes	60	100
		no	0	0
	Control group	yes	60	100
		no	0	0
Does the family have any entrepreneurial experience?	Experimental Group	yes	24	40
		no	36	60
	Control group	yes	23	38.3
		no	37	61.7
Does your friend have any entrepreneurial experience?	Experimental Group	yes	23	38.3
		no	37	61.7
	Control group	yes	21	35
		no	39	65

3.2 Data collection tools

In the quantitative phase, to assess students' levels of creativity and entrepreneurial intention, the following measurement tools were employed.

First, this study utilized the creativity scale developed by Zhou and George (2001) to measure the creativity levels of college students. The scale comprises 13 items and employs a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). Higher scores indicate higher levels of student creativity. In this study, the Cronbach's α for the overall scale was .972, indicating high reliability.

Second, entrepreneurial Intention Scale: To evaluate college students' entrepreneurial intentions, the entrepreneurial intention scale by Liñán and Chen (2009) was used. This scale consists of 6 items, also measured on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). Higher scores reflect stronger entrepreneurial intentions. In this study, the overall scale demonstrated a Cronbach's α of .976, signifying excellent reliability.

In addition, this study employed the Entrepreneurship and Small Business (ESB) Certification, an international certification for entrepreneurial core competencies that is part of Pearson VUE's Business Fundamentals Certification Program. The ESB certification aims to test participants' key knowledge and skills in entrepreneurship and small business operations. It is designed for individuals looking to start a small business or engage in entrepreneurial activities, helping them acquire the core skills and theories needed for entrepreneurship.

The ESB certification exam lasts for 50 minutes and includes multiple-choice, multiple-response, situational, and matching questions. The exam content not only assesses students' entrepreneurial knowledge and practical skills but also enhances their creativity and entrepreneurial thinking. Specifically, the ESB certification tests the following areas:

First at all, Entrepreneurial Opportunity Identification and Market Evaluation: This requires students to use creative thinking to identify gaps in market demand and discover entrepreneurial opportunities, developing competitive business ideas. This process stimulates students to think innovatively and propose solutions, thereby enhancing their creativity. Second, Business Growth and Expansion Strategies: This evaluates students' ability to think about innovative methods for business expansion, including exploring new markets, developing new products, and seeking innovative funding sources, further stimulating their problem-solving creativity.

By utilizing the ESB certification, this study was able to comprehensively assess students' entrepreneurial capabilities and creativity, providing reliable quantitative evidence of the effectiveness of entrepreneurship education.

3.3 Experimental intervention process and data collection

The researchers developed a lecture series for an entrepreneurship course, which was designed to introduce students to entrepreneurial concepts and skills through a business simulation teaching approach. The course aimed to equip students with foundational entrepreneurial skills and communication strategies, complemented by field visits to local entrepreneurial incubators and successful companies, culminating in the development and presentation of business plans.

The course was structured to integrate theoretical knowledge with practical experiences, combining classroom instruction, field visits, and entrepreneurial skills training to foster the development of well-rounded entrepreneurs equipped with both professional knowledge and strong entrepreneurial capabilities. The course was divided into 12 units, covering a range of topics: Entrepreneurship Overview, Market Research and Analysis, Business Model Innovation, Entrepreneurship Financing and Fund Management, Enterprise Operations and Management, Marketing and Brand Building, Enterprise Laws and Regulations and Compliance, and Business Plan Writing and Field Visits.

The researchers structured the weekly coursework for the experimental group into three distinct stages: textbook reading, presentations, and discussions. Each stage was designed with input from experts to ensure the content's quality and relevance, and this information was then communicated to the students. A pilot test was conducted on July 15, 2024, during which the course was delivered to the control group using a direct teaching method. In this method, the instructor presented the course material through briefings based on the textbook. In contrast, the experimental group was taught using an experiential teaching method. Both groups were asked to observe and compare the differences between the two instructional approaches (Figure 2). During the courses conducted with both the experimental and control groups, photographs were taken with the participants' permission to document the observational aspects of the study (Figure 3). At the conclusion of the study, participants from both groups were assessed using the Entrepreneurial Imagery and Creativity Scale. The control group completed their assessment on August 5, 2024, while the experimental group completed theirs on August 11, 2024.

4. Results

4.1 Descriptive statistics

This study employs descriptive statistics to present the original mean, standard deviation, as well as the adjusted mean and standard deviation for creativity and entrepreneurial intention among students in both the experimental and control groups. The detailed results are provided in Table 2.

Table 2. Measurement Results of Pre- and Post-Test Scores for Creativity and Entrepreneurial Intention Scales

variable	Group	Pre-test		Post-test		Post-test (after correction)	
		M	*SD*	*M*	*SD*	*M*	*SD*
Creativity	Experimental group (n=60)	3.017	.117	4.477	.303	4.475	.047
	Control group (n=60)	2.988	.028	2.996	.410	2.998	.047
Entrepreneurial intention	Experimental group (n=60)	2.953	.107	4.481	.335	4.481	.043
	Control group (n=60)	2.961	.089	2.481	.335	2.480	.043

4.2 Homogeneity test of creativity regression coefficient

As shown in Table 3, the F-test for the homogeneity of the creativity regression coefficient did not reach statistical significance (F= .015, p > .05). This result meets the assumption of homogeneity of regression coefficients within the group, thus allowing for the continuation of the analysis of covariance (ANCOVA).

Table 3. Summary of Homogeneity of Within-Group Regression Coefficients for the Creativity Scale.

Source	df	Mean square	*F*	*p*
Group	1	.021	.162	.688
Pre-test	1	.009	.067	.796
Group * Pre-test	1	.002	.015	.904
Error	116	.132		

4.3 Covariate analysis of creativity scale

As shown in Table 4 and Table 2, the covariate analysis of creativity revealed that the main effect of the group was statistically significant ($F = 486.805$, $p < .001$). This indicates a significant difference in the post-test scores on the total creativity scale between learners in the experimental group and those in the control group. The LSD post hoc comparison demonstrated that the corrected mean post-test score for the experimental group (4.475) was significantly higher than that for the control group (2.998). This finding suggests that business simulation teaching had a substantial effect on enhancing learners' creativity in this study.

Table 4. Summary of ANCOVA Analysis of Groups in the Creativity Scale.

Source	df	Mean square	*F*	*p*	Partial η^2
Correct model	2	32.898	251.545	.000	.811
Interept	1	1.053	8.051	.005	.064
Pre-test	1	.015	.113	.737	.001
Group	1	63.665	486.805	.000	.806
Error	117	.131			

4.4 Homogeneity test of regression coefficient of entrepreneurial intention

As shown in Table 5, the F-test for the homogeneity of the regression coefficient for entrepreneurial intention did not reach a significant level ($F = .024$, $p > .05$). This result satisfies the assumption of homogeneity of regression coefficients within the group, allowing the continuation of the covariate analysis (ANCOVA).

Table 5. Summary of Homogeneity of Within-Group Regression Coefficients for the Entrepreneurial Intention Scale.

Source	df	Mean square	*F*	*p*
Group	1	.165	1.449	.231
Pre-test	1	.009	.081	.776
Group * Pre-test	1	.003	.024	.878
Error	116	.114		

4.5 Covariate analysis of entrepreneurial intention scale

As shown in Table 6 and Table 2, the covariate analysis model for entrepreneurial intention revealed a statistically significant main effect of the group ($F = 1060.443$, $p < .001$). This indicates a significant difference in post-test scores on the entrepreneurial intention scale between the experimental and control groups. The LSD post hoc comparison further demonstrated that the post-test adjusted mean score for the experimental group (4.481) was significantly higher than that of the control group (2.480). These results suggest that business simulation teaching had a substantial impact on enhancing learners' entrepreneurial intentions in this study.

Table 6. Summary of ANCOVA Analysis of Groups on the Entrepreneurial Intention Scale.

Source	df	Mean square	*F*	*p*	Partial η^2
Correct model	2	60.004	530.862	.000	.901
Interept	1	1.360	12.030	.001	.093
Pre-test	1	.008	.069	.794	.001
Group	1	119.863	1060.443	.000	.901
Error	117	.113			

4.6 Post-Test Comparison of ESB Performance: Experimental vs. Control Groups

To investigate whether there was a significant difference in the post-test ESB scores between the experimental and control groups, an independent t-test analysis was conducted. As shown in Table 7, a significant difference was observed in the ESB post-test scores between the two groups ($t=22.525$, $p<.001$). The average post-test score for the experimental group ($M=76.117$, $SD=5.083$) was significantly higher than that of the control group ($M=55.883$, $SD=4.752$). These findings indicate that business simulation teaching has a substantial impact on enhancing learners' ESB performance.

Table 7. Differences in Pre- and Post-Test ESB Scores Between Experimental and Control Groups.

Variable	**Group**	**Pre-test**		**Post-test**		***t***	***p***
		M	*SD*	*M*	*SD*		
ESB	Experimental group (n=60)	55.767	5.847	76.117	5.083	.199	.843
	Control group (n=60)	55.567	5.143	55.883	4.752	22.525	.000

4.7. Interview

To gain deeper insights into the learning experiences of entrepreneurial learners and their perceptions of entrepreneurial tools and resources, this study employs a semi-structured interview approach. The qualitative analysis aims to provide a nuanced understanding of the participants' interactions with these tools and their overall entrepreneurial journey. The interview questions were designed to address the following aspects:

(a) Participants' specific experiences with entrepreneurial tools and resources used to start their own businesses;

(b) Their evaluations of the effectiveness of these tools and resources in enhancing the success of their entrepreneurial ventures; and

(c) Their recommendations for improving the entrepreneurship training system to optimize the effectiveness of future training programs.

All interviews were recorded and transcribed for in-depth qualitative analysis in this study. The transcribed data will be used to explore the challenges and opportunities faced by entrepreneurial learners in utilizing tools and resources. Through these interviews, the study aims to provide valuable insights for enhancing the entrepreneurial training system and to support the continued development of entrepreneurial education in the tourism industry and tourism entrepreneurship.

- "Although I have studied marketing for several years, I had not discovered much new information. However, interacting with industry experts enabled me to identify emerging trends in marketing within the tourism industry." (France)
- "I approached marketing from multiple perspectives while working on a tourism entrepreneurship project. Through interactive learning with industry experts, I anticipate gaining more practical experience in designing tourism products in the future." (El Salvador)
- "The interactive method with industry professionals has enhanced my understanding of marketing strategies, current trends, and technologies in the tourism sector. This approach has been instrumental in developing my itinerary." (Chile)
- "In my interactions with industry experts, I employed design thinking and extensively researched online to gather comprehensive data for my clients. This experience underscored the social and collaborative aspects of interactive learning with industry experts, fostering a shared understanding among learners." (Costa Rica)
- "Previously, I relied primarily on my own ideas to write copy. Now, I use online data and relevant tourism industry articles to plan key points, which I then expand. This approach clarifies my thoughts, enhances the fluency of my copywriting, and prevents inconsistencies in the content." (Guatemala)

Feedback from students indicates that business simulation teaching has resulted in notable improvements compared to traditional classroom settings, evidenced by more positive responses and increased learner engagement. This teaching method emphasizes experiential learning and encourages students to explore independently while interacting with industry experts. By simulating real-world business scenarios, students encounter both enjoyment and challenges through discussion and sharing. This approach not only enhances their entrepreneurial intentions but also stimulates their creativity.

5. Discussion and Implications

5.1 Theoretical implications

This study aims to investigate the impact of business simulation teaching on learners' creativity and entrepreneurial intention. The quantitative findings reveal that the experimental group exhibited a significantly greater improvement in creativity through business simulation teaching compared to the control group. This result aligns with the findings of Simanjuntak et al. (2021), who also noted that business simulation teaching enhances learners' creativity. The observed improvement can be attributed to several factors: business simulation teaching not only encourages the exploration and implementation of innovative ideas but also motivates students to transcend traditional constraints and embrace novel concepts. Consequently, this approach effectively stimulates and enhances college students' creativity (Mehmood et al., 2021).

Secondly, the experimental group demonstrated a significantly greater improvement in entrepreneurial intention through business simulation teaching compared to the control group. This finding is consistent with the research results of Aliedan et al. (2022), which also indicate that business simulation teaching effectively enhances learners' entrepreneurial intention. The possible reasons for this improvement are as follows: entrepreneurial simulation teaching provides learners with immersive learning experiences, encourages them to transcend traditional constraints, and actively supports the implementation of new ideas. This approach stimulates students' innovative potential and enhances their ability to recognize and seize new opportunities (Bagher & Akbari, 2018).

From the qualitative results, students generally reported that business simulation teaching had a more substantial impact compared to traditional courses, demonstrating higher enthusiasm and participation. This finding aligns with the research by Kim and Corcoran (2017) and Zhang et al. (2020), which shows that experiential education can significantly enhance learners' entrepreneurial intention and creativity. Smith and González-Lloret (2021) further highlighted that business simulation teaching, in contrast to traditional methods, emphasizes heuristic learning and encourages independent study and peer interaction. This approach not only boosts learners' entrepreneurial intentions but also stimulates their creativity. Participants reported a sense of satisfaction and challenge from discussions and information sharing during the simulation, which further enhanced their confidence and innovative thinking in entrepreneurship. Nisula et al. (2023) also confirmed that creativity stimulates entrepreneurial intention.

Business simulation teaching creates a dynamic learning environment that not only boosts learners' motivation but also encourages them to apply their knowledge more flexibly in practice, thereby enhancing their intention to start a tourism business (Zhang et al., 2020). Additionally, business simulation teaching significantly impacts learners' practical abilities, aligning with previous findings that experiential education not only improves practical skills but also fosters creativity and confidence in solving real-world problems (Dewi & Arifani, 2021; Barrot, 2021). Business simulations offer extensive interactive opportunities, enabling learners to enhance their skills through practical experience and better address the challenges of tourism entrepreneurship (John & Yunus, 2021; Schurz & Hüttner, 2022).

Thus, business simulation teaching, as a pedagogical approach, effectively enhances students' creativity and entrepreneurial intention, underscoring the significance of this method. This study broadens the application of business simulation teaching in enhancing learners' creativity and entrepreneurial intention, thereby assisting educators in achieving instructional objectives and effectively fostering improvements in these areas.

5.2 Practical implications

The introduction of business simulation teaching not only enhances learners' creativity and entrepreneurial intention but also holds significant practical implications for local economic development and social revitalization. By immersing learners in a complex and evolving business environment through realistic simulations, this teaching method challenges them to apply creative thinking to overcome obstacles. This approach not only hones their logical reasoning but also stimulates their imagination, encouraging them to approach problems from various perspectives and levels, thereby fostering improved creativity.

In the field of tourism industry and tourism entrepreneurship, business simulation teaching is particularly crucial. By replicating real-world tourism business environments, learners can gain a deeper understanding of and better address the complex challenges in tourism entrepreneurship. This method enhances their market sensitivity and innovation skills, providing practical experience for aspiring tourism entrepreneurs and infusing new vitality into the local economy. Business simulation teaching supports local economic and social revitalization and contributes to the development and strengthening of the local entrepreneurial ecosystem.

Secondly, by simulating the entrepreneurial process, learners gain firsthand experience of the challenges and rewards of entrepreneurship, including the sense of accomplishment and satisfaction that comes with entrepreneurial success. This role-playing experience significantly enhances their entrepreneurial willingness and motivation, prompting them to actively consider how to transform their ideas into tangible projects. In the tourism industry and tourism entrepreneurship, this experiential learning is particularly valuable, as it helps learners grasp the unique challenges and opportunities of the sector and apply their innovative ideas to real-world scenarios. As more young people pursue entrepreneurial ventures, their innovative thinking and practical skills will invigorate the local economy, create additional employment opportunities, and contribute to a more dynamic economic structure.

Furthermore, business simulation teaching emphasizes resource integration and the development of business plans. Learners are required to effectively utilize existing resources, create feasible business plans, and seek external support. This process not only hones their skills in resource integration and project management but also provides them with a clearer understanding and strategic planning of the entrepreneurial process, thereby enhancing their entrepreneurial intentions and motivation. This is particularly significant in economically disadvantaged areas, where the entrepreneurial activities of young people can serve as a crucial driver for local economic revitalization.

Finally, the implementation of business simulation teaching projects often benefits from the support of the community and local governments. This collaborative model not only enhances the quality of entrepreneurship education but also establishes a strong foundation for the sustainable development of the local economy. By partnering with government bodies, educational institutions, and businesses, young entrepreneurs receive essential resources such as funding, facilities, and mentorship. This support system fosters broader societal advancement and stimulates social innovation, particularly in tourism entrepreneurship. Government and community backing are instrumental in developing the local tourism sector and generating additional employment opportunities.

Consequently, the promotion and application of business simulation teaching methods have significant practical implications for developing well-rounded individuals with innovative spirit, entrepreneurial skills, and leadership potential. This approach fosters continuous innovation and supports the ongoing development of the social economy.

6. Limitations and future research suggestions

The results of this study highlight the significance of business simulation teaching, yet there are some limitations. First, the study's sample size was 120 participants, with only 15 weeks of classroom instruction and 3 weeks of field experiments. Future research should consider increasing the sample size and extending the duration of the experiments to obtain more robust and stable results. Second, the study focused on students majoring in innovation management, which may limit the generalizability of findings regarding the enhancement of creativity and entrepreneurial intentions. Future research could include participants from diverse academic disciplines to assess the broader effectiveness of business simulation teaching. Third, it would be beneficial for future studies to use business simulation teaching as a supplementary method, integrating it with other teaching approaches to further enrich the research findings on its effectiveness.

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How does transformative learning in higher education enhance regenerative tourism? A case study applying the 3H model in Central Vietnam (Paper#206)

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Abstract:

Transformative learning is pivotal for developing regenerative tourism capabilities. Employing the 3H framework (Head, Heart, Hands), this study reveals how experiential learning cultivates critical thinking, ethical values, and practical skills - key competencies for future leaders in regenerative tourism.

Keywords: Transformative learning, Regenerative tourism, 3H model, Tourism, Hospitality, Higher education

1. Introduction

Regenerative Tourism (RT) emerges as a necessary evolution, aiming to restore and enhance ecological, social, and cultural vitality rather than merely reduce harm (Hussain, 2021). Significant shifts in perspectives among tourism stakeholders are required to achieve RT goals (Cave et al., 2022; Dredge, 2022; Hussain, 2021). From that, Higher Education Institutions (HEIs) can play a crucial role by imparting technical skills and fostering critical consciousness to navigate regeneration complexities (Asmaniati et al., 2017; Bringle & Clayton, 2012; Ferreras-Garcia et al., 2019). In this context, Transformative Learning (TL) theory, pioneered by Mezirow (1991), offers a particularly robust pedagogical framework for facilitating these perspective shifts through critical reflection (Bueddefeld & Duerden, 2022; Cranton, 2016).

This research examines a case study of a hospitality and tourism program at a university in Central Vietnam, a region facing rapid tourism growth and sustainability challenges. It aims to provide insights into how transformative learning (TL) operates within a curriculum focused on responsible tourism (RT). Using the 3H model (Head, Heart, Hands), the study highlights how higher education can develop future leaders who will guide the tourism sector toward sustainable and regenerative practices.

2. Literature Review

2.1. Transformative Learning in Tourism Higher Education

Tourism curricula can be intentionally designed to incorporate experiences that serve as "disorienting dilemmas," thereby challenging students' pre-existing assumptions and understandings of the tourism industry and its broader impacts. Activities such as reflective journaling, structured group discussions, and perspective-taking exercises can help students think deeply about what they are learning and why they believe what they believe. Creating opportunities for rational discourse and meaningful dialogue among students from varied backgrounds and with differing viewpoints can significantly enhance the transformative learning process (Jamal et al., 2011; Joppe & Elliot, 2015; Mezirow, 1991).

Moreover, integrating experiential learning activities, such as carefully structured internships, immersive study abroad programs, and impactful community-based projects, can provide rich and authentic contexts highly conducive to fostering perspective transformation. Internships allow students to experience the workings of the tourism industry firsthand (Ferreras-Garcia et al., 2019), while study abroad programs allow them to immerse themselves in new cultures and confront different ways of thinking. Community-based projects enable students to apply their knowledge and skills to solve real-world problems, often leading to profound insights and shifts in perspective (Bamber, 2016; Felismonte et al., 2024). Furthermore, the strategic utilization of digital technologies offers exciting new avenues for designing and delivering transformative learning experiences within tourism higher education, particularly in response to global events like the COVID-19 pandemic, which have necessitated the adoption of flexible and accessible learning modalities (Kallou & Kikilia, 2021).

2.2. The 3H Model: A Holistic Approach to Transformative Learning for Regenerative Tourism

Despite the theoretical alignment between TL and RT, empirical studies on TL's effectiveness in cultivating competencies for RT in HEIs are scarce (Bueddefeld & Duerden, 2022). Furthermore, developing effective pedagogical strategies is hampered by a lack of context-specific models that account for the unique cultural, ecological, and socio-political nuances influencing both TL processes and RT implementation in diverse settings (Jamal et al., 2011). Addressing this gap requires analytical tools capable of capturing the holistic nature of learning required for RT. This study employs the 3H model as an analytical lens framework that facilitates a comprehensive examination by exploring how TL influences not only cognitive understanding (Head - knowledge, critical thinking) but also affective engagement (Heart - values, empathy, ethical commitment) and practical application (Hands - skills, collaboration, action competence), dimensions all deemed crucial for effective regenerative leadership (Singleton, 2015). This holistic approach aligns with the core principles of regenerative tourism, which emphasize interconnectedness, community empowerment, and a long-term vision for flourishing destinations. The synergy of these three dimensions provides the comprehensive development necessary for future leaders in regenerative tourism.

3. Methodology

This research used the holistic 3H model (Head, Heart, Hands) as the main theoretical framework to integrate with transformative learning theory and regenerative tourism principles. Data were collected from institutional documents and reflection reports from 49 students at a pioneering institution implementing Transformative Learning (TL) in Central Vietnam. These reports documented the students' perceived learning outcomes from various core and specialized subjects within their program, offering valuable insights into their individual experiences and evolving perspectives. A qualitative thematic analysis used the 3H model and transformative learning principles as lenses to analyze their perceived learning outcomes over three years, from 2021 to 2023, with experiential learning. This analysis identified recurring themes in the 3H model, assessing how transformative experiences contributed to competencies in regenerative tourism.

4. Results

4.1. Profile of the Respondents

The study included 49 Bachelor of Business Administration students from the chosen case, involved in a series of experiential learning activities designed for the Event Management specialization. The continuous cycles of defining problems, action, observation, reflection, and refinement through three projects allowed the researchers to actively engage with students, communities, and industry partners to identify the most effective experiential learning strategies, making them feel valued and integral to the educational system. After each project, the reflection reports from these students document their perceived learning outcomes across various core and specialized subjects experienced between 2021 and 2023.

4.2. Results of Learning Outcomes from Student Reflection Reports

The analysis of the student reflection reports provides rich qualitative data that reveals a range of learning outcomes across the cognitive (Head), affective (Heart), and behavioral/ practical (Hands) domains. These outcomes, articulated through keywords and phrases directly from the students' perspectives, demonstrate a perceived development in areas crucial for understanding and contributing to regenerative tourism principles. The identified potential regenerative effects further illustrate the link between these learning outcomes and their positive implications for the future of the tourism industry in the region.

Figure 1. Student's perspective learning outcomes from reflection reports

3H Alignment	Main Learning Outcomes	Keywords from Reflection Reports	Potential Regenerative Effect
Head	Enhanced understanding of real-world industry issues and challenges	"practical challenges," "industry problems," "understanding limitations," "gaining insights," "real-world application," "seeing the big picture"	Better-informed decision-making in tourism management, leading to more sustainable practices

3H Alignment	Main Learning Outcomes	Keywords from Reflection Reports	Potential Regenerative Effect
Head, Hands	Improved ability to apply theoretical knowledge to practical situations	"applying concepts," "putting theory into practice," "hands-on experience," "practical application," "testing knowledge," "bridging the gap"	More effective problem-solving in the context of regenerative tourism initiatives
Heart	Increased awareness of social responsibility and community needs	"social impact," "community engagement," "giving back," "ethical responsibility," "understanding needs," "making a difference," "local perspectives"	Greater emphasis on community well-being and ethical considerations in tourism development
Heart, Head	Development of a deeper understanding of personal strengths and weaknesses	"self-reflection," "identifying limitations," "recognizing strengths," "personal growth," "understanding myself," "areas for improvement"	Enhanced self-awareness, leading to more effective personal and professional development
Head, Heart	Clarification of career aspirations and professional goals within the tourism sector	"career goals," "future aspirations," "professional direction," "finding my passion," "seeing career possibilities," "aligning values"	More focused career paths aligned with sustainable and regenerative tourism values
Head, Hands	Recognition of the importance of personal adaptation and continuous learning for professional success	"need to adapt," "continuous learning," "staying current," "embracing change," "developing resilience," "future readiness"	Fostering a mindset of lifelong learning and adaptability necessary for the evolving tourism landscape
Heart, Hands	Enhanced appreciation for the value of teamwork and collaboration in achieving goals	"teamwork skills," "collaboration," "shared goals," "group dynamics," "cooperation," "synergy," "effective communication"	Improved ability to work effectively in teams, essential for collaborative regenerative tourism projects
Hands, Head	Significant development of key professional skills	"communication skills," "problem-solving," "critical thinking," "project management," "planning and execution," "organizational skills," "presentation skills"	Increased competence in managing and implementing regenerative tourism initiatives

3H Alignment	Main Learning Outcomes	Keywords from Reflection Reports	Potential Regenerative Effect
Head	Improved critical thinking and analytical skills	"critical analysis," "evaluating information," "forming judgments," "seeing different perspectives," "reasoning logically," "asking questions"	Greater capacity for evaluating tourism practices and identifying opportunities for regeneration
Heart	Heightened sense of empathy and cross-cultural understanding	"empathy", "understanding others", "cultural sensitivity", "respect for diversity", "intercultural communication", "seeing different viewpoints"	More respectful and culturally sensitive i nteractions with tourists and local communities

Source: Compiled by the authors, 2025

5. Discussion and Implications

5.1. Discussion

The learning outcomes reported by respondents in their reflection reports (Figure 1) demonstrate holistic development, aligning closely with the 3H model. Expressly, improvements were noted in cognitive aspects like understanding practical issues, applying theory, and critical thinking (Head); affective aspects such as heightened social responsibility awareness, empathy, cross-cultural understanding, and career value alignment (Heart); and practical aspects including professional skills, teamwork, and adaptability (Hands). As Sipos et al. (2008) emphasized, this integrated development across all three dimensions forms the foundation for developing competencies essential for regenerative tourism (RT). These cognitive, affective, and practical capacities equip students to analyze complex systems, evaluate existing tourism practices, and engage in creating solutions aimed at restoring ecological, social, and cultural systems - the core goals of RT (Dredge, 2022; Hussain, 2021).

These findings corroborate previous research on the effectiveness of EL in structured reflection in fostering perspective shifts (Taylor, 2007; Bamber & Hankin, 2011). Therefore, an evident interplay emerges: EL/SL facilitates TL (Asmaniati et al., 2017; Bringle & Clayton, 2012; Ferreras-Garcia et al., 2019), leading to holistic development via the 3H model (Cheema, 2024; Sipos et al., 2008), thereby enhancing the capacities needed to advance regenerative tourism (Singleton, 2015).

5.2. Academic and practical implications

This study provides empirical evidence linking transformative learning and regenerative tourism within the Vietnamese higher education context, filling a research gap. It validates the 3H model as a framework for evaluating holistic learning outcomes in regenerative tourism education. The findings underscore the need for Higher Education Institutions to design curricula that incorporate transformative learning principles and the 3H model, emphasizing experiential learning and critical reflection. Investment in faculty development is crucial for facilitating transformative experiences and nurturing community partnerships. Building respectful relationships with local communities and industry stakeholders is essential for creating authentic learning opportunities aligned with regenerative tourism principles.

5.3. Limitations of this study and suggestions for future research

This study's limitations include its focus on a single case at a Vietnamese university, restricting generalizability. Reliance on self-reported data may not accurately reflect skill acquisition or long-term educational effects. Suggested future research includes:

- Longitudinal studies on graduates' career impacts regarding transformative learning (TL).
- Comparative studies across various institutions to understand TL and regenerative tourism (RT) better.
- In-depth qualitative methods to explore the nuances of TL processes.
- Research on integrating the 3H model in online and blended learning.

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Theme: Hotel Management

Exploring the Impact of Regulatory Focus on Emotional Labor: A Study of Five-Star International Tourist Hotels (Paper#104)

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Abstract:

Under the impact of the post-COVID-19 pandemic era, hotel managers must increasingly consider the changes in employees' emotional labor resulting from their personality traits, as well as the influence managers exert within the organization. This study adopts the interactionist perspective of personality and social psychology as its theoretical foundation to investigate the interaction effects within the proposed research framework. Regulatory focus theory posits that employees exhibit distinct personality traits to achieve goals, categorized into two types: promotion focus and prevention focus. Consequently, this study aims to examine the influence of promotion focus and prevention focus on the emotional labor of international tourist hotel employees and to compare their respective impacts. The study employs a questionnaire survey method, targeting 369 valid responses from employees of international tourist hotels, analyzed using Covariance-Based Structural Equation Modeling (CB-SEM). The results confirmed all the relationships between research concepts. Finally, based on the findings, managerial implications are proposed, alongside suggestions and discussions for future research.

Keywords: Regulatory focus, Emotional labor, Interaction theory, Hotel industry, CB-SEM.

1. Introduction

The global tourism industry has demonstrated notable resilience post the COVID-19 pandemic, with recovery trends approaching pre-pandemic levels across most regions. According to the World Economic Forum's Travel & Tourism Development Index 2024, the Middle East has

exceeded its 2019 arrival figures by 20%, while Europe, Africa, and the Americas have achieved approximately 90% recovery as of 2023. The United Nations World Tourism Organization (UNWTO) projects that international arrivals will return to pre-pandemic levels in 2024, with anticipated growth of 3-5% forecasted for 2025. According to UNWTO News (2024), after a 16.6% revenue drop in the catering sector in 2020, China became the top spender on international tourism in 2023, with expenditures reaching USD 196.5 billion. Taiwan shows more moderate recovery, with 2024 visitor numbers remaining below 2019 levels (Focus Taiwan, 2024). Despite the progress, it continues to deal with other challenges such as escalating macroeconomic uncertainties, geopolitical tensions, environmental vulnerabilities, and labor shortage. Beside the recovery plans, strategies to improve frontline workers' mental health and well-being while sharpening their client service skills are needed to be performed. This ensures the sector can strengthen its human resources to meet the demands of the new normal.

Research has established that individuals experiencing extreme stress during the pandemic often suffer from depression and anxiety (James et al., 2020). Hospitality employees, in particular, have faced considerable psychological pressure due to concerns about job security, income loss, and potential virus exposure. Despite these challenges, service workers - often characterized as performing "emotional labor" - must continue to manage their emotions while adhering to organizational display rules, even when confronting negative experiences and difficult customers (Grandey et al., 2007). Emotional labor, as defined by Hochschild (1979), refers to "the performance of various forms of emotional work by employees in their employment." This concept manifests in two primary forms: deep acting and surface acting (Grandey, 2000; Hochschild, 1983). Deep acting involves employees genuinely attempting to align their internal feelings with organizationally required emotional expressions, resulting in authentic service delivery (Brotheridge & Grandey, 2002). In contrast, surface acting occurs when employees merely simulate appropriate emotions (e.g., feigning a smile) while experiencing different internal feelings, potentially leading to emotional dissonance.

In the customer-oriented hospitality environment, understanding and managing employees' emotional labor is crucial for maintaining service quality and preventing employee burnout (Rehman et al., 2021). Indeed, hospitality organizations increasingly recognize that encouraging appropriate emotional labor among frontline staff represents a significant competitive advantage (Lee & Madera, 2019; Xu et al., 2020). Consequently, recent hospitality literature has begun exploring antecedent variables of emotional labor (Chi & Grandey, 2019), though further research in this area remains necessary.

This study investigates emotional labor through the lens of regulatory focus theory (Higgins, 1997), which distinguishes between two personality traits that influence goal achievement strategies: promotion focus (emphasizing hopes and aspirations) and prevention focus (prioritizing responsibilities and obligations). While this theory has gained traction in organizational science, psychology, and marketing (Dai et al., 2020; Haws et al., 2010), its application in the hospitality context remains limited, particularly regarding its relationship with emotional labor.

Adopting an interaction perspective, this study examines how regulatory focus (promotion/prevention) influences emotional labor among hospitality employees. The findings will provide practical insights for human resource management in Taiwan's hotel industry and inform government policy development for hospitality talent cultivation. Academically, this research addresses notable gaps in the literature concerning hotel recruitment and training components.

2. Literature Review

2.1. Interaction theory

Interaction theory posits that individual behavior reflects continuous interactions with the environment, shaped by personality and situational variables (Diener et al., 1984). Self-concept influences behavior and judgment in a dynamic process, emphasizing the environment's meaning, individual-environment interactions, and environmental interpretation. Symbolic interactionism examines responses to goals in social contexts, interpreted through symbolic meanings, focusing on the interplay between goal symbolism and individual reactions. It highlights meaningful action interrelations and situational identity formation through symbolic interactions (Chen et al., 2020; Dionysiou & Tsoukas, 2013). The theory's core implies uncertainty, with behavior grounded in attention and situational features (Dionysiou & Tsoukas, 2013). Interactionism assumes personality traits elicit varied responses in specific contexts, applied in organizational behavior and human resource management (Chen et al., 2020). This study uses personality traits (regulatory focus: promotion/prevention) as independent variables and emotional labor (deep/surface acting) as dependent variables to explore their interrelationships.

2.2. Regulatory focus

The hedonic principle asserts humans seek pleasure and avoid pain. Higgins (1997) argued that while goals may appear similar, behaviors and emotional responses differ, with traditional theories focusing on outcomes rather than motivations. Higgins introduced promotion focus and prevention focus as independent motivational systems within regulatory focus theory, linking behavior, outcomes, and emotional reactions. Individuals adjust behavior based on goals, driven by needs for support or safety (Galinsky et al., 2005), maximizing happiness and minimizing pain (Higgins, 1998; Molden, Lee, & Higgins, 2008). Promotion-focused individuals pursue tasks through aspiration (Dai et al., 2021; Higgins et al., 1994), while prevention-focused individuals avoid failure, emphasizing duty (Dai et al., 2020; Higgins, 1997). Promotion focus heightens sensitivity to positive outcomes, immersing individuals in desire, ensuring goal completion without unnecessary errors (Higgins, 1998). Prevention focus fosters vigilance, avoiding difficult tasks to prevent mistakes (Higgins, 1998). Regulatory focus theory (RFT) suggests individuals adopt trait-aligned strategies, impacting task engagement (Dai et al., 2020; Förster et al., 1998), performance (Wallace et al., 2008; Wallace & Chen, 2006), citizenship behavior (Dewett & Denisi, 2007), and consumer behavior (Lin et al., 2018). This study applies RFT to human resource management, examining its interplay with emotional labor

2.3. Emotional labor

Emotional labor refers to the process by which individuals manage their emotions to fulfill the emotional requirements of their professional roles. This concept emerged from Hochschild's observations of service-oriented occupations, especially in contexts where interpersonal interaction is pivotal, such as in hospitality and healthcare (Grandey et al., 2007). Previous findings reveal that emotional labor is a critical factor in determining employee outcomes such as satisfaction, burnout, and overall job performance (Xu et al., 2020). Emotional labor involves displaying specific emotions that align with organizational expectations, which can be categorized into two primary strategies: deep acting and surface acting. Deep acting entails genuinely trying to feel the required emotions, thus promoting an authentic emotional experience, while surface acting involves merely faking emotions without any internal alignment (Xu et al., 2020).

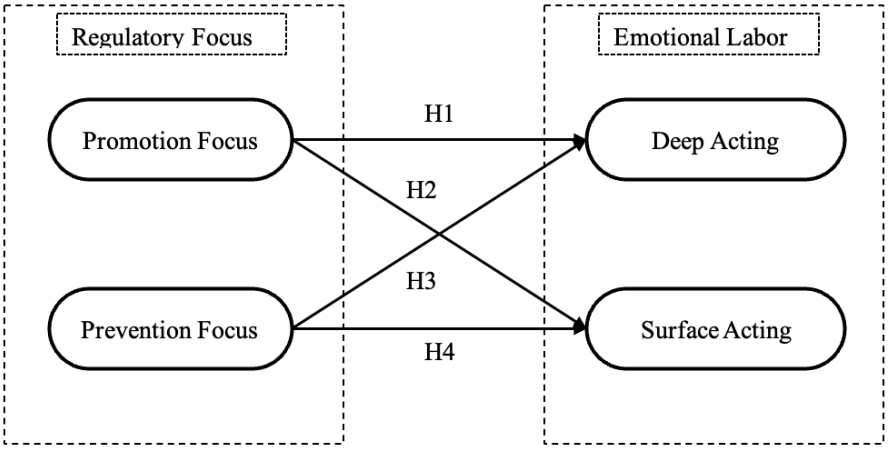
2.4. The relationship between regulatory focus and emotional labor

Higgins (1998) posited that promotion-focused individuals desire goal completion, avoiding omission errors, and challenge norms for maximum success. On the other hand, prevention-focused individuals adopt vigilance, avoiding commission errors through stability and rule adherence (Higgins, 1997, 1998; Neubert et al., 2008; Wallace & Chen, 2006). Emotional labor includes deep acting (altering feelings) and surface acting (altering expressions) (Grandey, 2000; Hochschild, 1979, 1983). Promotion-focused employees, driven by success, adapt work methods, enhancing deep acting. Prevention-focused employees stabilize tasks to avoid failure, favoring surface acting (Grandey & Melloy, 2017; Higgins, 1997). Therefore, this study proposes the following research hypothesis:

H1: Employees' promotion focus positively affects deep acting.
H2: Employees' promotion focus negatively affects surface acting.
H3: Employees' prevention focus negatively affects deep acting.
H4: Employees' prevention focus positively affects surface acting.

Based on the literature and hypothesis development, the research framwork was proposed (see Figure 1).

Figure 1. Research model



3. Methodology

3.1. Measurement

3.1.1. Regulatory focus

The measurement of regulatory focus utilizes the Regulatory Focus at Work Scale (RWS), established through the work of Wallace and Chen (2006) and further refined by Dai et al. (2020). The scale consists of two main components: promotion focus and prevention focus, with each component assessed through six questions, totaling 12 questions. Participants respond using a five-point Likert scale that ranges from 1 (indicating strong disagreement) to 5 (indicating strong agreement). An elevated score on either factor suggests that the employee places increased emphasis on that specific focus.

3.1.2. Emotional labor

In this research, emotional labor is conceptualized as a form of job crafting and is measured using a modified version of Grandey's (2000) Organizational Emotional Labor Burden Scale, adapted for the international tourist hotel sector. The scale includes two subscales - deep acting and surface acting - each with seven items, totaling 14 questions. Responses are collected on a seven-point Likert scale ranging from 1 ("very dissatisfied") to 5 ("very satisfied").

3.2. Data collection

Data were gathered using questionnaires distributed to employees in five-star international tourist hotels across six Taiwanese regions: Taipei City, New Taipei City, Taichung City, Nantou County, Tainan City, and Kaohsiung City, using a convenience sampling method. Regarding sample size, Tinsley and Tinsley (1987) recommend five to ten respondents per question. They note that with a sample size as high as 300, this ratio can be slightly loosened, meaning a total of 300 valid responses is adequate. Since the questionnaire in this study includes 26 questions, a minimum valid sample size of 130 would be ideal. A total of 369 valid questionnaires were collected, covering northern, central, and southern Taiwan for representativeness.

3.2. Analytical methods

Covariance-Based Structural Equation Modeling (CB-SEM) is employed to evaluate the degree of the fitness between the proposed theoretical model and the observed empirical data. The statistical software SPSS 26 and AMOS 24 are utilized to assess the reliability of the measurement scale, examine the model's fit, and test the research hypotheses.

4. Results

4.1. Profile of the respondents

The survey collected responses from 369 full-time employees, representing 100% of the sample, with no part-time employees or interns participating. Regarding gender, the majority were female, comprising 56.4% of the sample (208 respondents), while males accounted for 43.6% (161 respondents). The respondents' ages were predominantly between 18 and 34 years old (76.7%), and most were unmarried (54.5%).

In terms of occupation, respondents worked in customer-facing roles across various departments: reception (36.9%), security or guarding (22%), food and beverage (F&B) (21.7%), and housekeeping (19%). The sample primarily consisted of operational staff (63.7%) and team leaders/supervisors (23.7%).

As for educational background, the majority held university-level qualifications (including college), totaling 284 respondents or 77% of the sample, while 16.5% (61 respondents) had a high school education.

4.2. Confirmatory Factor Analysis

All four factors demonstrated high reliability with Cronbach's alpha values greater than 0.9, and all 26 observed variables met the total variable correlation coefficient requirement within their respective scales, exceeding the threshold of 0.3. This study conducted confirmatory factor analysis (CFA) to test the scale models. The CFA measurement results were as follows: $\chi 2$ = 883.733 (p = 0.00), df = 293, $\chi 2/df$ = 3.016 (< 5), CFI = 0.932 (> 0.9), and RMSEA = 0.074 (< 0.08). All criteria met the proposed value requirements for the scale model. Therefore, the criteria were accepted, and these models were deemed suitable for the actual survey dataset. Convergent validity was examined through standardized factor loadings, construct reliability (CR), and average variance extracted (AVE). In this study, the standardized factor loadings satisfied the convergent validity requirement (> 0.5). Additionally, the CR of all four constructs exceeded the recommended level (> 0.7), and the AVE of all four constructs was greater than 0.5. These results indicate that convergent validity was achieved (Table 1). The study also assessed differences between constructs using the Fornell-Larcker criterion. The results showed that discriminant validity was achieved, as the square root of the AVE for each construct was greater than the correlations between the factors (Table 2).

Table 1. Results of convergent validity
Source: Table by authors

Construct		Factor loadings	Cronbach Alpha	CR	AVE
Promotion Focus			0.934	0.935	0.705
FOSE1	I can always complete a lot of work.	0.863			
FOSE2	No matter what, I will finish my work.	0.852			
FOSE3	I can complete a lot of work in a short amount of time.	0.815			
FOSE4	Completing work tasks allows me to make progress in my job.	0.837			
FOSE5	I often wonder whether my work is already done.	0.831			
FOSE6	I frequently think about how many work tasks I can complete.	0.838			
Prevention Focus			0.928	0.928	0.684
FOAV1	I often follow the rules when working.	0.846			

FOAV2	I will complete work tasks correctly.	0.829			
FOAV3	I will do my job responsibilities well.	0.846			
FOAV4	When working, I often think about my duties.	0.850			
FOAV5	I frequently complete my own work.	0.850			
FOAV6	I often notice the details of my work.	0.734			
Surface Acting			0.916	0.923	0.638
SA1	I fake emotions rather than change my true feelings.	0.581			
SA2	Displaying appropriate expressions at work feels to me like acting in a play.	0.548			
SA3	I hide true feelings for specific expressions.	0.904			
SA4	In tense situations, I appear calm despite panic.	0.879			
SA5	I fake smiles despite anger, per regulations.	0.872			
SA6	I smile despite disliking a customer.	0.852			
SA7	I show required emotions despite low mood.	0.866			
Deep Acting			0.951	0.951	0.734
DA1	Facing customers, I feel happy inside and out.	0.827			
DA2	I try to feel required emotions sincerely.	0.844			
DA3	I overcome bad emotions to serve kindly.	0.854			
DA4	I overcome setbacks to face the public happily.	0.878			
DA5	I smile and solve unreasonable requests sincerely.	0.886			
DA6	I tell myself to feel happy, not just look it.	0.850			
DA7	In tense situations, I calm myself to handle carefully.	0.856			

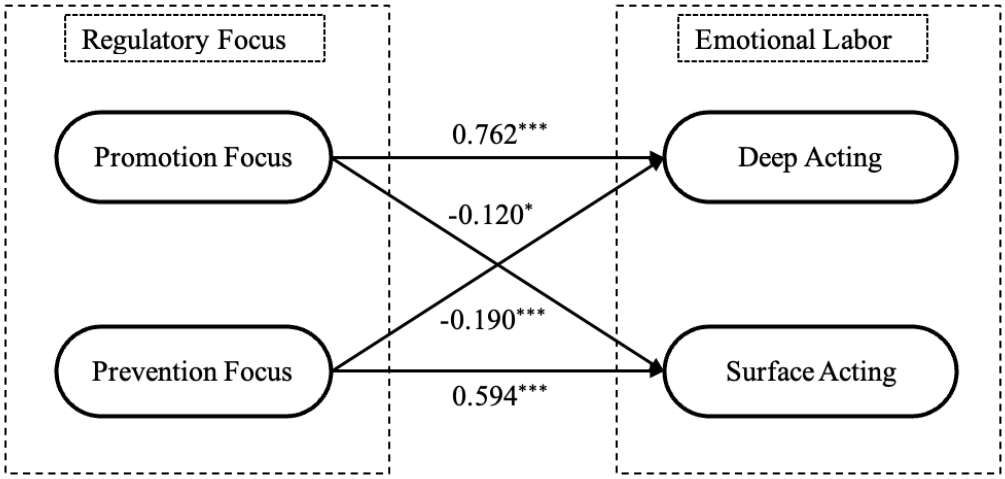
Table 2. Results of discriminant validity
Source: Table by authors

AVE/R^2	FOSE	FOAV	SA	DA
FOSE	**0.840**			
FOAV	-0.351	**0.827**		
SA	-0.342	0.640	**0.798**	
DA	0.831	-0.464	-0.290	**0.857**

4.3. The structural model evaluation

The results from the CB-SEM analysis indicate the following: the chi-square statistic value is 897.666 with 294 degrees of freedom (p = 0.00), the relative chi-square per degree of freedom χ2/df = 3.053 (< 5), CFI = 0.930 (> 0.9), IFI = 0.931 (> 0.9), and RMSEA = 0.075 (< 0.08). From this, it is concluded that the research model achieves an acceptable fit. The SEM analysis reveals the relationships between the research constructs with a p-value < 0.05. Consequently, all four research hypotheses (H1 -> H4) are accepted (Table 3).

Figure 2. Estimates of the model



***p<0.001, **p<0.01, *p<0.05

Table 3. Results of testing the causal relationships
Note: *** denotes p < 0.001

Causal path	Hypothesis	Standardized Estimates	Standard Error	CR	p-value	Test results
FOSE → DA	H1	0.762	0.048	15.992	***	Accepted
FOSE → SA	H2	-0.120	0.047	-2.518	0.012	Accepted
FOAV → DA	H3	-0.190	0.035	-5.212	***	Accepted
FOAV → SA	H4	0.594	0.051	11.065	***	Accepted

Source: Table by authors

5. Discussion and implications

5.1. Discussion

The results of this study confirm that regulatory focus significantly influences emotional labor strategies among employees in 5-star hotels in Taiwan. Specifically, employees with a promotion focus exhibit a positive relationship with deep acting (H1) and a negative relationship with surface acting (H2). This suggests that individuals motivated by growth, achievement, and positive outcomes are more likely to internalize and authentically express the emotions required in their roles, rather than superficially faking them. In the demanding context of luxury hospitality, where 5-star hotels set exceptionally high service standards, this authentic emotional alignment likely enhances both service quality and guest satisfaction.

Conversely, employees with a prevention focus show a negative relationship with deep acting (H3) and a positive relationship with surface acting (H4). This result shows that individuals who are motivated primarily by avoiding errors or negative outcomes will suppress their true

emotions. Instead, they will adopt surface-level emotional displays to fulfill job requirements. Within Taiwan's hospitality sector, this approach may enable staff to maintain professional standards and align with cultural expectations, though at the cost of emotional authenticity.

The Taiwanese cultural context tends to be oriented toward collectivist values and a service orientation, thus potentially amplifying these motivations. Promotion-focused employees may thrive in an environment that values initiative and service excellence, while prevention-focused employees may feel greater pressure to conform to rigid service appearances. These findings are consistent with regulation-focus theory, while extending its application to emotional labor in a culturally specific, high-end service context.

5.2. Academic and practical implications

5.2.1. Academic implications

This study enriches regulatory focus theory by demonstrating its relevance to emotional labor practices in a highly service-oriented context. The positive correlation between promotion focus and deep acting, alongside its negative association with surface acting, indicates that a growth mindset fosters emotional authenticity. This adds important nuance to our understanding of how regulatory focus influences workplace behavior. The findings regarding prevention focus underscore its function in emphasizing compliance and risk avoidance rather than emotional genuineness. These results further validate the theoretical distinction between approach and avoidance motivational systems. By establishing meaningful connections between regulatory focus theory and emotional labor strategies, this research addresses a critical gap in the literature concerning how fundamental motivational orientations shape emotion management processes in service contexts.

It challenges previous assumptions that emotional labor is solely a response to job demands, instead suggesting that individual differences in regulatory focus play an important role. These insights open avenues for future research to investigate how situational factors (e.g., leadership style or organizational climate) are likely to moderate these relationships.

5.2.2. Practical implications

For managers in 5-star hotels in Taiwan, these findings offer actionable insights. To leverage the benefits of promotion focus, HR could design training programs that encourage deep acting - such as role-playing exercises that build emotional resilience - or implement reward systems that recognize authentic service delivery. This could enhance employee well-being and guest experiences simultaneously.

For employees with a prevention focus, who lean toward surface acting, management should consider reducing stressors that exacerbate avoidance tendencies, such as overly punitive performance evaluations. Providing support, such as stress management workshops or clear service guidelines, could help these employees feel secure enough to engage more authentically with guests.

Beyond hotels, these implications extend to other high-contact service industries in Taiwan, such as luxury retail or fine dining, where emotional labor is critical. Managers in these sectors could adapt these strategies, though they should account for industry-specific demands and workforce characteristics. Ultimately, fostering an environment that balances promotion and prevention tendencies could optimize emotional labor and service outcomes.

5.3. Limitations of this study and suggestions for future research

Beside its valuable contributions, this study also has some limitations. First, the empirical research was conducted in Taiwan, which restricts the generalizability of the findings. Therefore, future research can validate and compare the results across different cultural contexts. Second, this study should consider additional moderating variables, such as demographic variables (e.g., gender, age) or emotional intelligence, to help develop and expand the theory as well as the practical value of research on emotional labor. Third, this study focuses only on 5-star hotels, which may not be generalizable to lower-end establishments, and the potential influence of unexamined variables such as employee tenure, training programs, or organizational culture. Future research could explore these factors to provide a more comprehensive understanding.

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Exploring Hotel Employees' Perceptions of ESG Practices Through Social Identity Theory: Impacts on Well-being, Job Satisfaction, and Organizational Citizenship Behavior for the Environment (Paper#103)

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Abstract:

This study uses Social Identity Theory (SIT) to explore how hotel employees' perceptions of Environmental, Social, and Governance (ESG) practices influence their well-being, job satisfaction, and Organizational Citizenship Behavior for the Environment (OCBE). Analyzing survey data from 166 hotel employees using PLS-SEM, results indicate that ESG practices significantly improve employee satisfaction and well-being, with workplace well-being notably driving OCBE. These findings highlight the importance of workplace experiences in fostering environmental behaviors, offering practical implications for ESG strategies in hospitality.

Keywords: Social Identity Theory, ESG (Environmental, Social and Governance), Employee Well-being, Job Satisfaction, Organizational Citizenship Behavior for the Environment (OCBE).

1. Introduction

Since the Brundtland Report, sustainability has become central to corporate strategy and competitive advantage. Growing environmental concerns have pressured firms to adopt proactive sustainability practices. As an extension of CSR, ESG offers a comprehensive framework for assessing corporate impact on stakeholders. This study is thus timely in contributing to both academic understanding and practical ESG implementation. The hospitality industry's environmental impact has raised stakeholder awareness of ESG practices, prompting businesses to set sustainability goals (Pan et al., 2018). However, research on how ESG influences employee well-being, job satisfaction, and OCBE remains limited, particularly in hospitality (Kılıç et al., 2021). This study addresses this gap by exploring employees' behavioral responses to ESG initiatives. Building on the above, This study integrates SIT to explore how employees' ESG perceptions shape their psychological and behavioral responses, offering new theoretical insights and practical implications for sustainable ESG development in the hospitality industry.

2. Literature Review

2.1. Social Identity Theory (SIT)

Social identity refers to the self-image and self-definition that individuals construct based on their membership in a particular social group. This sense of identification is closely associated with employees' positive evaluations of the organization and their sense of belonging (Ashforth & Mael, 1989). As organizational identification deepens, employees are more likely to accept and support the organization's values and practices, thereby enhancing their loyalty and job satisfaction. Accordingly, employees who identify with ESG values are more likely to acknowledge and support the company's ESG initiatives, forming a positive psychological connection with the organization. As employees' organizational identification strengthens, they are more likely to internalize corporate values and business philosophies, leading to greater loyalty and job satisfaction (Zhang et al., 2024).

2.2. Job Satisfaction

Job satisfaction, a positive emotional state based on job evaluation, is especially critical in tourism and hospitality, where frontline staff directly affect customer satisfaction and business success (Son et al., 2021). CSR/ESG initiatives can enhance job satisfaction by motivating better performance (Kim & Kim, 2020), while ESG commitments also boost employee morale (Ahmad et al., 2024). Therefore, this study proposes the following hypothesis:

H1: ESG practices have a significantly positive impact on job satisfaction.

2.3. Employee Well-being

Employee well-being is defined as a positive emotional state resulting from job evaluation. It influences both attitudes and behaviors, enhancing productivity and benefiting organizations (Sharma, 2016). Following Zheng et al. (2015), this study categorizes employee well-being into life well-being and workplace well-being. Research suggests that corporate's participation in corporate social responsibility (CSR) improves hotel employees' well-being through personal growth (Guzzo et al., 2022).

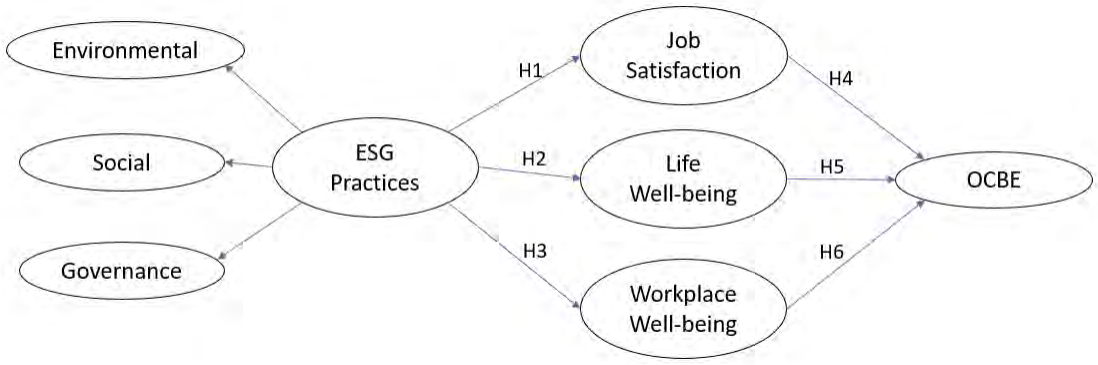
H2: ESG practices have a significantly positive impact on life well-being.
H3: ESG practices have a significantly positive impact on workplace well-being.

2.4. organizational citizenship behavior for the environment (OCBE)

OCBE refers to employees' voluntary actions to improve the environment (Cheema et al., 2020). OCBE not only enhances existing conditions but also serves as a critical driver of key outcomes, such as improving corporate sustainability performance and achieving CSR goals (Temminck et al., 2015). Job satisfaction is a key factor influencing employees' OCBE (Khaskheli et al., 2020). Bedi et al. (2016) stated that when employees' perceptions of their well-being improve, they tend to exhibit positive work outcomes, such as enhanced organizational citizenship behavior. Thus, the following hypothesis is proposed:

H4: Job satisfaction has a significantly positive impact on OCBE.
H5: Life well-being has a significantly positive impact on OCBE.
H6: Workplace well-being has a significantly positive impact on OCBE.

Figure 1. Research Framework



3. Methodology

Building on a comprehensive literature review, this study developed a 38-item questionnaire based on previous studies (Puriwat & Tripopsakul, 2022; Wong et al., 2023; Zheng et al., 2015; Boiral & Paillé, 2012). After evaluation and revision by five experts from diverse backgrounds, a purposive sampling strategy was adopted, resulting in a total of 166 valid responses. The data were analyzed using PLS-SEM with SmartPLS 4.0. Before testing the structural model, the measurement model was assessed to ensure that all reliability and validity criteria were met. A 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) was used for all questionnaire items.

4. Results

4.1. Profile of the respondents

According to the descriptive statistics, the sample comprises 62.8% females and 37.2% males, with most respondents aged 21–30 (56.4%). Entry-level employees make up the majority (69.8%), followed by mid-level (20.3%) and senior managers (7%). Most participants hold a bachelor's or associate degree (58.1%) and earn between 20,000–40,000 NTD monthly (40.7%). Additionally, the majority of respondents (61.6%) have less than three years of work experience in the hotel industry.

4.2. Construct reliability and validity

The results indicate that the Cronbach's α values for each construct ranged between 0.918 and 0.958, aligning with the recommended threshold. Specifically, a Cronbach's α between 0.6 and 0.7 is considered acceptable, while values greater than 0.8 indicate high reliability. Additionally, this study examined the convergent validity of the model. The Average Variance Extracted (AVE) values ranged between 0.712 and 0.813, all exceeding the recommended threshold of 0.5, indicating adequate convergent validity (Fornell & Larcker, 1981).

Table 1. Construct reliability and validity

Items	Cronbach's alpha	CR	AVE
E	0.894	0.926	0.759
S	0.871	0.912	0.721
G	0.865	0.908	0.712
JS	0.913	0.939	0.794
LWB	0.881	0.911	0.630
WWB	0.937	0.950	0.762
OCBE	0.948	0.956	0.708

Notation: JS: Job Satisfaction, LWB: life well-being, WWB: workplace well-being, OCBE: Organizational Citizenship Behavior for the Environment

4.3. Discriminant validity

This study conducted a discriminant validity analysis using SmartPLS 4.0. All constructs met the Fornell and Larcker (1981) criterion, with each construct's AVE square root exceeding its correlations with other constructs, confirming their theoretical and empirical distinctiveness. According to Hair et al. (2013), discriminant validity is acceptable if 75% of the constructs have AVE square roots greater than their inter-construct correlations. Additionally, based on Gold et al. (2001), HTMT values below 0.90 indicate good discriminant validity. All constructs in this study met these criteria, confirming satisfactory discriminant validity.

Table 2. Discriminant validity

Items	E	ESG	G	OCBE	S	JS	WWB	LWB
E	0.871							
ESG	0.614	1.000						
G	0.672	0.590	0.844					
OCBE	0.504	0.407	0.480	0.842				
S	0.729	0.525	0.705	0.498	0.849			
JS	0.743	0.661	0.717	0.549	0.738	0.891		
WWB	0.485	0.470	0.524	0.651	0.488	0.572	0.873	
LWB	0.548	0.472	0.566	0.618	0.583	0.644	0.819	0.794

Heterotrait-Monotrait Ratio (HTMT)

Items	E	ESG	G	OCBE	S	JS	WWB	LWB
E								
ESG	0.649							
G	0.763	0.632						
OCBE	0.544	0.416	0.526					
S	0.826	0.556	0.817	0.549				
JS	0.822	0.690	0.806	0.586	0.826			
WWB	0.531	0.486	0.580	0.686	0.542	0.617		
LWB	0.617	0.501	0.647	0.671	0.667	0.718	0.898	

4.4. Direct Effect

Based on the structural model results, ESG practices positively influence job satisfaction (β = 0.852, p < 0.001) and employee well-being (life well-being: β = 0.687, p < 0.001; workplace well-being: β = 0.673, p < 0.001). However, job satisfaction does not significantly impact OCBE (β = 0.206, p = 0.106). Among the two well-being dimensions, life well-being has no significant effect on OCBE (β = 0.021, p = 0.892), while workplace well-being has a positive impact (β = 0.496, p = 0.004). These findings suggest that while ESG practices enhance well-being and satisfaction, only workplace well-being directly contributes to OCBE, underscoring the need to differentiate well-being dimensions in ESG-driven behaviors.

Table 3. Direct Effect

		Original sample (O)	2.5%	97.5%	P values
ESG -> JS	H1	0.852	0.783	0.909	<0.001
ESG -> LWB	H2	0.687	0.553	0.813	<0.001
ESG ->WWB	H3	0.673	0.520	0.806	<0.001
JS -> OCBE	H4	0.206	-0.050	0.445	0.106
LWB ->OCBE	H5	0.021	-0.242	0.360	0.892
WWB -> OCBE	H6	0.496	0.147	0.823	<0.001

4.6. SRMR

Previous researchers recommend using the Standardized Root Mean Square Residual (SRMR) over RMR for more accurate model fit assessment. An SRMR value below 0.08 indicates a good model fit (Asparouhov & Muthén, 2018). The model fit analysis in this study indicates that the estimated model's fit is similar to that of the saturated model. The SRMR (0.064) meets the fit criteria, suggesting that the model residuals are acceptable. The fit indices d_ULS (1.668) and d_G (1.472) demonstrate the structural robustness of the model. Additionally, the NFI (0.776) indicates a favorable model fit. Overall, the estimated model exhibits good fit, with no significant misfit issues, supporting its applicability in this study.

5. Discussion and Implications

In our study, job satisfaction did not significantly influence OCBE. It may be because job satisfaction, focused on work conditions and rewards, may not directly inspire OCBE, which is more influenced by deeper values, organizational culture, and a sense of purpose. Life well-being may not impact OCBE as workplace factors, organizational culture, and intrinsic motivation drive pro-environmental behaviors more than general happiness.

This study validates the role of Social Identity Theory (SIT) in the relationship between ESG practices and employee behavior. ESG practices significantly enhance employees' workplace well-being, which in turn positively influences their OCBE. These findings support the core tenet of SIT, suggesting that organizations fostering employees' identification and engagement with ESG initiatives can effectively enhance workplace well-being and subsequently encourage positive OCBE.

The relatively small sample size of 166 hotel employees may limit the generalizability of the findings. Future studies are advised to adopt a stratified sampling approach to collect data across different job levels and conduct comparative analyses.

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A Trait Activation Theory Lens on Hospitality Employees' Ethicality at Work: Machiavellianism, Error Tolerance, and Moral Disengagement (Paper#033)

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Abstract

The condition under which motivational and psychological factors interact to shape personality is critical when understanding personality–ethicality relationship. This view is particularly embodied in the trait activation theory (TAT), which posits that individual traits are evoked by certain situational cues, which interactively prompt subsequent behaviors (Tett & Burnett, 2003). Consequently, identifying situational characteristics that foster unethicality-related individual attributes is important for providing a more holistic understanding of employee unethical behaviors, including their context and process. Taking a holistic "person-environment" view, this paper draws upon the trait activation theory to examine the impact of Machiavellianism as an individual disposition on employees' moral disengagement, contingent on perceived error tolerance at work. This paper aims to examine the extent to which error tolerance, as a salient situational characteristic, activates the expression of Machiavellianism on rule compliance via the underlying mechanism of moral disengagement. On the one hand, moral disengagement derived from higher levels of Machiavellianism overrides employees' internalized ethical standards and impairs their self-regulatory process, thereby facilitating deviations from established rules. On the other hand, employees with high levels of Machiavellianism exhibit a state of moral disengagement, as they perceive no necessity to deliberate upon the potentiality of facing consequences for committing errors (Dahling et al., 2009). The results from multi-wave data collected among hospitality employees reveal that employees high on Machiavellianism are morally disengaged since they act cunningly to achieve their goals and erode social exchange relationships. For such employees, Machiavellianism aggravates moral disengagement when error tolerance in the workplace is higher rather than lower. Likewise, when error tolerance is high at work, Machiavellianism exerts a stronger effect on rule compliance through the mediating role of moral disengagement. The present research delves into the situational-specific nature of Machiavellianism, aiming to extend the existing literature by examining the

synergy effects of Machiavellianism in one particular organizational context, namely how employees perceive the error tolerance at work. Furthermore, our study extends prior research on error tolerance by revealing its potential negative impact. By illuminating this perspective, our research uncovers the maladaptive impacts of error tolerance, thus advancing the multifaceted understanding of perceived error tolerance in organizations. In light of this potential dark side, organizations should be mindful when adopting error tolerance. Moreover, while adopting a tolerant attitude towards errors, organizations should reinforce ethical training, emphasize the importance of rule compliance, and ultimately enhance employees' moral awareness. In doing so, these trainings facilitate mitigating employees' unethical behaviors while promoting the positive outcomes of error tolerance.

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Theme: Airport Experience & Special topics

Decoding Airline Passenger Satisfaction: A Machine Learning Approach to Explore the Influencing Factors (Paper#160)

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Abstract:

The primary goal of this study is to forecast airline satisfaction using a machine learning model and identify the features most strongly associated with passenger satisfaction. Multiple classification models, including Decision Tree, K-Nearest Neighbors, Stochastic Gradient Descent, Ridge Regression, Perceptron, and Gaussian Naive Bayes, have been utilized and compared. The findings indicate that the Decision Tree classifier exhibits superior overall performance, achieving an accuracy of 90.22%, along with precision (90.56%), recall (92.24%), and an F1 score of 91.39%. Notably, in-flight entertainment emerges as a pivotal factor influencing customer satisfaction. The outcomes of this study offer valuable insights for the application of machine learning in predicting the satisfaction of airline passengers.

Keywords: Airline, Satisfaction, Machine Leaning, Prediction, Decision Tree

1. Introduction

In the dynamic landscape of the United States aviation industry, where millions of passengers embark on journeys daily, the significance of the airline sector cannot be overstated. As a vital component of the nation's economic infrastructure, the airline industry contributes substantially to economic growth, job creation, and connectivity. In 2022, the number of passengers transported by U.S. airlines increased by 194 million compared to the previous year, marking a substantial 30% year-on-year growth. Over the entire span of January through December 2022, U.S. airlines recorded a total of 853 million passengers, a significant rise from 658 million in 2021 and 388 million in 2020 (Bureau of Transportation Statistics, 2023), which is underlining its pivotal role in fostering national and international mobility

However, the success of the airline industry is intricately tied to the satisfaction of its passengers. The airline's ability to meet and exceed customer expectations directly impacts its market competitiveness, brand reputation, and, consequently, its overall viability. Passenger satisfaction is a critical metric that influences consumer loyalty, repeat business, and the financial

performance of airline companies (Siering et al., 2018). Dissatisfied passengers not only pose a risk to individual carriers but can also influence the industry's collective reputation. In recent years, the integration of machine learning techniques has emerged as a powerful tool for enhancing operational efficiency and customer experience across various industries. In the context of the airline industry, the application of machine learning to predict passenger satisfaction represents a groundbreaking approach.

The objective of this research is to anticipate airline passenger satisfaction through the utilization of machine learning algorithms. The models are constructed using data pertaining to the prediction of US airline passenger satisfaction. We offer an overview of existing literature on airline passenger satisfaction and previous research that employed machine learning for predictive purposes. Subsequently, we outline a research methodology employing various classification algorithms to analyze the most important features of the dataset and facilitating comparisons of each algorithm's accuracy.

This study addresses several key research gaps. First, there is a lack of comprehensive studies that utilize multiple machine learning algorithms to systematically predict passenger satisfaction using a large-scale dataset. While a few prior studies have explored machine learning in airline contexts, they often focus on a single model or limited evaluation metrics. Second, there is limited investigation into feature importance using interpretable models, which could guide airline service improvements by identifying the most influential satisfaction drivers. Third, although qualitative aspects of satisfaction (e.g., ambiance, service quality) have been discussed in literature, few studies quantitatively measure their relative impact through a feature-ranking approach. Finally, this study is an ongoing study and it lays the groundwork for our subsequent future sentiment analysis research (Study 2), which bridges the gap between structured survey data and unstructured online content such as reviews and social media posts. By addressing these gaps, the present research contributes to both academic knowledge and managerial practice and offers a data-driven framework for improving passenger experience through predictive modeling.

2. Literature Review

2.1. Airline Passenger Satisfaction

Airline passenger satisfaction is a pivotal aspect of the aviation industry, prompting extensive research to uncover the multifaceted factors that influence travelers' contentment. Kos Koklic et al. (2017) identified a positive correlation between customer satisfaction and the excellence of staff performance along with tangible aspects of the airline, encompassing seat comfort, legroom, and additional amenities. Similarly, Loureiro and Fialho (2017) scrutinized the flight experiences of 304 airline passengers in Europe and their study delved into the impact of in-flight ambiance, such as temperature and odors, as well as space/function considerations, including seat configuration, comfort, and in-flight amenities, along with the attributes of the

crew. The findings from their research elucidated the connections between these factors and passengers' levels of satisfaction, trust, affective commitment, ultimately influencing behavioral intentions. In an investigation by Park (2007), an analysis of airline passenger purchasing behavior, revealed that business class passengers consistently rated the value of service, in-flight service, and overall service quality higher compared to economy passengers. And An and Noh's (2009) research pointed out the significance of six attributes for passengers, namely alcoholic and non-alcoholic beverages, responsiveness and empathy, reliability, assurance, presentation style of food, and food quality.

Despite the breadth of existing literature, most studies on airline passenger satisfaction rely on traditional statistical methods, such as factor analysis or regression, to explore passenger attitudes and service attributes. While insightful, these approaches often lack predictive capabilities and may not effectively handle high-dimensional data or uncover complex nonlinear relationships between variables. Additionally, many prior studies focus on specific service elements or demographic segments which limits the generalizability and practical application of findings for broader airline management strategies.

2.2. Machine Learning as a Method to Predict Satisfaction

Numerous empirical investigations have employed machine learning classifiers to predict satisfaction using real-world datasets. Conlon et al. (2021) demonstrated the feasibility of analyzing and accurately forecasting employee job satisfaction through supervised machine learning methods and revealed that the Nystroem Kernel SVM Classifier algorithm emerged as the most effective, achieving an accuracy rate surpassing 96%. In a study by Faisal and Faisal (2022), the k-Nearest Neighbor (KNN) technique was employed to assess customer satisfaction among camera tenants, proving to be an excellent method. Bellizzi et al. (2002) utilized the decision tree approach to scrutinize the satisfaction of highly educated individuals with airline services. Aisyah et al. (2021) applied the Naïve Bayes Method to predict the satisfaction of lecturers with institutional performance, yielding test results with a notable accuracy level of 85.48%. Additionally, Tapak et al. (2019) evaluated factors influencing tourism satisfaction using K-nearest neighborhood and random forest models.

3. Methodology and Results

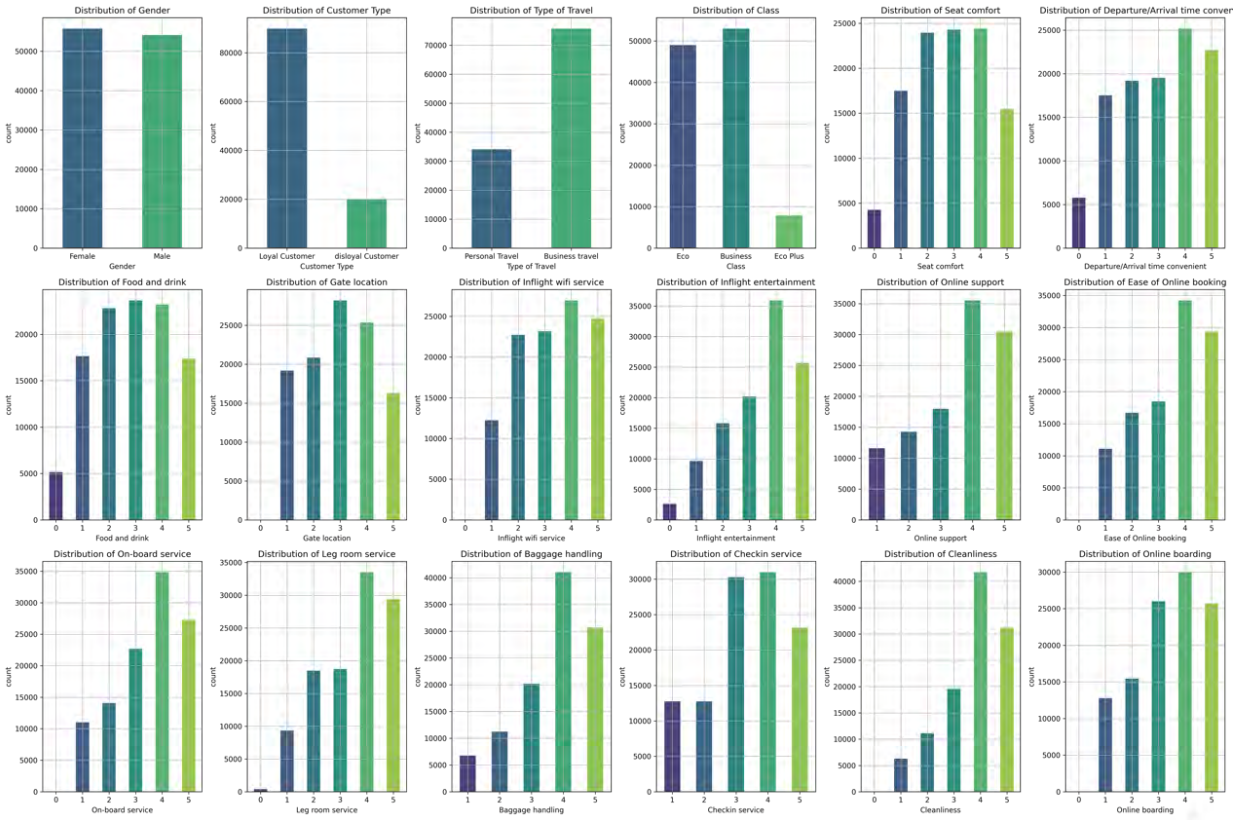
This research utilized the US Airline Passenger Satisfaction dataset, comprising 129,880 observations with one target variable which is the satisfaction and 22 attributes encompassing diverse features such as the demographic information, travel details, and in-flight service.

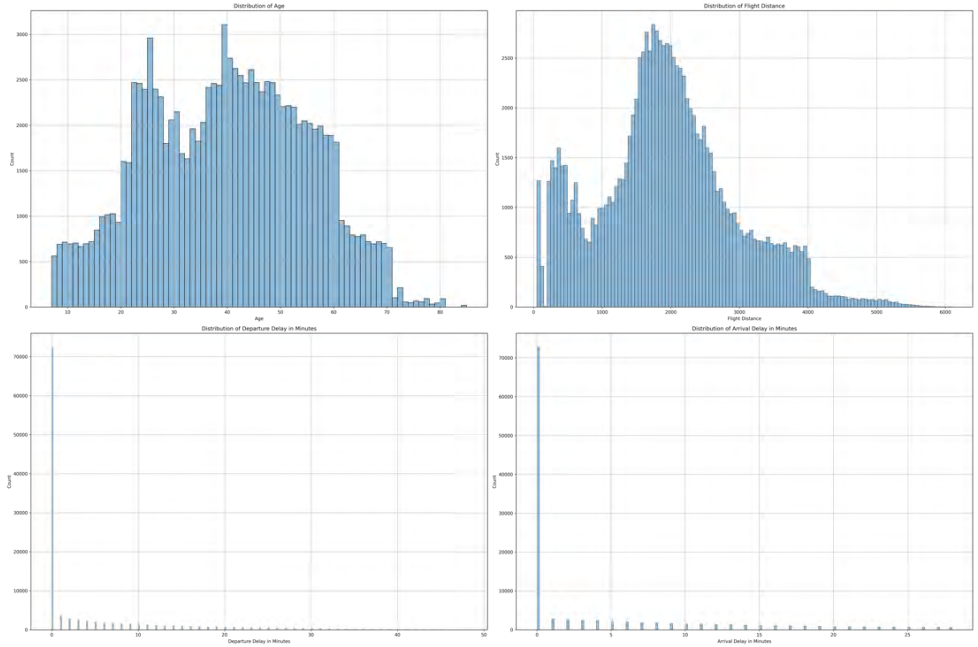
	satisfaction_v2	Gender	Customer Type	Age	Type of Travel	Class	Flight Distance	Seat comfort	Departure/Arrival time convenient	Food and drink	...	Online support	Ease of Online booking	On-board service	Leg room service	Baggage handling	Checkin service	Cleanliness	Online boarding	Departure Delay in Minutes	Arrival Delay in Minutes
0	satisfied	Female	Loyal Customer	65	Personal Travel	Eco	265	0	0	0	...	2	3	3	0	3	5	3	2	0	0.0
1	satisfied	Male	Loyal Customer	47	Personal Travel	Business	2464	0	0	0	...	2	3	4	4	4	2	3	2	310	305.0
2	satisfied	Female	Loyal Customer	15	Personal Travel	Eco	2138	0	0	0	...	2	2	3	3	4	4	4	2	0	0.0
3	satisfied	Female	Loyal Customer	60	Personal Travel	Eco	623	0	0	0	...	3	1	1	0	1	4	1	3	0	0.0
4	satisfied	Female	Loyal Customer	70	Personal Travel	Eco	354	0	0	0	...	4	2	2	0	2	4	2	5	0	0.0

Data Preprocessing:
The dataset is loaded and duplicates are removed to ensure data integrity. The 'id' column is dropped as it does not contribute to the analysis. Missing values are handled appropriately. Discrete and continuous features are identified through a systematic approach.

Outlier Detection and Removal:
Outliers in continuous features are identified using the Interquartile Range (IQR) method. Data points beyond 3 times the IQR are considered outliers and removed to enhance the quality of the dataset.

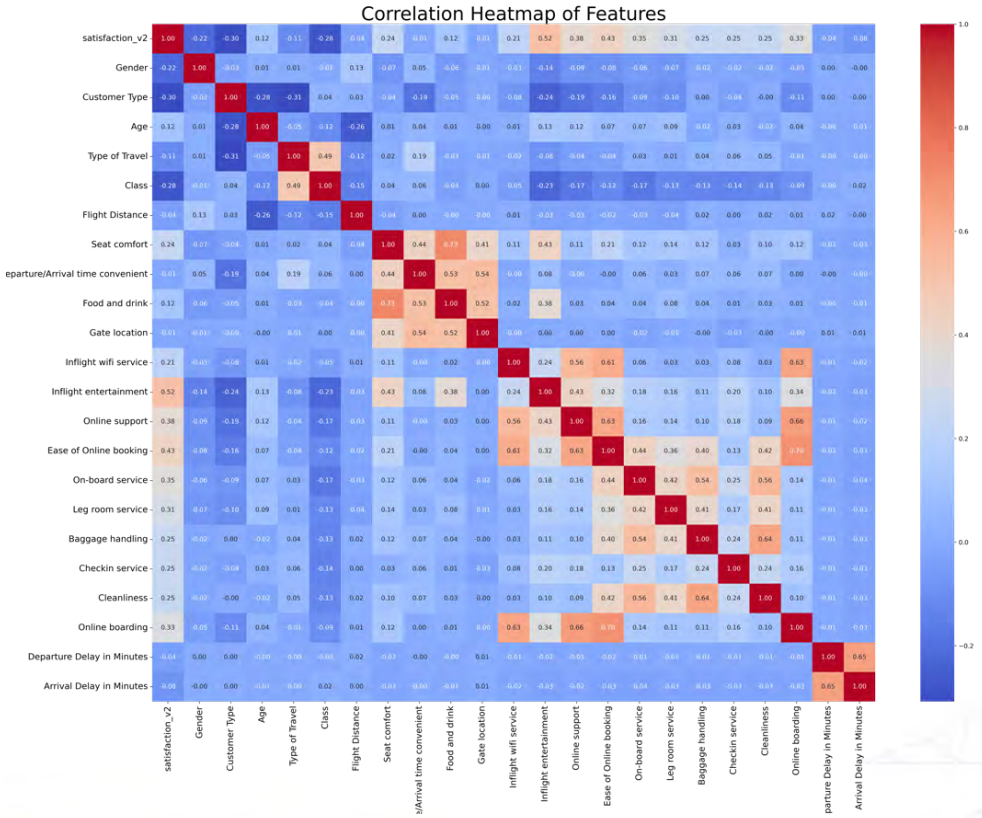
Exploratory Data Analysis (EDA):
The distribution of both discrete and continuous features is visualized to gain insights into their patterns. Count plots and histograms are used to illustrate the frequency distribution of discrete and continuous features respectively. This step helps in understanding the characteristics of each feature.





Correlation Analysis:

A correlation heatmap is generated to visualize the relationships between features. This analysis aids in identifying potential multicollinearity among variables and highlights influential factors related to passenger satisfaction.



As shown in the heatmap, "Food and drink" and "seat comfort" are positively correlated with a ratio of 0.73. "Ease of online booking" and "Online boarding" are positively correlated with a ratio of 0.70. "Online support" and "Online boarding" are positively correlated with a ratio of 0.66. "Cleanliness" and "Baggage handling" are positively correlated with a ratio of 0.64. "Inflight wifi service" and "Online boarding" are positively correlated with a ratio of 0.63. "Online support" and "Ease of online booking" are positively correlated with a ratio of 0.63. Also, Ease of online booking" and "Inflight wifi service" are positively correlated with a ratio of 0.61.

Machine Learning Model Evaluation:
Several machine learning models, including Decision Tree, K-Nearest Neighbors, Stochastic Gradient Descent, Ridge Regression, Perceptron, and Gaussian Naive Bayes, are trained and evaluated using the data. Model performance metrics such as accuracy, precision, recall, and F1 score are calculated and compared.

Decision Tree:
A Decision Tree is a versatile supervised learning algorithm widely used for classification and regression tasks. The model works by recursively partitioning the dataset into subsets based on the most significant feature at each node. This process creates a tree-like structure where each leaf node represents a class label or a numerical value. Decision Trees are known for their interpretability, as the resulting tree can be visualized and easily understood. However, they are prone to overfitting, especially when the tree becomes too deep.

K-Nearest Neighbors (KNN):
K-Nearest Neighbors is a simple and intuitive algorithm for both classification and regression tasks. The model classifies a data point based on the majority class of its k-nearest neighbors in the feature space. KNN relies on the assumption that similar instances in the feature space share similar labels. While KNN is easy to implement, it can be computationally expensive for large datasets and may struggle with high-dimensional data.

Stochastic Gradient Descent (SGD):
Stochastic Gradient Descent is an optimization algorithm commonly used for training machine learning models, especially in the context of linear models like logistic regression and support vector machines. It optimizes the model parameters by iteratively adjusting them based on the gradient of the loss function with respect to the parameters. SGD is efficient and scalable, making it suitable for large datasets. It is particularly effective in online learning scenarios.

Ridge Regression:
Ridge Regression, also known as Tikhonov regularization, is a linear regression technique that addresses multicollinearity in the feature space. It introduces a regularization term to the ordinary least squares objective function, preventing the model from becoming too sensitive to the input features. Ridge Regression is beneficial when dealing with datasets where features are highly correlated, as it helps stabilize the model and can improve generalization to new data.

Perceptron:
The Perceptron is one of the simplest forms of artificial neural networks, consisting of a single layer of binary threshold units. It's a linear classifier used for binary classification tasks. The model learns by adjusting its weights based on misclassifications, converging towards a decision boundary that separates the classes. While the Perceptron is limited to linearly separable data, it serves as the foundation for more complex neural network architectures.

Gaussian Naive Bayes:
Gaussian Naive Bayes is a probabilistic classification algorithm based on Bayes' theorem and the assumption of independence between features. It's particularly effective for text classification tasks. The model calculates the probability of each class given a set of features and selects the class with the highest probability. Despite its simplicity and the "naive" assumption, Gaussian Naive Bayes often performs well in practice, especially when the independence assumption is not severely violated.

	Model	Accuracy	Precision	Recall	F1 Score
0	Decision Tree	0.902184	0.905556	0.922393	0.913897
1	K-Nearest Neighbors	0.631028	0.662100	0.703314	0.682085
2	Stochastic Gradient Descent	0.567789	0.565977	0.995150	0.721571
3	Ridge Regression	0.837580	0.865449	0.842361	0.853748
4	Perceptron	0.570064	0.567593	0.991108	0.721813
5	Gaussian Naive Bayes	0.826661	0.857860	0.829426	0.843403

Among the models assessed, the Decision Tree classifier demonstrates the highest overall performance, achieving an accuracy of 90.22%. This model also exhibits balanced precision (90.56%), recall (92.24%), and F1 score (91.39%), indicating its effectiveness in accurately predicting both positive and negative instances of passenger satisfaction.

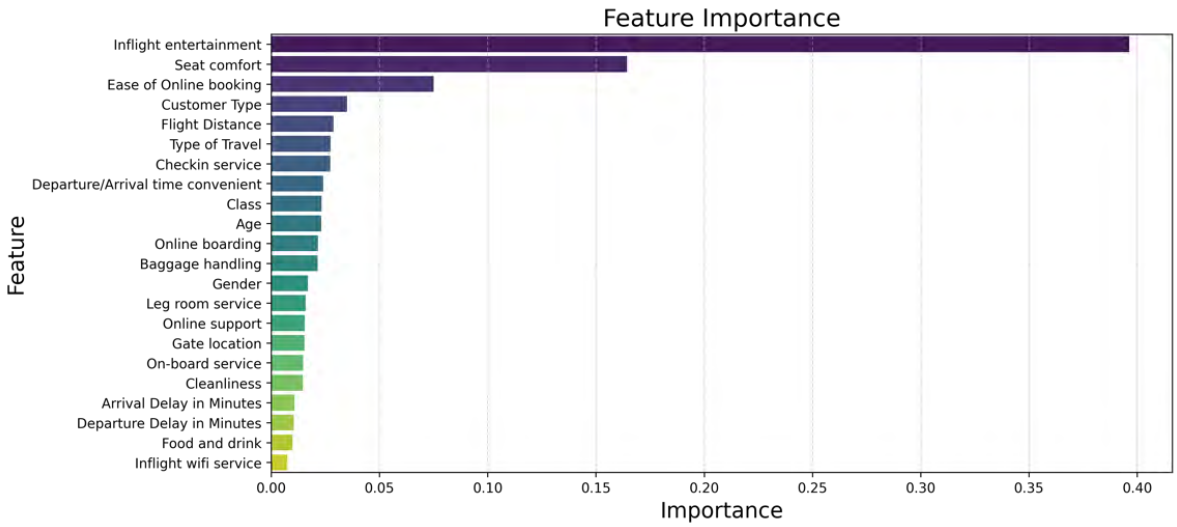
On the other hand, the K-Nearest Neighbors (KNN) model performs less satisfactorily, with an accuracy of 63.10%. While demonstrating reasonable precision (66.21%), the KNN model falls short in recall (70.33%) and F1 score (68.21%), suggesting potential challenges in accurately identifying satisfied passengers. The Stochastic Gradient Descent (SGD) classifier exhibits a notably high recall of 99.52%, indicating its proficiency in identifying satisfied passengers. However, this comes at the cost of reduced precision (56.60%), resulting in a moderate F1 score of 72.16%. The Perceptron model displays similar characteristics, with a high recall of 99.11%

but lower precision (56.76%) and F1 score (72.18%). Ridge Regression and Gaussian Naive Bayes models achieve accuracies of 83.76% and 82.67%, respectively. Ridge Regression demonstrates well-balanced precision (86.54%), recall (84.24%), and F1 score (85.37%), showcasing its ability to provide accurate predictions across both classes. Gaussian Naive Bayes, while displaying competitive precision (85.79%) and recall (82.94%), achieves a slightly lower F1 score of 84.34%.

In summary, the Decision Tree model stands out as the most effective in predicting passenger satisfaction, offering a well-rounded performance across multiple metrics. However, the choice of the optimal model depends on specific considerations such as the importance of precision or recall in the airline's context.

Feature Importance:

The feature importance of each variable is determined using a Decision Tree classifier. The importance scores are visualized using a bar plot, providing a clear understanding of the most influential features affecting passenger satisfaction.



The feature importance analysis reveals critical insights into the factors influencing passenger satisfaction in the airline industry. Among the demographic features, "Customer Type" contribute modestly to satisfaction, with importance scores of 0.035, "Type of Travel" and "Class" exhibit importance scores of 0.027 and 0.023, respectively, indicating their influence on overall satisfaction. The age of passengers, denoted by the "Age" feature, carries a weight of 0.023 in determining satisfaction levels. However, the most impactful features on passenger satisfaction are related to the in-flight experience. Notably, "Seat comfort" stands out with a significant importance score of 0.164, highlighting its crucial role in determining overall satisfaction. "Inflight entertainment" emerges as the most influential feature, with an astonishingly high importance score of 0.396, underscoring the substantial impact of entertainment offerings on passenger

contentment. Other service-related features such as "Ease of Online booking" and "Online boarding" also contribute to satisfaction, though to a lesser extent. "Food and drink", "Inflight wifi service", "Departure Delay in Minutes" and "Arrival Delay in Minutes" exhibit relatively lower importance scores but still play discernible roles in shaping passenger satisfaction.

This feature importance analysis underscores the significance of in-flight comfort, particularly "In-flight entertainment" and "Seat comfort" in driving overall passenger satisfaction. Airlines aiming to enhance customer experience should prioritize improvements in these key areas to achieve higher satisfaction levels and consequently improved competitiveness in the industry.

4. Discussion and Implications

4.1. Discussion

In summary, the objectives outlined in this study were successfully realized, with a primary focus on applying machine learning techniques to forecast airline passenger satisfaction. The evaluation of classifier performance encompassed four critical metrics—accuracy, precision, recall, and F1-score—revealing the Decision Tree Classifier as the foremost model in terms of efficacy. Following closely was the Ridge Regression, Naïve Bayes, KNN, Perception, and Stochastic Gradient Descent models. Furthermore, this feature importance analysis underscores the significance of in-flight comfort, particularly "In-flight entertainment" and "Seat comfort" in driving overall passenger satisfaction. Airlines aiming to enhance customer experience should prioritize improvements in these key areas to achieve higher levels of satisfaction and consequently improve competitiveness in the industry.

4.2. Academic and practical implications

Theoretical implications: While traditional satisfaction research often applies statistical techniques to assess linear relationships, our study incorporates machine learning to detect complex, nonlinear patterns and interactions. This methodological shift opens new avenues for theoretically -informed prediction models in service research. The findings support and refine prior conceptual assumptions about the influence of service quality, travel characteristics, and operational performance on satisfaction.

Practical implications: Airlines should invest in enhancing in-flight entertainment systems and seat comfort, as these are top predictors of passenger satisfaction. These areas may yield higher ROI compared to lower-impact factors. Additionally, machine learning models like Decision Trees offer transparent, interpretable outputs that can be used to tailor services based on passenger profiles, travel types, and service expectations. And the framework developed here can be integrated into customer experience management systems to provide continuous feedback loops which can help airlines predict dissatisfaction early and intervene effectively.

4.3. Limitations of this study and suggestions for future research

However, it is essential to acknowledge a limitation inherent in our study: the insufficiency of dataset information. The absence of details such as the survey year and the specific airlines company name makes it harder to fully understand the context. Future research endeavors could explore a comparative analysis between pre-COVID and post-COVID data, offering insights into the evolving dynamics within the airline industry. This is an ongoing study, for the subsequent study 2, we will be focusing on sentiment analysis using online data to enhance understanding of airline passenger satisfaction. For example, online reviews and social media posts related to several major airlines will be collected. Libraries and frameworks like TensorFlow or PyTorch will be used. The present findings will be on the distribution of sentiments across different airlines and flights, and the sentiment analysis results can be used for airline service improvement and strategy development.

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Identifying necessary and probabilistic sufficient conditions for memorable airport experience (Paper #027)

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Abstract:

This study examines the necessary and sufficient conditions for a memorable airport experience (MAE) using Necessary Condition Analysis (NCA) and Generalized Structured Component Analysis (GSCA). Findings show that check-in (CI) and leisure and entertainment (LE) are both necessary and sufficient, directly enhancing MAE. Signage and wayfinding (SW), flight information (FI), security screening (SC), and immigration and baggage processing (IM) are necessary but insufficient, acting as enablers. Terminal atmosphere (TA) is neither necessary nor sufficient. These insights advance servicescape and experience economy theories while guiding airport authorities and tourism stakeholders in improving service efficiency and passenger engagement.

Keywords: Airport, servicescape, memborable airport experience, necessary conditions, passenger experience

1. Introduction

The airport experience (AE) has emerged as a critical component of air travel, significantly influencing passenger satisfaction, behavioral intentions, and destination image (Wattanacharoensil et al., 2017). Airports serve as the first and last contact points for travelers, shaping their perceptions of a destination and playing a pivotal role in the overall tourism experience (Graham, 2008). Consequently, ensuring a high-quality AE is a strategic imperative for airport authorities and tourism stakeholders. While prior research has explored the dimensions of AE, including service quality, airport environment, and passenger behavior (Fakfare, 2023), the conceptualization of a memorable airport experience (MAE) remains relatively underdeveloped, highlighting a key research gap.

A memorable airport experience (MAE) is one that passengers retain in their long-term memory and is characterized by positive emotional, cognitive, and behavioral responses. Existing studies suggest that the AE is influenced by various quality attributes, including terminal ambience, security, passenger facilities, and information availability (Fakfare et al., 2021). However, these studies do not differentiate between necessary conditions (which must be present for an MAE to occur) and sufficient conditions (which enhance its likelihood). This lack of distinction represents another critical gap in the literature, as understanding these conditions can help airports prioritize efforts to enhance passenger experiences.

The Servicescape Theory (Bitner, 1992) provides a foundation for analyzing how the physical environment influences passenger perceptions and behaviors. Servicescape encompasses ambient conditions, spatial layout, signage, and social interactions, all of which shape the travel experience. In an airport setting, these factors contribute to efficiency, comfort, and emotional engagement, which in turn influence the memorable experience. However, prior research has not sufficiently applied servicescape theory to explain how different environmental factors contribute specifically to memory formation in airports (Wattanacharoensil et al., 2022).

The concept of Memorable Experience draws from Episodic Memory Theory (Tulving, 1985) and Experience Economy Theory (Pine & Gilmore, 1998), which suggest that distinct and emotionally engaging experiences are encoded into long-term memory. Theories of experience consumption highlight the interplay between functional, emotional, and hedonic dimensions in shaping consumer memories (Holbrook & Hirschman, 1982). These frameworks suggest that an enriched servicescape can significantly enhance the memorability of the airport experience. Applying these theories, this study seeks to address the following key research questions:

1) What are the necessary conditions for a memorable airport experience?
2) What probabilistic sufficient conditions contribute to making an airport experience memorable?

Considering the abovementioned discussion, this research aims to identify the necessary and probabilistic sufficient conditions that contribute to a memorable airport experience. This study employs a multi-method approach, integrating Necessary Condition Analysis (NCA) and Generalized Structured Component Analysis (GSCA) to distinguish between essential factors and enhancing conditions in MAE. Existing AE research primarily relies on traditional survey-based methods, lacking a comprehensive approach that captures the complex interplay between different experience dimensions. By utilizing NCA and GSCA, this study provides deeper insights into the hierarchy of influences on MAE, bridging the gap between foundational requirements and value-added elements.

2. Literature Review

2.1 Airport Experience and Servicescape

The airport experience (AE) is a multidimensional construct that extends beyond basic transportation functions to encompass the overall passenger journey within an airport (Wattanacharoensil et al., 2017). AE has been studied in terms of service quality, operational efficiency, and the emotional responses of passengers (Fakfare, 2023). Prior research has emphasized that airport environments impact passenger satisfaction and travel behavior, with critical touchpoints including check-in services, security screening, terminal facilities, and retail offerings (Bezerra & Gomes, 2016).

Servicescape Theory (Bitner, 1992) explains how the physical environment influences consumer behavior, particularly in service settings like airports. Servicescape consists of three primary dimensions:

1) Ambient Conditions: Lighting, temperature, noise, and scent contribute to overall comfort.
2) Spatial Layout and Functionality: The ease of navigation, queue design, and seating arrangement impact passenger movement and convenience.
3) Social Factors: The presence of staff, service interactions, and crowd density affect emotional perceptions.

Prior studies have highlighted that a well-designed servicescape not only enhances functional efficiency but also creates positive emotional experiences, which in turn affect passenger satisfaction and memorability (Fakfare et al., 2021). In this research, we consider the following factors concerning airport servicescape: 1) Signage and Wayfinding, 2) Terminal Atmosphere, 3) Flight Information and Accessibility, 4) Check-in Process, 5) Security Screening Experience, 6) Immigration & Baggage Processing, 7) Leisure & Entertainment.

2.2 Memorable Experience

The concept of memorable experiences originates from Episodic Memory Theory (Tulving, 1985), which asserts that experiences are stored in long-term memory based on their emotional and cognitive significance. Pine & Gilmore (1998) further elaborated on this by introducing the Experience Economy, which suggests that businesses should stage experiences that engage customers emotionally and sensorially.

In the airport context, memorable experiences (MAE) occur when a traveler encounters a unique, emotionally positive, and personally engaging journey. Key factors influencing MAE include: personalized interactions (e.g., friendly and efficient staff), unique aesthetic and cultural design within the airport, stress-free processing (e.g., fast check-in, smooth security clearance), and engaging leisure amenities (lounges, art installations, local cuisine).

These findings align with affect-based theories of satisfaction, which argue that emotions strongly impact memory formation (Westbrook, 1987). Memorable experiences have been found to influence passengers' future behaviors, including brand loyalty, word-of-mouth promotion, and airport preference (Kim et al., 2012). Considering the abovementioned literature and logics, we propose the following hypothesis:

H1: Airport servicescape factors such as signage, atmosphere, and amenities contribute significantly to the formation of a memorable experience.

2.3 Necessity logic

Necessary Condition Analysis (NCA) is a methodological approach used to identify factors that must be present for a specific outcome to occur (Dul, 2016). Unlike traditional regression-based models, NCA determines whether an independent variable is an essential prerequisite for an outcome, rather than just contributing to it probabilistically (Baah et al., 2024).

In the context of airport experience research, NCA can help identify critical servicescape factors that are indispensable for ensuring a memorable airport experience. For example, while multiple elements contribute to AE, factors such as security efficiency, cleanliness, and clear signage may be identified as necessary conditions, meaning that without them, the airport experience cannot be positive or memorable. Recent applications of NCA in tourism studies suggest that a lack of necessary conditions (e.g., poor wayfinding, long wait times, inadequate customer service) significantly reduces the likelihood of a positive experience (Baah et al., 2024). By applying NCA, this study seeks to identify critical elements that airports must focus on to create an optimal experience.

H2: If key airport servicescape factors (e.g., security efficiency, cleanliness, clear signage, comfortable seating, and engaging amenities) are low, a memorable airport experience will not reach high levels.

3. Methodology

3.1 Measurement and data collection

The survey instrument was developed based on validated scales from prior research on airport experience and servicescape (Bitner, 1992; Wattanacharoensil et al., 2017). The questionnaire included measures of airport servicescape factors such as signage and wayfinding, terminal atmosphere, flight information and accessibility, check-in process, security screening experience, basic facilities and passenger amenities, immigration and baggage processing, gate area and seating, baggage handling and processing, and leisure and entertainment. Additionally, the study measured the memorable airport experience using indicators related to emotional, cognitive, and behavioral responses. Passenger demographics, including age, gender, frequency of airport visits, and travel purpose, were also recorded. Responses were captured using a 7-point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree).

3.2 Data collection

The data was collected in mid-2024. This study collected data from 311 Thai passengers who had recently traveled through international airports. Participants were selected using a convenience sampling method, targeting individuals who had experienced an international airport environment within the past six months to ensure recall accuracy. Data collection was conducted through an online structured questionnaire, ensuring anonymity and confidentiality.

3.2 Data Analysis

The collected data was analyzed using SPSS and GSCA Pro (Hwang et al., 2024) for descriptive statistics, reliability testing, and structural model estimation. Generalized Structured Component Analysis (GSCA) was used to assess the probabilistic sufficient conditions that enhance the likelihood of a memorable experience (Hwang & Takane, 2004). Reliability and validity tests, including Cronbach's alpha and composite reliability, were conducted to ensure internal consistency, while confirmatory factor analysis (CFA) was used to validate the measurement model. The analysis involved Necessary Condition Analysis (NCA) through NCA package in R Programming Environment (Dul, 2016) to identify essential servicescape factors that must be present for a memorable airport experience to occur.

4. Results

Present results of data analyses. Tables and Figures will be helpful to explain the findings.

4.1. Profile of the respondents

Considering the respondent's profiles, the sample was fairly distributed between male (55%) and female (45%) respondents. The majority of participants reported a monthly income of THB 25,000. Additionally, more than half of the respondents had visited an international airport at least once per year, highlighting their familiarity with the airport experience.

4.2 Measurement and structural model evaluation

The results presented in Table 1 confirm the validity and reliability of the measurement model. The proportion of variance explained (PVE) quantifies the extent to which the total variance of a set of composite indicators is accounted for by its corresponding principal component on average, as typically assessed in principal components analysis (PCA) (Hwang et al., 2024). In this research, PVE of the examined constructs range between 0.70-0.846, thus indicating the unidimensionality for the block. In addition, dimensionality of all constructs also turns out to be 1. Construct reliability was confirmed with Dijkstra–Henseler's rho surpassing the recommended minimum criterion of 0.7 (Hair et al., 2020). The composite model assessment demonstrated that key features of the airport servicescape, such as signage clarity, terminal atmosphere, and accessibility, and memorable airport experience had positive estimated weight scores, with 95% confidence intervals excluding zero, further reinforcing model robustness (Table 1). HTMT values were generally found below 0.9, thus verifying discriminant validity.

Structural model evaluation using GSCA Pro 1.2.1 (Hwang et al., 2024) generally supported the hypothesized relationships (Table 2). The analysis involved an examination of path coefficients and multicollinearity assessment. Variance Inflation Factor (VIF) values were found below 3.3, indicating no significant multicollinearity concerns (Diamantopoulos & Siguaw 2006). Path coefficient significance was validated through a bootstrapping procedure with 5000 samples, employing a bias-corrected and accelerated confidence interval to ensure accurate estimation. The model fit statistics further confirmed the adequacy of the structural model, with SRMR = 0.044 and GFI = 0.994, demonstrating a strong model fit. These findings provide empirical support for the conceptual framework, reinforcing the critical role of airport servicescape factors in shaping memorable airport experiences.

Table 1. The measurement model evaluation.

Construct/Indicator	**PVE**	**Rho_a**	$\widehat{w}_i$	$\widehat{\lambda}_i$
1.Signage and Wayfinding	0.809	0.927		
SW1: Signage effectively directs passengers.			0.907	0.376
SW2: Signage size is appropriate.			0.904	0.374
SW3: Signage quantity is sufficient.			0.888	0.361
2. Terminal Atmosphere	0.7	0.898		
TA1: Lighting is pleasant.			0.855	0.244
TA2: Temperature is comfortable.			0.855	0.244
TA3: Announcement volume is appropriate.			0.766	0.22
TA4: Airport aroma is pleasant.			0.829	0.237
TA5: Facilities are clean.			0.875	0.249
3. Flight Information	0.814	0.946		
FI1: Screens provide relevant flight info.			0.908	0.283
FI2: Screens are easily visible.			0.897	0.272
FI3: Flight info is updated timely.			0.893	0.275
FI4: Screen locations are convenient.			0.911	0.278
4. Check-in Process	0.702	0.922		
CI1: Check-in staff are friendly and helpful.			0.821	0.24
CI2: Staff communicate clearly.			0.855	0.239
CI3: Check-in process is efficient.			0.891	0.255
CI4: Luggage carts are available.			0.785	0.227
CI5: Wait-time at check-in is reasonable.			0.833	0.233

Construct/Indicator	PVE	Rho_a	$\widehat{w}_i$	$\widehat{\lambda}_i$
5. Security Screening Experience SC1: Security screening felt safe.	0.737	0.934	0.858	0.233
SC2: Security staff are friendly.			0.868	0.239
SC3: Staff provide clear instructions.			0.882	0.235
SC4: Screening is thorough.			0.869	0.235
SC5: Security wait-time is reasonable.			0.819	0.222
6. Immigration & Baggage Processing IM1: Outbound immigration wait-time is reasonable.	0.796	0.921	0.899	0.373
IM2: Inbound immigration wait-time is reasonable.			0.91	0.382
IM3: Baggage claim wait-time is reasonable.			0.867	0.366
7. Leisure & Entertainment LE1: Interior design is attractive.	0.73	0.915	0.851	0.299
LE2: Airport is modern and well-maintained.			0.876	0.304
LE3: Amenities enhance the experience.			0.855	0.286
LE4: Events and exhibitions are interesting.			0.837	0.281
8. Memorable airport experience MAE1: I have had a lot of memorable experiences with this airport.	0.846	0.943	0.939	0.397
MAE2: Thinking of visiting this airport brings back good memories.			0.895	0.31
MAE3: I really enjoyed this experience encountered in this airport.			0.925	0.378
GFI: 0.994, SRMR: 0.044				

Note: $\widehat{w}_i$ = estimated weights, $\widehat{\lambda}_i$ = estimated loadings, PVE = proportion of variance explained

Table 2. Probabilistic sufficient results

Relationship	Estimate	95% CI	
SW→MAE	0.126	-0.066	0.306
TA→MAE	-0.004	-0.15	0.162
FI→MAE	0.093	-0.067	0.26
CI→MAE	**0.205**	**0.062**	**0.33**
SC→MAE	0.084	-0.065	0.251
IM→MAE	0.107	-0.011	0.225
LE→MAE	**0.37**	**0.254**	**0.475**
$R^{2:}$ = 0.709			

Note: SW = Signage and Wayfinding, TA = Terminal Atmosphere, FI = Flight Information, CI = Check-in Process, SC = Security Screening Experience, IM = Immigration & Baggage Processing, LE = Leisure & Entertainment, MAE = Memorable airport experience

The probabilistic sufficient analysis (Table 2) provides deeper insights into the influence of airport servicescape factors on memorable airport experience (MAE). The R^2 value of 0.709 indicates that the model explains approximately 70.9% of the variance in MAE, suggesting that airport servicescape factors play a substantial role in shaping passengers' overall airport experiences. Examining the path estimates, leisure and entertainment (LEI → MAE, 0.37, 95% CI: 0.254–0.475) emerges as the strongest predictor of memorable airport experience. This finding highlights the importance of engaging amenities, aesthetic appeal, and unique airport attractions in fostering positive passenger experiences. Other factors, such as the check-in process (CI → MAE, 0.205, 95% CI: 0.062–0.33), exhibit moderate but positive effects on memorable airport experience, emphasizing the significance of operational efficiency. However, other servicescape factors, including signage and wayfinding, terminal atmosphere, flight information, security screening, and immigration and baggage processing, were found to be statistically insignificant, as their confidence intervals included zero. This suggests that while these factors contribute to the overall passenger experience, they do not necessarily enhance a memorable experience on their own. H1 was partially supported. These findings provide empirical support for the conceptual framework, reinforcing the critical role of leisure and entertainment facilities in shaping memorable airport experiences while indicating that other airport servicescape factors may serve more as supporting elements rather than primary drivers of memorability. The next section presents the discussion and managerial implications of these findings.

4.2 Single necessary condition analysis

The NCA results provide a crucial understanding of the necessary conditions required to achieve a memorable airport experience (MAE). Unlike sufficiency-based analyses, which examine factors that contribute to an outcome, NCA identifies variables that must be present for the outcome to occur. The findings from the NCA approach demonstrate the essential airport servicescape attributes that act as bottlenecks for enhancing the memorability of an airport experience.

The results in Table 3 indicate that the check-in process (CI) emerges as the most critical necessary condition, with an effect size of 0.246 ($p = 0.000$). This suggests that a well-structured and efficient check-in process is indispensable for ensuring a memorable airport experience. Other servicescape factors, including signage and wayfinding (SW), security screening experience (SC), flight information (FI), immigration and baggage processing (IM), and leisure and entertainment (LE), also exhibit necessary condition characteristics, with effect sizes ranging from 0.113 to 0.169 ($p < 0.05$). These results imply that these factors must meet a minimum threshold for passengers to perceive an airport as memorable. Terminal atmosphere (TA) is also found to be necessary in degree, with an effect size of 0.085 ($p = 0.164$), indicating that while it is not as critical as other factors, it still plays a supporting role in enhancing the airport experience.

These findings align with Hypothesis 2 (H2), which posits that if key airport servicescape factors (e.g., security efficiency, cleanliness, clear signage, comfortable seating, and engaging amenities) are low, a memorable airport experience will not reach high levels. The NCA results confirm that lower levels of these essential airport servicescape elements significantly limit the formation of a high-level memorable airport experience, reinforcing that these conditions are not merely contributors but necessary requirements for achieving high MAE levels. Effect size interpretation follows Dul (2016), where values $d \geq 0.1$ indicate a meaningful necessary condition, while values $d \geq 0.3$ suggest a strong constraint on the outcome variable. In this study, CI ($d = 0.246$), FI ($d = 0.165$), and SC ($d = 0.169$) demonstrate moderate constraint, while TA ($d = 0.085$) is considered necessary but to a lesser degree.

The bottleneck analysis presented in Table 4 further examines the minimum levels of necessary conditions required to achieve different levels of MAE. At a 30% level of MAE, check-in process (CI) and security screening (SC) require a minimum level of 10.9% and 10.7%, respectively. This suggests that even at a low MAE threshold, efficient check-in and security processing play a crucial role. At a 50% level of MAE, check-in (CI) becomes even more vital, requiring at least 22.5% of its maximum capacity to ensure a moderate level of MAE. As MAE increases to 80% and 90%, the minimum necessary levels of flight information (FI), security screening (SC), and baggage processing (IM) rise considerably, reinforcing their importance in shaping a positive airport experience. Additionally, leisure and entertainment (LE) becomes increasingly significant at higher MAE levels, requiring 33.8% at 80% MAE and 51% at 90% MAE. This suggests that while entertainment and ambiance are not essential at lower satisfaction levels, they become crucial differentiators in creating an exceptionally memorable experience. Figure 1 also illustrates the NCA plots.

Table 5 categorizes airport servicescape attributes into four exhaustive conditions. Check-in process (CI) and leisure and entertainment (LE) are both necessary and sufficient conditions for MAE, meaning that their presence is indispensable and contributes directly to a high-level memorable experience. Signage and wayfinding (SW), flight information (FI), security screening (SC), and immigration and baggage processing (IM) are necessary but insufficient conditions, suggesting that while they must be present to a certain extent, they do not, by themselves, create a highly memorable airport experience. These factors act as enablers rather than drivers. Terminal atmosphere is unnecessary and insufficient condition for MAE, implying that it does not play a critical role in shaping a highly memorable airport experience (MAE). These findings emphasize that while some factors play a foundational role in MAE, others serve as enhancers that elevate the experience to a higher level. Airports should focus on optimizing critical elements such as check-in processes, security screening, and baggage handling while investing in leisure and entertainment options to create a truly memorable passenger experience.

Table 3. NCA effect size.

Construct MAE (outcome)	CE-FDH Effect size (*d*)	*p*-value	Necessary?
SW	**0.113**	**0.000**	**In kind**
TA	0.085	0.164	In degree
FI	**0.165**	**0.000**	**In kind**
CI	**0.246**	**0.000**	**In kind**
SC	**0.169**	**0.000**	**In kind**
IM	**0.132**	**0.000**	**In kind**
LE	**0.129**	**0.000**	**In kind**

Note: CE-FDH = the Ceiling Envelopment—Free Disposal Hull, SW = Signage and Wayfinding, TA = Terminal Atmosphere, FI = Flight Information, CI = Check-in Process, SC = Security Screening Experience, IM = Immigration & Baggage Processing, LE = Leisure & Entertainment, MAE = Memorable airport experience, Bold value = significance

Table 4. Bottleneck table (percentage range).

MAE (outcome)	SW	TA	FI	CI	SC	IM	LE
00	NN	NN	NN	NN	NN	NN	NN
10	NN	NN	NN	NN	NN	NN	NN
20	NN	NN	NN	NN	NN	NN	NN
30	NN	NN	NN	10.9	10.7	NN	NN
40	NN	NN	NN	10.9	10.7	11.5	NN
50	NN	NN	NN	22.5	10.7	11.5	NN
60	NN	NN	NN	22.5	16.7	11.5	13.4
70	26.7	25.5	42.6	44.1	16.7	11.5	15.2
80	26.7	25.5	47.4	44.1	35.8	28.1	33.8
90	40.0	25.5	56.6	62.0	37.4	33.0	51.0
100	40.0	25.5	56.6	62.0	56.4	39.1	51.0

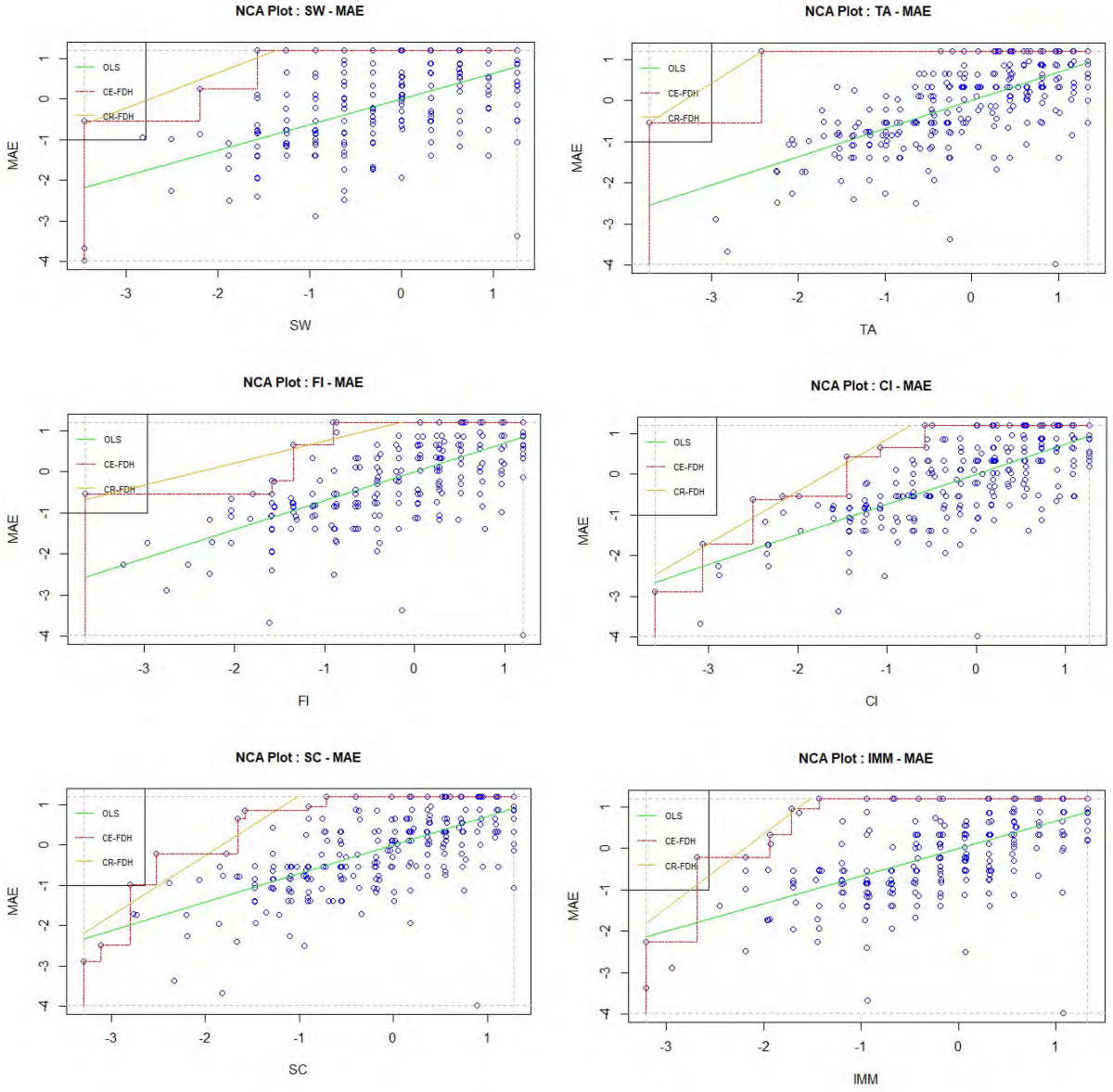
Note: Bottleneck table for the CE-FDH ceiling technique: required minimum levels of the necessary condition with 0 = observed minimum and 100 = observed maximum) for different desired levels of the FWB, NN = not necessary, SW = Signage and Wayfinding, TA = Terminal Atmosphere, FI = Flight Information, CI = Check-in Process, SC = Security Screening Experience, IM = Immigration & Baggage Processing, LE = Leisure & Entertainment, MAE = Memorable airport experience

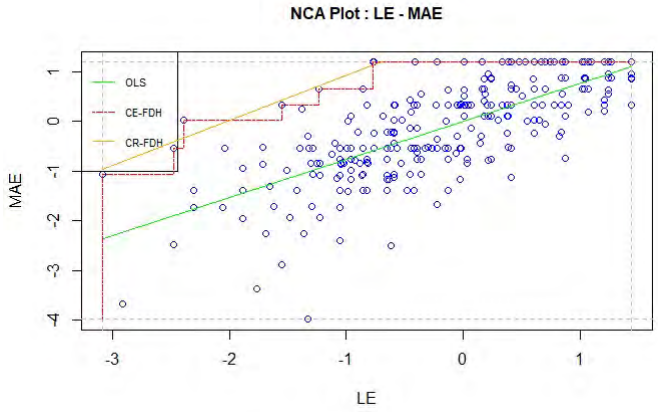
Table 5. The four exhaustive conditions of the development of MAE.

Condition	Sufficient*	Insufficient
Necessary	CI, LE	SW, FI, SC, IM
Unnecessary	-	TA

Note: SW = Signage and Wayfinding, TA = Terminal Atmosphere, FI = Flight Information, CI = Check-in Process, SC = Security Screening Experience, IM = Immigration & Baggage Processing, LE = Leisure & Entertainment, MAE = Memorable airport experience

Figure 1. NCA Plots





5. Discussion and Implications

5.1 Academic implications

The findings of this study contribute to the existing literature on airport experiences (AE) by distinguishing between necessary and probabilistic sufficient conditions that contribute to a memorable airport experience (MAE). While prior studies have primarily focused on service quality, passenger satisfaction, and functional efficiency (Fakfare et al., 2021; Wattanacharoensil et al., 2017), this study extends the theoretical understanding of MAE by integrating Necessary Condition Analysis (NCA) and Generalized Structured Component Analysis (GSCA).

First, the results confirm the critical role of necessary conditions in shaping MAE. The NCA results highlight that factors such as check-in process (CI), security screening (SC), flight information (FI), and immigration and baggage processing (IM) are necessary conditions, meaning that their absence significantly impairs the likelihood of a positive and memorable experience. This finding aligns with Servicescape Theory (Bitner, 1992) by reinforcing the idea that an airport's physical and operational environment directly impacts passenger perceptions. However, while these factors are indispensable, they do not independently drive high levels of MAE. Instead, they serve as hygiene factors, necessary but not sufficient on their own.

Second, the GSCA results reveal that leisure and entertainment (LE) and check-in process (CI) are the only probabilistic sufficient conditions for MAE. This suggests that these two factors are not just necessary but also have a direct impact on passengers' experiences, making them both enablers and drivers of memorability. The significant impact of LE on MAE aligns with Experience Economy Theory (Pine & Gilmore, 1998), which suggests that creating immersive and engaging experiences leads to stronger emotional and cognitive connections. These findings contribute to the discourse on memorable tourism experiences (Kim et al., 2010; Kim, 2014) by demonstrating that aesthetic, sensory, and entertainment-based elements significantly enhance the airport experience beyond its functional role.

Furthermore, the study challenges conventional assumptions by showing that terminal atmosphere (TA) is neither necessary nor sufficient for MAE. While previous studies have emphasized the role of ambient conditions such as lighting, temperature, and aroma in

shaping satisfaction (Fakfare, 2023), the results indicate that these factors alone do not contribute meaningfully to memory formation. This supports the argument that operational efficiency and engagement-driven factors are more influential in shaping memorable experiences than passive environmental features.

5.2 Practical Implications

For airport authorities and managers, the study provides actionable insights for enhancing passenger experience and airport competitiveness. One of the key findings is the importance of prioritizing check-in efficiency. Since the check-in process (CI) is both a necessary and sufficient condition for MAE, airports should invest in streamlining check-in operations through self-service kiosks, AI-driven queue management, and enhanced customer service training. Reducing wait times and improving staff efficiency can significantly impact the memorability of an airport visit. Another important implication is the enhancement of leisure and entertainment (LE) offerings. Since LE is the strongest predictor of MAE, airports should focus on diversifying entertainment options, integrating local culture into the airport experience, and offering high-quality retail, dining, and art exhibitions. Incorporating interactive experiences, digital entertainment zones, and relaxation spaces can significantly enhance passengers' emotional engagement with the airport.

Additionally, ensuring necessary service components are in place is crucial. Services such as clear signage and wayfinding (SW), security screening (SC), flight information (FI), and immigration & baggage processing (IM) are fundamental to a smooth AE. While these are necessary conditions, they do not independently enhance memorability, meaning that failure in these areas will negatively affect passengers. Therefore, airports should focus on minimizing inefficiencies, reducing delays, and optimizing navigation tools such as real-time mobile applications and multilingual digital displays. The study also suggests a reevaluation of investments in terminal atmosphere (TA). The findings indicate that TA does not significantly contribute to a memorable experience. While maintaining a clean and comfortable airport is important for passenger satisfaction, large-scale investments in ambient enhancements (e.g., decorative lighting, fragrances) may yield lower returns in terms of memory formation. Instead, focusing on engaging experiences and seamless services should take precedence.

For tourism and destination marketing organizations (DMOs), the study highlights the importance of leveraging airport experiences in destination branding. Since leisure and entertainment (LE) is a primary driver of memorability, DMOs can collaborate with airports to create localized, immersive experiences that reflect the cultural identity of the destination. Integrating elements such as live performances, local artisan markets, themed waiting areas, and regionally inspired dining options can enhance travelers' perceptions of the destination before they even leave the airport. Another implication is the promotion of seamless passenger journeys. Given that service efficiency-related factors (CI, SC, IM) are necessary but not sufficient, ensuring a smooth passenger journey should be a primary goal. DMOs can work with airport authorities, airlines, and border agencies to implement fast-track services, digital passport controls, and AI-driven

baggage processing systems to enhance the overall experience. Finally, developing targeted passenger experience strategies is essential. Different passenger segments (e.g., business travelers, leisure tourists, frequent flyers) may have varying expectations of what makes an airport experience memorable. Understanding these differences can help design segment-specific initiatives, such as exclusive VIP lounges, business networking spaces, wellness zones, and kid-friendly entertainment areas.

From a policy perspective, the findings suggest that governments and airport regulators should prioritize investments in service efficiency and experience-based enhancements rather than focusing solely on infrastructural expansion. Public-private partnerships (PPPs) can be leveraged to integrate cutting-edge technology, cultural elements, and hospitality-driven innovations to elevate the passenger experience. Additionally, sustainability and smart airport initiatives can be integrated to ensure that passenger-centric enhancements align with global environmental and operational efficiency goals.

5.3 Limitations of this study and suggestions for future research

While this study provides valuable insights into the necessary and sufficient conditions for a memorable airport experience, several limitations should be acknowledged. First, the study employs a convenience sampling method, which may limit the generalizability of the findings to broader populations. Future research should consider using a more representative sampling strategy, such as stratified random sampling, to enhance external validity. Second, the study focuses on international airports and may not fully capture the nuances of domestic airport experiences. Future research should explore whether similar findings apply to smaller regional airports, which may have different passenger expectations and operational constraints. Third, while this study identifies key servicescape attributes contributing to MAE, it does not examine individual differences among passengers. Future studies could incorporate segmentation analysis based on demographics, travel purpose, or cultural backgrounds to determine how different traveler groups perceive and interact with airport servicescapes.

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Transformative Innovations for Safe and Sustainable Wellness Tourism (Paper #226)

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Abstract:

This study proposes a transformative framework to enhance safe and sustainable wellness tourism in Chiang Mai through integrated innovations. Key strategies include strengthening emergency medical systems, standardizing wellness services, and leveraging digital technologies. Emphasis is placed on preventive healthcare, multi-sectoral collaboration, and data-driven risk management to support long-term tourism resilience.

Keywords: Technology, Wellness Tourism, Tourist Safety, Application

1. Introduction

Chiang Mai is a leading destination in Thailand's wellness tourism sector, supported by over 3,800 certified establishments, including spas, wellness clinics, and emergency medical units. However, despite this growth, key challenges persist in ensuring service safety, emergency preparedness, and effective cross-sector collaboration. This study addresses a critical research

gap by proposing a transformative, integrated framework that connects emergency medical services, wellness standards, and tourism safety systems. The approach emphasizes preventive healthcare, digital infrastructure, and multilingual accessibility to enhance resilience and sustainability. From both academic and practical perspectives, the study contributes to interdisciplinary knowledge and offers actionable insights for policymakers, healthcare providers, and tourism operators. The research objectives are to (1) develop a unified model for safe and sustainable wellness tourism in Chiang Mai, (2) assess stakeholder capacity and infrastructure readiness, and (3) recommend strategic innovations to strengthen service delivery, safety, and long-term sustainability in the wellness tourism ecosystem.

2. Literature Review

2.1. Wellness Tourism

Recent studies highlight the increasing demand for wellness tourism as a reaction to heightened health consciousness and mental well-being requirements following the pandemic (Voigt & Pforr, 2020; Global Wellness Institute, 2022). Researchers underscored the significance of evidence-based standards, service certification, and local adaptation to augment visitor trust and destination quality (Chen et al., 2021). Despite Thailand's strategic advancement via the Thailand Wellness Destination (TWD) plan, research has revealed ongoing regional discrepancies in access to and quality of certified services, especially beyond metropolitan areas (Tan et al., 2019; Khaokhrueamuang et al., 2023).

2.2. Tourist Safety

The safety of tourists has been granted higher priority due to global health crises and climate-related emergencies. Recent studies highlighted the significance of readiness, swift reaction skills, and intersectoral coordination in sustaining tourist trust (Chien et al., 2021; Hanafiah & Zulkifly, 2022). In ASEAN contexts, insufficient interagency cooperation and inconsistent emergency infrastructure were seen as impediments to effective safety management in tourism areas (Phumsathan et al., 2023). Addressing these gaps became especially urgent in wellness-focused destinations that required both preventive and emergency health services.

2.3 Application Technology in Tourist Safety

Digital transformation significantly improved tourist safety through the widespread adoption of smart tourism solutions, including mobile safety alert applications, AI-driven service platforms, and GIS-based infrastructure mapping (Buhalis & Sinarta, 2019; Al-Ansi et al., 2022). Integrated systems enhance coordination, enable multilingual service delivery, and promote real-time response.However, the application of such tools in wellness tourism settings remained underexplored, particularly in the context of linking emergency services with tourism planning frameworks.

3. Methodology

A mixed-methods research design was employed to comprehensively investigate the determinants of safe and sustainable wellness tourism in Chiang Mai. Quantitative data were collected through structured surveys and secondary datasets obtained from certified wellness establishments, emergency medical units, and relevant tourism agencies to evaluate infrastructure, service standards, and stakeholder readiness.

3.1. Measurement

Measurement tools included standardized assessment forms aligned with national wellness certification criteria and emergency response protocols. Spatial analysis techniques and geographic information systems (GIS) were applied to visualize the distribution of wellness-certified zones and identify service coverage gaps. Data were analyzed using descriptive statistics, thematic content analysis, and methodological triangulation to ensure validity and depth of interpretation.

3.2. Data collection

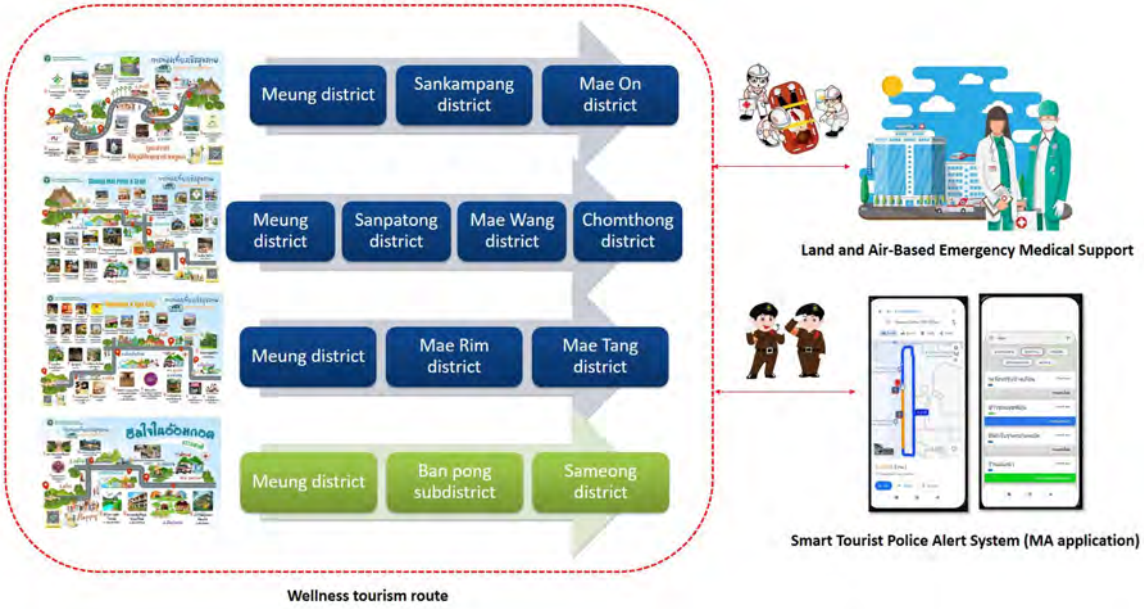
Qualitative data were gathered through focus group discussions and in-depth interviews with key stakeholders, including healthcare professionals, tourism operators, local authorities, and law enforcement officers, to explore contextual challenges and collaborative dynamics.

Quantitative data were collected through secondary data from Chiang Mai public health officer and tourism agencies were used to map infrastructure. Data were organized for statistical analysis and spatial visualization.

4. Results

The results illustrated an integrated safety tourism management framework that connected wellness tourism routes across key districts in Chiang Mai with coordinated safety infrastructure (see Figure 1.). The system included both land- and air-based emergency medical support, which ensured rapid response in remote areas, thereby reducing emergency response times and improving patient outcomes. Additionally, the Smart Tourist Police Alert System (MA application) provided real-time location tracking, incident reporting, and emergency notifications, enabling prompt intervention by authorities. This integrated approach enhanced tourist confidence, optimized resource allocation, and contributed to a safer, more resilient tourism environment.

Figure 1. Overview of integrated safety tourism management.



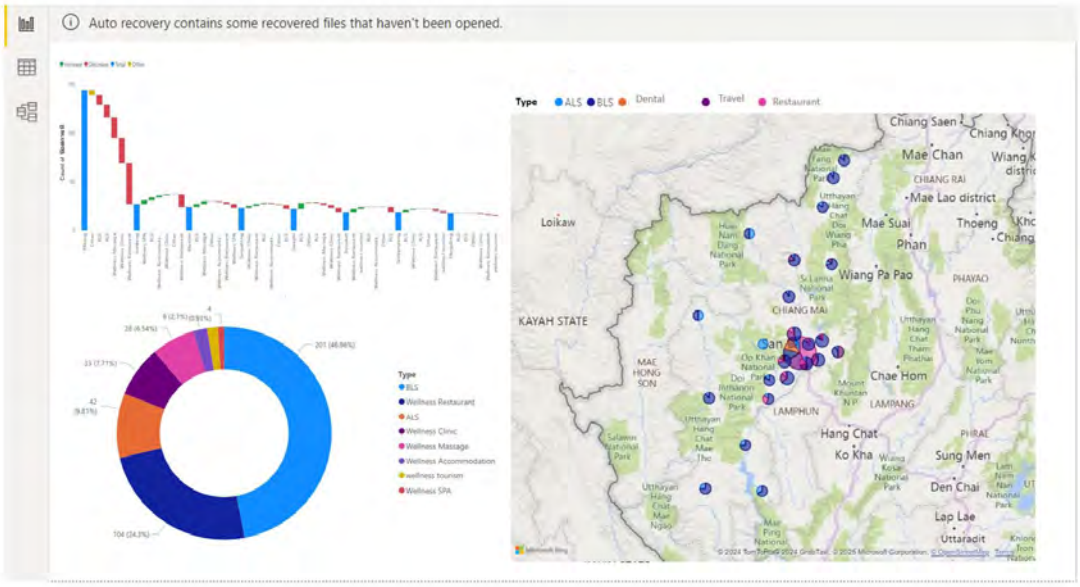
This pyramid diagram represented a hierarchical analysis of wellness-related businesses in Chiang Mai Province (See figure 2.). Out of 3,836 total business establishments, only 107 (2.89%) obtained the criteria for wellness centers, and just 37 (0.97%) qualify as Thailand Wellness Destinations (TWD). The figure highlighted the limited proportion of certified wellness services relative to the broader business landscape.

Figure 2. Analysis of Wellness Center standards and the Thailand Wellness Destination (TWD) in Chiang Mai province.



This figure 3. illustrated a data visualization system designed to analyze wellness tourism routes and assess integrated readiness for tourist safety management in Chiang Mai Province. The dashboard presents statistical distributions of wellness service types, including BLS, ALS, wellness clinics, and accommodations, alongside geospatial mapping of service locations. This system supports evidence-based decision-making for enhancing safe tourism infrastructure.

Figure 3. Data Visualization system for analyzing wellness tourism routes and Integrated readiness planning to decision-making support in tourist safety



The results represented a total of 3,836 certified wellness-related establishments across Chiang Mai, including 116 registered emergency medical units and 213 facilities meeting national wellness standards. Spatial analysis indicated clusters of high-quality services in central districts such as Meuang, Mae Rim, and Sankamphang, with noticeable gaps in peripheral areas. Survey findings showed that only 42% of wellness businesses had direct access to emergency support systems, and multilingual services were limited, particularly in rural zones. Stakeholder interviews highlighted fragmented coordination among agencies and inconsistencies in certification processes. These findings underscore the need for an integrated framework to improve safety, service accessibility, and interagency collaboration in wellness tourism.

5. Discussion and Implications

5.1. Discussion

The results of this study align with other research highlighting the significance of safety, accessibility, and integration in the growth of wellness tourism (Smith & Puczkó, 2014; Voigt et al., 2011). Consistent with research in other Southeast Asian contexts, such as Malaysia and Indonesia, our study identified that the concentration of certified wellness services in urban

centers engenders service disparities in rural regions (Tan et al., 2019). The limitations access to multilingual services and insufficient emergency coordination highlight issues identified in global wellness tourism literature on cultural competency and disaster preparedness (Global Wellness Institute, 2022). This research emphasizes the necessity of a multi-stakeholder framework that integrates emergency medical, wellness standards, and tourism safety, in contrast to other studies that typically examined the health or tourism sectors in isolation.

5.2. Academic and practical implications

This work enhances the emerging interdisciplinary domain of wellness tourism by presenting an approach that integrates public health, tourism management, and digital innovation. It strengthens the previous literature by illustrating the integration of preventive healthcare and emergency systems into tourism planning. The findings provide realistic recommendations for governments and tourism organizations to establish certification systems, enhance digital infrastructure, and train multilingual staff. Improving collaboration among public health departments, tourism operators, and local governments is essential for maintaining Chiang Mai's global competitiveness as a secure wellness destination.

5.3. Limitations of this study and suggestions for future research

This study is limited by its geographic concentration on Chiang Mai, probably limiting the generalizability of its findings to other places. Future study should encompass comparison studies between provinces or the Northern Economic Corridor (NEC) to validate and enhance the suggested model. Longitudinal study is necessary to assess the enduring effects of integrated safety systems on tourist satisfaction, health outcomes, and regional development. Additional investigation into the function of AI, real-time data systems, and customized wellness technologies may provide profound insights into the development of next-generation tourism.

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Theme: Emerging Trends in Tourism

The Impact of Perceived Risks on Thai Consumers' Purchase Intentions for Electric Vehicles (Paper#105)

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Abstract:

This study investigates the effect of perceived risks on Thai consumers' intention to purchase electric vehicles (EVs). The research examines five key risk factors, including physical, financial, functional, social and time risk, that influence consumer decisions. A quantitative survey method was employed to analyze 260 consumers' perceptions in Bangkok, Thailand. The results reveal that physical, financial, functional, and social risks significantly affect purchase intention. These findings provide valuable insights for policymakers and businesses to develop strategies that mitigate risks, enhance consumer confidence, and promote EV adoption in Thailand.

Keywords: Perceived Risk, Purchase Intention, Electric vehicle

1. Introduction

Nowadays, energy and environmental issues are emphasized in countries worldwide, particularly climate change and global warming. One of the results is the accumulation of carbon dioxide emissions from internal combustion engine vehicles. A key approach to mitigating these impacts is promoting a low-carbon economy, including controlling emissions according to EURO standards. For instance, some countries have mandated stricter emission controls, upgrading from EURO 4 (PPM < 0.025) to EURO 5 (PPM < 0.005). Additionally, many countries worldwide have transitioned to electric vehicles (EVs), which are powered by electric motors and use energy from batteries or other sources, eliminating carbon dioxide emissions. This shift replaces internal combustion engine vehicles, thereby reducing noise and particulate pollution, making EVs more environmentally friendly and supporting the transition to a low-carbon society (Science Center for Education, 2021).

In 2025, EV sales are expected to rise significantly, with estimates suggesting that EVs will account for 30-40% of new car sales in certain regions. The United States, China, and Europe are anticipated to lead EV adoption, alongside investments in charging infrastructure and advancements in lithium-ion battery technology, which are expected to increase energy capacity and lower costs, making EVs more widely accessible. China remains the largest market for all types of EVs globally, while Europe and North America collectively account for 36% of the

global EV market, or approximately 23 million EVs in 2024. By 2025, it is projected that there will be 49 million EVs on the roads in China, 20.6 million in Europe, and 10.4 million in North America. For Thailand, it is estimated that by 2025, there will be more than 77,800 EVs, representing a 49% increase from 2024. Battery electric vehicles (BEVs) are expected to account for 74% of this total, with an estimated 57,900 units (Stamford, 2024).

Moreover, the Thai government is willing to encourage Thai people to use electric vehicles. Thus, for purchasing vehicles with a battery capacity of less than 30 kWh and no more than 2 million Thai Baht, the subsidy is 70,000 THB per car. In contrast, for those with a battery capacity exceeding 30 kWh, the subsidy is 150,000 THB per car. Also, the government has promoted the import and production of electric vehicles by reducing import duties and excise taxes. As a result, in 2023, 31% of Thai consumers expressed a preference for battery electric vehicles (BEVs), a figure close to the 36% preference for internal combustion engine (ICE) vehicles. Meanwhile, 19% of consumers opted for plug-in hybrid electric vehicles (PHEVs), and only 10% chose hybrid electric vehicles (HEVs). The demand for battery electric vehicles in Thailand is higher than in other countries in the Southeast Asian region (Office of the Energy Regulatory Commission, 2024).

However, consumers have continued to perceive both positive and negative risks associated with purchasing electric vehicles. Perceived risk is related to consumer attitudes, and a positive attitude influences purchase intention (Constanza and Lynda, 2011). The risks include the possibility that the product may not function as expected and the risk to oneself and others that the product may cause harm, which refers to potential dangers to safety. There is also the risk that the product may not justify its cost. Additionally, selecting a poor-quality product could result in social embarrassment, which refers to potential harm to a person's social status due to purchasing, using, or disposing of the product. Another concern is that choosing the wrong product might impact the consumer's self-identity, reflecting their concern about whether the product or service aligns with how they perceive themselves. There is also a risk that the time spent searching for the product may be wasted if the product fails to meet expectations, reflecting uncertainty regarding the time required for repurchasing, using, or disposing of the product or service (Rajendran and Jayakrishnan, 2018). There is also the risk that the product may become obsolete quickly. Lastly, concerns about infrastructure and support services often discourage people from purchasing electric vehicles (Al-Majali, 2020). Also, customers' perspective of perceived risk in purchasing electric vehicles is limited in hospitality and tourism and has rarely been studied on Thai consumers. Therefore, this study aims to investigate the influence of perceived risks on the purchase intention of electric vehicles among Thai consumers in Thailand.

2. Literature Review

2.1. Perceived Risk

The concept of perceived risk has been widely investigated by many scholars. The perceived risk has been introduced in consumer behavior research by Bauer, who proposed risk-increasing and risk-reducing behaviors of consumers. Bauer's concept suggests that consumer behavior cannot avoid risk, as actions often lead to unpredictable outcomes, some of which may not align with expectations. The perception of uncertainty and potential loss leads to an evaluation process that inhibits decision-making, representing an individual's negative belief about a particular event (Bish, Yardley, Nicoll, & Michie, 2011). Also, Hassan et al. (2006) studied the risks of online shopping and found that perceived risk refers to consumers' perspective of the possibility of negative outcomes that may occur from some loss in purchasing the product. Consumers typically prioritize minimizing perceived risks over maximizing potential gains when making purchases (Mitchell, 1999).

Dinev et al. (2013) supported that customers' thoughts and beliefs are influenced by the undesirable outcomes and consequences of online transactions or potential future repercussions if personal information is disclosed. Han and Kim (2017) found that six risk factors, namely, perceived financial, product, safety, time, social, and psychological risk, affected purchase intention. Wang, Wang, Li, Wang, & Liang (2018) also studied the impact of consumer perception of electric vehicles (EVs), perceived risk, perceived benefits, and current financial incentive policies on consumers' intentions to adopt EVs in China. The results showed that consumers had a positive and significant relationship with perceived benefits, attitudes, and intentions to adopt EVs, while they had a negative and significant relationship with perceived risk. Perceived risk negatively affected perceived benefits, attitudes, and intentions to adopt EVs. Meanwhile, perceived benefits positively influenced both attitudes and intentions to adopt EVs, and attitudes were also positively related to EV adoption intentions. However, the results indicated that financial incentive policies did not significantly impact the intention to adopt EVs. Additionally, the findings suggested that consumers who lacked knowledge about EVs and perceived high risks associated with them might face psychological barriers to EV adoption. Based on these findings, the study discusses policy implications for increasing EV adoption and provides recommendations for future research.

Moreover, Al-Majali (2020) examined the influence of perceived risk dimensions on consumer attitudes toward purchasing electric vehicles (EVs) in Jordan and found that perceived risk can be categorized into four types as follows: 1. Physical Risk refers to the possibility that a product may cause physical harm or health issues, posing a danger to individuals, family members, or other users. 2. Financial Risk refers to the fear or concern that the consumer may have to pay more than the actual value of the product or incur additional taxes for purchasing it. 3. Functional Risk relates to concerns about the performance of electric vehicles (EVs). Consumers worry about whether an EV, as an innovation, will function efficiently. 4. Social Risk related to the purchase or use of a product may affect the buyer's relationships with family, friends, and

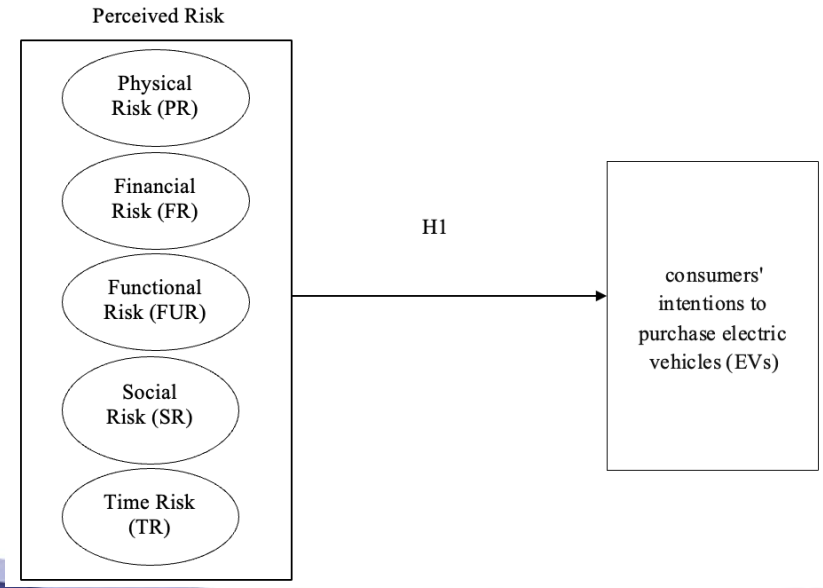
colleagues. Time Risk refers to the potential loss of time. Consumers may need more time to adapt to innovations compared to traditional internal combustion engine vehicles. Therefore, this research focuses on dimensions of perceived risk, including safety and personal data risks, financial risk, functional risk, individual risk, social risk, and psychological risk, to study the factors influencing consumers' intentions to purchase electric vehicles (EVs) in this research.

2.2 The Buying Process and Decision-Making

Schiffman and Kanuk (2010) describe the consumer decision-making process as including internal factors such as motivation, perception, learning, personality, and attitudes, which reflect the consumer's needs and their perception of the various available product options. Moreover, the process involves activities that consumers engage in, related to the information they possess or the information provided by producers to influence perceptions. The final step is evaluating the available alternatives to make a decision. Kotler and Keller (2012) explained that the consumer decision-making process consists of five steps, beginning with problem recognition, where consumers become aware of an internal need. Second, there is the information search, where, after recognizing the need, consumers look for information related to the product or service. Next, consumers compare the gathered information to evaluate different options. After evaluating the alternatives, consumers make a decision by selecting the product or service they prefer and proceeding with the purchase. When consumers are satisfied, they are likely to repurchase and make recommendations; however, if they are dissatisfied, they may cease purchasing the product or service entirely. Additionally, Hwang and Karpova (2016) suggested that consumers with high motivation and expectations are more likely to exhibit clearer purchase intentions. These behaviors are often influenced by consumers' beliefs, attitudes, and positive feelings. This supports the notion that psychological factors play a key role in determining consumer actions and decision-making processes.

2.3. Conceptualization

Figure 1. Conceptualized study framework



3. Methodology

3.1. Measurement

The study aims to examine the factors of perceived risk including physical risk (PR), financial risk (FR), functional risk (FUR), social risk (SR) and time risk (TR) which were developed based on previous studies by Al-Majali (2020). Also, Consumers' purchase intentions for electric vehicles were developed from Kotler & Keller (2012). The dimension of physical risk contains four items, financial risk was designed as four items, functional risk was designed as four items, social risk was designed as four items and time risk was designed as four items. Purchase intentions were designed as six items. Respondents were asked to rank the perceived importance of perceived risk items of Thai consumers' intentions to purchase electric vehicles. This research used a 5-point Likert scale, "1" = "strongly disagree" to "5" = "strongly agree." In addition, 30 responses were treated as the pilot study, which were excluded from the main survey, and pre-tested for the validity and reliability of the questionnaire in the main survey.

3.2. Data collection

Quantitative research using a survey was employed in this study. The non-probability purposive sampling technique was utilized to gather the data from Thai participants in Bangkok. Data for this study were collected from Thai consumers aged over 20 years and interested in purchasing an EV car. Nunnally (1978, p. 245) suggested that the sample size should be more than 10 times of the attributes number. In this study, there were 26 attributes in total, which indicates that the minimum sample size should be at least 260 samples. The online survey questionnaire was posted on social networking sites and distributed via e-mail. There were 260 valid questionnaires analyzed in the study. SPSS and Multiple regression were employed for questionnaire data analysis. The descriptive analyses reported the different characteristics of the respondents and dataset. Multiple regression considers the effect of more than one explanatory variable which evaluates the relative effect of these explanatory, or independent, variables on the dependent variable when holding all the other variables in the model constant.

4. Results

4.1. Profile of the respondents

The summary of 260 respondents was women (64.8%) and men (35.2%). Most respondents had completed undergraduate degrees (66.8%) and were single (56.4%). 46% were aged between 31- 40 years old, followed by those in the 41-50 years of age group (32%) and the 21-30 years age group (18.4%), respectively. Regarding income levels, most respondents had a monthly income between 25,001-50,000 THB (58%). More than half of respondents worked at a company/industry (72%), followed by government employees or state enterprise offices (16.8%) and business owners (8%). In terms of vehicle usage, 83.4% drove gasoline-powered cars, 10.5% used hybrid vehicles (gasoline + electric motor), 5.8% drove diesel-powered cars and 0.4% used other types of vehicles.

4.2. Results of analysis

Hypothesis testing using multiple regression analysis based on 5 variables which included financial risk (FR), physical risk (PR), functional risk (FUR), social risk (SR) and time risk (TR). These variables were analyzed to examine the purchase intention of electric vehicles among consumers in Thailand.

In the multicollinearity test, the results showed that the VIF values ranged between 1.566 and 2.177, which were below 10. This indicates that all the independent variables are not excessively correlated and remain independent of each other (Hair et al., 2006). There is no complexity in measuring their values, which allows the regression analysis to proceed smoothly. to proceed without issue. Also, the Durbin–Watson (DW) is always between 0 and 4 and the values of 1.5 < DW< 2.5 show that there is no autocorrelation in the data (Garson, 2012).

The result, as shown in Table 1, presents that the model has an adjusted R-squared value of 0.299, meaning that it can explain 76.4% of the variability in the dependent variable. Moreover, the significance value is less than 0.01, indicating that at least one independent variable, which is the perceived risk of EV cars of consumers in Thailand, is significantly related to the dependent variable. Also, the results indicated that four factors significantly affect the intention to buy EV cars in Thailand. Among these factors, "FUR" and "SR" were significant at p<0.01. The "FR" and "PR" were significant at p<0.05, while "TR" had a negative impact on the purchase intention of EV cars of Thai consumers.

The regression equation presents the relationship as follows:

$$Y = \beta 0 + \beta frFR + \beta prPR + \beta furFUR + \beta srSR$$

An equation form used in this study as follows:

$$Y = 3.049 - 0.234FR - 0.214PR + 0.428FUR + 0.312SR$$

Table 1. Results of multiple regression analysis

						Collinearity Statistics	
Factors	B	SE	β	t	p-value	Tolerance	VIF
(Constant)	3.049	0.275		11.105	0.000**		
FR	-0.234	0.095	-0.183	-2.471	0.014*	0.513	1.949
PR	-0.214	0.095	-0.164	-2.242	0.026*	0.526	1.903
FUR	0.428	0.087	0.384	4.905	0.000**	0.459	2.177
SR	0.312	0.052	0.395	5.953	0.000**	0.639	1.566
TR	-0.083	0.083	-0.069	-0.992	0.322	0.587	1.703
$R = 0.559$ $R^2 = 0.313$ Adjusted $R^2 = 0.299$ Durbin-Watson = 2.073							

Note: ** Significant at p < 0.01 *** Significant at p <0.05

5. Discussion and Implications

5.1. Discussion

This study focused on the influence of the perceived risk factors on customers' purchase intention toward EV cars in Thailand. By testing the hypotheses of this study, the findings present that FR, PR, FUR, and SR have a positive effect on Thai customers ' purchase intention. The finding is in agreement with An and Kamaruddin (2024) that a higher level of perceived risk tends to correlate with a potentially lower purchase intention for electric vehicles (EVs). Reducing perceived risk enhances consumers' willingness to buy EVs among potential buyers. They are concerned about battery lifespan, high costs, maintenance uncertainties, and limited charging infrastructure. Also, the expense of battery replacement, limited driving range and battery longevity can impact the decision to purchase an EV. Another factor influencing EV adoption is the potential issues that may arise, such as range anxiety or running out of battery when a charging station is not available (Mukherjee and Ryan, 2020). Moreover, Bienias et al. (2020) explored the views of recent EV buyers in Poland and found that 35% of them would only consider purchasing an EV if its cost was comparable to a traditional vehicle. In a more recent econometric study, it was revealed that factors such as family size, location, ability to differentiate between vehicle classes, and perception of the environmental benefits of EVs influence consumers' willingness to pay. As a result, the development of a robust charging infrastructure, along with financial incentives, plays a significant role in shaping market dynamics. However, perceived time risk has a significantly negative effect on consumers' intention to buy EVs in Thailand. This suggests that Thai consumers do not place substantial importance on time-related risks. The extended charging duration of EVs is unlikely to disrupt their daily routines, and long wait times in the purchasing process are not a major concern. Additionally, learning to use EV technology is not perceived as overly complex or time-consuming, and it does not influence their purchasing decisions. Innovative consumers are more inclined to experiment and adopt new concepts. Therefore, individuals with a creative mindset and a willingness to explore new possibilities are likely to be drawn to electric vehicles, which are widely regarded as an emerging transportation technology. This finding unsupported the results of studies (Al-Majali, 2020; Lee et al., 2021; and Weldon et al., 2018) in the literature, which suggests that individuals are more likely to avoid purchasing EVs when they perceive the potential risks as significant. Probably, consumers need to spend more time deciding than the time to buy regular cars as gasoline-powered cars.

5.2. Academic and practical implications

This research contributes to the existing body of literature by presenting an extensive perceived risk of the components influencing the intention to purchase EVs. These findings provide insights into the literature on EV adoption and add to the existing knowledge by examining the relative importance of different factors affecting purchase intention. The findings of this study have important theoretical implications. Also, the study found that consumers in Thailand perceive electric vehicles as a rapidly evolving technological innovation that adapts to changing consumer demands and needs. Therefore, to increase purchase intention for electric vehicles

(EVs), policymakers and manufacturers should focus on enhancing the perceived performance benefits. This can be achieved by improving key aspects such as driving range, charging speed, and reducing maintenance costs. Addressing range anxiety through the development of a more extensive and accessible charging infrastructure is also crucial. While affordability remains a concern, the cost-effectiveness of EVs improves over time with usage, making them more attractive to consumers. Although the number of EV charging stations is still less than gasoline stations, the availability of charging stations is steadily increasing. Moreover, advancements in ultra-fast charging technology will play a vital role in overcoming current charging limitations. These improvements, along with addressing consumer concerns about range and charging convenience, will significantly enhance consumer confidence and increase purchase intention for EVs (Yildiz, Çiğdem, & Meidutė-Kavaliauskienė, 2024). In addition, Marketing strategies and corporate promotions should highlight the key attributes of EVs, including their energy efficiency and eco-friendly nature, to help consumers recognize their role in reducing carbon emissions and gaining environmental advantages. Especially, in EV promotion efforts, the government can leverage economic incentives as a central focus, such as direct price subsidies, tax reductions, and other financial benefits (Hu, Zhou, Wang, Gao, Zhu (2023). Also, executives and business owners in tourism, transportation, car rental, and related businesses can utilize this information to develop business strategies, enhance services, and improve operational approaches in alignment with the trends of the EV market to meet customer demands and promote sustainability within the service industry.

5.3. Limitations of this study and suggestions for future research

There are some limitations to this study. The sample size was limited to 260 participants using a non-probability sampling approach, which may not represent the entire population. This study was conducted in Bangkok, Thailand, so the results may not be generalizable and valid to other countries. Also, the sampling method may collect the data from respondents who are more interested in EVs or sustainability, while those with neutral or negative perspectives might be underrepresented. This could lead to an overestimation of positive attitudes toward EV adoption. This study only emphasizes the effects of perceived risk on consumers' intention to purchase. Thus, other variables, such as perceived benefit and perceived value, were not examined. Future studies could also explore perceived benefit, perceived value and perceived risk affecting purchase intention. In addition, this research primarily examined consumers' purchase intentions. However, a disparity still exists between their intended and actual purchasing behavior. Future studies should focus on tracking consumers' purchasing behaviors to fill this gap.

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Transformative Power of Tourism: How Experience Shapes Tourist Behavior (Paper#118)

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Abstract:

Tourists frequently find themselves in novel situations, requiring them to adapt, engage, and learn. This results in their cognitive and emotional development. Tourism has the power to stimulate people's worldviews and behaviours, whether through contact with diverse cultures, exposure to historical tales, or involvement in adventure-based activities. Tourism is not simply an economic activity; indeed, it is a great catalyst of societal and individual transformation. The purpose of this paper is to investigate the perceptual aspects associated with the existence of tourism experiences which may lead to change in a tourist's behaviour, personal and prospective growth. Travel is becoming a medium to discover oneself, immerse yourself in a culture, and adapt action in the gradually connected world. So, the function of experiential learning in tourism is also examined in this research. Majority of travellers have set ideas about destinations and cultures before they travel. But firsthand encounters of travel challenges and hone their viewpoints. This cognitive dissonance frequently results in a revaluation of one's own ideals, heightened cultural awareness, and a more comprehensive interconnectivity of the world. Furthermore, paper examined how sustainable and responsible tourism practices promote long-term behavioural shifts. Highlighting the ways in which moral travel choices support a society that is more ethical and conscious of the wider world.

The psychological drivers of life-changing travel experiences are also examined in this study. While some travellers want to improve personally, others want to escape, unwind, or advance their careers. The effect of digital tourism, in which technology supplements or replaces conventional travel experiences, is also investigated to ascertain how well it promotes comparable changes.

The paper proceeds with applying the methodology of a systematic review to the study of existing research on the transformative power of tourism. To maintain rigor and credibility, certain inclusion and exclusion criteria have been framed. The paper underwent an in-depth discussion and literature review of the works published in the last decade that could be found in academic databases such as Scopus, Web of Science, and Google Scholar. The research centred on the survey's interest in empirical studies, theoretical frameworks, and case studies that discuss and answer how tourism experiences shape tourist behaviour, attitudes, and perceptions. In addition, Meta-analysis and systematic review were included in the leading tourism journals to be able to place the paper into the broader perspective of tourism research. Studies were included if they offered empirical evidence or theoretical explanations in the changes induced by tourism; studies based only on economic impacts or general travel trends, without behavioural analysis, were excluded. The methodology adopted here was thematic analysis of the narratives of various studies to see in what ways an attempt can be made to identify general patterns and variations of the process through which travellers grow and change behaviourally in a travel-related setting. The selected literature was classified by core themes as different dimensions and aspects of the experience- cultural immersion, psychological changes, and sustainable tourism practices.

The findings from this review methodology form a conceptual base in knowledge about the transformational effects of tourism. Through synthesizing insights from multidisciplinary research, this study brings to the fore the mechanisms that tourism fosters self-discovery, intercultural understanding, and long-term behavioural change. It felicitates valuable implications to both the academic and industry stakeholders.

The research finds that tourism has a significant effect on personal transformation, which results in changes in the cultural outlook, personal values, and lifestyle.

Tourists often develop an increased cultural sensitivity, environmental awareness, and social adaptability. The findings highlight how immersive travel experiences foster self-discovery, emotional resilience, and interpersonal growth. Additionally, the study identifies key factors that enhances the transformative potential of tourism, including destination diversity, cultural engagement, and the nature of experiences sought by travellers.

In a critical analysis that integrated management and consumer viewpoints, Amaro et al. (2023) highlighted that travellers are increasingly looking for experiences that provide personal fulfilment, meaning, and purpose. They discovered that experiences in transformative tourism could result in behavioural and attitude improvements, including improved emotional intelligence, adaptability, and cultural empathy. The study also mentioned the use of transformative learning theory in the travel industry, emphasising that travellers who actively consider their values, beliefs, and emotions can experience substantial personal development.

A literature review by Ben Haider et al. (2022) categorized 194 scholarly outputs into themes like tourism experiences, leadership, responsible tourism, and the United Nations' sustainable development goals framework. The review underscored that visitor experiences involving socio-cultural exchange, escapism, risk-taking, and personal development contribute to transformational outcomes. It also highlighted the significance of interactions with local communities and engagement in development projects in facilitating transformative processes.

The predominance of qualitative methodologies in researching transformational experiences across a range of tourist contexts, including educational, voluntourism, cultural, nature-based, wellness, and niche tourism experiences, was noted by Teoh et al. (2021) in their systematic comprehensive review. The three components of transformational experience, experience-facilitator, and experience-consumer were discovered in this review along with their relationships and results for both facilitators and tourists.

The study further emphasises how interaction levels and destination diversity shape life-changing events. Long-term behavioural changes are more likely to occur in places that provide opportunity for meaningful connections and rich cultural engagement (Cohen, 2019). Slow travel and sustainable tourism are two mindful travel strategies that increase the possibility of change and promote ethical travel (Pearce & Packer, 2019).

Although it provides an alternative to traditional travel, digital tourism has not been shown to have the same profound transforming power (Rickly, 2018).

The findings of the investigation show that travel influences travellers' cultural ideas, attitudes, and behaviours, acting as a catalyst for personal growth. Immersive encounters that challenge preconceived beliefs and develop cultural awareness frequently cause tourists' worldviews to evolve (Kirillova, Lehto, and Cai, 2017). These shifts show up in a variety of ways, such as heightened ecological awareness, cultural sensitivity, and social flexibility (Smith & Diekmann, 2017).

Additionally, travel's emotional component is essential to transformation. The long-term effects of excursions are reinforced by emotional intensity, which are fuelled by new encounters and personal struggles (Brown, 2016). A key finding is that travel-based experiential learning greatly advances personal growth. Increased emotional intelligence and cognitive flexibility are common resultant of cross-cultural interactions and past study (Packer & Ballantyne, 2016).

Furthermore, it has been found that fundamental tourist experiences—like adventure, volunteer, and historical tourism inspire profound introspection, which results in changes in identity as well as lifestyle preferences (Reisinger, 2015).

However, these results highlight how tourism may be a potent tool for promoting self-awareness, cultural sensitivity, and long-lasting behavioural shifts that benefit both individuals and society.

The study provides valuable contributions to the growing body of literature on transformative tourism. It offers insights into the mechanisms that drive personal and behavioural changes among tourists.

Additionally, the role of digital tourism in fostering meaningful change remains underexplored and warrants further investigation (Rickly, 2018).

It highlights the role of immersive travel experiences in shaping long-term attitudes, values, and lifestyles (Kirillova, Lehto, & Cai, 2017). This research underscores the need for interdisciplinary approaches that integrate psychology, sociology, and tourism studies to further examine the long-term impact of transformative travel (Smith & Diekmann, 2017). The findings support the theoretical framework of experiential learning in tourism, reinforcing the notion that firsthand cultural encounters lead to cognitive and emotional development (Packer & Ballantyne, 2016).

In addition, the research demands more empirical studies employing longitudinal research to evaluate the sustainability of behavioural changes brought about by tourism (Brown, 2016). Future research could explore how different demographic groups experience transformation, particularly among younger travellers and retirees, who may exhibit distinct behavioural adaptations post-travel (Reisinger, 2015).

Understanding these aspects can help tourism scholars and industry professionals design more effective travel programs that encourage lifelong learning, cross-cultural understanding, and responsible tourism practices.

As sustainability remains a critical focus, the study underlines the need for responsible tourism practices that encourage lasting behavioural changes. The verdicts of this study also offer numerous actionable insights for tourism industry stakeholders. By identifying the transformative effects of tourism, industry professionals can curate experiences that foster personal growth, cultural immersion, and long-term behavioural changes (Cohen, 2019). Promoting mindful travel through ecotourism ingenuities and immersive cultural experiences can improve sustainable tourism while fostering deep personal reflection and global awareness (Pearce & Packer, 2019). Additionally, digital tourism, even though not a full substitute for physical travel, can complement traditional tourism by enhancing pre-trip learning and post-trip reflection (Rickly, 2018).

Moreover, tourism businesses can enhance the psychological impact of transformative travel by tailoring experiences to various travel demographics. For example, younger tourists may benefit from experiential learning opportunities, while older travellers might prefer reflective or heritage-based experiences (Smith & Diekmann, 2017). Destination managers must develop marketing strategies that focus on the enriching and transformative aspects of travel (Kirillova, Lehto, & Cai, 2017). Tourism operators should incorporate educational and experiential elements into their offerings, such as guided cultural interactions, volunteer programs, and adventure-based activities that facilitate self-discovery (Reisinger, 2015).

By implementing these recommendations, professionals of industry can create more meaningful and impactful travel experiences for their clients. This can add to both personal transformation and the sustainability of tourism development in the long term.

Keywords: Transformative tourism, tourist behaviour, travel experiences, cultural engagement, experiential learning and sustainability

Introduction

Tourism extends beyond economic and leisure aspects, having a transformative effect on travellers' attitudes and perceptions. The ability of tourism to empower and impact individuals is crucial, not just simply leisurely or sightseeing but encourages personal development, broadened scope, and even shifts in values and behaviours (Zientara, et, al. 2024). This study examines the impact of tourism experiences on tourists' behaviours, attracting interest in academic and industry discourses. Being aware of the psychological and sociocultural mechanisms behind these changes could guide policymakers, tourism stakeholders, and researchers in developing and encouraging the provision of travel experiences that induce beneficial forms of self-actualization and sustainable practices in tourism.

Transformative tourism highlights travel's capacity to catalyse deep personal transformation. It involves meaningful self-discovery and experience, upending previously held worldviews and imparting new values. In whatever form — cultural immersion or adventure travel, spiritual retreats — there's no doubting that tourism can upend people's previously held worldviews, nudge them toward a deeper understanding of themselves and impart new values. Research links travel with improved cultural awareness, environmental respect, and increased empathy for different populations. In the age of globalization, the idea of paradigmatic shifts in culture is particularly relevant. Traveling to different cultures, meeting locals, and adjusting to different social rules provides opportunities for contemplation and growth. These experiences help tourists come to terms with diversity, increasing open-mindedness and intercultural competence. Visiting in a small indigenous group, for example, confronts a tourist indirectly with different lifestyles, perhaps conflicting with their own assumptions about development, sustainability, well-being, etc. (Jamal, T. , & Higham, J. (Eds.) 2021).Whereas adventure tourism — as in demanding hikes or extreme sports — is alternative way to physically and mentally test oneself, building resilience and confidence along the way. It says so much about the view of travel as a framework for personal evolution, and how, when and what we really need to design journeys, that have more depth than aggregate place bombardment.

Another key driver of tourist behaviour is their emotions. Positive experiences related to awe, inspiration, or belonging can lead to deeper relationships with places and inspire future behaviour. Negative experiences, when managed properly, can lead to a greater sense of responsibility and more ethical, sustainable conduct.

In fact, authenticity has even been described as the 'key to transformative tourism'. Real experiences allowing for true cultural immersion, organic interaction, and authentic human connection are the most potent drivers of sustainable behaviour change. Tourists increasingly seek authenticity, moving away from commodified, staged experiences in search of more immersive endeavours.

Connecting for the Greater Good: Tourism must preserve cultural integrity and avoid over-commercialization that dilutes the transformative nature of travel. This has been further compounded by the rise of digital media. Digital media has become a dominant means of expressing personal travel experiences and impacting how people view and interact with destinations. While it has the potential to amplify transformative tourism, it also requires a critical lens to examine how narratives are constructed and consumed. Understanding the long-term implications of how tourist experiences condition behaviour is essential.

Travel can alter career direction, lifestyle preferences, and social attitudes. Only experiences that develop solid self-knowledge, critical thinking, and global awareness should remain after such long-term behavioural changes. An international volunteering experience in a developing context might motivate someone to pursue a career in social work or international development. On the other hand, visitors familiar with ecotourism practices may be inspired to adopt environmentally friendly behaviours in their own surroundings. This is where tourism, no longer a mere surface level source of distraction but also a facilitator of real experience, can start work. Hence, tourism can be a transformative force, personally, socially and financially.

Table 1. Transformative Power of Tourism and Tourist Behavior Change:

S No.	Title	Description
1	Model of Transformative Tourism Experience	A flowchart illustrating the process: **Pre-Travel Expectations → On-Site Experience → Emotional and Psychological Transformation → Post-Travel Behavioral Change.**
2	Tourist Behavior Change Cycle	A circular diagram showing **Exposure to New Culture → Cognitive & Emotional Engagement → Attitude Change → Behavior Modification → Sustainable Travel Practices.**
3	Factors Influencing Tourist Transformation	A bar chart comparing key factors such as **Cultural immersion, Adventure activities, Social interactions, Environmental awareness, and Spiritual experiences.**
4	Psychological Impact of Travel Experiences	Tourism has a significant psychological effect on individuals; it is an awareness of unique ways of life around the world. It is an eco-friendly initiative, fostering sustainability and responsible tourism. Perhaps the most important result of travel is

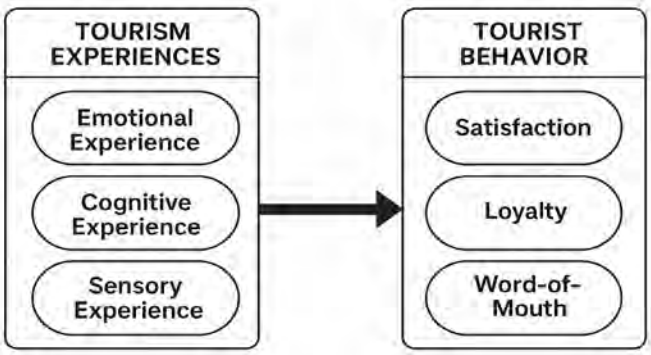
S No.	Title	Description
		growth; in traveling the world, travelers become more empathetic and adaptable, and their worldview becomes more global and grounded. Moreover, travelling is good for your mental health – it relieves stress, boosts happiness levels and creates a sense of purpose.
5	Post-Travel Behavioral Changes in Tourists	A comparative line graph depicting changes in tourist behavior **before and after travel, including Sustainable consumption habits, Increased intercultural understanding, and Interest in revisiting destinations.**

Figure 1. Flow chart of Transformative Tourism - The Tourist Experience Journey-(Representation created by author)



Background of Study Tourism is a curative instrument for cultural awareness, social interaction, and personal development. Tourist activities involve immersion in new places, customs, and lifestyles, inducing changes in viewpoints and behaviours. Experiential tourism emphasizes deeper and more authentic experiences to foster self-discovery and widen perspectives. Tourism experiences have emotional and psychological effects that can subsequently affect future travel preferences, consumption patterns, and lifestyle choices. Analyzing behavioral changes as receipts of tourist impact allows destinations to develop strategies that maximize visitor satisfaction while balancing cultural exchange and sustainable travel. Transformative tourism experiences are defined as travel that throws individuals into new environments, requiring them to learn new skills and adapt creatively to difficult situations. Such experiences can increase customer satisfaction and create life-changing benefits for consumers.

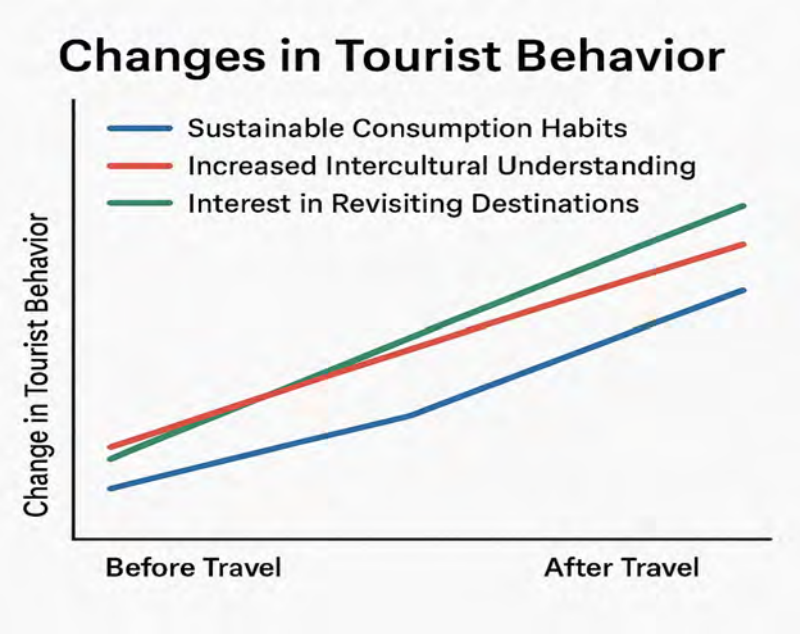
Figure 2. Factors Influencing Tourist Behavior- (Representation created by author)



Significance of Study

This research touches on the transformative effects of tourism on individuals, specifically how experiences shape behaviour, perceptions, and actions of tourists. Understanding these behavioural developments is important for tourism policymakers, businesses, local groups, and researchers. Tourism policymakers can use insights to better design strategies promoting sustainable and responsible tourism. Tourism businesses can provide services meeting the dynamics of tourists' expectations, increasing customer satisfaction and loyalty. Local communities can explore initiatives promoting engagement while preserving cultural values.

Figure 3. Conceptual Framework of Transformative Travel- Representation created by Author



Literature Review

The literature from the past decade highlights multiple dimensions through which tourism experiences shape tourist behaviour, values, and attitudes. The transformation occurs across four key areas: cultural immersion, psychological and emotional impact, sustainability and responsible tourism, and digital tourism and experiential learning. Tourism has always been a strong power, affecting people, societies, and economies. Tourism is not only an industry or an economic driver, but also a life-changing experience. Studies reported that tourism experiences could even bring long lasting transformations in individuals' lifestyle and styles of travel.

The Transformative Nature of Tourism Experiences

Tourism is considered to be an experience-based activity that offers space for self-discovery, learning and space for cultural immersion. Before, Joseph Pine II and James H. Gilmore (1999) identified the "Experience Economy", showcasing that consumers are looking for memorable and meaningful experiences and not just products or services. In fact, it is a great potential

aligning principle when it comes to transformative tourism, where travel experience leads to personal growth, awareness and shifts in perspectives. Transformative tourism is when significant shifts in self-image and attitudes take place through travel experiences (Jan Packer & Chelsea Gill, 2017), (Kunwar, R.R., & Ulak, N.2024). Such change may result from exposure to new environments, engagement in unfamiliar cultural settings, or participation in activities that challenge pre-existing beliefs.

Cultural Exchange and Intercultural Competence

Tourism allows for cross-cultural interactions, exposing travellers to different communities, traditions and values. According to Hofstede's (2001) cultural dimensions theory, interaction with individuals from various subcultures can affect their views and behaviours. Reivers, Turner (2003) Interestingly, tourists may come to appreciate diversity and inclusivity in relation to cultural tourism, heritage sites, or community tourism. Muzakkir and Reisinger (2013) emphasize that intercultural encounters during travel help to diminish stereotypes and facilitate understanding between travellers and host communities. Through their willingness to engage with meaningful cultural experiences, tourists become more open-minded, tolerant and seeking to appreciate diversity not only in their home countries but also around the world. Cultural immersion plays a fundamental role in shaping travellers' worldview, identity, and behaviours. Tourists often enter destinations with preconceived notions about a culture, but firsthand experiences challenge these perceptions and result in a deeper understanding of diversity (Kirillova, Lehto, & Cai, 2017). Moments of awe, joy, and even discomfort create deep emotional connections to destinations, reinforcing long-term transformation (Kirillova, Lehto, & Cai, 2017). Experiential learning theory suggests that active engagement in experiences leads to cognitive and behavioural changes (Packer & Ballantyne, 2016).

Many tourists experience cognitive dissonance when they encounter a reality that differs from their expectations. This leads to self-reflection and a re-evaluation of values and beliefs (Cohen, 2019). Encounters with different traditions, languages, and customs help expand cultural intelligence and empathy (Smith & Diekmann, 2017). Engaging in local traditions, festivals, and community projects fosters personal connections, making tourists more adaptable and socially aware (Ben Haider et al., 2022). Travel experiences that involve deep cultural participation led to changes in attitudes toward race, ethnicity, and social justice (Teoh et al., 2021). Slow travel, which emphasizes meaningful interactions over fast-paced sightseeing, enhances self-reflection and mindfulness (Pearce & Packer, 2019). Travelers who immerse themselves in homestays, language learning, or local crafts report longer-lasting behavioural changes (Reisinger, 2015). Travel experiences profoundly influence travellers' mental well-being, emotional intelligence, and resilience. The transformative effects of travel stem from exposure to novelty, challenges, and personal introspection. Emotional intensity during travel enhances memory retention and personal growth (Brown, 2016). Thus, cultural immersion contributes to identity formation, social adaptability, and increased tolerance, with long-term impacts on both individuals and society. Adventure tourism, voluntourism, and wellness retreats often provide settings for deep self-reflection and the development of new life goals (Amaro et al., 2023). Many travellers seek

tourism experiences for stress relief, personal reinvention, or career growth (Teoh et al., 2021). Facing unexpected challenges during travel (e.g., language barriers, lost luggage, navigating foreign environments) strengthens problem-solving skills and adaptability (Ben Haider et al., 2022). Nature-based and retreat tourism (such as wellness retreats and eco-tourism) have been linked to stress reduction, mindfulness, and mental clarity (Pearce & Packer, 2019).Travelers often return with new priorities and lifestyle choices, such as meditation, environmental consciousness, or new career directions (Smith & Diekmann, 2017). The psychological and emotional impacts of tourism reinforce self-awareness, resilience, and life satisfaction, making travel a powerful tool for personal development. Sustainable and responsible tourism practices are essential in promoting ethical travel behaviour, environmental awareness, and long-term changes in tourist attitudes.

Psychological and Emotional Impact of Tourism

The Psychology of Travel Experiences influences Tourist Behavior Traveling with positive emotions create lasting memories and shapes future travel (Kim, Ritchie, & McCormick, 2012). The hierarchy of needs model proposed by Maslow (1943) indicates that tourism meets several psychological desires such as self-actualization, belongingness, and esteem. Such transformative tourism experience such as adventure tourism, volunteer tourism, and wellness retreat offer opportunities for personal reflection and emotional fulfilment (Lean, 2012).

Travel and leisure tourism experiences can act as a tool to deal with stress and contribute to mental wellness, according to several studies. Filep, and Pearce (2014) operations that are positive further enhance happiness and satisfaction in life in this respect. Travel has been linked to mental health benefits, including stress reduction, creativity, and a sense of purpose (Chen & Petrick, 2013). These emotional and psychological values were your powerful ways in which tourism can fundamentally change an individual way of life and behavioural values.

Sustainable and Responsible Travel Behaviour

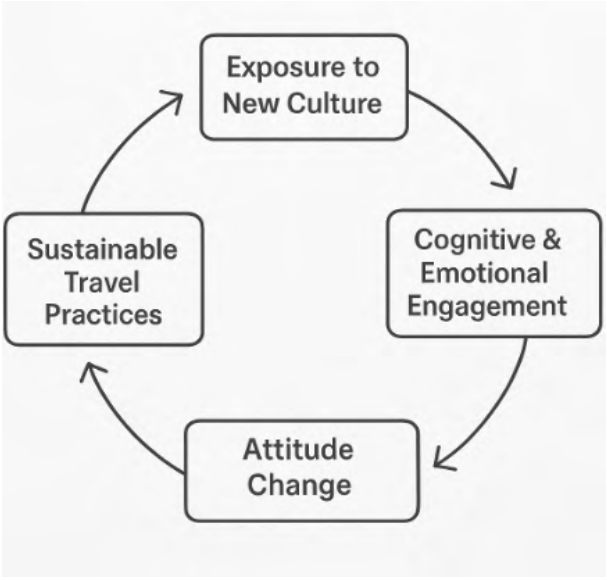
Transformative tourism also helps to encourage sustainable and responsible travel behaviours. Tourism can be obliging positively for the imperceptible, practical, and social awareness of travellers in Experiential tourism (Weaver & Jin, 2016). Research shows that immersion in nature-based and eco-tourism environments enhances tourists' awareness of environmental conservation and sustainable practices (Ballantyne, Packer, & Sutherland, 2011). Sustainable tourism activities prove to influence tourists into behavioural outcomes like responsible travel behaviours in future trips, as seen with wildlife conservation programs (Boley, Magnini, & Tuten, 2013). Studies show that engaging in eco-tourism activities (e.g., wildlife conservation, sustainable farming) leads to a heightened sense of responsibility toward nature (Reisinger, 2015). Tourists who witness climate change effects firsthand (e.g., glacier melting, deforestation) often develop pro-environmental attitudes (Packer & Ballantyne, 2016).

Furthermore, voluntourism—where tourists get involved with community development projects—has been shown to improve empathy, pro-social behaviours, and civic engagement (Wearing & McGehee, 2013). As they actively participate in social projects, their view on the world is deepened, resulting in long-lasting effects in their consumption, ethical consumption, responsible decisions, and charitable habits. Volunteer tourism allows travellers to participate in social and environmental projects, fostering a sense of global citizenship (Ben Haider et al., 2022). Research shows that tourists engaged in community-led initiatives develop a stronger commitment to fair trade, ethical tourism, and social equity (Teoh et al., 2021). Sustainable travel experiences encourage changes in consumption habits, such as supporting local businesses and reducing plastic waste (Cohen, 2019). Travelers exposed to sustainable tourism models (e.g., green hotels, carbon-offset travel) are more likely to adopt long-term sustainable behaviours (Pearce & Packer, 2019). By engaging in responsible tourism, travellers not only develop sustainable behaviours but also influence their social circles, encouraging wider environmental and social change. With technological advancements, digital tourism has become an alternative or complement to physical travel. However, its transformative potential remains limited compared to real-world experiences. Virtual reality (VR) tourism provides immersive experiences that enhance pre-trip learning and post-trip reflection (Rickly, 2018). Studies indicate that digital experiences cannot fully replicate the depth of sensory, emotional, and interpersonal engagement found in traditional tourism (Reisinger, 2015).

Digital storytelling and social media documentation influence travellers' self-perception and memory construction (Kirillova, Lehto, & Cai, 2017). While social media can enhance post-trip reflection, it may also create unrealistic travel expectations, reducing genuine transformative experiences (Smith & Diekmann, 2017). Digital platforms allow for cross-cultural exchanges, helping individuals develop intercultural competencies before traveling (Packer & Ballantyne, 2016). Hybrid tourism models, combining digital and physical experiences, may bridge the gap between virtual engagement and real-world transformation (Amaro et al., 2023). Although digital tourism offers opportunities for accessibility and education, it lacks the deep behavioural and emotional impact of physical travel.

These findings suggest that deeply immersive and ethically responsible tourism experiences have the greatest potential to transform traveller behaviour and perspectives.

Figure 4. Tourist Behavior Change Cycle- (Representation created by author)



Post-Travel Behavioural Changes

Tourism's power to change people doesn't just change the way a tourist engages in a destination; it often changes the way that tourist behaves in the world even after the vacation is over. Travel experiences shape tourists' identities, self-concepts and future travel motivation (Cohen, 1972). People return from holidays and make lifestyle changes, studies on post-travel behavior indicate that meaningful, immersive travel experiences lead to a shift in 'travel' goals observable in subsequent journeys (Crouch et al., 2004). The previous experience of a destination for travelers often determines their future intention for visitation (McKercher & du Cros, 2002), for example, those who experienced positive cultural interactions during the process of travel tend to engage more cultural tourism in the future.

Also, studies show that transformative tourism experiences can affect lifestyle choices that manifest in one's diet, career aspirations, and social relationships. Mindfulness and wellness practices are often inserted in the daily routines of tourists who experienced wellness retreats (Smith & Diekmann, 2017). However, people in adventurous tourism practices may lead to a higher tolerance for risk, fate, and confidence in other life behaviours (Buckley, 2012).

The transformative tourism literature indicates that travel experiences have a fundamentally transformative nature on individual behaviours, cultural awareness, psychological well-being, and sustainability practices. And as tourism develops so will the desire for unique and immersive experiences. The behavior change that comes about as a result of tourism experiences can provide useful insights for various stakeholders in the tourism industry such as policymakers, businesses and destination managers. The promoting of tourism experiences that inspire personal growth, cultural exchange, and environmental responsibility can help to build a more inclusive and sustainable global travel culture that aligns with the increasing emphasis on

mindfulness within our everyday lives. In the future, studies could explore more deeply the long-duration effects of transformative tourism on different demographic groups and cultures in order to devise more effective tourism strategies that actually expand benefits to individuals and society.

Objective of the Study

1. To examine the impact of tourism experiences on tourists' behavioural changes, including cultural awareness, decision-making, and lifestyle adaptations.
2. To analyse how different types of tourism experiences, such as cultural tourism, eco-tourism, and adventure tourism, contribute to personal growth, psychological well-being, and sustainable travel behaviours.

Research Methodology

This research builds upon pre-existing data to explore how tourism can be transformative and what effects this has on tourists. It draws upon the existing literature — academic papers, books, industry reports and government publications — to see how experiences in tourism might mediate perceptions, attitudes and behavioural shifts. We analyse the literature on cultural tourism, eco-tourism, and adventure tourism and their impact on self-development and wellness as well as sustainable travelling. Through secondary data analysis, the paper presents theory-oriented and case-based examples that help to systematically understand this complex reality of tourism and behavior.

Table 2. Selection Criteria-(Representation created by author)

Selection Criteria	Details
Methodology	Quantitative and qualitative studies, surveys, interviews and observational research.
Inclusion	Studies focus on tourist behaviour, transformative experiences and psychological impacts
Exclusion Criteria	Studies lacking Empirical evidence, unrelated to tourism or not peered reviewed.
Data sources	Academic Journals, Conference Papers, Case studies & Qualitative Research

Findings

Tourists' Behavioural Changes: Cultural Awareness, Decision-Making, and Lifestyle Adaptations

Tourism is not only an activity for leisure and recreation, but also, a transformative activity with relevant behavior changes in people participating in it (Chang, S., & Gibson, H.J. 2011). Traveling to different places leads to a cognitive transformation through direct interaction with different cultures, environments and social customs. This paper motivates, theoretically and empirically, the magnitude of tourism experiences as well as their effect on these behavioral dimensions.

The thing that tourism does to the individuals most is increase cultural awareness. Tourism provides insight into new cultures as tourists are often subject to new cultures, traditions and customs which in turn increases their understanding and appreciation of cultural diversity. Travel is known to curb intolerance and increase trust when encountering different cultures. One might have been a tourist to Japan, and, as such, value cultural aspects like bowing as a greeting or removing shoes before entering a home. These overwhelming experiences shatter taboos, reorder beliefs, and imbue participants with a yearning to inhabit a more pluralistic universe. In addition, exposure to foreign historical narratives and cultural practices can assist travellers in situating their own cultural identity within a more inclusive global context, in turn stimulating personal transformation and expanded intercultural proficiency.

Tourism experiences, too, play a substantial role in tourists' decision-making. It definitely seems that going to new places, meeting different cultures and tackling challenges on the move fosters mental flexibility and adaptability (McCabe, et, al. 2016). According to study, frequent travellers learn better problem-solving and critical thinking skills. The decision-making process is a multilayered endeavour and these differ from one destination to another, culturally and situationally. For example, a tourist in a foreign land must balance local culture and customs, travel ethics or responsible tourism, and sustainable travel. That real-world training makes all the difference in helping them assess risk, digest data quickly and make sound decisions in life or business.

Moreover, due to tourism, lifestyle adaptations are encouraged as it leads one to try incorporating what they learn, the foods they consume and the habits they pick up in their daily routine. Many tourists bring home sustainable practices from their travels, whether it's avoiding plastic when possible, supporting local artisans or working toward a plant-based diet from the influence of other cultures. On the other hand, participation in wellness tourism activities such as yoga retreats in India or meditation retreats in Thailand inherently promotes lifestyle changes that focus mental and physical health. Research in wellness tourists indicate that they continued their practices of mindfulness and healthy eating long after returning from their trip, implying a sustained behavioural change as a result of travel. Also, embarking on different lifestyles as an example, minimum lifestyles seen in Scandinavian countries or room lifestyles set out in indigenous people, might motivate travellers while returning to index their materialistic habits and apply a more sustainable and conscious way of being.

This transformative potential is realised further when it influences tourists' understanding of social and environmental duty. Traveling into uncharted geographical territories, meanwhile, can expose you to different kinds of climate hazards, as well as different environmental landscapes and as they show you up close, what a changing climate can do to a region. Ecotourism is also framed as an educational opportunity: people who visit these places travel home with a newfound awareness of environmental problems and the importance of making greener choices at home, be it through carbon footprint reductions, backing conservation initiatives, or advocating for responsible tourism practices. The promise of interaction with local communities and stories of their socio-economic needs is complemented in travellers' perceptions by participation in philanthropy and ethical consumerism, creating a positive feedback loop over-informing the belief that travel experiences are 'good' for society.

Travel builds resilience and adaptability in situations without a predetermined outcome and in environments that feel foreign (Rahman, et, al.2021). Navigating language barriers, figuring out how to orient oneself in different time zones and handling foreign transportation systems further reinforces travellers' ability to cope with uncertainty and change. Experience like that build real-life skills such as emotional intelligence, patience and self-sufficiency which will prove invaluable in developing a career and nurturing relationships. Consequently, frequent travellers tend to have developed advanced levels of confidence and open-mindedness, allowing them to flourish in diverse and ever-changing settings.

An emotion from tourism is potent advantage for behaviour changing, creating cultural functions, adaptation and making decisions. By experiencing different cultural contexts, tourists gain an appreciation for global diversity, hone their decision-making abilities, and adopt new habits in their everyday lives. By coping with the challenges of unfamiliar environments, individuals develop practical skills that can be applied in other contexts. Intensive analysis has been done on the subject to understand the nature of tourism and the effects that it has on individuals to create an understanding of what should be done although it is a field of study that is very new.

The Contribution of Different Types of Tourism Experiences to Personal Growth, Psychological Well-Being, and Sustainable Travel Behaviours

Travel is not just a leisure activity, it has the ability to change us as people, it will make us a better person, thus psychologically a better environment friendly tourism. For example, different types of tourism experiences including cultural tourism, eco-tourism and adventure tourism can provide opportunities for travellers to learn new skills, get into a healthier mindset, and adopt responsible behaviours towards the environment and local communities. These new forms of tourism also play some role in both individual and collective well-being. Tourists' participation in local customs, visiting cultural sites and historical landmarks, experiencing and appreciation of diverse traditions, food, languages, costumes and lifestyles through cultural tourism is fundamental to personal development. The exposure to different ways of life

broadens perspectives and encourages critical thinking, as one must now compare and contrast the culture, they were raised in with the new countries they are encountering. Learning about destination cultural traditions, such as visiting for UNESCO World Heritage sites or indigenous festivals, can spark a newfound respect for cultural perpetuation and heritage conservation. In addition, social skills are improved by cultural tourism because tourists interact with locals, negotiate in foreign environments and practice cross-cultural communication skills. Engaging with diverse experiences encourages personal growth by developing empathy, adaptability, and a global perspective.

Eco-tourism, which is travel to natural areas aimed at conserving the environment, is crucial for the psychological well-being and sustainable actions of people. Being in nature is associated with lowering stress levels, boosting clarity and sparking happiness. Studies show that spending time in natural landscapes helps to relax and remain mindful, thus decreasing anxiety and depression syndrome. Engaging in activities like birdwatching, hiking, and wildlife conservation can give you a sense of purpose, increase emotional resilience, and provide a sense of fulfilment. Eco-tourism also helps instills an environmental consciousness. Tourists that witness the vulnerability of ecosystems firsthand like snorkelling in the coral reef or visiting a national park will form more sustainable habits by reducing plastic waste, supporting conservation initiatives, protecting animals, and making every day environmentally conscious choices. Eco-tourism helps not only the psychology of travellers but also the long-term preservation of nature through sustainable tourism.

Another aspect of adventure tourism is personal transformation — the experience of travel that forces one to leave his/ her comfort zone and do things you never thought you'd do. Outdoor activities e.g. Mountaineering, Scuba Diving, Extreme Sports pushes tourists to inherit resilience, confidence and problem-solving skills. Darwin says the physical and mental challenges of adventure tourism help build their endurance and adaptability, skills that permeate many aspects of their lives after they're back from travel. Scientific studies have shown that doing adventurous activities stimulates the production of endorphins which improves mood and lowers stress. Learning about adventure tourism without the fear is a great way to building self-esteem and achieving new milestones. Additionally, adventure tourism encourages teamwork and leadership abilities, because most of the pursuits depend on working in a group, trusting, and coordinating with others. Not only help in self-improvement these attributes add for personal and professional growth.

Travel behaviours that promote sustainability varies depending on what type of tourism experiences individuals are involved in, and this can be very much learned through cultural tourism as travellers learn to respect local customs, respecting it, and becoming more ethical tourists. The form of tourism that also encourages conservation is the Eco-tourism which helps the individuals in responsible consumption and waste management. Adventure tourism, which

relies on pristine natural environments, inspires tourists to preserve these areas for future generations. Together, these kinds of tourism foster a commitment to sustainability in the long term, as travellers find environmentally and socially responsible practices, they continue to adopt after the trip is over. Governments and tourism organizations are responsible for instilling these habits through sustainable tourism policies, ethical travel guidelines, and eco-friendly tourism practices.

Tourism is the key to the growth of an individual and society. These various tourism experiences-cultural tourism, eco-tourism, and adventure tourism play a vital role in personal development, psychological well-being, and the adoption of sustainable travel behaviours. Cultural tourism develops our understanding and appreciation of global diversity, eco-tourism instills mindfulness and environmental awareness, and adventure tourism instills resilience and self-confidence. Together, these forms of tourism encourage responsible travel practices that are beneficial for both people and planet.

Recommendations

- Promote Awareness and Education: Governmental and tourism organizations should promote educational campaigns to highlight the advantages of cultural, eco, and adventure tourism. Educating tourists about how to travel sustainably encourages them to do the right thing.
- Enhance Sustainable Tourism Infrastructure: Key stakeholders must create and sustain environmentally conscious lodgings, eco-friendly transit choices, and conservation programs to encourage responsible travel. We should prioritize policies that encourage business to do the right environmental thing.
- Encourage Community Involvement: Engaging local communities in tourism activities will help to preserve culture and promote economic benefits. Governments and private industries should work alongside local outlines to help achieve tourism that allows for the travel experience to benefit both the traveller and the citizen.

Conclusion

Tourism is an important driver of personal development, psychological well-being, and sustainable travel behaviours. Tourism plays a key role in conservation, preservation, and development. This is what sustainable tourism is at heart: facilitating enriching experiences for visitors and benefits for the local community, while conserving nature and culture for future generations. Responsible tourism policies, sustainable infrastructure development, and community-led involvement are critical to the process Governments, businesses and travellers need to work together to evolve in the tourism market . This important aspect of tourism will allow the industry to promote long-term sustainability and empowerment. Finally, while the nature of tourism continues to adapt to the changing world we live in, it is essential that we

maintain our focus on sustainability and responsible travel experiences in the future of travel. The significant paradigm shifts in consumer demands, which are increasingly driven by the need for self-fulfilment and self-actualization when selecting and consuming products and experiences, are impacting the tourism sector, challenging researchers, tourism stakeholders and marketeers not only to focus on a more holistic approach towards wellness and happiness of tourists but also to provide highly customized experiences, also known as transformative experiences, that should be more meaningful and potentially life-changing.

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Touchless Transformation: A Sustainable Advancement in the Hospitality Industry in Ba Ria - Vung Tau, Vietnam (Paper#137)

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Abstract:

This study explores the viability of touchless hotels in Ba Ria - Vung Tau, Vietnam, addressing the gap in understanding their impact on guest experience, operational efficiency, and sustainability. Through document analysis and interviews with four upscale hotel managers, it identifies key challenges and opportunities to support the safe, cost-effective, and sustainable advancement of Vietnam's tourism industry.

Keywords: touchless, transformation, sustainable advancement, hospitality, Vietnam

1. Introduction

Vietnam's hotel industry plays a vital role in the country's expanding tourism sector, with a strong focus on enhancing and personalising guest experiences (Do et al., 2020). To maintain competitiveness, hotels increasingly adopt touchless technologies, which improve safety, modernity, and operational efficiency (Chen et al., 2021). These innovations are particularly relevant as health and safety concerns shape consumer preferences, encouraging repeat visits (Lew et al., 2020). Ba Ria-Vung Tau, a key tourism hub in South Vietnam, has experienced an annual tourism growth rate of more than 10%, underscoring its economic significance (Hoa & Huy, 2021). However, evolving traveller expectations necessitate greater adaptability and deeper technological integration in the hospitality industry. This study examines the implementation of touchless services across various hotel segments through expert interviews. Specifically, it aims to (1) assess the adoption of touchless technologies in Ba Ria - Vung Tau hotels, (2) investigate their impact on guest satisfaction and operational efficiency, and (3) identify challenges and opportunities for sustainable advancement. Aligned with SDG 8, the research highlights digital transformation as a driver of sustainable economic growth, industry resilience, and safer work environments.

2. Literature Review

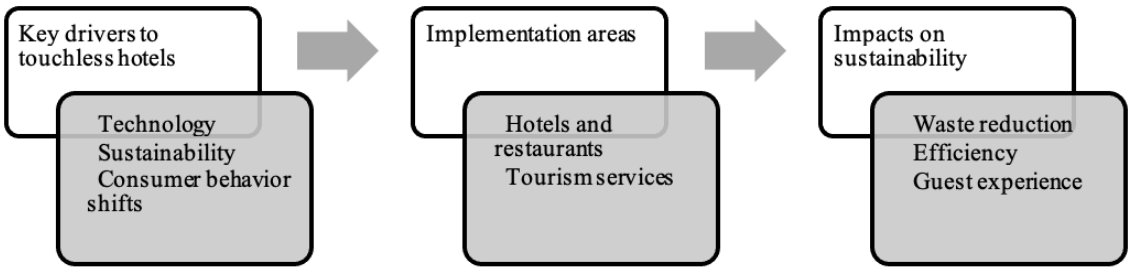
2.1. Theoretical background

According to Brunes (2019), Lewin's Change Model guides organisational transformation through three stages: Unfreeze, Change, and Refreeze. In touchless hospitality, the Unfreeze stage raises awareness of adopting technology, the Change stage involves implementing contactless solutions like digital menus and automated room controls, and the Refreeze stage integrates these technologies into daily operations, ensuring long-term efficiency and sustainability (Cummings & Worley, 2014). This model helps hospitality businesses manage change effectively, overcoming barriers and enhancing service quality.

2.2. Potentials of Touchless Hotels and conceptual framework

The hotel industry increasingly integrates AI and robotics to enhance customer service, improve operational efficiency, and reduce costs (Gaur et al., 2021). Touchless technologies, including mobile check-in, keyless entry, and voice-activated controls, align with evolving traveller expectations for convenience and safety (Han et al., 2024). The Industrial Revolution 4.0 has further accelerated contactless solutions, reinforcing their role in sustaining competitiveness. However, high initial investment in digital infrastructure, a lack of skilled employees, and data security concerns limit widespread adoption (Herrera et al., 2024; Iyelolu et al., 2024; Gore, 2024). Guest acceptance varies, with younger travellers embracing automation while older guests may resist (Kim & Han, 2020). The reliance on personal devices also challenges accessibility (Park & Lehto, 2021). Despite these barriers, Ba Ria-Vung Tau exemplifies successful transformation, implementing tourism-stimulating policies and attracting investments. With 11% annual economic growth, the province leverages digital solutions like cloud-based CRM and data analytics to enhance personalisation and modernise hotel operations.

Figure 1. Conceptual framework (source: author, 2025)



3. Methodology

3.1. Measurement

This study explores the potential of touchless hotels in Ba Ria - Vung Tau by analysing managerial perspectives on their feasibility, advantages, and future outlook. Given the novelty of touchless hotel concepts, a qualitative approach using open-ended questions was adopted to gather in-depth insights.

The interview process began with three primary questions about the hotel's vision for touchless operations before expanding into broader discussions:

1. Is there any procedure for your hotel to be touchless? What is it? Can you further describe it?
2. What are the pros and cons of touchless hotels from your perspective?
3. What can you predict about the future of touchless hotels in Ba Ria - Vung Tau?

These questions served as a foundation to facilitate deeper conversations on operational, financial, technological, and customer experience aspects. Participants were encouraged to elaborate on their viewpoints, ensuring a comprehensive understanding of their perspectives.

3.2. Data collection and analysis

This study targeted general managers from four luxury hotels, comprising two 4-star and two 5-star properties in Ba Ria - Vung Tau. Participants, including Vietnamese and foreign professionals, had at least ten years of hospitality experience, including both Vietnamese and foreign professionals. A purposive sampling technique ensured that selected managers had relevant expertise in hotel operations and technology adoption. In-depth, face-to-face semi-structured interviews, each lasting approximately 60 minutes, were conducted from January 15th to February 12th, 2025. Interviews were audio-recorded, transcribed verbatim, and validated by participants for accuracy. A coding framework was developed using QDA Miner software, categorising responses into themes. To enhance validity, Lewin's Change Model was applied by comparing interview findings with industry reports and literature. Key findings are presented using tables and figures to improve clarity and interpretation.

4. Results

4.1. Profile of the respondents

The interview results showed that managers in luxury hotels aimed to change the operational styles from traditional to modern. They preferred applying new technologies to enhance management and operations. The managers did not mention the model they used to develop their operations, but Lewin's change model was reflected in their responses. Implemented technologies include intelligent booking, contactless payment, online check-in, voice-controlled TVs, chatbots, and digital keys. These innovations improve efficiency, bookings, and marketing while ensuring safety. Technology simplifies operations, making touchless services become a unique selling point.

4.2. Results

Table 1. Results of interview (source: author, 2025)

Hotel number	Unfreeze (Identified Need for Change)	Change (Technologies Implemented)	Refreeze (Sustained Impact & Benefits)	Equipment Used
1 Xuyen Moc (Ba Ria Vung Tau)	Need to enhance guest experience & streamline operations	Intelligent booking system, contactless payment, online check-in	Improved efficiency, better guest satisfaction, competitive advantage	PMS, QR code scanners, smart locks
2 Vung Tau (Ba Ria Vung Tau)	Safety & convenience in response to guest expectations	Digital keys, voice-controlled TVs, AI-powered chatbots	Seamless check-in, enhanced marketing, operational efficiency	Smart locks, voice assistant devices, AI chatbots
3 Xuyen Moc (Ba Ria Vung Tau)	Increase operational efficiency & brand positioning	Contactless payments, smart room controls, online guest communication	Cost reduction, higher guest retention, sustainable operations	NFC payment terminals, IoT room controls
4 Vung Tau (Ba Ria Vung Tau)	Improve guest personalization & staff workload management	AI-driven reservation system, digital concierge, automated housekeeping requests	Increased automation, reduced workload, high-tech service standardization	AI-based booking software, digital concierge kiosks, housekeeping management software

5. Discussion and Implications

5.1. Discussion

Adopting touchless technologies in Ba Ria - Vung Tau hotels reflects a commitment to digital transformation, enhancing efficiency and guest convenience through intelligent booking, contactless payments, online check-ins, and AI-powered chatbots. However, financial constraints challenge mid-range hotels, while luxury properties must balance modernisation with profitability. Employee concerns over job security and skill gaps necessitate continuous training for a smooth transition. Structured upskilling programs are crucial to overcoming resistance. Cybersecurity is a significant concern, requiring compliance with data protection regulations and robust security frameworks. Despite challenges, hotel managers recognise the long-term benefits of touchless solutions in cost reduction, guest satisfaction, and brand differentiation, making this transition a gradual, strategic process requiring financial planning and workforce readiness.

5.2. Implications

This study aligns with technological adaptation models in hospitality, emphasising AI, automation, and robotics in reshaping operations. It contributes to digital transformation literature by showing how touchless technologies enhance efficiency, personalisation, and guest trust while highlighting innovation adoption and organisational readiness in emerging markets. Touchless innovations streamline bookings, digital concierge services, and AI-driven housekeeping, improving speed, reducing errors, and meeting hygiene expectations. AI-driven management optimises workforce allocation and minimises redundancies, while real-time feedback enhances service and brand loyalty. From a sustainability perspective, touchless hotels reduce paper use, energy consumption, and infrastructure needs. Investing in scalable, interoperable technologies ensures long-term growth, competitiveness, and resilience as the industry evolves.

5.3. Limitations

Its small sample size limits this study, focusing on managerial perspectives without incorporating employee and guest experiences. A more comprehensive analysis including various stakeholders would provide deeper insights into touchless technologies' practical challenges and acceptance. Additionally, as fully touchless hotel operations have yet to be widely implemented in Ba Ria-Vung Tau, longitudinal studies are needed to assess the long-term impacts of these digital advancements. Future research should also explore the cost-benefit dynamics and customer sentiment over time, ensuring touchless transformation aligns with evolving market demands and sustainability objectives.

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Using generative AI to influence tourist behaviour: the role of empathy and task interest (Paper#211)

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Abstract:

Using experimental design, this research explores how tourists' psychological responses to generative AI chatbots (i.e., engagement, satisfaction, and behavior) depending on empathy and task interest levels. Results of two studies highlight that generative AI chatbot of high empathetic level is more influential, particularly for tourists with high task interest.

Keywords: Generative AI, empathetic AI, task interest, tourist behavior

1. Introduction

Generative AI is revolutionizing tourism and hospitality by delivering faster, more efficient, and highly personalized services. As technology advances, its role will expand, enhancing tourist engagement and business growth. By integrating empathy, generative AI can foster deeper connections, build trust and loyalty. However, academics urge further research into its impact on tourist behavior and possible moderating factors to expand our understanding in this area.

2. Literature Review

In today's competitive landscape, the tourism and hospitality industry is constantly seeking innovative ways to attract a broader audience (Altinay & Kozak, 2021). Generative AI has emerged as a game-changer, enabling businesses to create immersive experiences that merge virtual and physical environments (Mondal et al., 2023). GAI applications enhance customer engagement and loyalty, personalize travel itineraries, streamline tourism management, and offer various other benefits (Carvalho & Ivanov, 2023; Iskender, 2023; Mondal et al., 2023). As a branch of AI, GAI focuses on developing machines that can reason and act similarly to humans (Deng & Lin, 2022; Gimpel et al., 2023).

2.1 Empathetic AI

Empathetic AI refers to AI's ability to recognize, interpret, and respond to users' cognitive and emotional needs through machine learning algorithms (Murphy, 2019). While AI lacks genuine human empathy to perform tasks (Davenport et al., 2020), it can simulate empathy by expressing emotions (Bänziger et al., 2014), detecting users' emotions, demonstrating compassion, and mirroring human feelings when appropriate. AI developers are increasingly embedding empathetic behaviors into machines to enhance user experiences (e.g., Haupt et al., 2023; Prendinger & Ishizuka, 2005). Research suggests that customers perceive empathetic AI as more positive, trustworthy, likable, and caring compared to non-empathetic AI (Brave et al., 2005). This favorable perception can increase engagement, leading to higher satisfaction and intentions to purchase products recommended by empathetic AI (Dellaert et al., 2020). Hence, the first hypothesis is established:

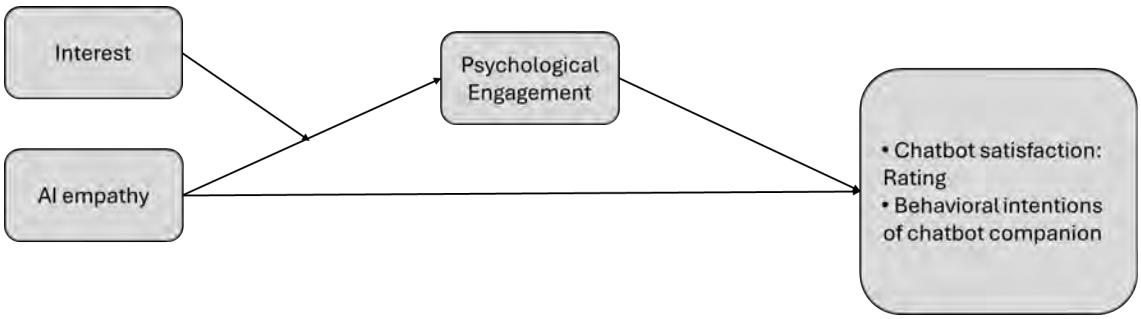
H1: Empathetic generative (vs non-empathetic) AI chatbot increases engagement
H2: Tourist engagement with AI increases tourist satisfaction (rating) and behavioral intentions of AI companion.

2.2 Task interest

Task interest plays a crucial role in shaping tourist behavior by influencing engagement, and decision-making. Task interest refers to an individual's intrinsic motivation and personal relevance toward a specific activity or subject (Van Yperen, 2003). High or low task interest can significantly affect how consumers process information, interact with digital platforms, and respond to persuasive or empathetic cues in service settings. Research suggests that when individuals are highly interested in a task, they are more likely to actively seek information, engage in deeper cognitive processing, and demonstrate sustained attention (Deci & Ryan, 1985). People with low task interest may rely on external cues such as social proof, emotional appeals, or AI-driven suggestions (Dholakia, 2001). Therefore, the second hypothesis is established:
H3: Task interest moderates the impact of empathetic (vs non-empathetic) generative AI chatbot on tourist engagement, satisfaction, and behavioral intentions.

Overall, the research framework of this study is developed as below:

Figure 1. The research framework



3. Methodology

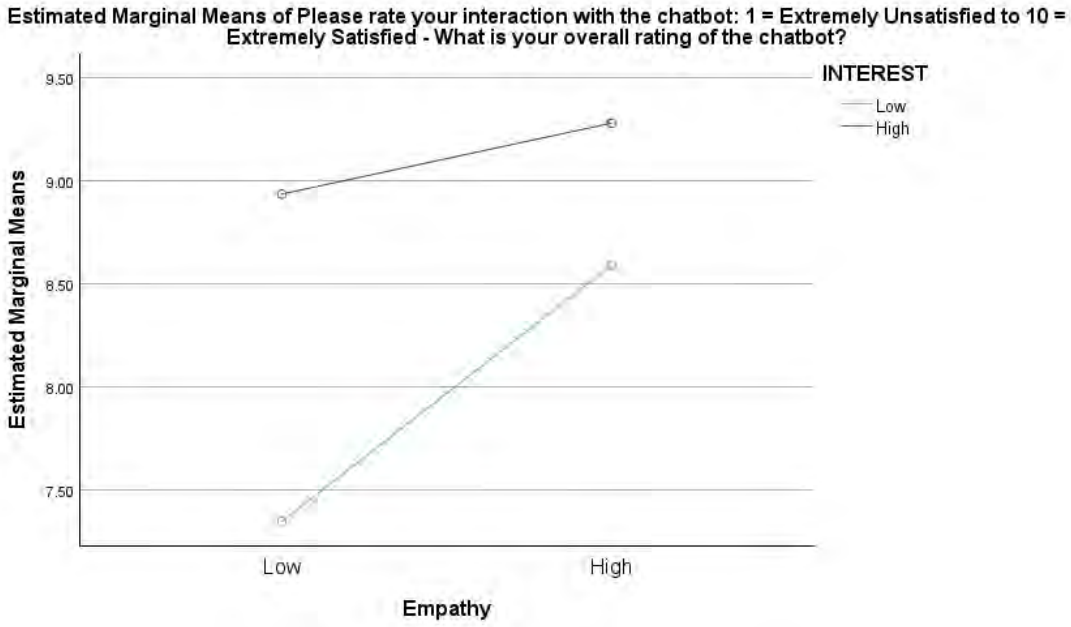
This study employs an experimental design to establish causal relationships by enabling controlled manipulation of variables and rigorous hypothesis testing. This approach allows for an in-depth examination of the interactions between empathetic and non-empathetic generative AI and task interest, assessing their impact on tourist responses - particularly engagement with generative AI chatbots. In two studies, participants interacted with live generative AI chatbots, built on ChatGPT and further trained with knowledge in tourism. Data collection was conducted in March 2025, and participants were recruited via Prolific.

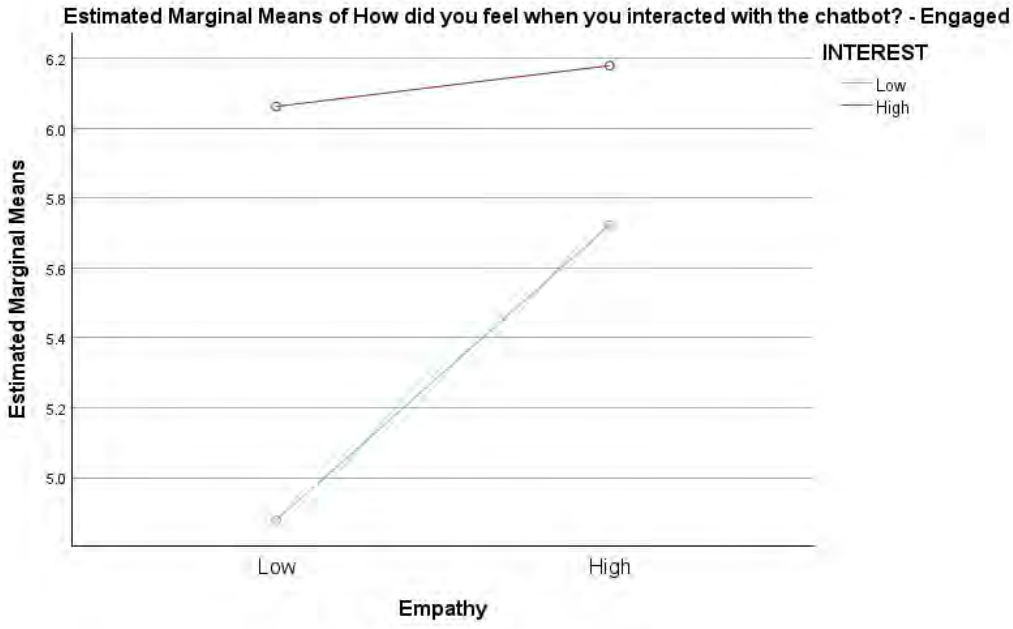
4. Results

Study 1: Study 1 examined the impact of generative AI on tourist engagement and behavioral intentions in tourism. This is a pretest of empathetic levels of generative AI chatbots between-subjects design was employed, with 60 participants recruited via Prolific (54% male, 46% female). Participants were randomly assigned to interact with a generative AI chatbot (empathetic vs non-empathetic) and then responded to relevant questions. The manipulation of chatbot empathy was successful ($M_{empathetic} = 4.4$, $M_{non\text{-}empathetic} = 3.7$; $p < 0.001$). Results indicate that empathetic AI enhances customer satisfaction, engagement, and behavioral intentions.

Study 2: Study 2 replicated Study 1 with an additional focus on task interest. Task interest was measured before chatbot interaction using a scale adapted from Van Yperen (2003): "How interested are you in learning about a business degree from a university/traveling to Vietnam?" (Not at all – Very much). A total of 190 participants were recruited from Prolific (Appendix 1 provides more details of participant profile). Empathy manipulation remained effective ($M_{empathetic} = 4.2$, $M_{non\text{-}empathetic} = 3.8$; $p < 0.001$). Results show that in the leisure services context (tourism), as task interest increased, the effects of empathy on engagement, chatbot ratings (i.e., satisfaction) and behavioral intentions diminished. Thus, task interest moderates the effectiveness of empathetic AI, with empathy being less beneficial for high-interest tourists. Appendix 2 provides more details of multivariate analysis.

Figure 2. Interaction effects of Empathy and Interest on tourists' engagement, satisfaction and behavioral intentions





Indeed, regression models demonstrate that engagement has significant impacts on satisfaction/ rating ($\beta = 0.559$, $p < 0.01$) and behavioral intentions ($\beta = 0.162$, $p < 0.01$).

5. Discussion and Implications

This study makes significant contributions to generative AI literature and offers valuable practical insights. Methodologically, it pioneers an experimental design incorporating interactive generative AI chatbots. Participants engage with live AI models rather than using hypothetical scenarios, creating a natural setting to better measure their psychological responses. This provides a more realistic assessment of user interactions compared to previous studies.

From a theoretical perspective, this research expands social response theory (Moon, 2000) and dual-process theories of motivation (Cacioppo, Petty, Kao, & Rodriguez, 1986) by demonstrating that the impact of generative AI is influenced by chatbot empathy level and participants' task interest. High task interest reduces the influence of empathy and individuals with a strong interest in the task (e.g., planning a trip) may not require empathetic chatbot interactions to stay engaged. These findings provide practical guidance for designing AI-powered tourism interactions, ensuring that chatbot behavior is contextually adaptive and aligned with user expectations. For example, when tourists are intrinsically motivated, additional affective cues such as empathy may have a diminishing effect (Dholakia, 2001). People with high task involvement tend to prioritize efficiency, accuracy, and relevance over emotional engagement (Tussyadiah & Park, 2018). As a result, in high-interest leisure contexts, empathy does not necessarily enhance engagement or chatbot ratings, as users focus more on competence and functionality than relational warmth.

Regarding practical implications, these findings underscore the importance of designing AI-driven interactions that adapt to different groups of tourists, optimizing engagement by balancing empathy, efficiency, and task relevance.

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Appendix 1: Participants' profile

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	93	48.9	48.9	48.9
	Female	91	47.9	47.9	96.8
	Other	6	3.2	3.2	100.0
	Total	190	100.0	100.0	

Income per year (US$)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to $50,000	70	36.8	36.8	36.8
	$50,001 to $80,000	48	25.3	25.3	62.1
	$80,001 to $120,000	34	17.9	17.9	80.0
	$120,001 to $150,000	22	11.6	11.6	91.6
	$150,001 to $180,000	9	4.7	4.7	96.3
	More than $180,001	7	3.7	3.7	100.0
	Total	190	100.0	100.0	

AgeGroup

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	48	25.3	25.3	25.3
	26-35	52	27.4	27.4	52.6
	36-45	44	23.2	23.2	75.8
	46-55	29	15.3	15.3	91.1
	Above 55	17	8.9	8.9	100.0
	Total	190	100.0	100.0	

Appendix 2: Results of multivariate analysis

Between-Subjects Factors

		Value Label	N
Empathy	-1	Low	97
	1	High	93
INTEREST	1.00	Low	103
	2.00	High	87

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.988	5146.432[b]	3.000	184.000	<.001
	Wilks' Lambda	.012	5146.432[b]	3.000	184.000	<.001
	Hotelling's Trace	83.909	5146.432[b]	3.000	184.000	<.001
	Roy's Largest Root	83.909	5146.432[b]	3.000	184.000	<.001

Empathy	Pillai's Trace	.172	12.784[b]	3.000	184.000	<.001
	Wilks' Lambda	.828	12.784[b]	3.000	184.000	<.001
	Hotelling's Trace	.208	12.784[b]	3.000	184.000	<.001
	Roy's Largest Root	.208	12.784[b]	3.000	184.000	<.001
INTEREST	Pillai's Trace	.330	30.157[b]	3.000	184.000	<.001
	Wilks' Lambda	.670	30.157[b]	3.000	184.000	<.001
	Hotelling's Trace	.492	30.157[b]	3.000	184.000	<.001
	Roy's Largest Root	.492	30.157[b]	3.000	184.000	<.001
Empathy * INTEREST	Pillai's Trace	.088	5.923[b]	3.000	184.000	<.001
	Wilks' Lambda	.912	5.923[b]	3.000	184.000	<.001
	Hotelling's Trace	.097	5.923[b]	3.000	184.000	<.001
	Roy's Largest Root	.097	5.923[b]	3.000	184.000	<.001

a. Design: Intercept + Empathy + INTEREST + Empathy * INTEREST

b. Exact statistic

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Satisfaction	98.651[a]	3	32.884	24.000	<.001
	Behavioral intentions	8.097[b]	3	2.699	13.387	<.001
	Engagement	48.398[c]	3	16.133	12.573	<.001

Intercept	Satisfaction	13663.100	1	13663.100	9971.930	<.001
	Behavioral intentions	485.604	1	485.604	2408.432	<.001
	Engagement	6109.364	1	6109.364	4761.446	<.001
Empathy	Satisfaction	29.610	1	29.610	21.611	<.001
	Behavioral intentions	1.961	1	1.961	9.724	.002
	Engagement	10.829	1	10.829	8.440	.004
INTEREST	Satisfaction	60.872	1	60.872	44.427	<.001
	Behavioral intentions	4.946	1	4.946	24.532	<.001
	Engagement	31.579	1	31.579	24.612	<.001
Empathy * INTEREST	Satisfaction	9.508	1	9.508	6.939	.009
	Behavioral intentions	1.195	1	1.195	5.927	.016
	Engagement	6.200	1	6.200	4.832	.029
Error	Satisfaction	254.849	186	1.370		
	Behavioral intentions	37.503	186	.202		
	Engagement	238.655	186	1.283		
Total	Satisfaction	14081.000	190			
	Behavioral intentions	532.000	190			
	Engagement	6426.000	190			
Corrected Total	Satisfaction	353.500	189			
	Behavioral intentions	45.600	189			
	Engagement	287.053	189			

a. R Squared = .279 (Adjusted R Squared = .267)

b. R Squared = .178 (Adjusted R Squared = .164)

c. R Squared = .169 (Adjusted R Squared = .155)



Theme: Tourism Development

Linking Community-Based Tourism and Entrepreneurship: A Bibliometric Analysis of Research Trends (Paper#074)

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Southern Taiwan University of Science and Technology

Clark Hu
Southern Taiwan University of Science and Technology

Abstract:

Community-Based Tourism (CBT) and Entrepreneurship are both multidisciplinary studies that are related to each other. The sustainable development goal (SDG) is of significant interest in this area. There is still a need for bibliometric research on the literature concerning the intersection of CBT and entrepreneurship with the perspective of SDGs. The research findings provide the most SDGs goals index in the research field. The most published journal, author, article, and country are identified. The integration of CBT with entrepreneurship, participation, and management is a robust consolidated framework towards SDGs

Keywords: Community-based tourism, Entrepreneurship, SDGs

Formation Process of Doi Suthep Village under Tourism Development in Chiang Mai (Paper#139)

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Abstract:

This research study aims to explain the development process and spatial form of Doi Suthep Village. Initially, it was a small village isolated in a mountain in front of Doi Suthep temple. In the 1880s, American missionaries were the first to mention Chiang Mai as a place to visit for leisure, which drew many business people's attention, causing the beginning of modern tourism development. Until now, it has become the village that serves and supports the tourism requirements of the essential tourist destination under land use limitations of National Park regulation control, also affected by the tourist behavior and tourism trend in each period.

Keywords: Doi Suthep, urban development, tourism development, Chiang Mai

1. Introduction

After the first wave of Westerners, including American missionaries, arrived in Chiang Mai in 1867, followed by British and French forest industry workers in 1888. Records from the early 1900s show that the hill station and Westerners owned many summer homes at Doi Suthep. The official survey report also listed a few Thai elite households from the 1920s. A village on a hill is often called a "hill station." In the days of colonization or settlement, especially in Asia and Africa, it was established by Westerners who wanted to avoid the intense summer heat. Amenities like tennis courts, flower gardens, and bungalows at the hill station were constructed to support their recreational pursuits.

However, the construction of summer houses at Doi Suthep gradually disappeared between 1941 and 1962 due to World War II, the establishment of the Doi Suthep National Reservation Park, and the completion of the contract by the British Borneo Company. The Royal Vacation Palace and the Forest Department office replaced those former locations. Since then, Doi Suthep has been classified as a restricted area rather than a hill station.

During the 1960s, Chiang Mai was part of the global development of modern tourism. In 1966, an attempt was made to re-establish Doi Suthep as a hill station, but the Chiang Mai people's beliefs and cultural values caused that project to be rejected. Later, in 1967, Doi Suthep was effectively marketed as Chiang Mai's landmark and cultural tourist destination, which led to its exploitation by lowland and hill tribe residents. The Doi Suthep village was then formally founded in front of the Doi Suthep temple in 1985.

This development was explained using data analysis from field surveys, old photographs, and literature reviews. The goal was to provide insight into the village's development from its first stages until it became the primary tourist destination in Chiang Mai.

Figure 1. Aerial photos of Doi Suthep Village, year 2011, 2015, and 2021
(Source: Google earth)



2. Methodology

For the field study it consists of three steps which are data collection, data analysis, and data summary. The first step in gathering data will be to conduct a literature review to learn about the site's history and create a based map using current information before conducting a field survey and interview. Data about the land use pattern, the year the construction was completed, the owners' history, and the architectural features will then be included in the site survey data. Second, the data analysis will be carried out using the spatial analysis technique of businesses that provide services to tourists and villager houses. A map of the village's spatial usage and development will be created for each period of time, and data will be gathered through document analysis and oral interviews to gain insight into past circumstances and determine the causes, outcomes, and contributing factors. After summarizing all the information, the researcher will describe formation process of Doi Suthep village and explain the connections between Chiang Mai and the growth of the tourist town and how tourism affects the political, economic, social, and physical environments.

3. Results

4.1. The early period of Chiang Mai's Tourism and Urban development

In ancient time, reasons for long-distance travel consisted of travel for hostilities to usurp and protect land, for trading, for political purposes, and for religious purposes. The most effective transportation in that period was by waterways such as steamboats, raft boats, and rowboats. Additionally, land transportation was also used together in case waterways were unavailable. (Pojnalawan, 2020) Until period of modernization in Thailand around 1880s, there were many transitions of culture which were influenced by Westerners who visited as merchants, government officers, and missionaries. Those Westerners brought new businesses, medical therapies,

educations, believes, technologies, as well as daily and leisure cultures such as modern style dressing, utensil used eating, leisure travelling, and sports. First group of westerner who worked with royal family and King rama V. During 1887-1932, the leisure travel of elites. The significant symbol of leisure in that period was to build the vacation palaces out of Bangkok which was started by a King then it spread throughout elites. Before in 1922, the southern line railway which was built by England was linked to Malaysia, causing the first opened and eased travel to Hua Hin as the second leisure destination. Later, in 1926, the last vacation palace of the absolute monarchy regime was built in Hua Hin. Also in same year, King Rama the VII had visited Chiang Mai. It was the first time since 1782 that Siam's King visited Chiang Mai. He also had an idea to build a place in Chiang Mai. Therefore, Dara Rasmi Princess, a princess of Chiang Mai and Siam (King Rama V's consort) took his idea and tried to recued land pieces on the east bank of Ping River not too far from southern of old city. However, that project was not build for some reason.

In Chiang Mai, the first westerner who settled at the city were American missionary Mr. McGilvary and his family in 1867. After that in 1888, the next group of Western people were British and French who worked in the forest industry, and a group of doctors. Those new arrivals were supported by missionaries in terms of communication and relationship with locals and the Chiang Mai royal family.

In 1917, HRH Prince Burachatra went to inspect the construction of the northern railway line in Chiang Mai. He traveled by car to inspect the road from Lamphun to Chiang Mai. Then he continued traveling to Doi Suthep and Chiang Mai Railway Station. He had an idea to build a hotel for people who arrived in Chiang Mai without a place to stay. Also, to attract people to travel and get benefit from that traveling income. Therefore, the Royal Railway Department had renovated the accommodation, turning an engineer's house into a Chiang Mai Railway Hotel to accommodate passengers who traveled to Chiang Mai. In 1921, the Railway Hotel was first opened, it was a standard hotel class in Chiang Mai.

Moreover, in 1920, HRH Prince Burachatra started to publish a guidebook in English namely Siamese State Railways: A Guide Book. The first publication was about 1,000 copies which were sent abroad for sale. The price was 1 Pound or 1 US Dollars (equivalent to 10 Thai Baht at that time). As a result, Thailand became more famous and Chiang Mai was also introduced to Westerners who traveled to Bangkok. In 1930, Chiang Mai province published an Ancient Sites: Tourist Guide Book which mentioned ancient sites in Lamphun and Chiang Mai, urban legends, and histories of temples. Those guide books were given to the group of Far Eastern Association of Tropical Medical who had a conference in Chiang Mai. Moreover, there was The Record in English published by the Royal Railway Department which suggested that "You have not seen Thailand yet if you have not reached Chiang Mai".

4.2 The beginning period of leisure destination development (before the 1940s)

During the 1910s, before the railroad reached Chiang Mai City, Doi Khuntarn in Lampang was popular among Westerners. In the beginning, there were only people who had responsibility and gave consultations on the northern line railway construction. Then, the British and Americans came to hike and spend their vacations, especially a group of American missionaries from Chiang Mai who had occupied pieces of land in some area of Khuntan National Park until now. During this period, Thai Railway Department (TRD) significantly promoted tourism because the popularity of private car usage was replaced in many areas, especially for short-distance travel. It caused the emergence of many travel campaigns during weekends and holiday periods, such as special round-trip ticket prices for Bangkok - Chiang Mai train route in 1933, during the Thai New Year Holidays, making 2,000 people travel by train. Since then, the holiday trip to Chiang Mai was annually promoted causing Chiang Mai to become a popular far-distance travel destination.

In 1935, the first modern urban structure, Sri Vichai Road was built by Kruba Srivichai, the Patron Saint of Lanna, connecting Chiang Mai lowland to Doi Suthep temple. That road allowed vehicles and electrical facilities to reach Doi Suthep temple. The infrastructure development resulted in a small group of lowland people coming to settle down in the village in the 1950s. Later, in 1961, Phuphing royal palace was built. Then, it brought tourism to the village. The villagers occupy this area by clearing forest land and building their houses, scattering into forest areas.

In 1936, there was an advertisement introducing the event at Doi Suthep temple which was a fair along with Buddha image gilding and praying event at the Temple. Moreover, in 1938, the images of Chiang Mai were also introduced by a historical soap opera called Maha Dhevi, a story about a good relationship between Chiang Mai and the Thai kingdom. The soap opera's soundtrack was also given images of Chiang Mai's rich culture, kindness, neat dress code, and clean city. Those images affected the recognition of Chiang Mai City from the past to the present day. In the same year, there was a new travel campaign created by TRD for Chiang Mai from August to September, which was a low-travel season. So, they launched the Longan fruit season and publicized the leaflets to promote the campaign. The leaflet contained images of smiley Chiang Mai ladies in traditional dance costumes with a train, market, and Doi Suthep temple as a background.

4.3 The beginning period of modern tourism development (1960s -1980s)

In the 1960s, only travel agencies introduced tourist information, but during 1970-1980, bookstores started to sell various travel guidebooks such as Fodor and Lonely Planet. Also, Travel and Leisure magazines in many countries published information about beautiful beaches, cultures, and attractions in Thailand, which attracted tourists' interest.

In 1966, the governor of Chiang Mai, Mr. Nirandorn, suggested a project to allocate areas along Srivichai Rd. for rental and development to be hotels and vacation houses. That project idea was adopted from Cameron Highland in Malaysia and Dalat in Vietnam. The architectural design of those accommodations, land plots, and water reservoirs would be done by the Chiang Mai authority. In the later year, the project became an interesting debating topic among the Chiang Mai people. The press release of Mr. Nirandorn said that the project purpose was not to destroy nature or disrespect Buddhism but to develop those areas to become more beautiful and ordered; if those areas were unorganized, new invaders might settle and build their houses in the areas. The construction project's first phase would be a cable car and water reservoir; then, hotels and vacation houses were the second phase. The press release also described the accommodation as being located no higher than the 9th kilometer from the foothill, which was lower than Doi Suthep Temple. Moreover, the cable car project was proposed a second time in 1968, the third time in 1985, and the fourth time in 2004. (Fahrungsang, 2019) (Buakhli, 2018)

However, that project was rejected by the Chiang Mai people. Most of them explained that Doi Suthep should not have a massive steel structure obstructing mountain views. Nevertheless, the cable car project was continuously mentioned from time to time. (Noenhad, 2009, p.26-27) The effort to build accommodation on the Doi Suthep Mountain was succeeded in only one project by the Department of Forestry. There were 10 units of cottage-style accommodation located at the Department of Forestry station near Doi Suthep Temple.

During the 1980s, most domestic Thai tourists stayed at hotels close to cinemas, restaurants, nightclubs, bowling halls, department stores, and local tourist attractions. The roads and transportation facilities were greatly developed, and the number of middle-class Thai people increased from 310,000 to 710,000 in 1994. The increasing income allowed urban people to buy their private cars. The improvement of road, tap water, electrical, and telecommunications facilities encouraged Thai tourism.

Then, in 1985, the Chiang Mai Provincial Administrative Organization (PAO) had concepts to manage villagers' living areas and control land use to provide a well-organized and clean image from the tourists' perspective. They had built 97 row house units for rent at the Doi Suthep village, consisting of 66 of 1.5-storey houses and 31 single-storey houses (See fig.2) At the beginning, from 1985-1991, the house rental fee was collected by the PAO After that, the PAO transferred the authority of rental collection to the Royal Forest Department. However, the Royal Forest Department refused to collect the rent because they were not authorized to collect the house rental fee. (Chueamungpan, 2009)

What was mentioned above was one example that showed the importance of Doi Suthep as the center of mind for Chiang Mai people and as the remarkable background landscape of Chiang Mai city. The mountain was not allowed to build large buildings and real estate businesses.

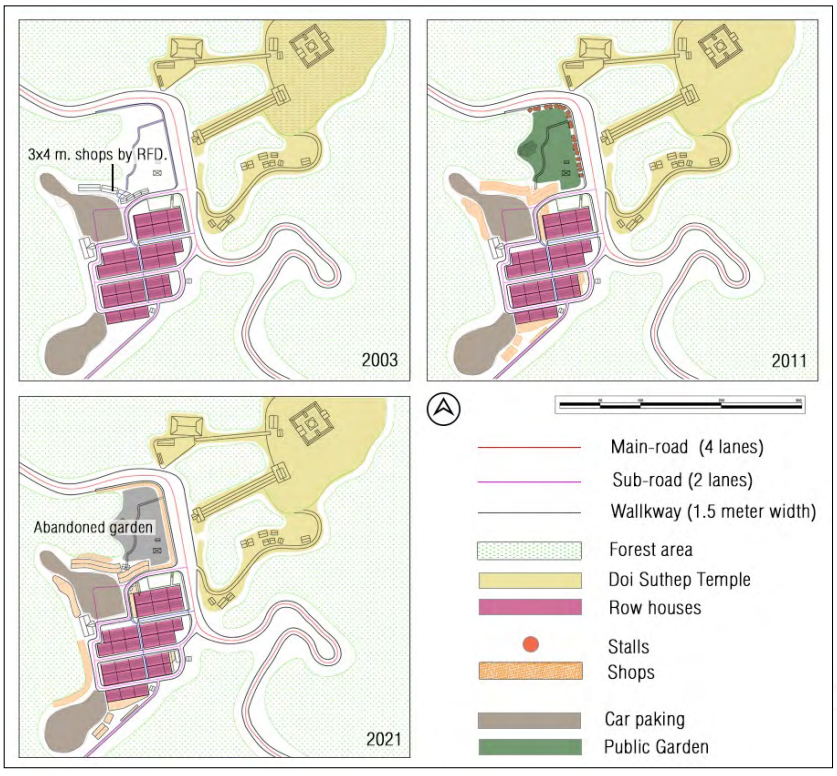
4.4 The modern development and tourism booming (1990s -2010s)

The data in 1997 showed natural tourist attractions and cultural tourist attractions such as Doi Suthep Temple. The selling points of northern Thailand are mountainous geography and cool weather, which caused Doi Inthanon, which is far from the city. It has become a second target for tourists after Doi Suthep which is near downtown. (Suchaya, 2000)

At the same time, the internet started playing a key role in terms of online data and social media. They introduced many new tourist attractions which are suitable for new generation style. A small parking lot was originally an area of the Royal Forest Department which had been developed as a parking area. Firstly, it was flat ground; then, they used the received budget to build a reinforced concrete courtyard. Most merchants used this area during the day for trading, so they saw that area as a customer attraction rather than a parking area or community courtyard. The trending activities happened at the edge of the parking.

Later, in 1997, the Royal Forest Department built 3 x 4 meters shop units (See Fig.2 the year 2003) to support villagers' earnings. The shop roofs and walls were made of green galvanized sheets with open panels. After that, these shops were renovated by villagers to create enclosed spaces for storage and security purposes. They also built a toilet in each shop. They also renovated some shops for a living. Recently, some shop owners in these areas have not been locals but have bought shop ownership from the locals. Additionally, stall traders park their trolleys toward the walkway in a small parking area during the daytime.

Figure 2. Maps of land use and development process on Doi Suthep village in year 2003, 2011, and 2021 (source: author)



5. Conclusion

The main factor contributing to Doi Suthep's potential for leisure development was its pleasant climate which is ideal for Weterner's leisure activities. Nonetheless, development policy during the 1880s modernization era initially attracted Westerners to Thailand. Furthermore, the influence of Buddhist beliefs and elites led to the development of modern facilities, such as roads, electricity, and transportation services. Following that, Doi Suthep village caught the construction of numerous tourist amenities, including parking lots, gift shops, and dining establishments, as a result of mass tourism development and cultural tourism promotion in the late 1990s and early 2000s.

Additionally, to maintain the attraction's tidy and exquisitely planned appearance, the government designed row houses to replace the old village due to rising household consumption. A flourishing tourism flow straight into the village has created rapid growth under land usage limitations of National Park regulation control. The village has been occupied and gradually developed until it is densely filled with house expansion for new resident members, the construction of shops, tour parking, and bathroom service. The Doi Suthep village, which was once a tourist support area, has recently degenerated. That also resulted in uncontrolled housing renovation and waste management.

However, Doi Suthep's strong reputation as a landmark in Chiang Mai and its easy accessibility have contributed to its ongoing rise in popularity among new and returning visitors. Urban development in Doi Suthep Village has been continually affected by tourist behavior and tourism trends in each period. Future developments of the village can be implied to occur in transition spaces such as the courtyard's edge, in front of houses, and small trade units along walkways, which has a strong advantage in rapidly adapting to goods and services.

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Hospitality Students and Open Educational Resources: Usage Patterns and Preferred Platforms in Higher Education (Paper#213)

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Abstract:

This ongoing follow-up descriptive study investigated how hospitality students used Open Educational Resources (OER) in a university setting. It focused on their preferences and usage patterns. Using a 35-point questionnaire, an online survey of students taking hospitality courses showed the popularity of OER platforms such as YouTube, Coursera, TED Talks, and Khan Academy. These platforms were used by university students because of accessibility and were found to be more engaging than other platforms available on open educational Internet television. The study also showed the challenges that university-based internet television OER needs and challenges for better integration, promotion, and content innovation to enhance localized learning experiences in hospitality education.

Keywords: Hospitality learning resources, Open Educational Resources (OER), Internet Television, Digital Learning Platforms

1. Introduction

The role of Open Educational Resources (OER) in higher education has increasingly been critical in providing inclusive, flexible, and cost-effective. UNESCO (2019) defined OER as teaching, learning, and research materials that were freely available and openly licensed. These OERs empowered educators and learners who adapt and share content with minimal restrictions. This greater accessibility enabled democratic knowledge dissemination, particularly in a critical fast-changing field like hospitality and tourism management. There is a need for engaging and relevant education platforms and resources to help the students catch up and support their learning needs to better prepare them for a dynamic industry like the hospitality industry.

Research Objectives

The study aimed to find out firstly the HRM students' awareness, usage, and perception of OERs in the context of hospitality education at a university in the Philippines; secondly, assess the landscape of OER engagement among hospitality management students; thirdly, how institutional OERs could compete with globally dominant platforms, fourthly, to determine the most commonly used OER platforms, and identify strategies for boosting the utilization and visibility of a university.

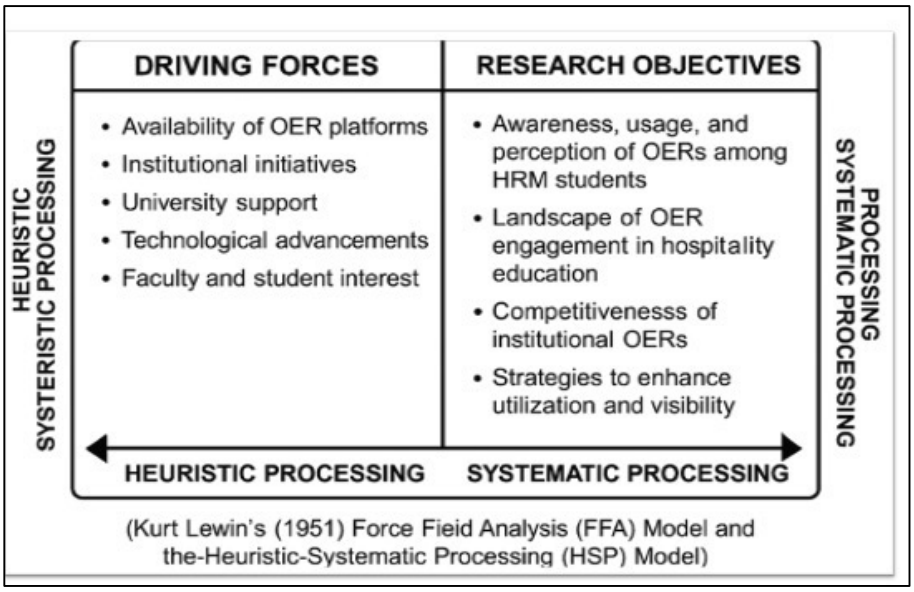
2. Literature Review

There are globally popular OER platforms. Among these are YouTube, Coursera, TED Talks, and Khan Academy. These platforms provided alternative modern learning practices compared to traditional learning inside the four corners of the classroom. These platforms offer free and high-quality content from different disciplines. The proliferation of the internet makes these platforms easily accessible. Moreover, they offer modern and exciting designs and engaging multimedia formats. They are widely consumed by the younger generations, who are the natives of digital products. According to Hilton (2016) and Wiley & Hilton (2018), the adaption of OERs was also closely linked to their ability to support learner-centered methodologies, self-phase learning mode, and ability to stimulate critical thinking. These attributes of multimedia based OERs in video tutorials and online simulations are very applicable and synch with the need for hospitality education because of their practical, visual nature, which simulated real-world scenarios (Coughlan, 2017; Garrison & Anderson, 2011). In contrast, institutional OERs, such as those developed and disseminated by universities, often suffered from limited visibility and integration into teaching practices. Despite offering academically rigorous and locally relevant materials, these resources remained underutilized due to low promotion, poor design, and lack of institutional support (Atenas & Havemann, 2014; Bawa, 2016). This study built on these observations by providing a focused assessment of hospitality students' awareness and behavior toward OER usage, with particular emphasis on understanding why institutional platforms lagged behind their global counterparts.

Theoretical Framework

To address the research objectives of this study, two theoretical models were utilized: Kurt Lewin's (1951) Force Field Analysis (FFA) Model and the Heuristic-Systematic Processing (HSP) Model. These models were used as it provided a structured approach for analyzing the research objectives. The Force Field Analysis (FFA) Model was developed by Kurt Lewin (1951). The Heuristic-Systematic Processing (HSP) Model, introduced by Shelly Chaiken (1980), explained how individuals process and evaluate information through two distinct cognitive pathways: The Heuristic Processing entailed a quick, surface-level approach where individuals relied on mental shortcuts, existing beliefs, or credibility cues (e.g., trusting information because it comes from a university). While the Systematic Processing entailed a more in-depth, analytical approach where individuals actively assessed and critically evaluated the accuracy and reliability of information. The integrated conceptual framework described in Figure 1

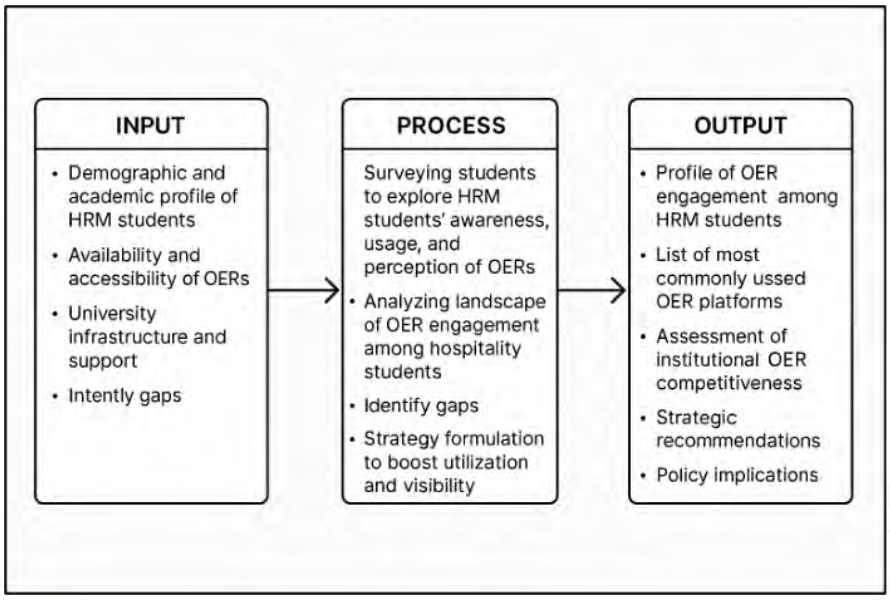
Figure 1. Integrated conceptual framework



3. Methodology

This was conducted in a university offering hospitality management course. To answer the research objectives, the study used a descriptive-quantitative design. A 35-item questionnaire was distributed online. Forty-five (45) students enrolled in hospitality courses responded within the first two weeks of the survey. The survey covered six core sections: the demographic profile, awareness, usage of OER platforms, perceptions of institutional OER visibility, integration of OER in academic activities, institutional support, and suggestions for improvement. This comprehensive structure enabled a clear assessment of both behavioral and perceptual aspects of OER engagement among hospitality students. Figure 2 describes the methodology using the systematic input-process-output flow.

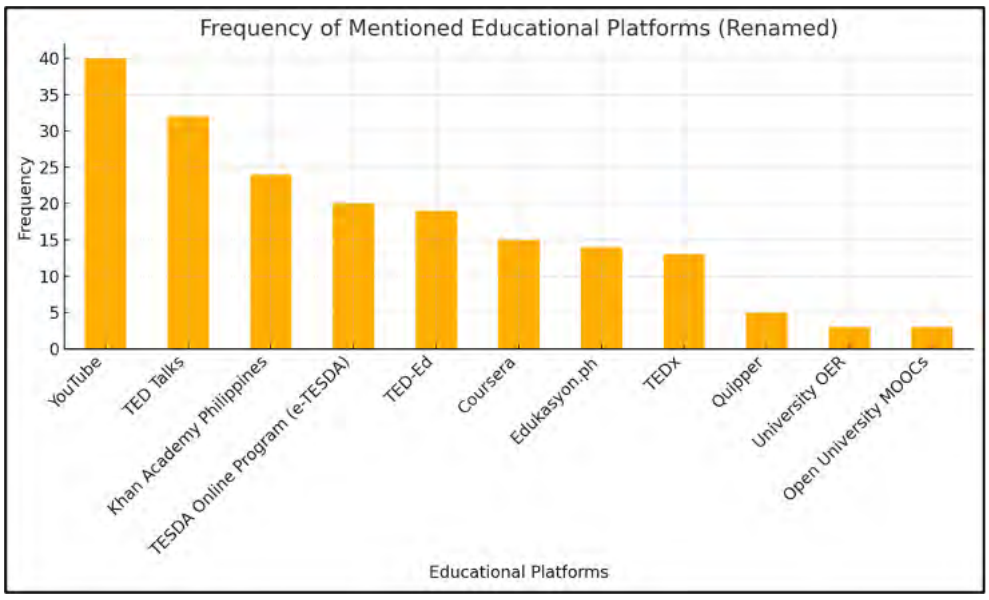
Figure 2. Summarized methodology using input-process-output



4. Results and Discussions

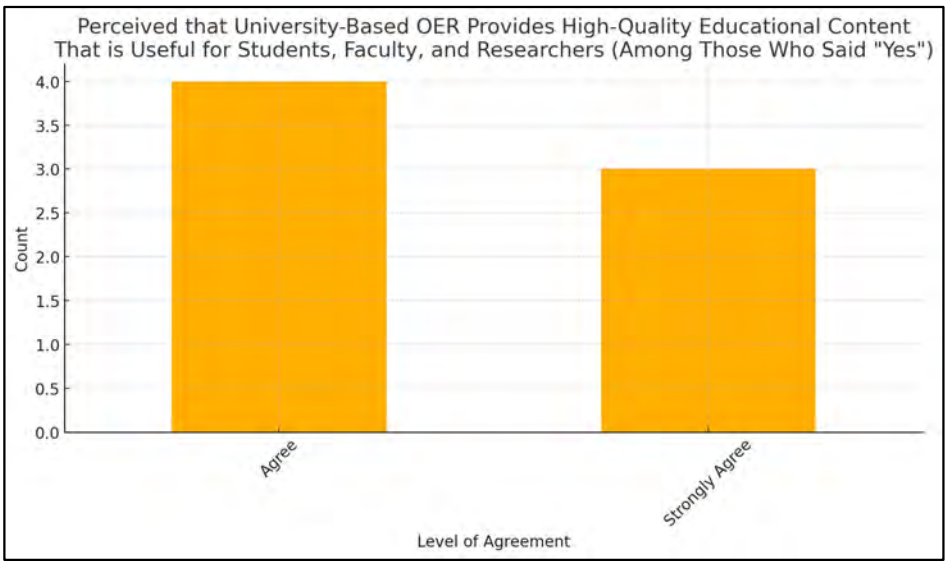
Findings from the survey showed a high level of awareness and usage of OERs, with 95.5% of respondents saying that they regularly accessed digital platforms to supplement their academic learning. The most frequently used resources were YouTube, Coursera, TED Talks, and Khan Academy as described in figure 3. These platforms were perceived to provide high-quality content, have user-friendly interfaces, and provide dynamic presentation styles. Students particularly liked features such as content recommendation algorithms, mobile accessibility, and video-based instruction, which made learning more flexible and engaging. On the other hand, the awareness and usage of university based OERs were low. This is consistent with the findings of Baylosis & Digal, 2017 and the follow-up university-funded study of Baylosis in 2018-2019. Moreover, the students were not aware of university based OER. Based on the findings of the survey this resulted in the use of mainstream platforms that are more accessible and popular because of their exposure to social media. This is unfortunate since they still believe that the university based OERs will provide more relevance to their culture and specific educational needs.

Figure 3. Commonly used OER-internet TV platforms



The students perceived that the challenges of the institutional OERs were the lack of visibility and promotion. Faculty content creators failed to promote their programs to the target audience. The contents were reliable but visually unappealing compared to the mainstream OERs. Figure 4 shows that respondents who accessed the university-based OER predominantly agreed or strongly agreed with the statement that it provides high-quality educational content.

Figure 4. Perceived quality of university-based OER



The institutional OER must adopt modular formatted multimedia, shorter videos, and student-focused narratives. These aligns with the earlier studies of Pappano (2012) and Joo & Kim (2018). Even before the pandemic, when the consumption of digital platforms was not as massive, Pappano (2012) and Joo & Kim (2018) argued that online platforms must be interactive and have engaging formats to ensure the effectiveness of online education.

5. Conclusion and Recommendations

There were practical recommendations from the study. First, majority of students advocated for awareness campaigns and orientations to introduce institutional OER platforms at the start of each semester. This would ensure that students were familiar with the available tools and resources. Second, they recommended that faculty members actively integrate institutional OERs into their teaching by referencing them in syllabi, using them in lectures, and assigning them as part of coursework. This integration would not only enhance visibility but also affirm the academic legitimacy of these resources. Third, students called for more interactive and visually appealing content. They suggested using real-life case studies, gamified quizzes, localized video scenarios, and even student-hosted content to make learning more relatable and stimulating. Finally, digital infrastructure improvements were also proposed, including mobile application development, website optimization, and real-time updates through social media platforms. These measures would align institutional OER platforms with the digital practices of students, many of whom relied on mobile-first access to content.

The study concluded that while hospitality students actively used OERs in their academic activities, institutional resources remained underutilized due to several interrelated factors: poor visibility, lack of promotion, minimal integration into coursework, and less engaging content design. For university based OER platforms to compete with global platforms, they needed to evolve in content and delivery. Institutions need to prioritize marketing, collaboration with faculty, and the use of contemporary educational technologies to boost student engagement.

It is further recommended that educational institutions must consider continuing to shift toward digital and hybrid learning models, they must align their OER strategies with student needs and behaviors. The hospitality industry thrives on innovation, adaptability, and user-centered service—qualities that must also be reflected in hospitality education. With the right strategies in place, institutional OERs could significantly contribute to student learning, further academic integrity, and promote locally relevant educational practices that global platforms often overlook. The traditional classroom teaching and learning styles must be seriously looked into. Otherwise, the students may rely on online content which may not be as reliable in terms of content integrity, especially in this age where the proliferation of fake news is increasing.

Acknowledgement

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Theme: TechnologyAdaptation

Beyond the Stay: How Street Multisensory Experiences Shape Home-Sharing Performance (Paper#084)

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Abstract:

With the rapid growth of home-sharing economy, understanding external environmental factors is increasingly important. Using computer vision and panel data regression, this study examines how street multisensory experiences influence home-sharing performance. The results show that street auditory and visual experiences positively affect home-sharing performance, though their impact is diminished by street-property sensory disparity, competition, and the property's online reputation.

Keywords: Sensory Marketing, Street View, Computer Vision, Home Sharing Economy

1. Introduction

As the home-sharing economy continues to expand, consumer expectations are becoming increasingly sophisticated (Zhou et al., 2024). Beyond interior property features like decoration and amenities, consumers are increasingly prioritizing external factors, exemplified by the street environment (Zhang et al., 2023).

While previous research has examined the visual characteristics of street environments (Latinopoulos, 2018; Wang & Rasouli, 2022), staying in a home-sharing property is inherently a multisensory experience that encompasses auditory, tactile, and olfactory dimensions in addition to visual impressions (Lv et al., 2024). Although prior studies have focused on the multisensory aspects of the internal environment of home-sharing properties (Sun et al., 2025), the influence of multisensory street experiences on home-sharing performance remains largely unexamined.

This study addresses this gap by investigating how multisensory street experiences influence home-sharing performance. Using computer vision and panel data regression, it examines the effects of visual, tactile, auditory, and olfactory street elements, as well as the moderating roles

of competition, street-property sensory disparity, and review sentiment. Theoretically, this research underscores the importance of multisensory street experiences in shaping home-sharing performance. Practically, it provides actionable insights for leveraging street sensory conditions to enhance performance in the home-sharing sector.

2. Literature Review

2.1. Street view and home sharing

Street view image is widely utilized in urban research to investigate human perception of street neighborhoods (Biljecki & Ito, 2021). Related street view features can significantly influence human perceptions of beauty, safety, comfort, liveliness, accessibility, legibility, and sociality (Liang et al., 2024). However, except for a few studies examining the impact of sea view, openness, walkability, and enclosure on home-sharing prices (Fleischer, 2012; Wang & Rasouli, 2022), limited research has delved into the specific effects of street environments on home-sharing performance.

2.2 Sensory marketing and home sharing

Home-sharing consumers engage with a multisensory environment that extends beyond visual perception (Zhou et al., 2024). Tactile, olfactory, and auditory experiences also play a crucial role in shaping consumer decisions and influencing feedback (Lv et al., 2024). Nevertheless, the majority of existing research concentrates on visual analysis of the exterior street view environment, overlooking the importance of street multisensory experiences in influencing home-sharing performance.

2.3 Hypothesis development

2.3.1. Effect of street multisensory experience

According to the stimulus-organism-response (SOR) theory proposed by Mehrabian and Russell (1974), this framework explains how environmental stimuli act as antecedents that influence the cognitive and emotional states of individuals, which subsequently trigger approach or avoidance responses (Chan et al., 2017). In the context of homestays, street characteristics serve as external environmental stimuli (S) that can shape customers' internal perceptions, emotions, and satisfaction (O), ultimately influencing their behavioral responses and purchase decisions (R).

Furthermore, Sensory marketing theory emphasizes that consumers' cognition, attitudes, and behaviors are significantly influenced by their multiple senses, including sight, hearing, smell, and touch (Hultén, 2015). In the hospitality industry, particularly for boutique homestays, creating a multisensory environment is critical for shaping positive customer experiences (Sun et al., 2025). Street scenes, as an integral part of the external environment experienced by customers, provide a combination of sensory stimuli rather than targeting a single sense.

Visually, high-quality elements such as aesthetic design, harmonious color schemes, and greenery enhance aesthetic pleasure and attract customer attention (Zhan et al., 2024). In terms of hearing, pleasant background sounds, such as birdsong or flowing water, foster relaxation (Chen & Kang, 2023). Conversely, viewing an image of a bustling street outside a hotel can evoke auditory associations, such as the sounds of footsteps, conversations, and car horns, which may influence the consumer experience (Heung & Gu, 2012). Additionally, smell plays a key role in evoking emotional responses, with pleasant scents such as plant fragrances, while unpleasant odors can significantly reduce consumers' willingness to engage in consumption (Errajaa et al., 2020). Finally, tactile experiences, such as the gentle touch of a breeze or the softness of grass, provide physical comfort and reinforce favorable perceptions of the environment (Schmidt et al., 2014).

Therefore, the following hypotheses are proposed.
H1: Street visual experience positively impacts home-sharing performance.
H2: Street auditory experience positively impacts home-sharing performance.
H3: Street olfactory experience positively impacts home-sharing performance.
H4: Street tactile experience positively impacts home-sharing performance.

2.3.2 Moderation effect of competition

According to competition theory, consumers have greater choice and autonomy when the intensity of competition is high (Johnson & Johnson, 1989). In such scenarios, even if a property offers a superior sensory experience through its external street environment, the uniqueness of its visual appeal may diminish if nearby competitors share similar street characteristics. Furthermore, the increased variety of options in competitive environments disperses consumer demand, reducing the effectiveness of a high-quality street environment as a differentiating factor. Therefore, the following hypothesis is proposed:

H5: The number of competitors weakens the positive impact of street multisensory experience on home-sharing performance.

2.3.3 Moderation effect of Review Sentiment

According to the compensation effect theory, when one aspect of an object performs inadequately, individuals tend to rely on strengths in other aspects to compensate for the deficiencies, achieving an overall sense of balance or satisfaction (Gerhart & Rynes, 2003).

For properties with low online reputations, as reflected by negative review sentiments, a high-quality street sensory experience can offset the deficiencies highlighted in the reviews, thereby improving overall performance. Conversely, for properties with high online reputations, as indicated by positive review sentiments, which are often associated with strong brand operations, superior facilities, and a high-quality environment, the marginal impact of street multisensory experience diminishes. Based on the above discussion, the following hypothesis is proposed.

H6: Review sentiment weakens the positive effect of street multisensory experience on home-sharing performance.

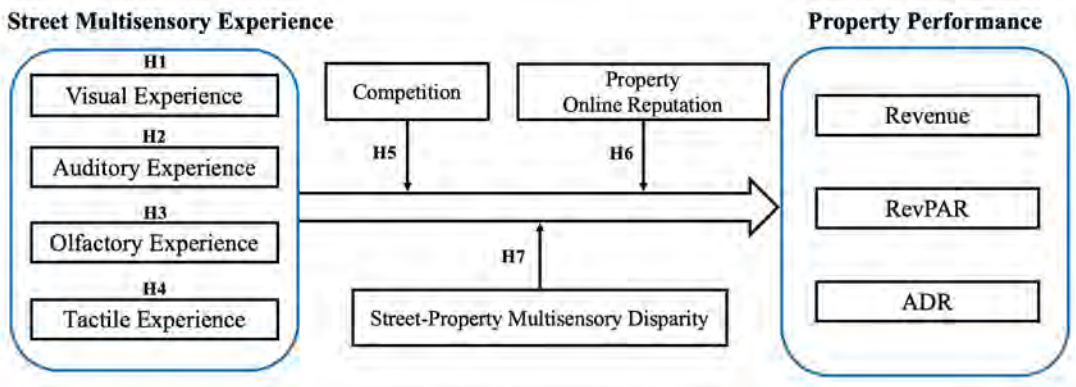
2.3.4 Moderation effect of street-property sensory disparity

According to cue consistency theory, when individuals receive multiple cues related to a specific object or situation, they are more likely to generate positive emotional and cognitive responses if these cues are consistent with one another. Conversely, if the cues are contradictory or inconsistent, this may lead to cognitive dissonance, resulting in psychological discomfort and negative emotional reactions (Miyazaki et al., 2005).

In the context of home-sharing, when the sensory experience of a property's external street view is highly appealing, and the multisensory experience inside the property aligns with this appeal, it creates a consistent and harmonious experience for consumers. However, if the external street view is impressive but the sensory experience inside the property significantly diverges from it, it may cause cognitive dissonance, thereby reducing consumer satisfaction and diminishing their intention to engage in the service. The following hypothesis is thus proposed.

H7: The disparity between street and property multisensory experiences weakens the positive impact of street multisensory experience on performance.

Fig. 1. Conceptual Model



3. Methodology

3.1. Data collection

We obtained Airbnb listing cover images, host profile images, location data, number of reviews, ratings, host response rates, and other related information from Inside Airbnb for the period of June 2022 to December 2023. The performance data of Airbnb listings were obtained from AirDNA. Street view image data was collected from Google Maps based on the location of properties during the same period.

3.2. Variable Measurement

The dependent variables include Airbnb performance metrics such as ADR, RevPAR, Revenue, Occupancy Rate, and Reservations.

The independent variables consist of visual, tactile, auditory, and olfactory experience scores, as well as the disparities in these sensory experiences between property and street view images. The GPT-4o API was employed to evaluate the visual, tactile, auditory, and olfactory dimensions of the multisensory experience elicited by property and street view images. Fig. 2 presents the analysis process of multisensory experiences using the GPT-4 API, while Fig. 3 explains the rationale behind GPT scoring.

Fig. 2. Process of multisensory experience analysis.

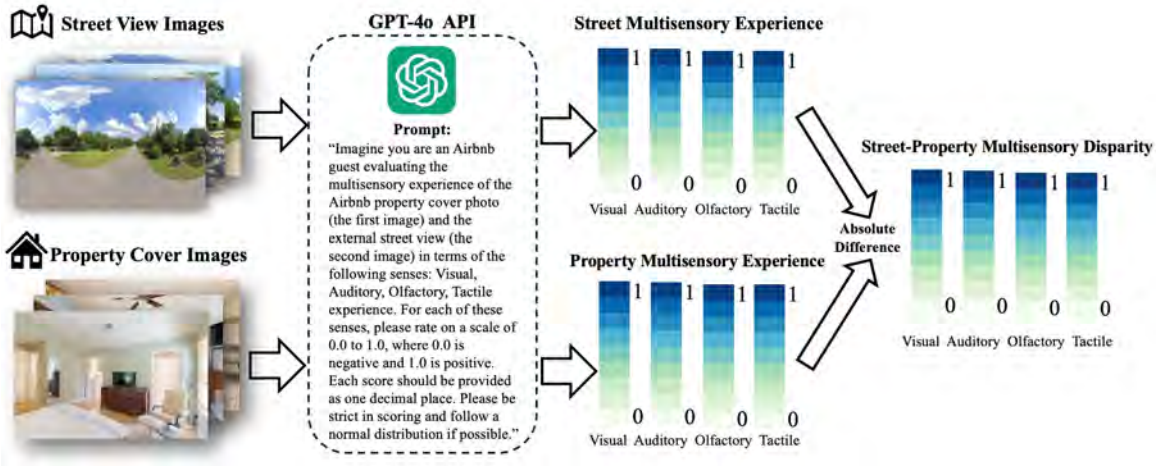


Fig. 3. Rationale behind GPT scoring.

	Property Cover Image	Street View Image
		
Visual Score	**0.7**	**0.8**
Explanation	The room is well-lit and inviting, with a cozy arrangement of furniture and tasteful decor. The color palette is calming, enhancing the overall aesthetic appeal.	The street view is vibrant and green, with ample trees providing a pleasant visual experience. The layout of the neighborhood appears well-maintained and inviting.
Auditory Score	**0.6**	**0.7**
Explanation	While the image does not provide direct auditory cues, the serene environment suggests a quiet atmosphere.	Daytime tranquility suggested, but occasional car movement or distant urban activity introduces uncertainty
Olfactory Score	**0.5**	**0.6**
Explanation	The image lacks specific olfactory elements, but the presence of textiles and plants might imply a fresh, clean scent.	Likely fresh air and greenery-derived smells, but potential odors from trash bins or vehicle exhaust lower
Tactile Score	**0.7**	**0.5**
Explanation	The textures of the bedding and upholstery appear soft and comfortable, inviting a tactile experience. The overall arrangement suggests a cozy and welcoming feel.	The street view suggests a pleasant environment, but without direct tactile elements, the score remains neutral. The presence of grass and trees might imply a soft, natural feel.

To further explore the visual element in detail, DeepLab V3, a deep learning model for semantic segmentation, was employed to identify proportions of specific visual features in images, such as sky, vegetation, road, and building.

To investigate the moderating effects of competition, street-property multisensory experience disparity, and review sentiment, we calculated the number of competitors within specific distances (e.g., 500m, 1km, 2km, 3km, and 4km) based on the geographical locations of the properties. Additionally, the street-property sensory disparity was measured as the absolute difference in sensory experience scores between property and street view images. Moreover, the sentiment scores of online reviews for specific properties were analyzed using the GPT-4 API.

The control variables include the number of reviews, host professionalism, host response rate, host acceptance rate, host listing count, minimum nights required for booking, and the property's maximum capacity.

3.3. Panel Data Analysis

Panel data analysis was employed to investigate the main effects of street multisensory experience on home-sharing performance, as well as the moderating effects of street-property sensory disparity, review sentiment, and competition.

4. Results

4.1. The Main Effect of Street Multisensory Experience on Performance

Table 1 reveals that street visual experience has a significant positive impact on Revenue, ADR, and RevPAR. Similarly, street auditory experience also demonstrates a significant positive impact on Revenue, ADR, and RevPAR. In contrast, street olfactory experience and street tactile experience show no significant impact on home-sharing performance.

Table 1. Main effect of street multisensory experience.

	ln_Revenue	ln_ADR	ln_RevPAR
L.street_visual	**1.588*** **	**1.111*** **	**0.900*** **
	(0.458)	(0.317)	(0.283)
L.street_auditory	**1.052*** **	**0.740*** **	**0.659*** **
	(0.318)	(0.222)	(0.197)
L.street_olfactory	-0.016	0.048	-0.103
	(0.300)	(0.207)	(0.184)
L.street_tactile	-0.230	-0.134	-0.033
	(0.418)	(0.290)	(0.258)
_cons	1.883**	1.251**	0.765

	ln_Revenue	ln_ADR	ln_RevPAR
	(0.786)	(0.557)	(0.489)
Control variables	YES	YES	YES
Month fixed effects	YES	YES	YES
Property fixed effects	YES	YES	YES
Adjusted R-square	0.617	0.583	0.592
Observations	97063	97063	97063

Note: t statistics in parentheses; *p < 0.1, **p < 0.05, ***p < 0.01.

4.2. The Moderation Effect of Competition

Table 2 indicates that the presence of nearby competitors diminishes the positive impact of street visual experience on home-sharing performance.

Table 2. Moderation effect of competition.

	ln_Revenue	ln_ADR	ln_RevPAR
L.street_visual	**5.530*** **	**3.974*** **	**2.860*** **
	(1.611)	(1.118)	(0.995)
L.street_auditory	0.874	0.502	0.672
	(1.218)	(0.847)	(0.769)
L.street_olfactory	-0.817	-0.628	-0.574
	(1.043)	(0.731)	(0.652)
L.street_tactile	-0.445	-0.736	-0.056
	(1.609)	(1.150)	(1.011)
L.ln_Compete_500m	0.467**	0.272*	0.245*
	(0.225)	(0.158)	(0.139)
L.street_visual#L.ln_Compete_500m	**-1.000*** **	**-0.726*** **	**-0.497** **
	(0.363)	(0.252)	(0.224)
L.street_auditory#L.ln_Compete_500m	0.045	0.060	-0.003
	(0.285)	(0.198)	(0.181)
L.street_olfactory#L.ln_Compete_500m	0.199	0.169	0.118
	(0.242)	(0.169)	(0.151)
L.street_tactile#L.ln_Compete_500m	0.056	0.152	0.007

	ln_Revenue	ln_ADR	ln_RevPAR
	(0.368)	(0.262)	(0.231)
_cons	0.011	0.161	-0.216
	(1.204)	(0.855)	(0.747)
Control variables	YES	YES	YES
Month fixed effects	YES	YES	YES
Property fixed effects	YES	YES	YES
Adjusted R-square	0.617	0.583	0.592
Observations	97063	97063	97063

Note: t statistics in parentheses; *p < 0.1, **p < 0.05, ***p < 0.01.

4.3 The Moderation Effect of Street-property Sensory Disparity

Table 3 shows that the disparity between street and property visual experiences weakens the positive impact of street visual experience on performance. Conversely, greater consistency between street and property visual experiences enhances the positive effect of street visual experience on performance. Specifically, when the street visual experience is excellent and the disparity between street and property visual experiences is minimal, indicating that the property's visual experience is also excellent, the positive impact of street visuals on performance is amplified.

Table 3. Moderation effect of street-property sensory disparity.

	ln_Revenue	ln_ADR	ln_RevPAR
L.street_visual	**4.417*** **	**3.230*** **	**2.305*** **
	(1.036)	(0.703)	(0.627)
L.street_auditory	0.443	0.139	0.226
	(0.703)	(0.491)	(0.433)
L.street_olfactory	-0.894	-0.582	-0.639
	(0.717)	(0.504)	(0.452)
L.street_tactile	-1.290	-0.756	-0.450
	(1.019)	(0.710)	(0.634)
L.dis_visual	2.272	1.781	1.103
	(1.853)	(1.320)	(1.129)
L.street_visual#L.dis_visual	**-12.491*** **	**-9.013*** **	**-6.591*** **
	(3.269)	(2.255)	(2.006)
L.street_auditory#L.dis_visual	2.661	2.648	1.907
	(2.822)	(1.990)	(1.736)

	ln_Revenue	ln_ADR	ln_RevPAR
L.street_olfactory#L.dis_visual	4.029	2.880	2.465
	(3.012)	(2.131)	(1.903)
L.street_tactile#L.dis_visual	4.548	2.670	1.779
	(3.922)	(2.748)	(2.428)
_cons	1.340	0.781	0.543
	(1.000)	(0.699)	(0.618)
Control variables	YES	YES	YES
Month fixed effects	YES	YES	YES
Property fixed effects	YES	YES	YES
Adjusted R-square	0.617	0.583	0.592
Observations	97063	97063	97063

Note: t statistics in parentheses; *p < 0.1, **p < 0.05, ***p < 0.01.

4.4 The Moderation Effect of Review Sentiment

Table 4 reveals that review sentiment significantly weakens the positive effect of street visual experience on home-sharing performance.

Table 4. Moderation effect of review sentiment.

	ln_Revenue	ln_ADR	ln_RevPAR
L.street_visual	**9.888****	**5.883****	**6.360****
	(4.410)	(2.943)	(2.624)
L.street_auditory	0.082	0.999	-0.145
	(3.324)	(2.303)	(2.027)
L.street_olfactory	4.620	2.977	2.678
	(3.263)	(2.248)	(1.989)
L.street_tactile	0.533	-0.113	-0.156
	(4.654)	(3.235)	(2.835)
L.review_sentiment	8.854***	5.342**	5.105***
	(3.103)	(2.174)	(1.862)
L.street_visual#L.review_sentiment	**-10.683****	**-6.269***	**-6.933****
	(5.256)	(3.525)	(3.148)
L.street_auditory#L.review_sentiment	0.913	-0.464	0.768
	(3.988)	(2.767)	(2.447)
L.street_olfactory#L.review_sentiment	-5.488	-3.504	-3.329
	(3.863)	(2.667)	(2.357)

	ln_Revenue	ln_ADR	ln_RevPAR
L.street_tactile#L.review_sentiment	-0.639	0.122	0.242
	(5.556)	(3.870)	(3.395)
_cons	-3.840	-1.784	-2.392
	(2.791)	(1.957)	(1.681)
Control variables	YES	YES	YES
Month fixed effects	YES	YES	YES
Property fixed effects	YES	YES	YES
Adjusted R-squared	0.593	0.556	0.571
Observations	56147	56147	56147

Note: t statistics in parentheses; *p < 0.1, **p < 0.05, ***p < 0.01.

5. Discussion and Implications

5.1. Main Findings

This study examines the influence of street multisensory experiences on home-sharing performance, along with the moderating effects of competition, street-property sensory disparity, and review sentiment. The findings confirm that both street auditory and visual experiences contribute positively to home-sharing performance. However, the positive impact of street visual experience is weakened by factors such as visual sensory disparity between the street and the property, competition, and the property's online reputation.

5.2. Academic and practical implications

Theoretically, this study offers a novel perspective by highlighting the impact of street factors on home-sharing performance. It extends the concept of street visual experience to a multisensory framework and initiates further exploration of moderating effects, such as sensory consistency, competition, and online reputation.

Practically, the findings underscore the importance of enhancing both street visual and auditory experiences to drive better performance in home-sharing platforms. For properties located in areas with suboptimal street quality, improving internal factors such as decoration aesthetics or online reputation can serve as compensatory mechanisms. Conversely, when the street visual experience is excellent, it is important to consider competitive pressures, as they may diminish the positive impact of high-quality street environments.

5.3. Limitations of this study and suggestions for future research

First, this study focused exclusively on Austin, Texas, which may limit the generalizability of the findings. Future research could expand to other regions to validate these results. Second, the current study utilized the GPT-4 API to measure the multisensory experience score, with

certain sensory information inferred through AI-generated estimations. Incorporating human evaluations or leveraging real sensor-based multisensory data in future research could provide more robust and accurate insights. Third, although this study controlled for numerous variables, future research could incorporate additional control variables and conduct further robustness tests to strengthen the reliability of the findings.

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The Impact of Technological Innovation on Guest Behavior in Hotel Operation as Perceived by Generation Z Students (Paper#223)

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Abstract:

This study investigated the impact of technological innovation on guest behavior in hotel operations as perceived by Generation Z students. The research design of this present study is quantitative – descriptive method and assessment or evaluation Studies. Tour joiners of Hospitality and International Management students were asked to participate in this study by answering the survey questionnaire provided by the researchers. Data collection was conducted through a survey questionnaire focusing on the variables of Guest Behavior. Non-probability sampling, specifically stratified sampling with equal allocation, was employed to select the participants. The researchers guarantee that ethical protocols were applied in this study, emphasizing data privacy, confidentiality, and the protection of participants. The research instruments were created, tested by sample participants, and validated by professionals to ensure the credibility of the questionnaire. The researchers have been granted a formal request by the head department of a higher education institution in Valenzuela City to conduct the survey. A four-point Likert scale, frequency and percentage distribution, weighted mean, and analysis of variance (ANOVA) were used to analyze the data collected and determine the possible result of the study. This study showed no significant difference in the Level of Perceived Impact of Technological Innovation in Hospitality Operations on Generation Z Guest Behavior regarding Perceived Value, Psychological Safety, Social Influence, and Consumer Citizenship Behavior.

Keywords: Artificial Intelligence, Augmented Reality, Generation Z, Guest Behavior, Technology, Perceived Value, Perceived Psychological Safety, Social Influence, Consumer Citizenship Behavior

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Theme: Robot in Service

Human, Robot, or Hybrid? The Impact of Service Agent Compositions on Customer Satisfaction in Luxury Hotels (paper#111)

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Abstract:

As technology continues to transform the service industry, this study explores the impact of service agent compositions (SAC) on customer satisfaction in luxury hotels, where debates on technology adoption persist. Through one pilot study and two experiments, the study examines the optimal SAC for luxury hotel settings, the mediating role of perceived service exclusivity in the relationship between SAC and customer satisfaction, and the moderating role of perceived service novelty in the relationship between perceived service exclusivity and customer satisfaction. Theoretically, this study enriches the literature on service robots and human-robot collaboration in luxury hotels, revealing underlying mechanisms and boundary conditions. Practically, it provides novel insights for luxury hotel practitioners on enhancing customer satisfaction through optimal service delivery.

Keywords: Service agent compositions; Service robots; Luxury hotels; Human-robot collaboration

Shaping customer satisfaction by robotic service in restaurant: A SEM-ANN approach (Paper#144)

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Abstract:

The increasing adoption of artificial intelligence (AI)-driven service robots in the hospitality industry presents new opportunities and challenges in understanding customer experiences. This study explores the factors shaping engagement and satisfaction in robotic restaurants using a structural equation modeling-artificial neural network approach. Findings reveal that automation, personalization, efficiency, and precision positively influence customer engagement, which, in turn, enhances satisfaction. In addition, novelty, perceived enjoyment, and service speed directly impact customer satisfaction, thereby reinforcing the robotic experiential value. These insights contribute to optimizing AI-driven service strategies for improved consumer experiences.

Keywords: service robots, SEM-ANN, customer engagement, satisfaction, service robot restaurants

Responding with Intelligence: How Generative AI Shapes Hotel Review Interactions (Paper#155)

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Abstract:

This study examines the influence of ChatGPT access on hotel review responses, focusing on response behavior, linguistic quality, and personalization. Using various theories, it conceptualizes hypotheses and outlines a framework for understanding AI's role in hospitality service communication.

Keywords: Hotel Online Reviews, ChatGPT, Review Management, Personalization, Linguistic Quality

1. Introduction

ChatGPT, a generative AI chatbot (Abdullah et al., 2022), possesses a number of qualities that make it especially suitable for use in preparing managerial replies to online reviews. Like other forms of generative AI, ChatGPT is capable of considering diverse content types, ranging from texts to pictures (Bordas et al., 2024); both text and pictures comprise the main content modalities of online reviews. Also, ChatGPT can produce previously unseen contents (García-Peñalvo & Vázquez-Ingelmo, 2023). This helps ensure personalization of managerial replies, a quality that Zhang et al. (2020) unveiled to significantly and positively impact hotel online ratings. At the same time, the contents produced by ChatGPT are human-like and of high quality. In a modified Turing test that performed a 'human versus machine' comparison of MRs prepared for online reviews of differing valence, MRs written by ChatGPT were indistinguishable from and of comparable quality relative to MRs written by hotel employees, thus supporting the viability of ChatGPT for this purpose (Tan et al., 2025). Last but not least, the effectiveness of ChatGPT in preparing managerial replies is complemented by its efficiency. ChatGPT takes less than one minute to generate a response to a negative online review, which is much faster than the estimated 37 minutes that a human employee would take (Koc et al., 2023). Evidently, businesses could potentially realize much time and labor savings through the use of ChatGPT in replying to online reviews.

From an academic standpoint, there is limited empirical work on how such tools influence response quality, communication styles, and customer perception. This study fills that gap by developing hypotheses on the effect of ChatGPT on hotel responses across five key dimensions. Our major research objectives include (1) conceptualizing and hypothesizing the impact of ChatGPT availability on hotel response behavior, effort, and quality and (2) laying the groundwork for future empirical evaluation of AI-generated review response content in hospitality.

2. Literature Review

The Technology Acceptance Model posits that the ease of use and perceived utility of technologies like ChatGPT influence behavioral intention and actual use (Davis, 1989). Research shows that ChatGPT enables hotels to respond faster and more consistently, reducing staff burden and increasing engagement with customer feedback (Tan et al., 2025).

Hypothesis 1 (H1): The availability of ChatGPT will increase the frequency and timeliness of hotel review responses.

Media Richness Theory suggests richer content is better suited for complex communication tasks, such as responding to nuanced guest feedback (Daft & Lengel, 1986). AI-generated content tends to be longer, more structured, and well-organized than manual responses (Marzuki et al., 2023).

Hypothesis 2 (H2): The availability of ChatGPT will increase the length and elaborative detail of hotel review responses.

Hypothesis 3 (H3): The availability of ChatGPT will enhance the linguistic complexity and readability of hotel review responses.

Communication Accommodation Theory implies that service providers adapt language to resonate with diverse guests (Giles, 1973). ChatGPT's expansive training data allows it to mirror this behavior automatically. AI-generated responses often outperform human responses in lexical variation, enhancing the perception of creativity and personalization. ChatGPT enables context-aware responses, extracting key sentiments from reviews and tailoring responses accordingly (Altınay et al., 2024).

Hypothesis 4 (H4): The availability of ChatGPT will enhance the lexical diversity and richness of hotel review responses.
Hypothesis 5 (H5): The availability of ChatGPT will improve the contextual relevance and personalization of hotel review responses

3. Methodology

This study investigates the impact of ChatGPT implementation on hotel response behavior. The treatment group consists of hotels in Florida, a region with early and unrestricted access to ChatGPT, while the control group includes hotels in Hong Kong, where ChatGPT access remained limited throughout the study period. The intervention is defined as the introduction of ChatGPT in November 2022. The data from 611,698 online reviews capture pre- and post-treatment dynamics. The econometric specification regresses a series of outcome variables related to hotel responses on an indicator variable, after_gpt_response, which equals one for Florida hotel responses posted on or after December 2022. The models control for several review- and traveler-level characteristics, including review rating, review length, response lag, and the reviewer's travel party (e.g., solo, family, group). High-dimensional fixed effects for hotel and response month-year are included to absorb unobserved heterogeneity across time and space. All models use robust standard errors clustered at the hotel level.

4. Results

Table 1 presents the estimation results of our econometric results. The regression analysis reveals that the implementation of ChatGPT had a statistically significant and positive effect on several key dimensions of hotel review responses, consistent with the study's hypotheses. First, there is strong support for H1, which posits that the availability of ChatGPT (after_gpt_response) would increase both the frequency (Model 1) and timeliness of hotel responses (Model 2). Furthermore, after_gpt_response is estimated to be positive and significant in Model 3 of response length, supporting H2. However, this coefficient is estimated to be insignificant in Model 4 for readability, rejecting H3. ChatGPT availability significantly increased MTLD (Model 6) and HDD (Model 8), indicating that AI-assisted availability demonstrated greater lexical variation, supporting H4. H5 is well supported: the personalization score (Model 9) and topic alignment score (Model 10) show significant increases with the availability of ChatGPT.

Table 1. Estimation results

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
	response	lnresponse_time	lnresponse_length	readability_score	ttr	mtld	mattr	hdd	personalization_score	topic_alignment_score
after_gpt_response	0.629***	0.906***	0.105*	-0.257	0.010	2.990*	0.002	0.006*	0.133*	0.081***
	(0.025)	(0.151)	(0.055)	(1.047)	(0.006)	(1.755)	(0.002)	(0.003)	(0.078)	(0.027)
Constant	0.371***	1.321***	5.301***	64.665***	0.729***	76.957***	0.912***	0.815***	1.456***	0.404***
	(0.012)	(0.088)	(0.039)	(0.793)	(0.005)	(1.305)	(0.002)	(0.003)	(0.053)	(0.020)
N	611698	425624	411666	411666	149353	149353	149353	149353	411666	163901
adj. R-sq	0.627	0.283	0.547	0.389	0.329	0.255	0.224	0.308	0.366	0.211

(Note: control variables, hotel effects, and year-month effects are controlled. Robust standard errors in parentheses, *** indicates p<0.01, ** indicates p<0.05, * indicates p<0.1)

5. Discussion and Implications

5.1. Discussion

This study contributes to the growing literature on human-AI collaboration in service contexts by demonstrating that generative AI tools like ChatGPT can meaningfully augment communication quality in customer-facing interactions. Furthermore, the improvements in linguistic sophistication and topical relevance support theories that posit AI's potential to enhance service expressiveness and responsiveness when embraced into organizational routines.

5.2. Practical implications

The findings highlight the possible value of adopting generative AI tools like ChatGPT to improve online service engagement. Hotels that leveraged ChatGPT were able to respond more frequently and effectively to guest reviews—an increasingly important aspect of online reputation management.

5.3. Limitations of this study and suggestions for future research

While the study captures textual improvements, it does not directly measure customer perception or behavioral outcomes. Future research could conduct experimental or survey-based designs to examine how AI-assisted responses influence consumer trust and loyalty.

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Enhancing Service Quality in Fast-Food Establishments: Evaluating the Role of Self-Ordering Kiosks and Robot Servers (Paper#162)

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Abstract:

This study examines the impact of self-ordering kiosks and robot servers on service quality in fast-food establishments. Grounded in the Technology Acceptance Model (TAM), the SERVQUAL Model, and the Technology Readiness Index (TRI), the research explores customer perceptions and service efficiency. A quantitative approach will be utilized, but data collection is still in progress.

Keywords: Service Quality, Automation, Technology Acceptance, Self-Service Technology, Fast-Food Industry

1. Introduction

Technological advancements are reshaping the fast-food industry, with self-ordering kiosks and robot servers becoming common in service delivery (Kim et al, 2022; Berezina & Cobanoglu, 2019). These innovations enhance efficiency, reduce human error, and improve service speed (Jain et al., 2021; Pande & Gupta, 2022). However, concerns about reduced human interaction and technical failures persist, as customers often value personalized service and human connection in hospitality settings (Ivanov & Webster, 2019; Lin et al., 2019; Lucas, 2023). Understanding how these technologies influence customer perceptions of service quality is essential for both industry practitioners and researchers. Previous studies indicate that self-service technologies can increase operational efficiency while presenting new challenges in customer trust and satisfaction (Lin & Mattila, 2019; Naumov, 2019; Song & Kim, 2022; Ndhlovu & Dube, 2023; Milohnić & Kapeš, 2024). The objectives of this study are:

1. To assess the impact of self-service technology on customer satisfaction
2. To evaluate the effect of self-service technology on the service quality of fast-food establishments.

2. Literature Review

This study builds on established service quality and technology adoption theories.

2.1. Self-Service Technology and Customer Perception

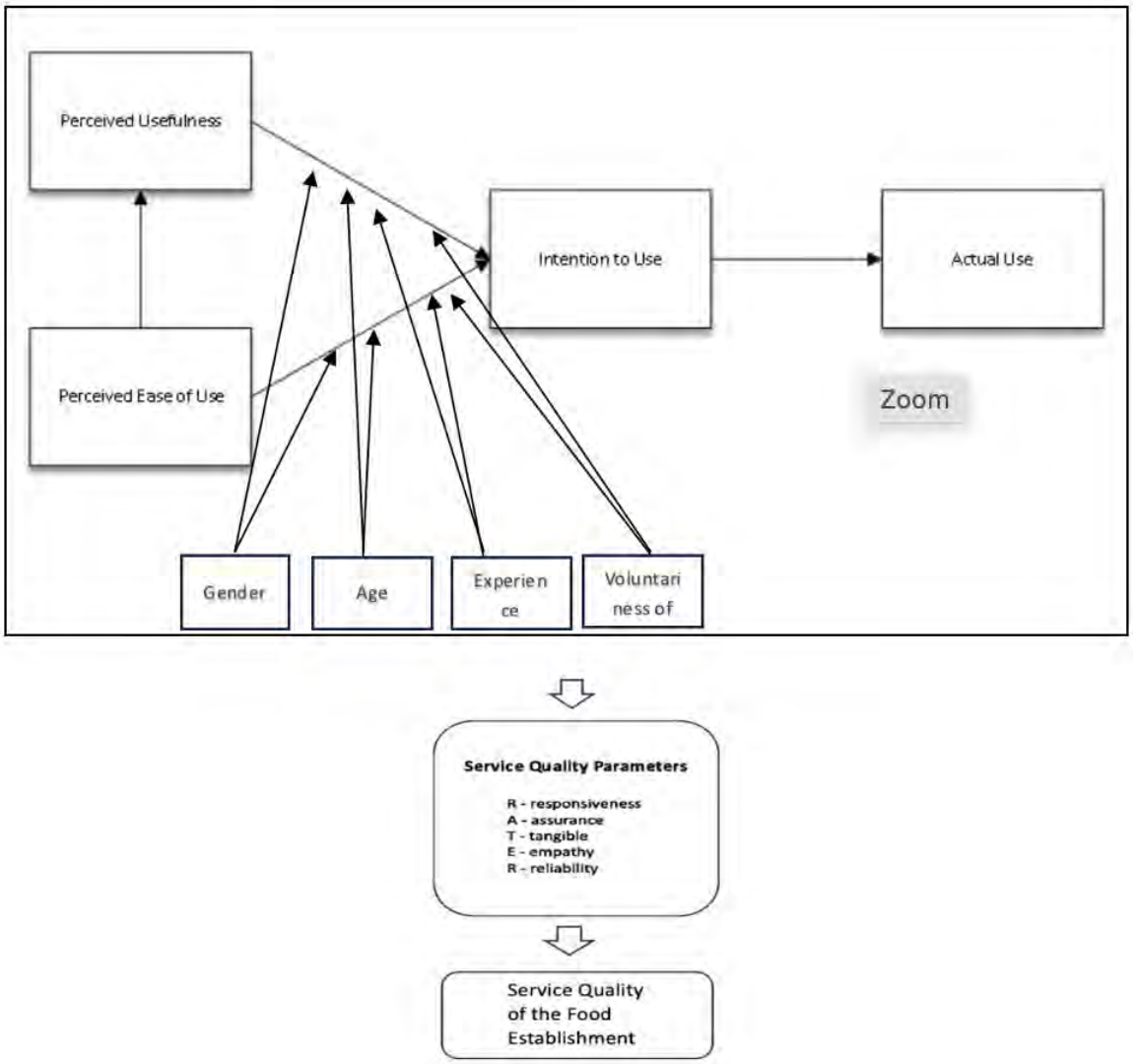
The **Technology Acceptance Model (TAM)** (Davis, 1989) suggests that perceived ease of use and usefulness influence customer adoption of self-service technologies. Assuming all other factors remain equal, if a new application or technology is simple to use, people are more likely to accept it, Venkatesh (2003), in his **Unified Theory of Acceptance and Use of Technology** (UTAUT), indicated that four factors affect the usage intention behavior of users of technology. Meanwhile, the **Technology Readiness Index (TRI)** (Parasuraman, 2000) measures customer willingness to embrace new technologies, while the **SERVQUAL Model** (Parasuraman et al.,1988) assesses service quality dimensions such as reliability, responsiveness, and tangibility.

2.2. Conceptualization

Studies indicate that self-service technologies enhance efficiency and reduce operational costs. However, customer trust and satisfaction depend on usability, human interaction, and system performance (Fitzsimmons & Fitzsimmons, 2011). Understanding these dynamics helps businesses implement technology without compromising service quality.

New technologies are increasingly visible in food service establishments, such as in quick service restaurants. Figure 1 shows the conceptual framework of the study. The perceived usefulness and perceived ease of use may affect the behavioral intention. If the application is perceived to be easy to use, then it is more likely to be perceived as useful and more likely to be accepted by the users. (Davis, 1993). In this study, four constructs affecting the intention of customers to adopt the use of new technologies available in a food service establishment are added to the TAM model. Gender, age, experience, and voluntariness of use are the mediating variables that affect behavioral intention, affecting the use behavior of each customer (Venkadesh, 2003). From the antecedents of service quality, an assessment of the service quality of the food service establishment using the five service quality parameters by Davis et al. (2012) is conducted to find out how this new technology affects the service quality of a food establishment.

Figure 1. Conceptual Framework



3. Methodology

This study employs a quantitative research design, using structured surveys to gather data from customers who have experienced self-ordering kiosks and robot servers in fast-food establishments. The questionnaire is divided into nine sections: 1) demographic information, 2) impact of technology on service quality, 3) perceived service quality of self-ordering kiosks and robot servers, 4) perceived value of technology service, 5) customer perception of service quality 6) perceived usefulness of self-ordering kiosks and robot servers, 7) perceived ease of use of self-ordering kiosks and robot servers, 8) attitude towards self-ordering kiosks and robot servers, and 9) behavioral intention.

3.1. Measurement

The measurement scale used is a 5 point Likert scale from 1 strongly disagree and 5 strongly agree.

3.2. Data Collection

A convenience sampling method will be used for data collection. This study's respondents are Filipinos living in the Philippines who have used self-service technology and/or have been served by robots in quick service restaurants. The data collection procedure involves the distribution of e-questionnaire using Survey Monkey/Qualtrics to target respondents on social media platforms such as Facebook and Instagram.

The collected date will be analyzed using:

- **Descriptive statistics** for demographic profiling.
- **Reliability analysis** (Cronbach's Alpha) for internal consistency.
- **Inferential statistics** (correlation and regression analysis) to examine relationships among key variables.

4. Expected Findings

Since data collection is still ongoing, expected findings will be discussed in the final paper to be submitted. However, previous studies suggested that automation improves efficiency and reliability but raises concerns about reduced human interaction (Ivanov & Webster, 2019; Lin et al., 2019, Ndhlovu & Dube, 2023). It is anticipated that customers will have mixed reactions to self-service technologies, with convenience and speed being the most positively rated attributes, while lack of personal interaction may pose a challenge to overall satisfaction. Statistical results will be analyzed once data is collected.

5. Discussion and Implications

5.1. Preliminary Discussion

Based on theoretical foundations, this study anticipates that perceived ease of use and usefulness will positively impact customer acceptance of self-service technology. However, human interaction remains an essential factor influencing satisfaction, particularly in service-oriented industries.

5.2. Academic and Practical Implications

Findings will provide insights for restaurant managers on balancing automation and human touch. Enhancing user-friendly interfaces and maintaining staff involvement can optimize service quality.

5.3. Limitations and Future Research

Limitations include sample size and geographic scope. Future research should explore long-term impacts and cultural differences in technology adoption.

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Theme: Insights in Tourism Concepts

Implicit-Self Theory in Tourism and Hospitality: A Systematic Review (Paper#134)

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Abstract:

This study explores the application of Implicit-Self Theory in tourism and hospitality through a systematic literature review and LDA topic analysis. Analysing 248 articles from 2006 to 2025 in the Web of Science database revealed eight research hotspots: tourist attitude, theory and mechanism, community participation, destination marketing, sustainable tourism, consumer behaviour, indigenous cultural tourism, and tourism experience. These topics highlight current research trends and offer directions for future studies.

Keywords: Implicit-Self Theory; Systematic Literature Review; LDA Topic Analysis Method; Tourism and Hospitality

1. Introduction

Against the backdrop of the booming global tourism industry, understanding tourists' motivations, preferences, and behavioural patterns has become crucial for optimizing the tourism experience and service quality. In recent years, numerous theories from the field of psychology have gradually attracted the attention of researchers in the tourism and hospitality sectors, such as Social Exchange Theory (Chang, 2021; Ward & Berno, 2011); Two-Factor Theory (Lundberg et al., 2009; Park et al., 2018), Implicit-Self Theory (Leung et al., 2021; Ly & Lau, 2024), etc. Among the different types of belief systems, Implicit-Self Theory has empirically confirmed its explanatory power in justifying people's judgement and reaction toward phenomena (Dweck et al., 1995), therefore, it offers a fresh perspective for in-depth analysis of tourist decision-making and behaviour.

Implicit-Self Theory has been applied to studying different phenomena in the tourism and hospitality fields. Current research on the theory in tourism encompasses areas such as destination selection and accommodation choice. Examples include the explicit and implicit attitudes towards service robots by gender difference (Lee & Yen, 2023), and how individual beliefs influence customer perception and the different attitudes of various types of tourists towards street peddling activities (Ly & Lau, 2024). Although existing studies have explored the

application of implicit theory in tourism research from multiple dimensions, they lack a comprehensive review in the field of tourism and hospitality, especially the integration of this theory with other related topics (such as specific tourist groups, cultural backgrounds and so on) and in-depth analysis of its mechanism. At present, the internal connections, interaction and influence among these research topics have not been fully explored. How to integrate Implicit -Self Theory into different scenarios to deepen the understanding of tourist behaviour and provide comprehensive guidance for industry practice is still a field worthy of further discussion.

Given these circumstances, this study aims to deconstruct relevant research on Implicit-Self Theory in the tourism and hospitality fields to clarify its intrinsic connections with other related themes and explore how its application can further promote the development of tourism research. To achieve this goal, a Systematic Literature Review (SLR) research method was adopted (Denyer & Tranfield, 2009), along with the Latent Dirichlet Allocation (LDA) topic analysis method (Blei et al., 2003) for relevant text data analysis. Specifically, the main research question of this study is: How to divide the current tourism and hospitality research directions and topics that apply Implicit-Self Theory better in order to deepen understanding and provide directions for future related research. By using the aforementioned methods, an in-depth analysis of the identified research patterns was conducted to clarify the key directions for future research and potential application scenarios.

2. Literature Review

Implicit-Self Theory, originating from psychological research, primarily explores individuals' beliefs about the nature of human attributes, such as intelligence, personality, and moral character. Developed significantly through the work of Carol Dweck and her colleagues in the 1970s and 1980s, this theory initially focused on children's attributions of failure. Dweck and Reppucci (1973) demonstrated that children who attributed failure to a lack of ability were more likely to exhibit learned helplessness, while those attributing it to insufficient effort remained resilient. Diener and Dweck (1978) further identified two distinct response styles: helpless versus mastery-oriented children. This foundational research highlighted how implicit beliefs shape behaviour and attitudes, laying the groundwork for Implicit-Self Theory's application to various fields (Diener & Dweck, 1978).

Generally speaking, human beings can be divided into two groups based on their lay beliefs about human and non-human traits, namely, entity theorists and incremental theorists (Dweck et al., 1995; Jain & Weiten, 2020). Individuals with an entity theory view traits like intelligence as unchangeable, often avoiding challenges to protect their self-image. Conversely, those with an incremental theory believe traits can develop through effort, fostering persistence and adaptability (Dweck & Leggett, 1988). To summarise, one's lay belief about the mutability of human and non-human traits would guide their judgement as well as their reaction towards different phenomena (Dweck, 1999; Hong et al., 1997).

In its original domain, Implicit-Self Theory was extensively applied in educational psychology, examining how fixed or growth mindsets influence learning outcomes, motivation, and resilience (Aronson et al., 2002; Elliott & Dweck, 1988). These insights have been leveraged in diverse areas, including organizational behaviour (Heslin & Van de Walle, 2008; Khorakian & Sharifirad, 2019), sports psychology (Shaffer et al., 2015; Vella et al., 2016), and career development (Chen et al., 2015; Chung & Shin, 2024), etc. It has demonstrated Implicit Self-Theory's versatility in explaining human cognition and behaviour (Dimmock & Banting, 2009; Frith & Frith, 2008;).

The application of implicit-self theory in tourism and hospitality has been studied since 2006, with a surge of research around 2020. The core aim of these studies is to better understand tourists' motivations, preferences, and behaviours. For example, studies have investigated attitudes towards service robots according to gender difference (Lee & Yen, 2023) and how personal beliefs affect perceptions of street vending (Ly & Lau, 2024). Over time, the application of implicit-self theory has continued to expand, eventually trickling down into multiple other streams of tourism and hospitality including sustainable tourism (Jamal & Camargo, 2014; Shen et al., 2024), consumer behaviour (Leung et al., 2021; Ly & Lau, 2024), and indigenous cultural tourism (Holder et al., 2023; Scherrer & Doohan, 2013). However, this trickle-down process has not come without challenges: the lack of a unifying framework has resulted in fragmented studies with significantly different methodologies. This state of affairs has limited the systematic development of the theory and caused confusion in practice. In light of this, the study hopes to provide a clear and coherent framework for the research in this field by systematically delineating the connections between Implicit-Self Theory and the tourism industry, and further promote the deepening of the theory and practical guidance.

3. Methodology

3.1. Phases and steps of Systematic Literature Review

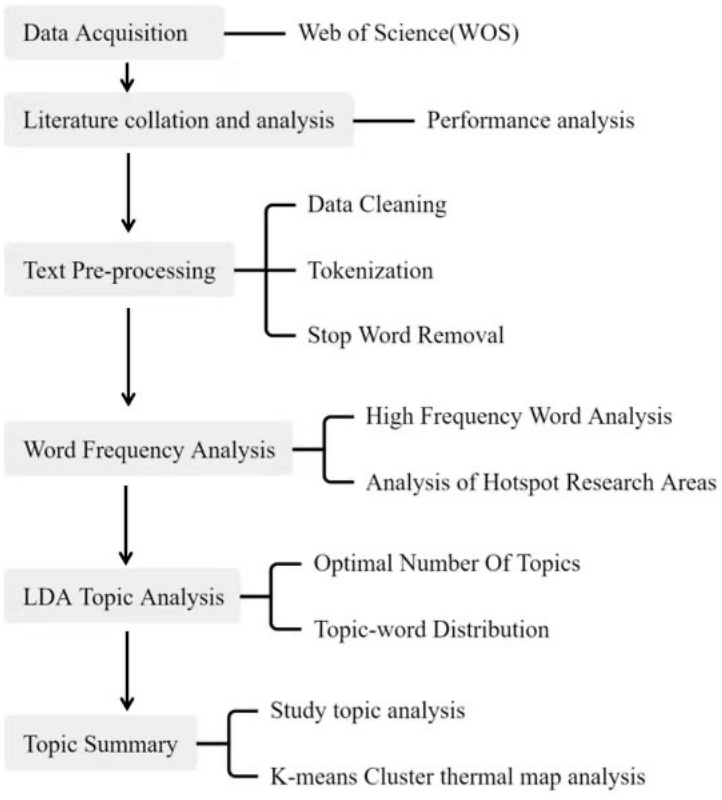
Systematic Literature Review (S.L.R.) and Latent Dirichlet Allocation (L.D.A.) were used for thematic analysis. S.L.R. is a specific method for locating existing research options and evaluating contributions, analysing and synthesizing data (Denyer & Tranfield, 2009), and comprehensively sorting the knowledge structure, development trends, and relationships among key topics in a research field. The L.D.A. Topic Analysis model is a generative topic model based on Bayesian statistics that aims to reveal the topic structure implicit in text data (Gan & Qi, 2021).

Figure 1 describes the phases and steps used to conduct the S.L.R. process. Relevant literature is first obtained from WoS, one of the most widely used academic resource platforms in the world which is known for its high specialization and authority (Vieira & Gomes, 2009). Then, the second step is literature sorting and analysis, and the relevant contents of the existing literature, such as category and publication year, are reviewed. In the research step process, we first identified the relevant keywords according to the research objectives and conducted a preliminary search with "implicit + tourism" as the keywords, and obtained a total of 661 relevant resources; A preliminary search with "implicit + hospitality" as the keywords was

conducted, and a total of 429 relevant resources were obtained. However, further analysis shows that these involve a number of disciplinary directions that are less relevant to this research field, such as law and religion. In order to ensure the accuracy and relevance of the data set, we carefully screened and sorted the search results, and finally focused on the fields with high thematic relevance such as hospitality, leisure, sports tourism and management. A total of 248 relevant papers were obtained between 2006 and 2025.

The third step is text pre-processing, we first conducted a word frequency analysis of the text data to identify high-frequency words and their distribution characteristics. This can help to understand the hot topics and main focuses in the current research field. Subsequently, L.D.A. topic modelling was used to model the data. By calculating the perplexity index, we evaluated the model performance under different numbers of topics, ultimately determining the optimal number of topics. Furthermore, based on the Topic-Word Distribution matrix output from the L.D.A. model, we displayed the probability distribution of key words in each topic, thereby intuitively reflecting the core content of each topic. Finally, based on the results of the L.D.A. analysis, we summarized and refined the research topics, extracting the main research direction and features of each topic. In addition, to present the relationships between topics more clearly, we employed the K-means clustering method to group the topics and visualized them using a Thermal Map. This method not only clearly shows the similarities and differences between topics but also provides researchers with a more intuitive analytical perspective.

Figure 1. Phrases and Steps of Systematic Literature Review



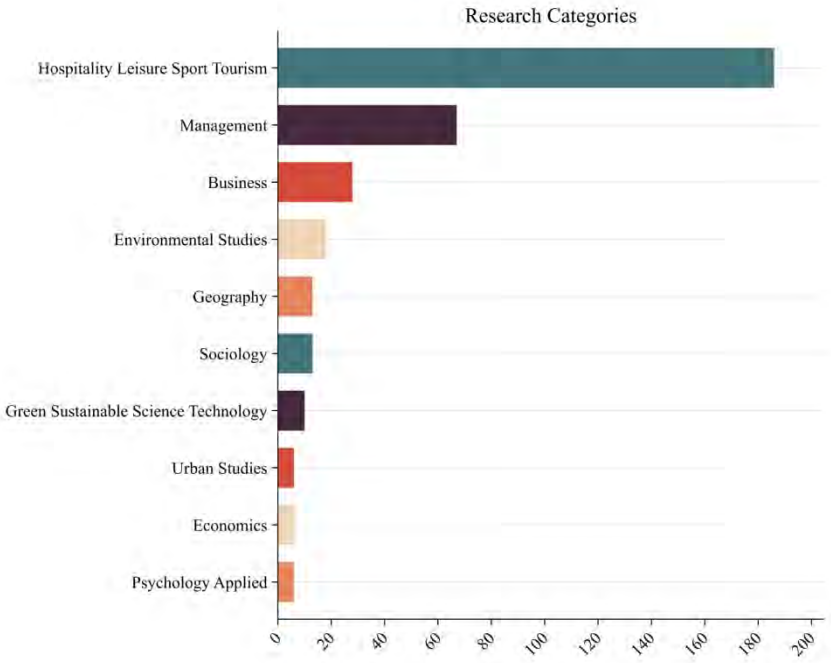
4. Results

4.1. Results of review and analysis of existing studies

4.1.1 Analysis of research category distribution

In order to fully understand the activity and attention of different research fields, this study selected the top 10 research categories from Web of Science and conducted a statistical analysis on the number of papers. It can be seen from Figure 2 that research in the field of hotel, leisure, sports, and tourism is the most active, with a total of 180 related papers. The management field follows with 60 papers. In contrast, there are relatively few studies in other fields, especially in urban studies, economics and applied psychology, with only 5 papers in each field.

Figure 2. Research Categories Chart

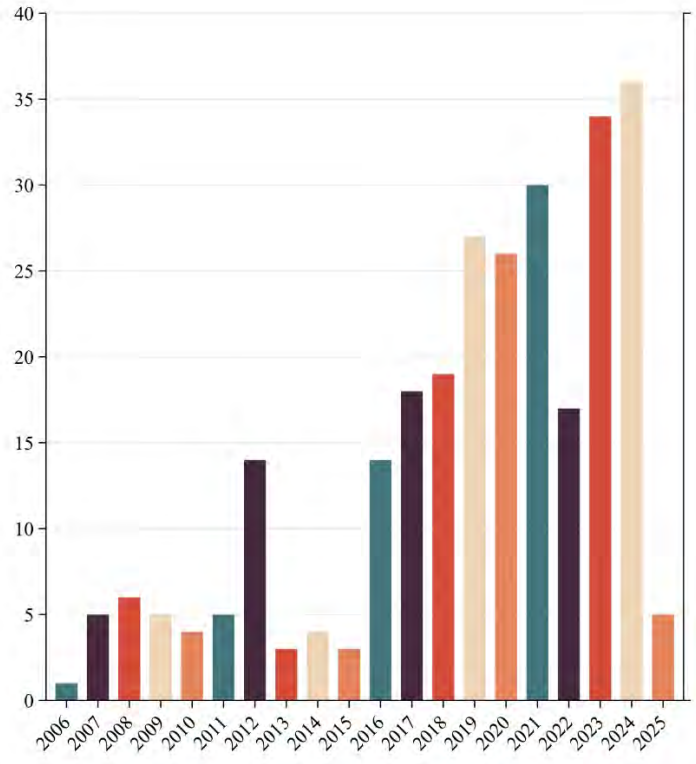


4.1.2. Analysis of publication year

The analysis of the literature divided according to the year of publication shows that the earliest relevant literature was published in 2006. As can be seen from Figure 3 below, 2015 was an important watershed. Before 2015, the number of papers published was relatively small and fluctuated greatly, showing the initial development stage of the research field. After 2016, the number of papers increased significantly, especially between 2019 and 2024, indicating the high activity and importance of this field. Between 2016 and 2025, there was a significant increase in the number of papers published, with a peak in the number of papers reaching 33 in 2024. By analysing the timing of article publication in the past 10 years, we can see that

there are significant differences in the number of paper publications during different time periods. The number of papers overall showed an upward trend with fluctuations from 2016 to 2025, especially from 2019 to 2024, which indicates that this field has received great attention and development in recent years.

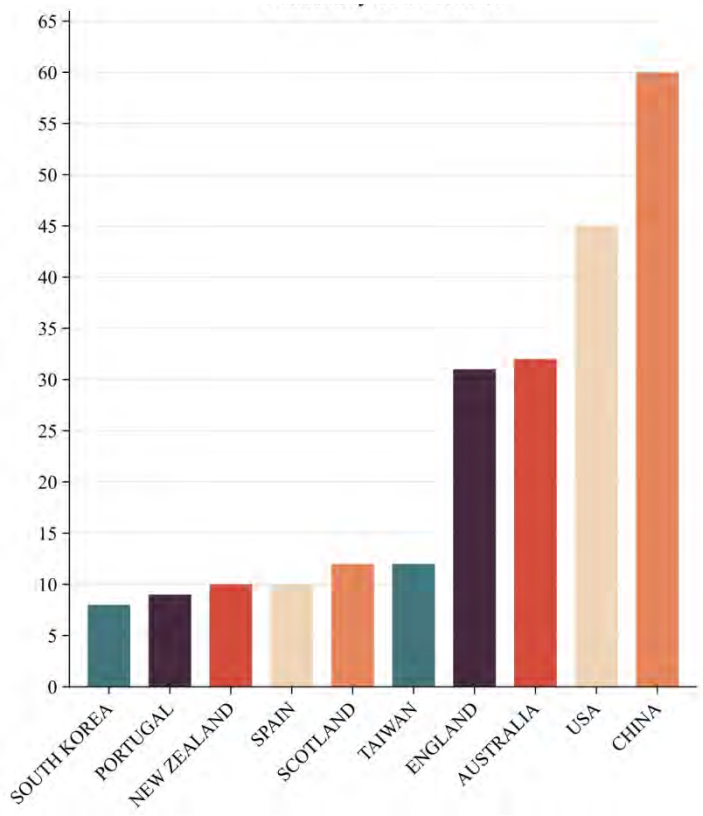
Figure 3. Publication years (2006-2025) Chart



4.1.3. Analysis of the Countries (Regions) to Which the Authors Belong

Through the analysis of published authors, the distribution of their affiliated countries (regions) is widespread (based on the affiliation of the authors), demonstrating the international and diverse nature of this research field. The statistical results ranked the top ten countries and regions, as shown in Figure 4, with China ranking first with 60 authors, indicating the country's high activity and significant influence in this research field. The United States followed closely with 45 authors, further indicating the global research leadership of these two countries. In addition, Australia (32), England (31) and Taiwan Region (12) and Scotland (12) also showed strong academic participation. This was followed by New Zealand (10), Spain (10), Portugal (9), and South Korea (8). It should be noted that there is a certain overlap in the national affiliation due to many studies being conducted in the form of international cooperation. Overall, the research field presents a multi-cantered characteristic where different countries and regional research teams contribute significantly to the advancement of the research field through their respective strengths and resources.

Figure 4. Nationality (Region) of the Author(s) Chart



4.1.4. Analysis of Research Abstract Word Cloud

After sorting through the above literature, the next step is to further comb through the text data. The data processing procedure (Zhu et al., 2013) includes several phases such as data acquisition, text pre-processing, word frequency analysis, L.D.A. topic modelling, and topic summarization. The first step is to automatically retrieve relevant information from the WoS database and extract necessary content such as titles, keywords, and abstracts as the foundational dataset. Next, Python is used to pre-process the text data, such as cleaning the data to remove duplicate documents; using the natural language processing toolkit, N.L.T.K. library for tokenization, segmenting the text into words or phrases; and removing stop words from the text, such as "the", "a", "is", and other high-frequency but low-semantic-information vocabulary.

Figure 5. Research Abstract Word Cloud



A word cloud was generated after a high-frequency word analysis of the relevant data, which was used to show the research hotspots of implicit theories in tourism. The high-frequency words of this word cloud show several research fields related to tourism, including destination, attitude, market, experience and so on. Through the distribution and frequency of these words, it can be inferred that the research mainly focuses on tourist destinations, tourist attitudes and marketing.

4.2. Results of analysis

To further analyse the importance of the research hotspot keywords, this paper employs the T.F.-I.D.F. method to quantitatively evaluate the keywords by calculating their Term Frequency (T.F.) and Inverse Document Frequency (I.D.F.) values. TF-IDF is a technology widely used in the fields of text mining and information retrieval, which can effectively measure the relative importance of a term by comprehensively considering its occurrence frequency in individual documents (T.F.) and its distribution across the entire corpus (I.D.F.) (Kim & Gil, 2019). In this study, the calculation of the TF-IDF values of the keywords was realized using the scikit-learn library and its TF-IDF vectorizer class in Python (Agrawal et al., 2018). The specific calculation results are as follows:

Table 1. TF-IDF value table

NO.	Phrase	Word frequency	TF-IDE
1	tourism	670	0.130
2	implicit	402	0.066
3	study	260	0.053
4	research	212	0.064
5	social	146	0.068
6	explicit	146	0.054
7	destination	140	0.029
8	management	138	0.062
9	travel	128	0.062
10	marketing	126	0.057
11	analysis	124	0.054
12	approach	114	0.052
13	findings	113	0.039
14	attitudes	107	0.050
15	tourists	106	0.053
16	experiences	101	0.039

4.2.1 Latent Dirichlet Allocation Analysis

After completing the word segmentation pre-processing, the next step is to conduct topic analysis on the 'hot' words identified in the implicit theory of tourism research. In order to reveal the potential topic patterns hidden in the text data and provide theoretical support for subsequent research, this study adopts the L.D.A. method for topic modelling. In L.D.A. analysis, determining the optimal number of topics is a key prerequisite for effective topic analysis. The choice of the number of topics (i.e., model hyperparameters) directly affects the model's ability to identify potential topics and the interpretability of the final results (Hasan et al., 2021). Specifically, setting the number of topics too low may lead to multiple different topics being merged into one broad topic, thus losing detailed information; setting the number of topics too high may generate overly specific or repetitive topics, reducing the overall quality of the model. To determine the optimal number of topics, this study adopts a perplexity-based method. Perplexity is an important indicator for measuring the fit of the LDA model, and a lower perplexity often indicates that the model has a stronger ability to explain the data (Madzík & Falát, 2022). By calculating the perplexity values under different numbers of topics and observing their changing trends, the optimal number of topics can be found when the perplexity is minimized.

The L.D.A. topic analysis was conducted, and the optimal number of topics was finally determined to be eight. This result not only ensures a good fit for the model but also guarantees the interpretability and diversity of the topics. For each topic, we extracted the ten most frequently occurring words as the core vocabulary of that topic. These high-frequency words can reflect the core content and focus of the topic, thereby helping to intuitively understand the characteristics of each topic. The following are the 8 topics and their corresponding high-frequency keywords, with the specific results shown in Figure 6 and Table 2.

Through the theme analysis chart of the above-mentioned tourism research literature, it can be seen that the 8 main research directions in recent years are, (1) tourist attitude, (2) theory and mechanism, (3) community participation, (4) destination marketing, (5) sustainable tourism, (6) consumer behaviour, (7) indigenous cultural, and (8) tourism experience. They cover various aspects from tourist attitude to community participation, from personalized marketing to sustainable development. These themes not only reflect the key areas of current tourism research but also provide valuable reference directions for future studies.

Figure 6. Eight topics and keywords

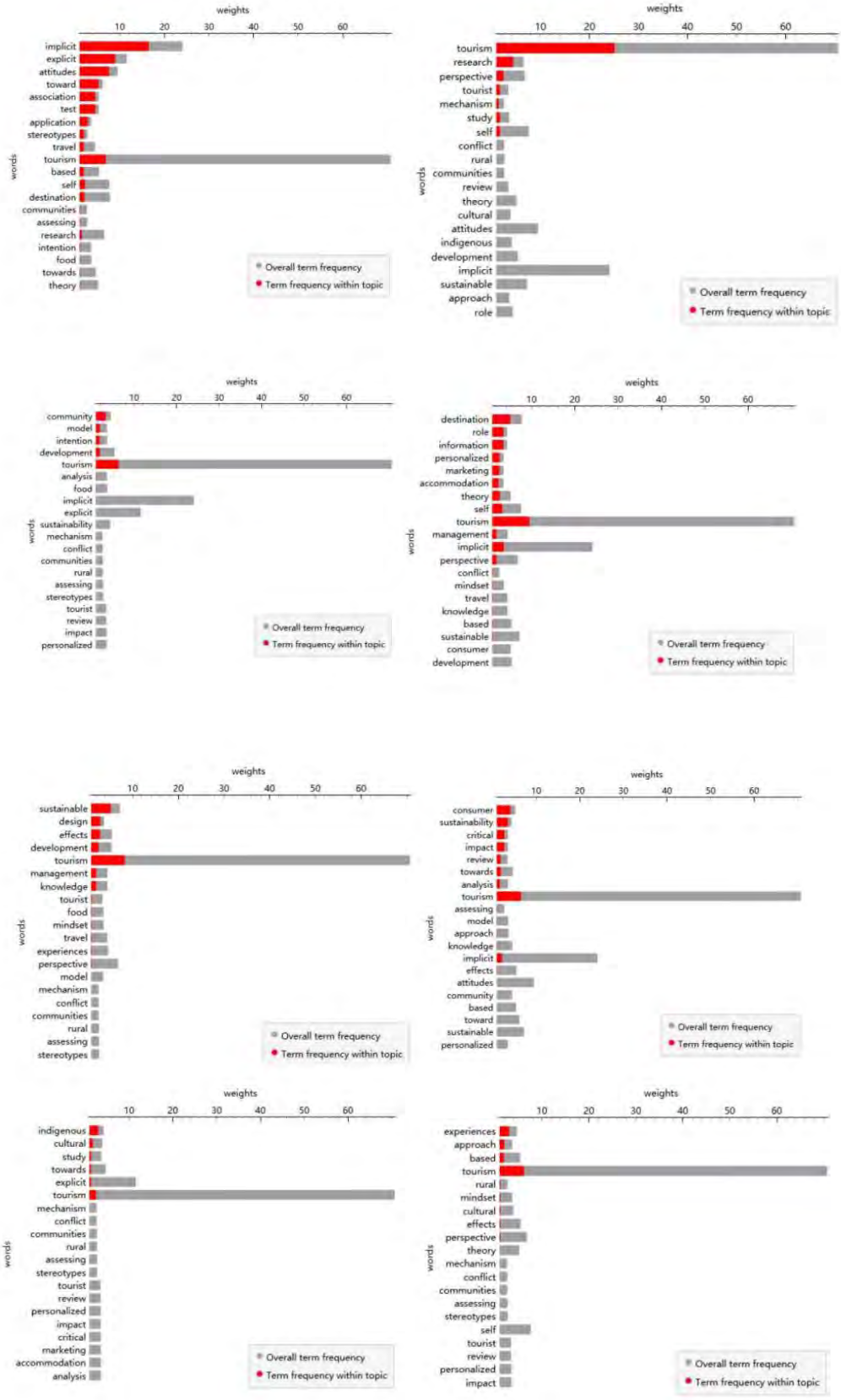
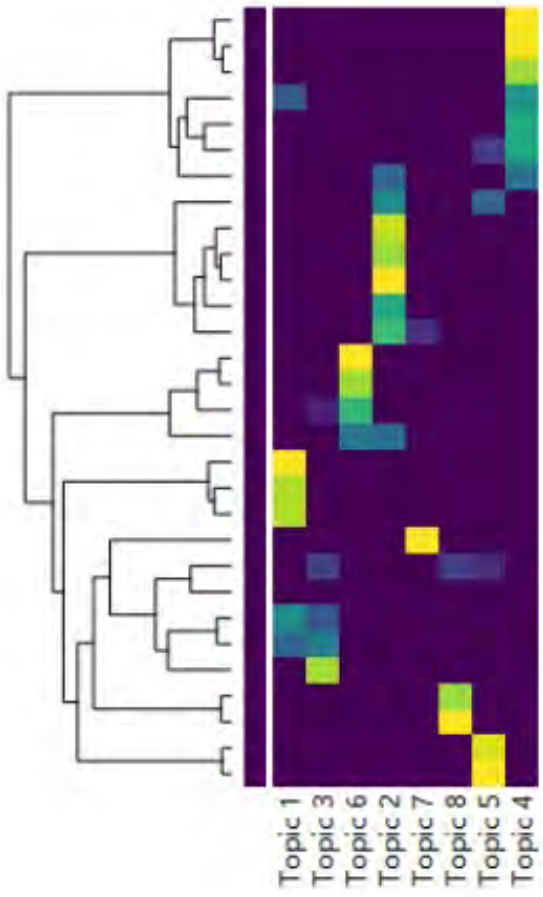


Table 2. Topic Content 'hot' words

	Topic name	Topic content hot words									
		1	2	3	4	5	6	7	8	9	10
Topic1	Tourist attitude	implicit	explicit	attitudes	tourism	toward	association	test	application	self	destination
Topic2	Theory and mechanism	tourism	research	perspective	self	study	tourist	mechanism	conflict	rural	theory
Topic3	Community participation	tourism	community	model	development	intention	food	analysis	implicit	explicit	attitudes
Topic4	Destination marketing	tourism	destination	information	implicit	role	self	theory	personalized	marketing	accommodation
Topic5	Sustainable tourism	tourism	sustainable	design	effects	development	knowledge	management	tourist	travel	food
Topic6	Consumer behaviour	tourism	consumer	sustainability	critical	impact	implicit	towards	review	analysis	assessing
Topic7	Indigenous cultural	indigenous	tourism	cultural	explicit	study	towards	attitudes	self	tourist	implicit
Topic8	Tourism experience	tourism	experiences	approach	based	mindset	perspective	effects	rural	cultural	implicit

Figure 7. Thermal Map of Tourism Research Topics Based on K-means Clustering



Finally, we performed an analysis of related research topics based on the K-means clustering method (Damos et al., 2024) and presented the similarity and clustering results among different topics through a heatmap. Each topic was characterized through keywords and summarized its core research directions and potential applications. The dendrogram showed the clustering relationship among the topics, where the topics closer to the top were more similar in clustering. For colour coding, the dark purple colour in the heatmap represented the lower similarity between topics, while light yellow represented higher similarity.

As shown in the above thermal map, Topic 1 tourist attitude and Topic 3 community participation have a higher similarity (light yellow), indicating that they have more overlaps in research content, both involving tourists' attitudes and their impact on tourism decisions. Topic 6 consumer behaviour and Topic 7 indigenous cultural also shows a high degree of similarity (light yellow), indicating that they have more overlaps in research content, both involving the study of tourism experience and attitudes under the cultural background.

Through the K-means clustering analysis of tourism research literature themes and combined with thermal map displays, a total of eight major research directions were identified, revealing their similarities and differences. These topics not only reflect the key focus of current tourism research but also provide valuable reference directions for future studies.

5. Discussion and Implications

5.1. Discussion

In the study, eight themes have been identified through L.D.A. topic analysis from relevant literature. In this chapter, based on their similarity and relevance, we ultimately merge them into six core themes for in-depth discussion. By doing so, it allows us to focus on key issues, more clearly revealing the connection between Implicit-Self Theory and the tourism hotel industry, providing a clear direction and framework for future research, and promoting the development of theory and practice.

5.1.1. Theme 1: The influence of tourists' attitude on their behavior and decision making

Research within the domain of tourist attitudes, leveraging Implicit-Self Theory, reveals a pattern centred around understanding the dual cognitive processes influencing tourists' decision-making. The experiment by Kim et al. (2010) involved self-report surveys and IAT tests of 89 college students and found that while explicit attitude measures failed to distinguish between attitudes towards China and England, implicit attitude measures showed significant differences, proving that the IAT can reflect individuals' true feelings about tourist destinations more deeply (Kim & Chen, 2010). The study by Tse et al. (2023) showed that tourists with an entity theory orientation are more susceptible to stereotypes, limiting their willingness to explore new destinations, whereas tourists with an incremental theory orientation are more flexible in adjusting their views, demonstrating greater openness and desire to explore. These two studies

together underscore the importance of understanding implicit attitudes for a comprehensive grasp of tourist cognition and their behavioural patterns. These studies indicate that while explicit attitudes may not differ significantly across various destinations, implicit attitudes often reveal more nuanced and complex preferences. This finding highlights Implicit-Self Theory 's capacity to uncover deeper, subconscious biases affecting tourists' choices.

For future research directions, it is suggested to continue exploring the interplay between implicit and explicit attitudes but with an emphasis on integrating these insights into practical applications. Future studies should aim to develop interventions that leverage the understanding of implicit attitudes to foster more positive and inclusive tourism experiences. Additionally, there is a need for longitudinal studies to examine how implicit attitudes evolve over time and in response to changing societal norms and technological advancements. By doing so, the tourism industry can better tailor its offerings to meet the diverse needs and preferences of tourists, thereby enhancing overall satisfaction and engagement.

5.1.2. Theme 2: Community participation and tourism development

In exploring the relationship between community participation and tourism development, we find that it is crucial to understand the impact of implicit attitudes and stereotypes on the interaction between residents and visitors. Studies by Tse et al. (2025) and Zhu et al. (2022) highlight that positive implicit stereotypes about tourists can foster positive emotions and behaviors among residents, whereas negative stereotypes do not necessarily lead to adverse outcomes but may contribute to underlying tensions. The evolution of these conflicts often progresses through stages from potential opposition to cognitive intervention and finally to conflict intention, driven by factors like institutional norm deviations and loss of relational trust (Tse & Tung, 2025; Zhu et al., 2022).

Broader conclusions emerging from these studies underscore the importance of understanding and addressing the implicit biases and perceptions that members of a community have towards tourism. At the same time, destination management organizations must consider both the visible and hidden dynamics of community-tourist interactions to promote sustainable tourism practices (Li et al., 2024; Tse, 2020; Zhu et al., 2022). By recognizing the role of implicit attitudes in shaping behavior, stakeholders can better tailor strategies aimed at fostering more harmonious relationships between residents and tourists, as well as among different stakeholders involved in tourism development.

For future research, it is recommended to focus on developing and implementing interventions that specifically target the mitigation of negative implicit stereotypes and the reinforcement of positive ones. This could involve educational programs or community engagement initiatives designed to alter subconscious biases. Additionally, there is a need for more longitudinal studies that track changes in implicit attitudes over time and assess how these shifts impact community resilience and sustainability in tourism contexts. Furthermore, integrating advanced

qualitative-spatial analysis tools, such as public participatory geographic information system (PPGIS) mapping used by Li et al. (2024), could offer deeper insights into the spatial dynamics of conflict perception and resolution within tourist communities. Such an approach would enable more nuanced and effective tourism planning that respects and incorporates the intrinsic values and micro-perspectives of local communities (Li et al., 2024).

5.1.3. Theme 3: Destination marketing and personalized marketing

This topic explores the deep-seated factors affecting tourist decision-making from various multidimensional perspectives such as anthropomorphic perception of destination marketing, personalized recommendation, and implicit cognition. It deeply excavates the implicit psychological mechanism of consumers to formulate more precise and effective marketing strategies. For example, using anthropomorphism and psychological construction theory, the importance of understanding explicit and implicit attitudes towards service robots, luxury tourism, and brand anthropomorphism is emphasized. Akdim et al. (2023) analyzed how consumer trust, acceptance, and emotional responses towards service robots vary according to the form and role of the robot, thereby affecting service experience and interaction quality. Lv et al. (2024) explored how AI-driven personalized recommendations can enhance customers' life satisfaction by promoting perceived future self-growth, although these effects may be limited. Seo et al. (2021) found that consumers with a fixed mindset prioritize self-improvement values in luxury tourism, while those with a growth mindset focus on superior quality, and the influence of advertising strategies on preferences varies according to consumer mindset.

Han et al. explored brand personification in the hotel and tourism sector, revealing that the interaction between brand roles (servant or partner) and consumers' implicit theories influences consumer responses through the mediation of self-efficacy (Han et al., 2020). Lee & Kim (2017) demonstrate inconsistences between tourists' explicit and implicit cognitions of destinations, showing that implicit cognition more accurately reflects tourists' affective tendencies and biases, providing unique insights beyond traditional explicit measures to predict tourist behaviors (Lee & Kim, 2017).

Research in this domain helps us understand the importance of implicit psychological mechanisms in destination marketing. This includes how different mindsets can influence perceptions of luxury travel and service robots, as well as the role of personalized recommendations in enhancing customer satisfaction and life satisfaction. The research underscores that marketing professionals must consider both implicit and explicit factors when designing strategies to appeal to potential tourists. By doing so, they can create more effective and emotionally resonant marketing campaigns that cater to the nuanced needs and preferences of the target audience. Future research could further explore the use of AI and machine learning to refine personalized recommendation systems that provide tailored experiences that resonate with the implicit preferences of each traveler. Additionally, cultural differences in implicit attitudes towards travel destinations and services could be investigated, which could help in tailoring marketing strategies for different global audiences.

5.1.4. Theme 4: Sustainable tourism

The topic focuses on in-depth exploration and practical applications in key areas such as social equity, environmental protection, and sustainable tourism development. Jamal et al.(2014) addresses the underexplored link between sustainable tourism and justice at the destination level, focusing on fairness, equity, and justice for disadvantaged groups such as poor, minority, and indigenous populations. Using philosophical traditions and social-political perspectives on justice, they examine issues faced by Mayan residents in Quintana Roo, Mexico, including procedural and distributive injustices, inequities in heritage development and marketing, and discriminatory practices (Jamal & Camargo, 2014). Shen et al. (2024) investigated the influence of Chinese tourists' autobiographical memory of travel on their environmentally responsible behaviour under the theoretical lens of self-extension theory. The results show that tourists' self-expansion and psychological richness play a mediating role between autobiographical memory of tourism and tourists' environmentally responsible behaviour. In addition, the implicit personality theory has a moderating effect on the prediction of tourists' autobiographical memory on self-expansion (Shen et al., 2024). Sukaatmaja compares explicit and implicit attitudes of visitors toward two types of visual conservation messages—persuasive and prohibitive—in the context of sun and beach destinations in the Mexican Riviera Maya. The findings reveal that persuasive messages are effective at both explicit and implicit levels, promoting more positive attitudes and aligning with sustainable tourism goals, while prohibitive messages are less effective at the implicit level. This highlights the importance of designing conservation messages that resonate with visitors' subconscious and unconscious minds to foster sustainable behaviours (Sukaatmaja, 2021).

For future research, several key angles should be considered for further examination of how to use implicit information to foster sustainable development, promote environmentally responsible behaviours via targeted dissemination of information that resonates with tourists' unconscious mind to promote long-term behavioural change; or conducting longitudinal research to track how tourists' implicit attitudes evolve over time, and how they influence sustainable behaviours would provide valuable insights into policymaking and marketing strategies. By focusing on these areas, researchers and practitioners can continue to refine the approach to sustainable tourism that will help create more equitable and sustainable destinations where both visitors and host communities' benefit.

5.1.5. Theme 5: Consumer behaviour

The research on tourism consumption behaviour centred on the implicit-self theory reveals different consumption behaviour patterns based on individual psychological characteristics. Ly et al. (2024) explore how the lay beliefs of individuals affect customer perceptions towards these practices and the tourist destination, in particular, the different attitudes towards street selling activities between entity theorists and increment theorists, and this difference will affect the purchasing decision-making process of tourists (Ly & Lau, 2024). Leung et al. 's (2021) research shows that consumers' implicit-self theory has a significant impact on their choice of

home accommodation. Entities are more likely to choose home accommodation that fits their personal characteristics, while incrementalists are more open to novelty and welcome novel forms of accommodation due to their growth mindset (Leung et al., 2021). Ly et al. (2022) further explored the reasons why consumers would repeat home stays, showing that incrementalists are more likely to seek new experiences and repeat stays because of their dynamic worldview and growth mindset. This difference not only affects their accommodation choices, but also their overall travel experience (Ly et al., 2022). Ye et al. (2021) explore collaborative information behaviour among group tourists, identifying diverse roles such as team player, influencer, and dictator, which are implicitly assigned within groups. This research underscores the complexity of social interactions and information sharing among tourists, suggesting that these dynamics significantly influence travel decisions and experiences (Ye et al., 2021).

Future research can focus on the following directions: firstly, in terms of personalized services and product design, investigate how to customize travel experiences based on tourists' implicit-self theories, such as designing more diversified accommodation options and activities for incrementalists to meet their need for novelty, while providing entity theorists with services that align with their personal characteristics and emphasize stability and familiarity. Secondly, enhance the experience of social interaction by further exploring the dynamics between different roles (such as team collaborators, influencers, and supporters) in group tourism to improve overall travel satisfaction. Moreover, cross-cultural comparative research is also important, understanding the specific manifestations of implicit-self theories under different cultural backgrounds and their impact on tourism decision-making, to develop more global and culturally sensitive marketing strategies and service schemes. These directions not only deepen our understanding of tourists' internal motivations but also provide innovative methods for the tourism industry to improve service quality and enhance customer loyalty.

5.1.6. Theme 6: Tourism experience

In exploring the mindset of tourists and its impact on the tourism experience, relevant studies have revealed the significant role of self-presentation behaviour, the personal growth journey, and mindset in travel decision-making. Huang et al.'s study indicates that the way users present themselves (either explicitly or implicitly) in online travel communities significantly affects others' perception of conflict and the intention to co-destruct value, pointing out that explicit self-presentation is more likely to induce information and relationship conflicts, while implicit self-presentation helps reduce conflicts, providing a new perspective for optimizing the experience in online travel communities (Huang et al., 2025). By analysing tweets from solo travellers, Manthiou et al. proposed solo travel as a three-stage journey involving self-discovery based on the theory of implicit self and constructed a conceptual framework for slow travel (Manthiou et al., 2023).

Through survey data from 312 respondents in Lisbon, Portugal, and the PLS-SEM method, Japutra et al. found that a traveller's mindset can significantly predict their attitude, subjective norms, and perceived behavioural control, thus offering a new perspective for understanding traveller intentions and behaviours (Japutra et al., 2019). In subsequent research, Japutra pointed out that people's mindset is an important factor affecting their behaviour. This study explored the impact of tourist psychological states on their holiday activity choices through situational experiments, finding that tourists with a growth mindset tend to choose high-risk activities, are willing to try new things and challenge themselves, whereas those with a fixed mindset prefer low-risk or familiar activities (Japutra & Hossain, 2021). Mkono examines the role of social media in Indigenous tourism, analysing 588 tourist reviews and 137 operator responses related to four Australian Indigenous tour experiences. It highlights how dissatisfied tourists often expect tours to follow Western management models, while Indigenous operators can act as cultural negotiators online by addressing worldview differences, contextualizing their cultural practices, and countering misrepresentations in reviews. The study identifies three key components of this cultural negotiation: recognizing worldview differences, explaining the broader cultural context, and rebutting inaccuracies (Mkono, 2016).

To deepen the study of tourist mindset in travel experiences, future research could be undertaken from several perspectives. Firstly, optimizing the online tourism community experience by reducing conflicts and promoting value co-creation through adjusted self-presentation, such as designing features that encourage implicit self-expression. Secondly, exploring the psychological processes of solo travellers, especially self-development and discovery in different cultural and environmental contexts, using diverse data collection methods like in-depth interviews and participant observation. Thirdly, developing customized travel products and services based on tourist mindsets, offering challenging and innovative activities for growth mindset tourists, and stable and familiar options for fixed mindset tourists. Finally, conducting cross-cultural comparative studies to explore differences in tourist mindsets across cultures and their impact on travel decisions, in order to develop more global and culturally sensitive marketing strategies and service designs. These directions not only contribute to enhancing tourist satisfaction but also promote the development of a more personalized and inclusive approach in the tourism industry.

5.2. Academic and practical implications

*5.2.1 Academic implicati*on

Enhanced Understanding of Tourist Behaviour: By identifying eight core research topics and consolidating them into six major areas, this study deepens our comprehension of how implicit beliefs influence tourist decision-making and behaviour patterns. This nuanced understanding is crucial for developing more accurate models of tourist psychology and behaviour.

Integration with Related Fields: The emphasis on integrating IST with other relevant dimensions such as cultural backgrounds and specific tourist demographics facilitates a more holistic approach to tourism studies. This integration helps in creating a unified theoretical framework that addresses the fragmented nature of existing research, promoting a cohesive and systematic development of tourism theory.

Promotion of Interdisciplinary Research: The study encourages interdisciplinary approaches by highlighting the potential synergies between IST and fields like sociology, psychology, and environmental science. Such collaborations can lead to innovative theories and methodologies that further advance the field of tourism studies.

5.2.2 Practical implications

Informed Decision Making: Insights derived from IST enable destination managers and marketers to make informed decisions based on a deeper understanding of tourists' implicit attitudes and preferences. This can lead to the creation of more effective marketing strategies and personalized services, ultimately enhancing tourist satisfaction and loyalty.

Advancement in Service Design: With the increasing prevalence of service robots and digital technologies in tourism, understanding the impact of implicit beliefs on tourist attitudes towards these innovations becomes essential. This knowledge can guide the design of user-friendly and culturally sensitive services, ensuring they meet the diverse needs of global tourists.

Sustainable Tourism Practices: By focusing on sustainable tourism and community involvement, the research highlights pathways for promoting responsible tourism practices that protect the environment and support local communities. Implementing these practices not only contributes to the long-term sustainability of the tourism industry but also fosters positive relationships between tourists and host communities.

Policy Development: The findings provide policymakers with valuable insights that can inform the development of policies aimed at fostering sustainable and inclusive tourism. These policies can help ensure that tourism activities contribute positively to economic growth, social well-being, and environmental conservation.

5.3. Limitations of this study and suggestions for future research

Although this study has made certain progress in reviewing existing literature and exploring potential research directions, there are still some limitations. First, in terms of literature selection, it may not have fully covered all relevant studies due to database selection or keyword screening criteria. Second, in terms of data collection, it may also be affected by factors such as language. Only literature in English has been selected for this paper. Therefore, future research should further expand the database sources and incorporate more diverse literature resources to ensure the comprehensiveness and representativeness of the research results.

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Factors influencing visitor loyalty to the Ao Dai Museum in Ho Chi Minh City, Vietnam: the moderating role of perceived service quality (Paper#195)

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Abstract:

The Ao Dai is an iconic symbol of Vietnamese culture, embodying national pride and the elegant beauty of Vietnamese women. Despite historical changes, it has retained its traditional essence and remains an iconic national garment. With its deep cultural significance and enduring appeal, the Ao Dai has inspired the creation of the Museum. This study examines the key factors influencing visitors' decisions to explore the Museum in Ho Chi Minh City, focusing on cultural elements, travel motivation, and aesthetics. Additionally, it investigates the moderating role of perceived service quality in shaping visitor loyalty, providing deeper insights to enhance the Museum's attractiveness.

Keywords: Ao Dai Museum, Perceived service quality, Culture elements, Aesthetic, Travel motivation, Loyalty

1. Introduction

Cultural tourism plays a vital role in the global tourism industry, especially in Vietnam, which is rich in history and unique traditions. Museums, like the Ao Dai Museum in Ho Chi Minh City, are essential for preserving and showcasing Vietnam's cultural identity. The Ao Dai, a traditional Vietnamese costume, symbolizes national pride and cultural significance, making the Museum a key destination for those looking to connect with Vietnam's heritage.

However, the Ao Dai Museum faces challenges in attracting a steady stream of visitors, particularly in the competitive tourism market of Ho Chi Minh City. Factors such as perceived cultural value, exhibit quality, accessibility, and promotional efforts influence visitors' decisions. Additionally, visitors' motivations, such as a keen interest in Vietnamese culture or a desire for authentic experiences, significantly affect their choice to visit the Museum.

This study explores the factors shaping visitors' loyalty to the Ao Dai Museum, with a particular focus on the influence of cultural elements, travel motivation, and aesthetics. It also investigates the moderating effect of perceived service quality on the relationship between cultural elements, travel motivation, aesthetics, and loyalty.

2. Literature Review

2.1. Ao Dai Museum

The Ao Dai Museum is dedicated to preserving and celebrating the history of the Vietnamese Ao Dai, emphasizing its cultural significance throughout the nation's history. The Museum not only showcases rare artifacts and documents related to the Ao Dai but also highlights the enduring values of this traditional garment in contemporary life. In doing so, it contributes to global cultural diversity and brings the Ao Dai closer to audiences both in Vietnam and abroad. Officially opened on January 22, 2014, the Museum plays a key role in safeguarding Vietnam's cultural heritage.

The Ao Dai, a traditional costume of Vietnam, is not only a symbol of beauty and grace but also an important part of the country's cultural heritage. In addition to exhibitions on the history of the Ao Dai and garments worn by notable figures who have contributed to the nation, the Museum features thematic displays such as Ao Dai as Cultural Heritage. This is an opportunity to explore the deep connection between the Ao Dai and Vietnam's unique intangible cultural heritage, including UNESCO - recognized traditions like Quan Ho, Xoan Singing, and Don Ca Tai Tu. The Ao Dai not only reflects the elegance of design but also represents the fusion of the past and present, serving as a testament to the cultural development over centuries.

Conceived and created by painter and designer Si Hoang, Si Hoang is a famous Vietnamese painter and designer, known for his significant contributions to the fashion industry and Vietnamese culture, particularly in the restoration and development of the traditional Ao Dai. He is the founder and creator of the Ao Dai Museum, a unique cultural space dedicated to honoring the beauty and historical value of the Ao Dai, the traditional attire of Vietnamese women. Si Hoang is not only a talented designer but also a pioneer in combining traditional cultural elements with innovation in fashion. He has designed many Ao Dai collections that are deeply rooted in tradition yet creatively modernized to make them suitable for contemporary times. In addition to his work in fashion, Si Hoang is also a painter, and his artwork reflects his passion for beauty and national cultural values. He has actively participated in activities to preserve and promote cultural heritage, especially in preserving the Ao Dai as a Vietnamese heritage.

2.2. Culture elements

Cultural elements play a vital role in shaping tourism experiences and influencing visitor motivation, engagement, and post-visit behaviors. These elements can be categorized into cultural experience, cultural identity, and cultural transmission, each contributing to the overall perception of cultural tourism.

Cultural Experience

Cultural experiences are central to tourism production and consumption, driving the demand for meaningful and immersive encounters. According to the UNWTO (2018), cultural tourists account for nearly 40% of all international arrivals. The rise of the experience economy has made cultural experiences a key focus in tourism studies (Ritchie, Tung, & Ritchie, 2011). Research indicates that memorable experiences enhance visitor satisfaction and foster loyalty (Tung & Ritchie, 2011). Additionally, engagement in authentic cultural activities increases emotional connection and enriches the tourism experience (Richards, 2007; Moscardo, 1996).

Cultural Identity

Cultural identity shapes individuals' sense of belonging and is influenced by language, traditions, and shared values (Hall, 1990). It is a dynamic and evolving process, negotiated through social interactions (Burr, 1995). Bourdieu (1991) highlights language as a key marker of identity, while Fishman (1999) emphasizes its role in cultural continuity. Cultural identity influences visitor behavior, as those with strong cultural ties seek meaningful heritage experiences (Geertz, 1973).

Cultural Transmission

Cultural transmission involves passing traditions and values across generations (Cavalli-Sforza & Feldman, 1981). Museums play a crucial role in this process by fostering cultural engagement and promoting knowledge sharing (Cui, 2016). Research suggests that positive cultural experiences enhance post-visit behaviors, such as recommending destinations and sharing cultural knowledge (Xu, 2020; Tian et al., 2020). In Museum tourism, authenticity and satisfaction significantly impact cultural transmission and visitor loyalty (Suhartanto et al., 2020). Understanding these cultural elements provides valuable insights into enhancing visitor experiences and promoting sustainable cultural tourism at destinations like the Ao Dai Museum.

2.3. Aesthetic

The Oxford English Dictionary (2012) defines aesthetics as the branch of philosophy that deals with questions of beauty and artistic taste. Wittgenstein (1970) argues that it is impossible to define the concept of aesthetics using strict logical language. Despite this challenge, aesthetics has become a central topic in contemporary debates about tourism, particularly in the media. In many discussions, the concept is often reduced to its visual aspects, such as buildings, wilderness camping, signage, and art in nature. Aesthetics is frequently referenced in political documents, particularly those concerning architecture and environmental design, where knowledge from architects and landscape architects plays a key role. Ha and Yang (2019) relate aesthetics to sustainable tourism and the environmental impact of tourism. The term aesthetics was first coined by Baumgarten (1983) in the 18th century to refer to the science of the sensory or the

recognition we derive from engaging with our senses. Over time, aesthetics became more closely associated with the philosophy of art. Today, aesthetics is seen as an interdisciplinary field bridging philosophy and art, with a broader focus on the sensory and experiential dimensions of human life (Bale & Bø-Rygg, 2008). According to Shusterman and Tomlin (2008), aesthetics holds fundamental value for humans, as experiences of nature provide opportunities to discover, express, and perceive aspects of reality that are central to our existence and contribute to a sense of meaning, joy, and at times, pain.

This value is reflected in extensive research on visitor preferences for nature and various landscapes. Empirical studies highlight key dimensions such as "scenery/view" (Hazen, 2009; Jacobsen, 2011; Raadik et al., 2010), "clean environment" (Coghlan & Prideaux, 2009; Hazen, 2009), "interesting/ beautiful/dramatic landscape" (Jacobsen, 2011; Raadik et al., 2010), and "silence/tranquillity/ peacefulness" (Raadik et al., 2010). These studies primarily focus on visual aspects and often employ quantitative methods. However, few studies examine aesthetics in man-made environments within nature-based tourism. Research has shown that elements such as "harmony" (Hosany & Witham, 2009; Oh et al., 2007), "design" (Hosany & Witham, 2009; Oh et al., 2007; Slåtten et al., 2009), and "attractiveness" (Hosany & Witham, 2009; Oh et al., 2007) are also central to aesthetic experiences. Similar to previous studies, this research also emphasizes visual aspects, such as "viewing architecture" and "viewing ice sculptures" (Slåtten et al., 2009).

In summary, while the concept of aesthetics is incorporated into tourism development theories and public plan, and is frequently discussed in media debates, there is limited empirical research addressing aesthetics in man-made environments within nature-based tourism. Most existing studies focus on visual elements and the passive reception of stimuli, relying on fixed dimensions. Therefore, an exploratory study could offer valuable insights into how the broad and abstract concept of aesthetics can be understood within the context of nature-based tourism.

2.4. Travel motivation

Motivation is often defined as an internal state that directs and energizes human behavior (Kassin, 1998; Moutinho, 2000; Murray, 1964), and it has also been seen as the drive to fulfill both physiological and psychological needs (Berkman, Lindquist, & Sirgy, 1997). Human needs provide the foundation for understanding travel motivation and the behavior of travelers. Mill and Morrison (2002) explained that travel motivation arises when an individual becomes aware of a deficiency in their needs. Among the most widely recognized theories in travel motivation are Dann (1977, 1981) push and pull factors, which have been frequently cited in the travel literature (Goossens, 2000; Jang & Cai, 2002; Yuan & McDonald, 1990). Push factors are socio-psychological needs that drive a person to travel, while pull factors are those that attract a person to a specific destination once the push motivation has been triggered. Push factors are internal, originating within the individual and creating the desire to travel, whereas pull factors are external, evoked by the attractions of a destination. Crompton (1979) supported the push-pull framework by identifying nine motives, with seven categorized as socio-psychological (push) and two as cultural (pull) motives. Fodness (1994) employed the functional theory to

investigate travel motivations, drawing upon Katz (1964) exploration of attitudes and Smith, Bruner, and White (1956) study. He found that when people travel, they often have multiple psychological needs that influence their behavior. Travel motivations have also been examined in the context of decision-making, market segmentation, and destination choice.

2.5. Visitor loyalty

Visitor loyalty has long been a key topic in tourism research, often measured by tourist intentions to recommend and revisit destinations (Litvin et al., 2008). Chen and Tsai (2007) defined tourist behavioral intention as their judgment on the likelihood of revisiting destinations and recommending them to family and friends. Consequently, recommendation and revisit intentions are critical indicators for gauging tourist loyalty (Litvin et al., 2008). Recommendation intention refers to the psychological behavior that motivates the visitors to encourage others-such as family, friends, and colleagues to experience what they like (Prayag et al., 2017). If a customer has a positive experience with a product or service, their likelihood of recommending it to others increases (Wirtz & Chew, 2002). This intention is a key variable in assessing service quality within behavioral research and is essential for business performance, as it helps acquire more customers. Muskat et al. (2019) emphasized that loyal customers who have developed long-term relationships with service providers and received hedonic experiences are more likely to recommend these providers, thus contributing to business profits. Recommendation behavior is a positive evaluation of a product, brand, or service communicated informally between consumers without commercial intent (Chang et al., 2018). Revisit intention refers to the likelihood that a tourist will return to a destination. As competition among destinations intensifies, the role of repeat visitors has become an essential indicator of destination development potential (Baker & Crompton, 2000). Furthermore, repeat visitors contribute to better cost-effectiveness and economic returns for destinations. The intention to revisit, typically expressed within a certain period post-trip, is a key manifestation of loyalty (Gyte & Phelps, 1989). Han et al. (2010) defined revisit intention as the likelihood of a customer returning to a restaurant, regardless of their prior attitude, and it is also applied to the likelihood of visitors revisiting the same destination. Several studies have explored the factors influencing revisit intentions (Chen & Tsai, 2007), emphasizing that attracting returning visitor is more beneficial than solely attracting new ones. However, theoretical and empirical research on the mechanisms behind the revisit intentions of Chinese outbound visitor, and their relationship with antecedent factors, remains limited. This gap is a topic of growing concern for both academic and industry practitioners. Understanding the antecedents and generation mechanisms of revisit intention will not only provide insights into tourist behavior but also be vital for implementing effective marketing and management strategies for destinations.

2.6. The moderating role of perceived service quality

Service quality is defined as the assessment between customer expectations of a service and their perceptions of the actual service received (Parasuraman, 1985). Studies on consumer satisfaction suggest that these expectations reflect predictions about what will happen in an upcoming transaction, while studies on service quality consider them to be expectations. Or the needs expressed by consumers (Kandampully, 2002). Grönroos (1984) defines service quality as "the result of an evaluation process in which consumers compare their expectations with the service they perceive to have received" (p.37). According to Baker and Crompton (2000), studies on service quality in the tourism and entertainment industry have appeared since the 1960s (p.785). Tourism research has shown various attempts to understand how tourists evaluate service quality during vacation trips (Atilgan, Akinci, & Aksoy, 2003; Baker & Crompton, 2000; Chadee & Mattsson, 1996; Frochot, 2004; Hudson, Hudson, & Miller, 2004; Vogt & Fesenmaier, 1995; Weirmair & Fuchs, 1999), quality of travel agencies (Ryan & Cliff, 1997; Suh et al., 1997), and many other fields. However, as Frochot (2004) points out, "the nature of tourism services, which rely heavily on providing utility services and helping customers satisfy deep-seated needs, makes it difficult to evaluate quality, which becomes quite complicated" (p. 224). Service quality is an abstract concept, and when studying it, Parasuraman, Zeithaml, and Berry (1988) and Vareiro, Sousa, and Silva (2020) determine five main elements of service quality:

1. Tangibility (a form of facilities, personnel, and materials)
2. Reliability (stable and accurate performance)
3. Responsiveness (willingness to help customers and speed of service)
4. Assurance (staff knowledge and courtesy)
5. Empathy (care and attention to each customer).

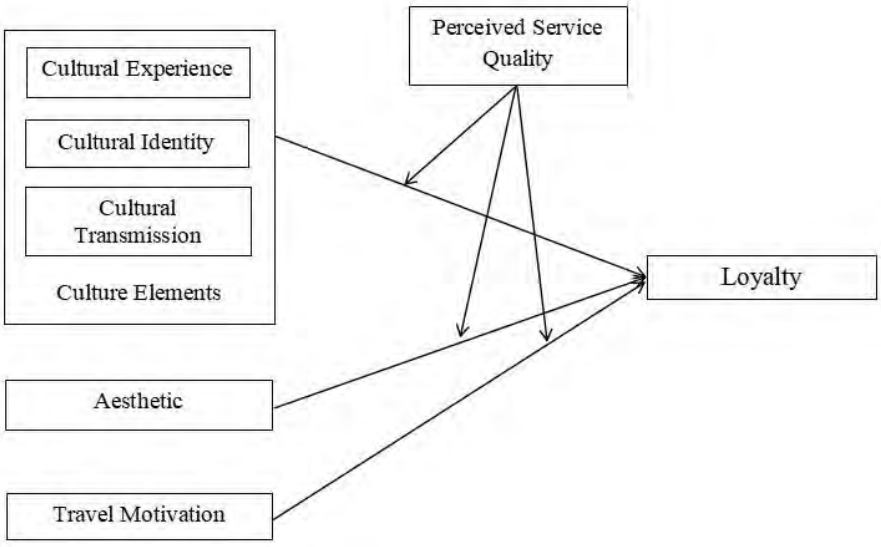
Although existing studies have shown the impact of service quality on customer revisit intention, very few studies, if any, have examined the influence of each service quality factor. For this intention, researching the impact of each service quality factor on visitors can help tourism managers and businesses identify their strengths and weaknesses. At the same time, it helps them focus resources on service elements that have the greatest impact on tourist return intentions, thereby contributing to the sustainable development of the tourism industry. This study aims to understand the effect of service quality on tourist intention to revisit and the development of the tourism industry. This research based on Vareiro, Sousa, and Silva (2020) Perceived service quality, defined by D. Gefen (2000), is the subjective comparison of consumers between the expected quality of service and the actual service quality they get. Ajmera and Bhatt (2020) noted that perceived service quality is consumers' judgment between service expectation and service performance. In the case of mobile service, it was defined as consumers' perception of quality towards the new payment services and their functions (Kumar & Lim, 2008). In this research, the perceived service quality is considered as the general service quality of Ao Dai Museum confirmed a significant and positive effect of culture elements and aesthetic factor on visitors' interest to revisit and willingness to recommend for Ao Dai Museum. Based on the previous studies, this study investigates these following hypothesis:

H1: Culture elements has an positive influence on visitor loyalty

H2: Aesthetic has an positive influence on visitor loyalty
H3: Travel motivation has an positive influence on visitor loyalty
H4: Perceived service quality strengthens the relationship between culture elements and visitor loyalty
H5: Perceived service quality strengthens the relationship between aesthetic and visitor loyalty

H6: Perceived service quality strengthens the relationship between travel motivation and visitor loyalty.

Figure 2.1 Conceptual Framework



3. Methodology

3.1. Sampling method

The research subjects in this topic are individuals interested in visiting the Ao Dai Museum or participating in package tours organized by local travel agencies. The study used quantitative data from the online survey questionnaire to classify the factors and examine their significance in influencing or determining the impact of experience on service quality, cultural factors, aesthetics at the Ao Dai Museum, and related travel motivation on tourist psychology and revisit and recommendation intention. Primary data were collected from the survey conducted from September to November 2024. The variables measured in the questionnaire include cultural experience, cultural identity, cultural transmission, aesthetics, service quality, travel motivation, and loyalty. All measures are based on a 5-point Likert scale with anchors ranging from 1 (strongly disagree) to 5 (strongly agree).

3.2. Measurement scales and data collection

Data were collected through purposively sampling. This study maintained the principles of representativeness in the sampling process. The questionnaire was constructed based on scales developed and adapted from previous studies, focusing on measuring the key concepts in the study. Cultural factors were based on the article Factor Affecting Cultural Transmission in Museum Tourism (Chen, 2024). Aesthetic factors are based on the article The Role of Aesthetic Experiential Qualities for Tourist Satisfaction and Loyalty (Breiby & Slåtten, 2018). Perceived service quality following the article The Importance of Museums in the Development of Tourists and all Motivating factors of Their Guests: The Case of the Costume Museum establishes the framework for the aspects connected to service quality (Vareiro, Sousa, & Silva, 2020). Travel motivation factors are based on the article Analysis of Push and pull factors in food travel motivation (Su, Johnson & Barry O'Mahony, 2020). Visitor loyalty are based on the article Enhancing Recommendations and Revisit Intentions to Museums Through Experiences: Hong Kong protests and tourism, Modelling tourist trust on revisit intention (Poon & Koay, 2021). And the questionnaire was focused on Vietnamese. Finally, the questionnaire was completed. The data collection process was carried out through an online survey form posted on social media platforms to collect data most conveniently. To reach the audience close to the sample selection conditions. The survey form was also transmitted through tour guides in Ho Chi Minh City. This multi-faceted approach, combined with personal interaction, made it convenient for the audience to conduct the survey, and manage the data information more easily.

4. Results

4.1. Profile of the respondents

After removing unusable responses, 273 individual survey ratings were collected from 273 distributed self-administered questionnaires (response rate 76.8%). The demographic table outlines a sample of 273 individuals from the Vietnamese students and visitors. Gender distribution was uneven, with 34.4% male and 65.6% female. The predominant age group was 18-25 years old, accounting for 90.8% of the sample, with the majority coming from young students. In terms of education, 86.1% had a college or university degree, and 7.3% had a postgraduate degree. The majority were students (82.1%), followed by office workers (10.3%). Income levels varied, with 53.5% having incomes below VND5,000,000 for Vietnamese, and 15.8% having incomes between VND5,000,000 and VND9,999,999. Most respondents were primarily traveling to the Ao Dai Museum once (72.3%). The data showed a high representation of student respondents across all categories, highlighting the demographic and economic diversity within this group (see Table 4-1).

Table 4-1. Descriptive statistical analysis

Demographics		Numbers of sample	%	Rank
Gender	Male	94	34,4	2
	Female	179	65,6	1
Age	Under 18	13	4,8	2
	18 ~ 25	248	90,8	1
	26 ~ 40	11	4	3
	41 ~ 60	1	0,4	4
	Over 60	-	-	-
Education level	Elementary school	-	-	-
	Junior high school	-	-	-
	High school	12	4,4	2
	College/University	235	86,1	1
	Vocational school	2	0,7	4
	Other	4	1,5	3
Occupation	Student	224	82,1	1
	Government employees	2	0,7	5
	Office workers	28	10,3	2
	Agriculture, Forestry, Fishery, and Animal Husbandry	-	-	-
	Family jurisdiction	1	0,4	6
	Own Business	6	2,2	4
	Retired	-	-	-
	Other	12	4,4	3
Monthly Income	Less than 5.000.000VND	146	53,5	1
	5.000.000~9.999.999VND	43	15,8	3
	10.000.000~19.999.999 VND	22	8,1	4
	20.000.000~29.999.999 VND	4	1,5	6
	30.000.000~39.999.999VND	1	0,4	7
	40.000.000VND and above	7	2,6	5
	No income	50	18,3	2
Number of visits to Ao Dai Museum	1 time	136	72,3	1
	2~5 times	52	27,7	2
	Above 5 times	-	-	-
	Male	94	34,4	2

4.2. Results of data analysis

Table 4-2. Reliability Analysis

Items	Corrected Item Total Correlation
Culture Experience (Cronbach's alpha = 0.846)	
CE1 - Ao Dai Museum brings rich cultural values.	0.660
CE2 - The Ao Dai Museum offers educational and humanistic activities.	0.725
CE3 - Ao Dai Museum appeals to my feelings.	0.700
CE4 - The Museum hosts exhibitions of prestigious quality	0.694
Culture Identity (Cronbach's alpha = 0.778)	
CI1 - Visiting the Ao Dai Museum can help me feel more confident about my cultural knowledge.	0.685
CI2 - Visiting the Museum affects my worldview.	0.564
CI3 - I want to be a cultural volunteer to improve my ability to convey the artistic message of the Ao Dai Museum to others.	0.641
CI4 - Visiting and learning about the Ao Dai Museum helps me improve my self-esteem.	0.479
Culture Transmission (Cronbach's alpha = 0.872)	
CT1 - I was very enthusiastic when visiting this Ao Dai Museum.	0.703
CT2 - I will discuss the exhitbits in the Ao Dai Museum with my friends.	0.707
CT3 - I will recommend this Museum to my friends.	0.771
CT4 - I will say positive things about this Ao Dai Museum	0.672
CT5 - I will maintain the connection and return with the Ao Dai Museum	0.661
Aesthetic (Cronbach's alpha =0.934)	
AE1 - The fresh natural environment and beautiful landscape along the route.	0.706
AE2 - Arround the Museum, there is a beautiful view of the natural landscape.	0.768
AE3 - The observation points are arranged aesthetically along the route.	0.724
AE4 - Ao Dai Museum has a beautiful view of the cultural landscape.	0.753
AE5 - Ao Dai Museums makes **visitor** feel close to nature and traditional.	0.717
AE6 - The architectural of the Museum is in harmony with the natural landscape.	0.793

AE7 - The interior and collections are arranged in harmony with the outdoor surroundings.	0.814
AE8 - The architecture of the Ao Dai Museums enhances my experience of the traditional Vietnamese architecture.	0.780
AE9 - Artworks at the observation points add to the visitor experience.	0.748
Travel Motivation (Cronbach's alpha = 0.893)	
TM1 - I would like to visit the Ao Dai Museum to understand the local culture of a Museum tourism destination	0.725
TM2 - I would like to visit the Ao Dai Museum to increase my knowledge about different cultures	0.756
TM3 - I would like to visit the Ao Dai Museum to have an authentic traditional cultural experience at the Ao Dai Museum	0.768
TM4 - I would like to visit the Ao Dai Museum to find special pictures in a Museum tourism destination	0.750
TM5 - I would like to visit the Ao Dai Museum to experience a variety of costumes at the Ao Dai Museum	0.691
Perceived Service Quality (Cronbach's alpha = 0.933)	
PS1 - The exhibition space of the Ao Dai Museum is very impressive and unique.	0.772
PS2 - Are services like toilets and maintenance level of the Ao Dai Museum good?	0.766
PS3 - The content displayed in the Ao Dai Museum is clear and easy to understand.	0.763
PS4 - The exhibitions at the Ao Dai Museum creat a deep connection with culture and history.	0.747
PS5 - The Ao Dai Museum has plenty of additional information, such as glossaries and instructional materials, to help viewers better understand the artifact.	0.778
PS6 - The Ao Dai Museum provides comprehensive information to visitors in many languages.	0.703
PS7 - The artifacts in the Museum are very well-preserved	0.777
PS8 - The staff at the Ao Dai Museum have deep knowledge. of the artifacts.	0.702
PS9 - The staff were very friendly and helpful throughout the tour.	0.779
Visitor loyalty (Cronbach's alpha = 0.902)	
VL1 - It is very likely that I will visit the Ao Dai Museum again	0.687

VL2 - I actively seek information about the Ao Dai Museum before visiting it, especially after the Ao Dai Museum is updated.	0.705
VL3 - I would consider Ao Dai Museum for my future destinations. in the next 6 months.	0.754
VL4 - I would consider Ao Dai Museum for my future destinations in the next 1 year	0.759
VL5 - I will definitely visit Ao Dai Museum again	0.747
VL6 - I will recommend friends and /or relatives to visit Ao Dai Museum.	0.764

Table 4-3 show that culture element has a positive and significant effect on visitor loyalty (β = 0.845, p<0.001). Thus, Hypothesis 1 is supported. Aesthetic has a positive and significant effect on visitor loyalty (β□0.216, p< 0.001). Thus, Hypothesis 2 is supported. Travel motivation has a positive and significant effect on visitor loyalty (β = 0.238, p<0.001). Thus, Hypothesis 3 is supported.

Table 4-4 to Table 4-6 show that Perceived service quality significantly moderates the relationship between cultural elements and visitor loyalty, showing a positive effect (β = 0.073, p < 0.05), thereby supporting Hypothesis 4. Similarly, it plays a significant moderating role in the relationship between aesthetics and visitor loyalty, with a positive effect (β = 0.055, p < 0.05), supporting Hypothesis 5. However, its moderating effect on the relationship between travel motivation and visitor loyalty is not significant, leading to the rejection of Hypothesis 6.

Table 4-3. Multiple Regression results for the relationship between culture elements, aesthetic, travel motivation on visitor loyalty

Independent variable	Dependent variable
	Visitor loyalty
	β
Culture Elements	0.845***
Aesthetic	0.216***
Travel motivation	0.238***
R^2	0.740
Adjusted R^2	0.737
F	188.333***

β: standardized regression coefficient
Note: * p < 0.05, ** p < 0.01, *** p < 0.001, n= 273;

Table 4-4 Multiple Regression results for moderating role of perceived service quality in the relationship between culture elements and visitor loyalty

Independent variable	Dependent variable
	Visitor loyalty
	β
Culture elements	0.747***
Perceived service quality	0.329***
Culture elements * Perceived service quality	0.073*
R^2	0.743
Adjusted R^2	0.740
F	255.711***

Note: * p < 0.05, ** p < 0.01, *** p < 0.001, n= 273;
β: standardized regression coefficient

Table 4-5. Multiple Regression results for moderating role of perceived service quality in the relationship between aesthetic and visitor loyalty

Independent variable	Dependent variable
	Visitor loyalty
	β
Travel motivation	0.447***
Perceived service quality	0.503***
Travel motivation * Perceived service quality	0.053
R^2	0.682
Adjusted R^2	0.0678
F	189.828***

Note: * p < 0.05, ** p < 0.01, *** p < 0.001, n= 273;
β: standardized regression coefficient

Table 4-6 Multiple Regression results for moderating role of perceived service quality in the relationship between travel motivation and visitor loyalty

Independent variable	Dependent variable
	Visitor loyalty
	β
Aesthetic	0.410***
Perceived service quality	0.548***
Aesthetic * Perceived service quality	0.055*
R^2	0.675
Adjusted R^2	0.671
F	183.158***

Note: * p < 0.05, ** p < 0.01, *** p < 0.001, n= 273;
β: standardized regression coefficient

Figure 4-1 demonstrates the moderating effect of perceived service quality on the relationship between cultural elements and revisit & recommendation intention. The graph shows that when perceived service quality is high, the positive relationship between cultural elements and revisit & recommendation intention is stronger. This suggests that service quality enhances the influence of cultural elements on visitor loyalty. Figure 4-2 illustrates a similar moderating effect of perceived service quality on the relationship between aesthetics and revisit & recommendation intention. Visitors who perceive higher service quality exhibit a stronger link between aesthetic appreciation and their intention to revisit and recommend the Museum. This highlights the role of service quality in amplifying the impact of aesthetics on visitor engagement.

Figure 4-1. Moderating effect of perceived service quality on the relationship between culture elements and visitor loyalty

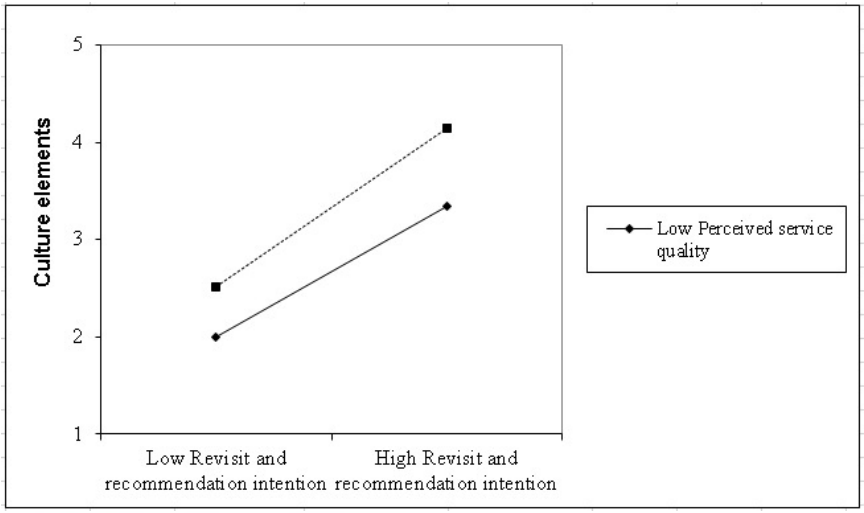
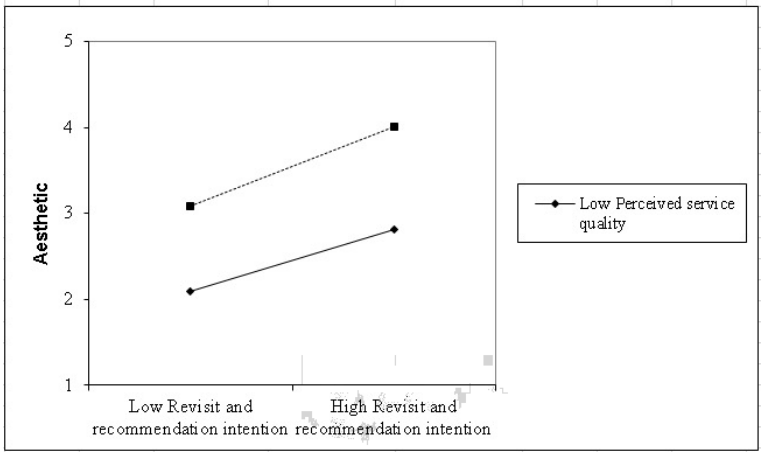


Figure 4-2. Moderating effect of perceived service quality on the relationship between aesthetic *and revisit* & recommendation intention



5. Discussion and Implications

5.1. Discussion

This study highlights the key factors influencing visitor loyalty to the Ao Dai Museum. The findings confirm that cultural elements, aesthetics, and travel motivation all have significant positive effects on visitor loyalty, supporting Hypotheses 1, 2, and 3. Among these factors, cultural elements exhibit the strongest impact, emphasizing the Museum's role in preserving and promoting Vietnamese heritage.

Additionally, the study reveals the moderating role of perceived service quality. It significantly strengthens the relationship between cultural elements, aesthetics, and visitor loyalty, supporting Hypotheses 4 and 5. However, perceived service quality does not moderate the relationship between travel motivation and visitor loyalty, leading to the rejection of Hypothesis 6.

Overall, these results underscore the importance of enhancing cultural experiences, aesthetic appeal, and service quality to foster visitor loyalty. Museums aiming to increase revisit intentions and recommendations should focus on delivering high-quality services while maintaining strong cultural and visual engagement.

The findings confirm that the desire for cultural enrichment and the Museum reputation, service quality management significantly impact visitors' loyalty. While the study successfully identified the key influencing factors, it also revealed that visitor awareness of the Ao Dai Museum is *limited, which poses a challenge to maxi*mizing visitation. The research suggests that enhanced marketing strategies and digital engagement could help overcome this barrier and increase visibility.

5.2. Academic and practical implications

The implications of this study extend to both theoretical and practical domains. For scholars, this study contributes to enriching the knowledge of culture and Museum tourism, particularly in the context of Museums in Vietnam. The findings suggest that further research is needed to clarify the impact of cultural, aesthetic, travel motivation, and perceived service quality factors on visitor loyalty.

Practically, the study insights can guide Museum curators, tourism agencies, and local policymakers in crafting effective strategies to boost visitation. In particular, this should be empha*sized in future promotional efforts. By focusing on both local* and international visitor and showcasing the Museum's connection to Vietnam rich cultural heritage, stakeholders can improve visitation rates.

5.3. Limitations of this study and suggestions for future research

Although this study makes valuable contributions, several limitations should be acknowledged. The sample for this study was limited to 273 visitors, mostly focusing on those who had already visited to visit the Ao Dai Museum. This may not fully capture the perspectives of those who have not yet considered visiting. This study primarily employed surveys, which could have introduced biases in the data collection process, particularly if respondents had limited prior knowledge of the Museum. Future studies could benefit from using a mixed-methods combining quantitative and qualitative interviews with tourist and travel agencies. The research was conducted within a limited time frame, which restricted the possibility of tracking long-term changes in visitor perceptions or analyzing the impact of evolving marketing strategies.

Given these limitations, several directions for future research are recommended. Future research should involve a larger and more diverse sample, including visitor from different regions or countries, to increase the generalizability of the findings. Including non-visitor or those who have not yet visited the Museum may offer more insights into the barriers to visitation. Future studies could investigate additional variables that were not addressed in this research, such as the role of local cultural events or partnerships with other tourism attractions in driving Museum visits. Additionally, examining the impact of environmental sustainability on visitor decisions to visit cultural sites could provide valuable insights.

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Theme: Culture & Heritage

Nuad Thai or Traditional Thai Massage, a UNESCO Recognized Cultural Intangible Heritage: A Tourism Treasure (Paper #005)

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Abstract:

To preserve the footprints of the past as the country's own treasure and identity is a multiple task. Nuad Thai, or a Traditional Thai massage is in the hands of Thai people tagged by UNESCO as a cultural heritage to keep as this is irreplaceable, a source of inspiration and will be passed on to the next generations. For them, it brings pride and a source of livelihood within communities who relies much within the dynamics of Tourism as a sector. Nevertheless, it will always be in the influence of both government and the private to collaboratively work as sectors to continuously protect and preserve whatever tourism gems that are at hand.

Keywords: Nuad Thai, Traditional Thai Massage, UNESCO intangible cultural heritage



The practice of age-old traditional Thai massage, Nuad Thai recently gained global recognition after being included in the list of UNESCO's 'Intangible Cultural Heritage of Humanity'. By Ritika Dixit

1. Introduction

In this era of modern fast phase environment, it is quite challenging to bring the good memories as well as the preservations on the footprints of the past. Regardless of ethnicity one has a story to tell about its own identity through the remains in both tangibles and intangibles. It may be buried through the centuries but it must and should not be forgotten as their will be no beautiful story without the traces of the past.

Heritage is a legacy from the past, what people live with today, and what they pass on to future generations. The cultural and natural heritage are both irreplaceable sources of life and inspiration. The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity (UNESCO, n.d.). To qualify the and be recognized, UNESCO has identified the following categories of intangible cultural heritage: dialects and minority languages; performing arts, music, dance, and theater; rituals, festivals and ceremonies; knowledge and practices concerning nature and the universe; technical knowledge and skills used to produce traditional crafts (UNESCO MED DIET, n.d.)

The Nuad Thai, or a Traditional Thai massage is one of the treasures that is in the possession of Thailand that is tagged by UNESCO such recognition goes with the responsibility to be protected, preserved as this are irreplaceable and a source of inspiration and will be passed on to the next generations. It brings pride and a source of livelihood within communities who relies much from the dynamism of the Tourism. As part of the economy, it enhances and add more values to shape the country as a top tourist destination within Asia. Thus, it gives more reasons why tourists keep on coming back. Indeed, it is a one-of-a-kind tourism offering that attracts, gives pleasure and satisfies to all visiting tourists as well proving memorable experiences that they will cherish once they get back home.

On the contrary, to preserve and maintain the authenticity is a greater challenge to by the Thai people both in public and private sectors particularly in the Tourism sector. The collaborative efforts through its goals, strategy, implementation, and a constant evaluation grounded with political will is another area to consider.

Thus, this study is being conducted to investigate through readings and literature review using secondary data published books, articles, academic articles, conference proceedings, association papers, and dissertations and other digital materials to answer the questions stated in the objective of the study.

2. Literature Review

2.1 Nuad Thai or Traditional Thai Massage as Tourism Cultural Heritage

Cultural heritage can be defined as the legacy of physical artifacts (cultural property) and intangible attributes of a group or society inherited from the past. It is a concept which offers a bridge between the past and the future with the application of particular approaches

in the present. Due to its attached values for these groups or societies, cultural heritage is maintained in the present and bestowed for the benefit of future generations (CEU, n.d.). Further, it is an expression of the ways of living developed by a community and passed on from generation to generation, including customs, practices, places, objects, artistic expressions and values. It is often expressed as either Intangible or Tangible Cultural Heritage. As part of human activity, Cultural Heritage produces tangible representations of the value systems, beliefs, traditions and lifestyles. As an essential part of culture as a whole, Cultural Heritage, contains these visible and tangible traces form antiquity to the recent past (Heritage for Peace, n.d)



Thai Holistic Health Foundation, 2017
EN: This illustration of sen, or energy lines, is among a set of stone inscriptions for public learning on display at Pho Temple since King Rama III (1787-1851) and still considered the most comprehensive repertoire of knowledge of traditional Thai massage.

Nuad Thai or Traditional Thai Massage is firmly rooted in the country's prevailing religion of Buddhism. Legend has it the ancient methodology of Nuad Thai originated in Thailand with the arrival of two Buddhist missionary monks around 3 B.E. (Buddhist Era) or 546 C.E. on the Gregorian calendars. They were sent by the Indian Emperor Asoka and also brought with them the teachings of Chiwaka Komparaphat, Buddha's personal physician. Chiwaka Komparaphat is said to have introduced Buddhist monks to Ayurveda treatment such as herbal remedies, massage therapy, yoga, and meditation (Sandra Sue Hanutsaha, n.d.). The Indian healing system of Ayurveda back also known as Nuad Boran or traditional Thai massage, this practice is rooted in Buddhist teachings and has evolved over time to become the complex and holistic practice that it is today (Nuad Thai Massage School, n.d.). Ayurveda (a Sanskrit word that means "science of life" or "knowledge of life") is one of the world's oldest whole-body healing systems. It was developed more than 5,000 years ago in India and based on the belief that health and wellness depend on a delicate balance between the mind, body, spirit, and environment (Begum, 2023).



When it comes to naming Thai Massage in the Thai language, you'll find that various distinct words and phrases are used, such as Nuad, Nuad Thai, Nuad Boran, Nuad Phaen Boran, or Nuad Phaen Thai. By the way, in the West it's also common to say Thai Yoga Massage, but in Thailand this phrase is barely used (except as a means to attract tourists or massage students). Nuad (simply translates as massage, rub, batter, or knead, amongst some other meanings. Nuad is the most common way in Thailand to talk about massage, Nuad Boran means Ancient Massage or Traditional Massage. That is, boran equals ancient, old, or traditional and The Thai word Phaen means way, style, manner, plan can be translated as massage in the ancient way, ancient manner massage, or traditional style massage, etc. (Marce Ferreira (2023).

A Thai instructor (left) trains his student from Hong Kong (right) at the Wat Po Thai traditional massage school in Bangkok. PHOTO: AFP, The Straight Times.

In Traditional Thai Massage, or Nuad Thai, this is just one of the many elaborate contortions that can occur—and a common one at that. A Nuad Thai practitioner will use their hands and fingers, forearms, elbows, knees, and perhaps even their feet to work the client's body. They may also use hot and cold applications or herbal medicine. All this isn't just to treat a few muscles, but the patient's whole well-being. Further, the practitioner considers a person's entire well-being as understood through two fundamental theories: the Theory of Elements and the Theory of Sen Prathan Sib. While the Theory of Elements tells us that all things consist of the four elements of earth, water, wind, and fire, Sen Prathan Sib says the human body has thousands of invisible sen or channels through which lom or the element of wind (life force or vital energy) is distributed. Ten of these sen are the principal or prathan ones. They radiate from the navel and run through different parts of the body. According to these theories, if lom is blocked in the sen or imbalanced, it will affect the entire body's lom, which will eventually affect the other elements and lead to bodily dysfunction and sickness (Royal Thai Embassy, Tel Aviv, Israel, (n.d).

Likewise, based on the study conducted by Warangkana et. al., (2022) Traditional Thai Massage can provide several benefits to the body and mind, such as reduced pain, stress, and increased quality of life, but there are no data to support sleep quality. The results of the study showed the effect of Traditional Thai Massage by sleep assessment tool. Manual therapeutic massage is a widely utilized form of passive physical therapy with roots in ancient medicinal practices spanning various cultures. Originating as one of humanity's earliest healing methods, these massages involve mechanotransduction, where mechanical forces are applied to the soft tissues. By elevating muscle temperature and blood circulation, massages may enhance muscle flexibility and reduce stiffness (R. Cabanas-Valdés, J. Calvo-Sanz, P. Serra-Llobet, et al., (2021). Traditional Thai Massage is used to address various ailments. The steps for applying Traditional Thai massage for specific conditions are well-documented. For instance, Sucharit et al. have outlined 25 unique steps of traditional Thai massage for treating fibromyalgia (W. Sucharit, N. Roberts, W. Eungpinichpong, et al., 2023). In 2019, Nuad Thai, traditional Thai massage is regarded as part of the art, science and culture of traditional Thai healthcare (UNESCO Intangible Cultural Heritage, n.d.). In general, UNESCO recognition led to a greater awareness leads to a general rise in the level of the protection and conservation given to heritage properties. A country may also receive financial assistance and expert advice from the World Heritage Committee to support activities for the preservation (UNESCO, World Heritage Convention, n.d.)

2.2 Nuad Thai or Traditional Thai Massage as Economic Contributor

In 2019, Thai tourism revenue accounted for $62 billion, while the spa and massage business earned around $900 million with a promising annual growth rate of 8%. Global Wellness Institute has estimated that Thailand is a destination for over 12.5 million tourists coming for health and wellness tourism each year. The government has introduced a policy to promote Thailand as a Spa Capital of Asia. However, Thailand's famous tourist industry has been synonymous with its traditional massage parlors and treatment centers. But the COVID-19 pandemic lockdowns are having a serious impact on the industry and may force foreign takeovers. The continuous lockdowns have impacted savagely on the spa and massage business.

The Thai Spa Association president Krod Rojanastien revealed in an interview with the Manager Newspaper here, that since the pandemic's first wave last year, when tourism traffic came almost to a halt, over 80% of spa and Thai massage businesses have been closed in line with the lockdown orders with job losses of over 200,000 (Pattama Vilailert, 2021). Likewise, Association president Nantawan Chutipongvivate said on Friday that the number of massage employees in Chiang Mai has plummeted by almost two-thirds – from 9,000 pre-Covid to 3,600 now. She explained that many massage practitioners switched jobs or returned to their hometowns during the Covid lockdowns, adding it may now be difficult to get them back. Meanwhile, many massage workers feel the profession does not offer job security as foreign tourists have yet to return in large numbers and they are afraid that a flare-up of Covid-19 could force massage shops to close again. She added that it was hard to find replacements as massage practitioners must be trained before offering services to customers (The Nation, n.d.)

According to the 2024 Massage Profession Research Report published by the American Massage Therapy Association, 61% of consumers seek massage therapy primarily for its medical benefits, including relief from soreness, muscle spasms, and pain. In addition, 56% of consumers utilize massage services for mental health-related benefits, such as relaxation, stress reduction, and overall mental well-being. The growing awareness of both the physical and psychological advantages of massage therapy is expected to significantly drive demand for these services. As consumers increasingly prioritize health and wellness, the dual focus on medical and mental health benefits positions massage therapy as a vital component of holistic healthcare. This trend is likely to boost industry growth, with a broadening consumer base seeking massages not only for relaxation but also for targeted therapeutic outcomes (Grand View Research, n.d.)

2.3 Nuad Thai or Traditional Thai Massage Challenges and Other Issues

Thai massage grew to prominence on the modern stage in the twentieth century, when Bangkok's Nuad Thai School opened in 1962 and went on to train more than 200,000 massage therapists. These disciples of Nuad Thai have spread their knowledge and the health benefits of Thai massage to over 145 countries worldwide, making Nuad Thai a truly global treasure (Chris Alexander, 2020).

Being recognized by UNESCO as an intangible cultural heritage in 2019 and to preserve its authenticity, Thai law prohibits foreigners from working as traditional Thai masseuses (The Nation, n.d.). However, the Charawi Association for the Conservation of Thai Massage (CCM) claims that widespread non-compliance with this regulation is undermining the industry. "There are an estimated 50,000 illegal foreign masseuses in Bangkok alone," said Pitak Yotha, president of the CCM. "This problem is prevalent across the country, particularly in major cities." The association has also called for a simplification of the registration process for Thai massage therapists. Currently, the lengthy and complex procedures are discouraging many qualified individuals from entering the profession.

Another pressing issue highlighted by the CCM is the prevalence of massage establishments offering illicit sexual services. The association has urged the government to impose stricter regulations on the industry, including licensing requirements and penalties for those who violate the law. (The Nation, n.d.) "Right now, in Bangkok alone, approximately 50,000 immigrant workers have been found. They come from Laos, Cambodia, Myanmar, and Vietnam. The situation is similar in other provinces, especially in major big cities," Pitak said. "We would like to have more strict law enforcement to eradicate these kinds of businesses as they damage the reputation and image of Thai massage. If you want to use the word massage to advertise in front your shop, you must ask for permission from officials. Otherwise, the word must be omitted," he said. "It is required that agencies such as the Department of Skill Development or other related agencies help record their numbers. We would like to help provide information, including separating illegal massage shops from the legal ones," he said, emphasising that all parties need to collaborate before Thai traditional massage loses its reputation.

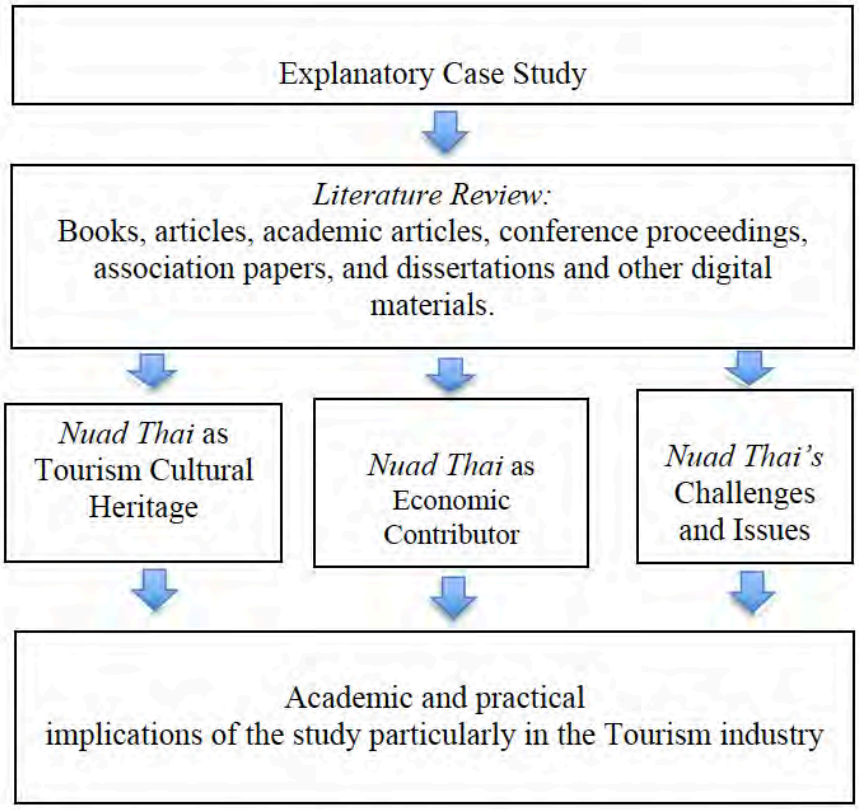
In response, the Department of Thai Traditional and Alternative Medicine acknowledged the challenges facing the industry. Director general Thaweesilp Wisanuyothin said the department was working to streamline the registration process and improve enforcement. He pointed out that currently only 25% of the Thai traditional massage shops in the market are legal. "It is required that agencies such as the Department of Skill Development or other related agencies help record their numbers. We would like to help provide information, including separating illegal massage shops from the legal ones," he said, emphasising that all parties need to collaborate before Thai traditional massage loses its reputation. (The Nation, n.d.)

Although there is a standardized system of training Thai traditional medicine in Thailand the control of medical practice is not well guided by local governmental agencies. (Disayavanish & Subcharoen, 1998). This has led to a situation where laypersons without degrees are practicing Thai traditional massage. Although a legal framework to control of Thai massage medical centers and massage shops is available, the massage is also widely conducted in other settings without control. Also, since Thai traditional massage has ethnic and cultural connections, people tend to accept it out of belief, not knowledge. Standardization of the massage is an issue and when done, it can bring about greater acceptance of the massage system. Strict control of Thai traditional massage governmental agencies is needed and there needs to be standardization of the practice (Viroj Wiwanitkit, 2023). Under the legal framework governing foreign employment in Thailand primarily revolves around the Foreign Business Act (FBA) and the Alien Employment Act. The FBA categorizes business activities into four lists specifically Thai Massage List 1 restricted to Thai nationals only (Acclime, n.d.).

Further, incidents happened that may tarnish the reputation of the massage industry is when a Thai singer Ping Chayada died after receiving three massage sessions, two of which involved neck massage, from a Thai shop in the northeastern province of Udon Thani, and a Singaporean vacationing in Phuket has died shortly after a lengthy body massage at Patong beach, in Kathu district (Bangkok Post, 2024).

3. Methodology

Figure 1. Research Framework



A Case study is a detailed description and assessment of a specific situation in the real world created for the purpose of deriving generalizations and other insights from it. It can be about an individual, a group of people, an organization, or an event, among other subjects (Sanat Pai Raikar, 2023). Explanatory research is a method that explores why something occurs when limited information is available. It can help increase understanding of a given topic, ascertain how or why a particular phenomenon is occurring, and predict future occurrences (Tegan and Mercus, 2023). Further, it is research is a method developed to investigate a phenomenon that has not been studied or explained properly a it gives details about where to find a small amount of information and its goal is to find the why and what of an object of study (Question Pro, n.d). Likewise, a literature or narrative review is a comprehensive review and analysis of the published literature on a specific topic or research question. The literature that is reviewed contains: books, articles, academic articles, conference proceedings, association papers, and dissertations. It contains the most pertinent studies and points to important past and cu rrent research and practices. It provides background and context, and shows how research will contribute to the field (University of Texas, n.d.)

Thus, this case study is being undertaken to answer the following questions:

1. What made Nuad Thai or Traditional Thai Massage recognized by UNESCO as an intangible cultural heritage?
2. What are the economic contributions made by Nuad Thai or Traditional Thai Massage to the Tourism sector?
3. What are the challenges and issues of Nuad Thai or Traditional Thai Massage?
4. What are the academic and practical implications in the Tourism industry?

4. Results

1. Nuad Thai recognized by UNESCO as an intangible cultural heritage.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity (UNESCO, n.d.). To qualify the and be recognized, UNESCO has identified the following categories of intangible cultural heritage: dialects and minority languages; performing arts, music, dance, and theater; rituals, festivals and ceremonies; knowledge and practices concerning nature and the universe; technical knowledge and skills used to produce traditional crafts (UNESCO MED DIET, n.d.)

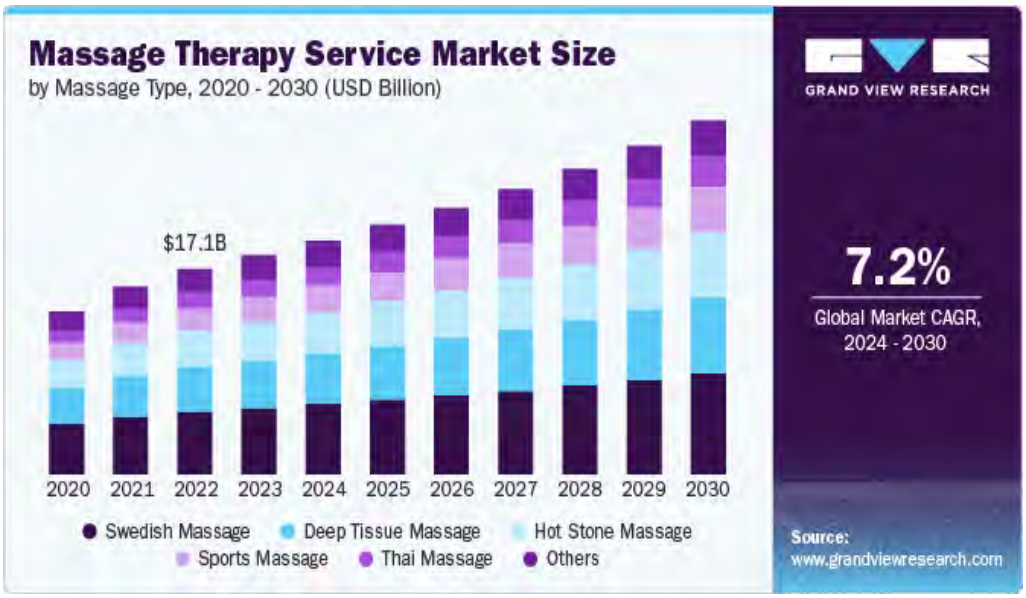
Given its rich history, traditions and profound ties to Thai spirituality, the monarchy, and the community, Nuad Thai or Traditional Massage was inscribed on UNESCO's Representative List of the Intangible Cultural Heritage of Humanity on December 12th, 2019, joining Thailand's Khon masked dance drama, which was inscribed in 2018 (Sandra Sue, n.d)

Presently, Nuad Thai or Traditional Thai Massage is classified into two main types: Nuad Thai therapy and Nuad Thai for health promotion. Nuad Thai has its roots in self-care in Thai peasant society of the past; every village had massage healers whom villagers would turn to when they had muscle aches from working in the field. Over time, these experiences have evolved into a formal system of knowledge, and Nuad Thai is now an income-generating occupation (UNESCO, Intangible Cultural Heritage, n.d)

2. Economic contributions made by Nuad Thai to the Tourism sector.

In 2019, Thai tourism revenue accounted for $62 billion, while the spa and massage business earned around $900 million with a promising annual growth rate of 8%. Global Wellness Institute has estimated that Thailand is a destination for over 12.5 million tourists coming for health and wellness tourism each year. The government has introduced a policy to promote Thailand as a Spa Capital of Asia. However, Thailand's famous tourist industry has been synonymous with its traditional massage Parlors and treatment centers. But the COVID-19 pandemic lockdowns are having a serious impact on the industry and may force foreign takeovers. The continuous lockdowns have impacted savagely on the spa and massage business (Pattama Vilailert, 2021).

Figure 2. Massage Therapy Global Market Size



Source: Grand View Research

According to the 2024 Massage Profession Research Report published by the American Massage Therapy Association, 61% of consumers seek massage therapy primarily for its medical benefits, including relief from soreness, muscle spasms, and pain. In addition, 56% of consumers utilize massage services for mental health-related benefits, such as relaxation, stress reduction, and overall mental well-being. The growing awareness of both the physical and psychological advantages of massage therapy is expected to significantly drive demand for these services. As consumers increasingly prioritize health and wellness, the dual focus on medical and mental health benefits positions massage therapy as a vital component of holistic healthcare. This trend is likely to boost industry growth, with a broadening consumer base seeking massages not only for relaxation but also for targeted therapeutic outcomes. The massage therapy service market in Asia Pacific accounted for the revenue share of 22.67% in 2023. Countries like Thailand, Indonesia, and India are recognized globally for their rich heritage in massage therapy, attracting both local and international clients. This cultural appreciation for therapeutic techniques is driving the expansion of wellness tourism, where travelers seek authentic experiences that include traditional massages in luxurious resort settings. The influx of wellness tourists is encouraging local establishments to enhance their service offerings, leading to a proliferation of spas that incorporate indigenous healing practices (Grand View Research, n.d.). In addition, the Public Health Ministry will develop Nuad Thai as a traditional medical science for the maximum benefit of Thai people, including relieving and curing symptoms and making it a profession for Thais (Anutin, 2019).

3. Challenges and issues of Nuad Thai or Traditional Thai Massage being an intangible cultural heritage.

Being recognized by UNESCO as an intangible cultural heritage in 2019 and to preserve its authenticity, Thai law prohibits foreigners from working as traditional Thai masseuses (The Nation, n.d.). Along with this recognition, some issues as area of concerns that needs to be taken into considerations, as follows:

a) According to Charawi Association for the Conservation of Thai Massage (CCM), there is widespread non-compliance with this regulation is undermining the industry with an estimated 50,000 illegal foreign masseuses in Bangkok alone," as this problem is prevalent across the country, particularly in major cities."

b) The association has also called for a simplification of the registration process for Thai massage therapists. Currently, the lengthy and complex procedures are discouraging many qualified individuals from entering the profession.

c) The prevalence of massage establishments offering illicit sexual services. The association has urged the government to impose stricter regulations on the industry, including licensing requirements and penalties for those who violate the law.

d) Although there is a standardized system of training Thai traditional medicine in Thailand the control of medical practice is not well guided by local governmental agencies (Disayavanish & Subcharoen, 1998). This has led to a situation where laypersons without degrees are practicing Thai traditional massage (Viroj Wiwanitkit, 2023)

e) Many massage workers feel the profession does not offer job security on a situation which directly related to Covid-19 pandemic. Likewise, it is hard to find replacements as massage practitioners must be trained before offering services to customers (The Nation, n.d.)

f) Given the reputation of Thai traditional massage, there is a need for many Thai massage workers, not only in Thailand but also worldwide. The demand for skilled masseuses is driving up prices, causing Thai professional masseuses increasingly flocking to work abroad (The Nation, n.d.)

5. Discussion and Implications

5.1 Discussion

In today's modern and fast phase environment faced by the Tourism sector is the preservation on the authenticity of the cultural heritage as a treasure. The dynamics in the sector considering that tourists may come and go greatly influence to every tourism component as they operate independently. Further, some factors may also be considered such as; planning, program development, short- or long-term implementations and most of all consistent evaluations if and when the goals are being achieved otherwise, some corrective actions shall be put in place.

5.2 Academic and practical implications to the preservations of Nuad Thai or Traditional Thai Massage.

The output of this study may provide some insights and create new ideas to other segments of the society particularly to the following sectors:

a) The government as the regulating body – being the policy formulator and the implementor of the programs must also periodically evaluating the consistency on the implementations particularly industry stakeholders on the preservation on the authenticity of the Nuad Thai or Traditional Massage. Likewise, despite of standardized rules giving corrective measures to the violators that deviates the standards shall also be in place.

b) The tourism sectors as the private institutions – who will consistently cooperate with the government set of rules and refrain from any deviations to cause and tarnish the image as well as the reputation of the Nuad Thai or the Traditional Massage as an economic value that provides job opportunity and economic benefits to the community and the society in general.

c) The academic institutions – are producers of the workforce of the tourism sectors by forming not only being a skilled and competent worker but groomed to become leaders but to also instilling the value of appreciating the history of the past as wealth to be kept and protected. Likewise, the academicians, researchers who are knowledge providers by continuously providing an updated comprehensive and significant information by conducting research that may serve as a jumpstart to a concrete plan of actions for the preservation of the authenticity of the Nuad Thai or traditional massage that gives economic benefits to the industry and the society as a whole.

5.3 Limitations of this study and suggestions for future research.

This study was conducted between the last quarter of 2024 and early part of the 1st quarter of 2025. The framework of the study was designed (see fig. 1) to provide the bigger picture on what are the processes being undertaken to achieve the expected output, by using limited secondary data within the limitations of articles and published materials pertaining to this topic thus, Explanatory Research method was applied. However, it's up to the future researchers to conduct tests new theories and establishes cause-and-effect relationships between different study variables. It usually involves several data collection methods, including surveys, interviews, experiments, and observation (Dovetail, 2023).

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The Role of Domestic Tourists in Heritage Regeneration (Paper#042)

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Abstract:

This study explores the role of domestic tourists in heritage regeneration, focusing on Malaysia's World Heritage Sites (WHS) since most literature focuses on local communities and international tourists. A purposive sampling method and a quantitative research method were used, and questionnaires were distributed to the targeted population. The findings revealed that value on regeneration positively influenced attitude and norms. Also, attitude, social, and subjective norms mediated the relationship between the value of regeneration and participation behaviour.

Keywords: attitude, domestic tourist, heritage tourism, norms, value on regeneration

1. Introduction

The global heritage tourism market was valued at USD 604.38 billion in 2024 and is projected to expand at a compound annual growth rate (CAGR) of 4.5% between 2025 and 2030 (Grand View Research, 2025). Heritage tourism and regeneration are deeply interconnected, as both aim to preserve and sustain cultural and historical landmarks while ensuring they remain relevant in the modern world (Dredge, 2022). Tourism is vital to heritage regeneration, and it generates revenue through entrance fees, guided tours, and local businesses, which can be reinvested into revitalisation projects. This financial support enables the restoration and adaptive reuse of heritage sites, ensuring they remain functional and accessible. Additionally, increased tourism fosters greater awareness and appreciation of cultural heritage, justifying the need for preservation efforts (Lim et al., 2023). Heritage regeneration helps mitigate these risks by implementing sustainable tourism models, improving infrastructure, and enforcing visitor management strategies. By carefully balancing economic benefits with cultural preservation, regeneration ensures that heritage sites do not lose their historical significance while continuing to attract tourists (Mahmood et al., 2021). A key aspect of heritage regeneration is community involvement. Local communities play a crucial role in maintaining and promoting heritage sites, and their participation in decision-making processes ensures that development aligns with cultural values and traditions (Blackie et al., 2023; Mtani et al., 2023). Sustainable regeneration efforts also create employment opportunities, support local businesses, and promote traditional crafts, strengthening the socio-economic fabric of the area. Ultimately, heritage regeneration

ensures that cultural landmarks are preserved, revitalised, and renewed for future generations. By integrating sustainable tourism practices and involving local stakeholders, heritage sites can continue to thrive as valuable cultural assets while contributing to economic growth and cultural awareness (Hu et al., 2024; Kabir & Hassan, 2024).

There is a noticeable gap in the existing body of literature regarding the role and significance of domestic tourists in heritage tourism. While much research has focused on local communities and international tourists as key contributors to the heritage tourism market, domestic tourists often receive less attention despite their substantial impact on the regeneration of heritage sites (Farhana Nasir et al., 2020; Kifworo et al., 2020). Domestic tourists visit heritage sites more frequently than international visitors, contributing to year-round tourism revenue rather than seasonal peaks. Their consistent presence can help stabilise local economies, particularly in regions where international tourism fluctuates due to external factors such as economic downturns, political instability, or global crises like pandemics (Wickramasinghe & Naranpanawa, 2020). Moreover, domestic tourists often have a stronger cultural and emotional connection to heritage sites, as these places may hold personal or historical significance within their national identity. This more profound attachment can lead to more excellent advocacy for heritage preservation, encouraging responsible tourism behaviours and participation in conservation initiatives. Additionally, domestic tourism fosters local pride and strengthens cultural continuity by allowing communities to engage with and appreciate their heritage (Boussaa & Madandola, 2024; Nopiyani & Wirawan, 2021).

Despite these advantages, research on heritage tourism frequently overlooks domestic tourists when assessing market trends, visitor motivations, and policy development. Many tourism strategies prioritise attracting international visitors, often at the expense of programmes that could enhance domestic tourism experiences (Abdul Aziz et al., 2023; Hang & Arifin, 2021). Addressing this gap in the literature is crucial for developing more balanced and sustainable heritage tourism models that recognise the value of domestic visitors in heritage regeneration efforts. Using the Value-Attitude-Behaviour (VAB) paradigm, this study examined domestic tourists' value, attitude, norms, moral obligation, and participation behaviour related to heritage regeneration to address their motivation on a deeper level. It should be noted that researchers, academicians, and policymakers are all essential to this process. This study recognises that increasing research looks at people's psychological traits in the heritage tourism sector (Li et al., 2024). This leads to the research questions: (a) How does the value on regeneration influence attitude, norms, and moral obligation in heritage regeneration participation behaviour? (b) How do attitude, norms, and moral obligation mediate the relationship between the value on regeneration and heritage regeneration participation behaviour? Thus, this research intends to fill the literature gaps in addressing the domestic tourists' role from a behavioural perspective.

2. Literature Review and Hypothesis Development

2.1. Value-Attitude-Behaviour theory

The Value-Attitude-Behaviour (VAB) model emphasises that an individual's values which are abstract and serve as the cornerstone that translates to their attitudes and finally develop as specific behaviours. Homer and Kahle (1988) state that a person's values determine their attitudes, which are thought to be more unpredictable and erratic. Subsequently, a person builds on their ideals and attitudes to exhibit actual behaviour. This VAB model was tested initially in the study, which examined the interrelationships among value, attitude, and behaviour of natural food consumers. Values are core concepts considered strengths or shortcomings, moral or immoral, or worthy of sacrifice. They are more resistant to change than beliefs, and a person usually needs to undergo a transformative life experience to change their values (Lee, 2019; Teng et al., 2014). Human action and behaviour are significantly shaped by their intrinsic values, which are formed early in life (Kabir & Hassan, 2024). Some studies highlight that a person's core values start developing in their mother's womb and are shaped after birth through interaction with family, education, community, and society (Sagiv et al., 2017; van den Heuvel, 2022).

Attitudes are immediate reactions toward a conviction or an item and are usually more easily and regularly changed (Vaske & Donnelly, 1999). A person's behaviour or belief is based on past experiences and not automatically formed based on logic or facts, influencing their beliefs on political, economic, and religious issues. Behaviour or belief also serve as reference points through which individuals interpret their surroundings (Kim & Hall, 2022; Tan, 2011). Studies indicate that attitude alone does not affect behaviour, but the behaviour is affected by other factors like personal and social norms (Kim et al., 2020; Kim, Hall, et al., 2021; Van Tonder et al., 2023). Subsequently, researchers integrated different theories, such as combining the VAB model with the Value-Belief-Norm (VBN) model to examine the characteristics of personal value, moral obligation, and subjective norm on pro-environmental behaviour (Bhattacharyya et al., 2020; Engel et al., 2020). The VAB model has been extensively used in numerous fields such as active sports, sustainable transport, green purchase, sustainable crowdfunding, veganism, sustainable fine dining, tourist biosecurity behaviour, and many more (Brouwer et al., 2022a; Fatoki, 2023; Hu et al., 2023; Kabir & Hassan, 2024; Kim, Bonn, et al., 2021; Kim & Hall, 2021, 2022; Kwon & Namkung, 2022; Liu et al., 2023; Palmieri et al., 2024). Therefore, researchers have constantly studied the interplay and linkages between value, attitude, norms, moral obligation, and behaviour variables.

2.2. Participation Behaviour

This study used the VAB model to examine how domestic visitors behave regarding heritage regeneration. Participation behaviour includes locals and more general entities like state authorities, NGOs, government organizations, and other stakeholders (Foroughi et al., 2023; Zhu et al., 2019). It was observed that there is limited research focusing on domestic tourists' behavioural

patterns concerning WHS regeneration in Malaysia. The affiliation between domestic tourists and heritage regeneration is strengthened and improved through group activities that involve heritage renewal and revitalisation. Additionally, communal activities foster social cohesion, inclusivity, and trust, building a close bond between the populace and the government. Studies by Eppich et al. (2019) and Phua and Tan (2023) supported that participation in such activities cultivates a sense of ownership and responsibility, ensuring the continued survival of heritage sites. Kifworo et al. (2020) emphasised the role of domestic tourists as a critical factor in maintaining and safeguarding heritage for future generations. Similarly, Oladipo et al. (2022) emphasised the active participation of local communities. This behaviour is becoming more widely acknowledged as a crucial aspect of consumer behaviour beyond conventional buying habits (Li & Romainoor, 2024). It was seen that consumer behaviour has historically concentrated on how customers behave and participate in creating and distributing goods and services (Palmieri et al., 2024). Nevertheless, domestic tourists' active engagement in heritage regeneration offers an enhanced and elevated context in understanding consumer behaviour. The goal of heritage regeneration is to revitalise, repurpose or renew these locations without sacrificing their Outstanding Universal Value (OUV). This is essential in response to challenges such as gentrification, excessive tourism, and social exclusion (Dousin et al., 2024; El Faouri & Sibley, 2024).

2.3. Value on Regeneration

The importance that people place on behaviours, strategies, or initiatives that promote long-term regeneration initiatives is known as value on regeneration (El Faouri & Sibley, 2024; Kim & Hall, 2021). It forecasts how a customer will feel and act about environmental initiatives. Numerous investigations have delved into the interplay between values, attitudes, and behaviours within the sustainability and pro-environmental framework (Chang et al., 2020; Cheung & To, 2019; van Tonder et al., 2020). Firstly, these studies indicate how values significantly affect attitude, personal, and social norms which motivate individuals to adopt sustainable practices. Further to this, subjective norms, which refer to the perceived social pressures to engage in green behaviour, are also driven by pro-environmental values (Dorce et al., 2021; Wang et al., 2022). Lastly, moral obligation was also crucial in shaping personal values toward green behaviour (Floriano & de Matos, 2022; Lin et al., 2022). Therefore, based on previous studies, the following hypotheses were developed:

H1. Value on regeneration has a positive effect on attitude toward heritage regeneration participation behaviour.
H2. Value on regeneration has a positive effect on personal norms toward heritage regeneration participation behaviour.
H3. Value on regeneration has a positive effect on social norms toward heritage regeneration participation behaviour.
H4. Value on regeneration has a positive effect on subjective norms toward heritage regeneration participation behaviour.

H5. Value on regeneration has a positive effect on moral obligation toward heritage regeneration participation behaviour.

2.4. Attitude

A fundamental element of many behavioural models, an attitude refers to people's positive or negative views about any aspect of reality (Kim & Hall, 2021). In the VAB model, attitudes frequently serve as the "bridge" that converts individual ideals into practicable actions, emphasising their crucial function in forecasting and shaping sustainable behaviour. The 1988 study by Homer and Kahle confirms that behaviour and values are not directly related. Value, on the other hand, has a direct impact on attitude, which in turn determines behaviour. Numerous pro-environmental research has further investigated this association, indicating the critical significance of attitude (Brouwer et al., 2022; Kwon & Namkung, 2022). The following hypothesis was put up in this paper based on these studies:

H6. Attitude mediates the relationship between value on regeneration and heritage regeneration participation behaviour.

2.5. Norms

In the VAB model, norms were also discovered to be significant predictors (Kim & Hall, 2022; Van Tonder et al., 2023). These standards comprise personal, social, and subjective norms. A person's internalised desire to engage in or refrain from performing behaviour based on their views and values is known as their personal norm (Elgammal et al., 2024; Kim et al., 2024). Personal norms can be distinguished from social norms because they originate from an individual's value system rather than outside societal influences. Social norms in pro-environmental environments frequently reflect societal ideals related to sustainability, impacting people's perceptions and actions about environmental issues (Champine et al., 2023). A person's perception of societal pressures to engage in or abstain from a particular behaviour and an incentive to do so is known as subjective norms (Ajzen, 2020). The following theories are based on several studies that looked at the relationship between value and personal, social, and subjective norms, whereby the following hypotheses were proposed:

H7-9. Norms mediate the relationship between value on regeneration and heritage regeneration participation behaviour.

2.6. Moral Obligation

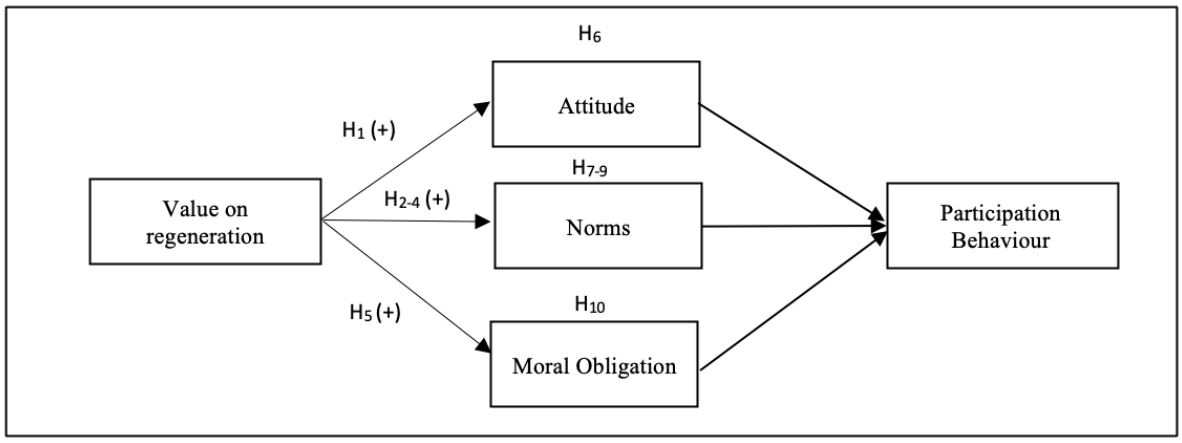
A person's internalised sense of duty or responsibility to act in a way consistent with their personal ideals and society's ethics is known as their moral obligation. Based on an internal sense of "rightness" or "wrongness," it represents one's ethical commitment to act or refrain from doing (Wu et al., 2021). Moral duty is motivated by outwardly acceptable ethical standards

and a sense of accountability, as opposed to subjective norms, which are internally developed and reflect perceived social pressures to act in a particular way. The following hypothesis was put forth after several other research studies concluded that moral obligation and value are positively correlated:

H10. Moral obligation mediates the relationship between value on regeneration and heritage regeneration participation behaviour.

These hypotheses are captured in Figure 1.

Figure 1. Research Model of Study



Source: Own Elaboration

3. Methodology

3.1. Measurement

In this study, the quantitative research approach was used, and the primary means of gathering data were answers to the disseminated questionnaire. There were three sections to the questionnaire. The qualifying questions were the first part, which is information about WHS visits inside and outside of Malaysia to qualify the respondents as domestic tourists and individual support for the SDGs. The second section was the respondents' demographic profile. The constructs were value on regeneration, attitude, personal norms, social norms, subjective norms, moral obligation, and participation behaviour which comprised the last section. Thirty-four items were measured on a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7), whereby a purposive sampling method was used (Sarstedt et al., 2022). Since the questions were adapted from previous research, carrying out a pre-test was deemed unnecessary.

3.2. Data collection

50 people participated in a pilot test of the questionnaire for this study, and feedback was gathered to improve it even further. All of the constructs' Cronbach Alpha values were over 0.70, according to Smart PLS 4.0, suggesting a strong connection between the constructs' elements. The sample size in this study was 500 people, which is higher than the required number. A bigger sample size is more representative of the population and produces a narrower margin of error (Sarstedt et al., 2022). The questionnaires were distributed in busy tourist places around Malaysia.

4. Results

4.1. Profile of the respondents

The findings revealed 211 males, accounting for 42.2%, and 289 females, making up 57.8% of the total respondents. Among the respondents, the majority were aged between the ages 30 and 39 (196, 39.2%) and had a degree (330, 66.0%). Most of the respondents were married (278, 55.6%) and had a household income ranging from RM3,001 to RM8,000 (203, 40.6%), followed by those earning between RM8,001 to RM15,000 (195, 39.0%). The study revealed that 158 participants (31.6%) were working in the service sector, 94 participants (18.8%) were professionals, and 84 participants (16.8%) were either entrepreneurs or self-employed. Data was collected from each Malaysian state based on their population ratio to ensure an equitable population representation. The highest population was from Selangor (118, 23.6%), Johor (63, 12.6%) and Perak (49, 9.8%).

The study further found that most participants have visited both George Town and Malacca: (459, 91.8%) and (483, 96.6%) respectively. In addition, 30.4% of the participants (152 respondents) reported visiting Kinabalu Park, while 8.6% (43 respondents) visited Gunung Mulu National Park, and 5.6% (28 respondents) visited the Archaeological Site of Lenggong Valley in Perak. It was discovered that 173 participants (representing 34.6%) had visited WHS outside of Malaysia. Lastly, the three main SDGs which the respondents expressed personal concern about were: SDG 1, which is eradicating poverty (21.2%); SDG 13, which addresses climate change (17.6%); and SDG 16, which aims to promote a peaceful and inclusive society and eliminate violence (10.2%). Only 2% of the respondents were concerned with SDG 11, which focuses on 'Sustainable Cities and Communities' and contains Target 11.4. These results are captured in Table 1 and Table 2.

4.2. Results of analysis

Following this, the measurement model was assessed to ensure the validity and reliability of the constructs. The factor loadings for each construct were > 0.70. The Cronbach's alpha and Dijkstra-Henseler's rho_A for all items were> 0.70, indicating that the reflective constructs exhibited reliability and were within acceptable levels (Benitez et al., 2020). The convergent validity was then assessed. All constructs' average variance extracted (AVE) was above 0.50.

The discriminant validity of the constructs was also examined using the Heterotrait-Monotrait ratio (HTMT), which was acceptable and below the threshold of 0.85 (Hair et al., 2021; Henseler & Schuberth, 2020). In order to analyse the common method bias, Harman's one-factor test (an unrotated factor solution) was implemented. The results indicated an explained variance of 31.53%, which was lower than the cut-off value of 50%. Therefore, common method bias was not an issue in this study (Podsakoff et al., 2012).

Following this, the bootstrapping process was employed to assess the robustness and significance of the relationships within the structural model. This method involved resampling the data set multiple times to generate estimates of the suggested linkages between the components. Through this iterative process, the model produced path coefficients, which indicate the strength and direction of the relationships, and the corresponding t-statistics, which determine the statistical significance of these connections. This approach helped validate the hypothesised relationships and ensured the reliability of the structural model's evaluation. Table 3 outlines the results of the path coefficients or beta (β) values, t-values, and p-values derived from the bootstrapping technique with 5000 resamples employing a two-tailed test. Figure 2 displays the structural model.

Table 1. Demographics of Respondents.

Characteristics	N = (500)	(100) %
Gender		
Male	211	42.2
Female	289	57.8
Age		
Less than 20 years old	21	4.2
20-29 years old	170	34.0
30-39 years old	196	39.2
40-49 years old	80	16.0
50-59 years old	31	6.2
60 years old and over	2	0.4
Highest Level of Education		
Less than high school or high school diploma	88	17.6
Degree	330	66.0
Master/PhD	75	15.0
Post-doctoral degree	7	1.4
Marital Status		
Single	191	38.2
Married	278	55.6
Divorced/Separated	25	5.0

Widow(er)	6	1.2
Monthly Household Income		
Less than RM3,000	37	7.4
RM3,001-RM8,000	203	40.6
RM8,001-RM15,000	195	39.0
RM15,001-RM30,000	46	9.2
More than RM30,001	19	3.8
Main Occupation		
Professional	94	18.8
Entrepreneur/Self-employed	84	16.8
Service employee	158	31.6
Office/Administrative/Clerical	37	7.4
Civil Servant (Government)	64	12.8
Homemaker	8	1.6
Student	47	9.4
Unemployed	7	1.4
Retiree	1	0.2
Residential State		
Perlis	5	1.0
Kedah	33	6.6
Perak	49	9.8
Pulau Pinang	28	5.6
KL	35	7.0
Putrajaya	5	1.0
Selangor	118	23.6
Negeri Sembilan	18	3.6
Malacca	15	3.0
Johor	63	12.6
Kelantan	22	4.4
Terengganu	18	3.6
Pahang	28	5.6
Sabah	24	4.8
Sarawak	34	6.8
Labuan	5	1.0

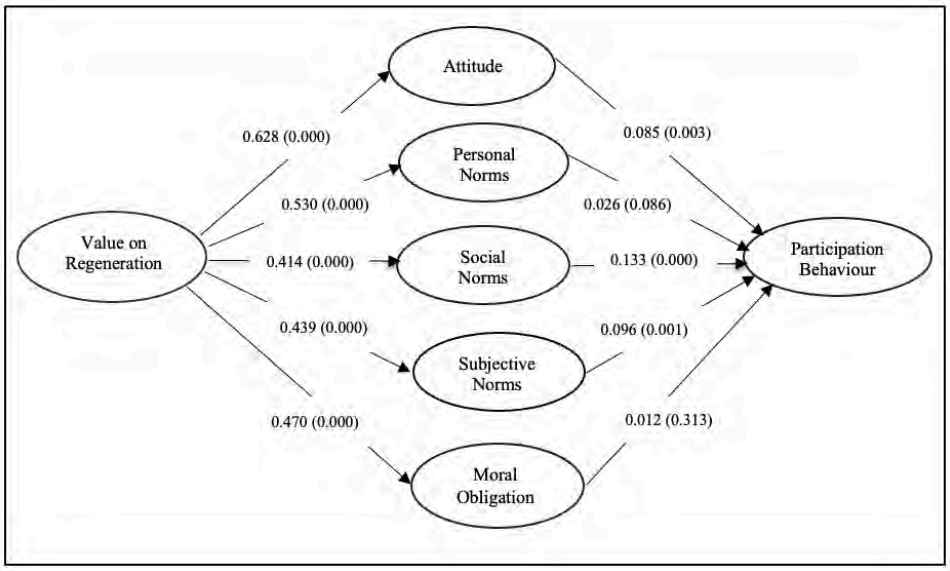
Source: Elaboration from SPSS 26.0

Table 2. Respondents' WHS Visitation and SDG Affiliation.

Characteristics	n (500)	% (100)	Characteristics	n (500)	% (100)
Have you visited any of the UNESCO Heritage Sites in Malaysia?			***Respondents' area of concern towards one (1) of the 17 SDGs***		
George Town			SDG 1: No poverty	106	21.2
Yes	459	91.8	SDG 2: Zero hunger	35	7.0
No	41	8.2	SDG 3: Public health and well-being	24	4.8
Malacca					
Yes	483	96.6	SDG 4: Inclusive and equitable quality education	16	3.2
No	17	3.4			
Kinabalu Park			SDG 5: Gender equality/empowerment for women and girls	31	6.2
Yes	152	30.4			
No	348	69.6			
Gunung Mulu National Park			SDG 6: Clean water and sanitation	10	2.0
Yes					
No	43	8.6	SDG 7: Sustainable energy		
Lenggong Valley	457	91.4	SDG 8: Green business practices/Employment	16	3.2
Yes					
No	28	5.6	SDG 9: Sustainable infrastructure and environmentally sound technologies	12	2.4
Have you visited any of the UNESCO Heritage Sites outside of Malaysia?	472	94.4		14	2.8
Yes					
No	173	34.6	SDG 10: Reduce socio-economic inequalities in developing countries	35	7.0
	327	65.4			
			SDG 11: Safe and sustainable cities and communities		
			SDG 12: Waste reduction and recycling	10	2.0
			SDG 13: Climate change		
			SDG 14: Life below water	48	9.6
			SDG 15: Life on land		
			SDG 16: Promoting peaceful and inclusive societies and reducing violence	88	17.6
				2	0.4
			SDG 17: Global Partnership	-	-
			None of the above	51	10.2
				1	0.2
				1	0.2

Source: Elaboration from SPSS 26.0

Figure 2. Results of Assessment of the Structural Model



Source: Elaboration from PLS-SEM 4.0

The findings of the direct hypotheses testing showed that value on regeneration had the most significant impact on attitude (ß = 0.628, t = 20.04; p < .005), followed by personal norms (ß = 0.530, t = 13.65; p < .005), moral obligation (ß = 0.470, t = 12.51; p < .005), subjective norms (ß = 0.439, t = 9.73; p < .005), and social norms (ß = 0.414, t = 8.25; p < .005). The findings validated every theory, hence bolstering the theoretical framework proposed in this study. Therefore, the hypotheses H1, H2, H3, H4, and H5 were supported, which is shown in Table 3.

Table 3. Direct Hypothesis Testing Results.

Hypo	Relationship	Path coefficient	T statistics (|O/STDEV|)	P values	CI 5.0%	CI 95.0%	Decision
H_1	Value -> **Attitude**	0.628[1]	20.038	**0.000**	0.576	0.576	Supported
H_2	Value -> **Personal Norms**	0.530[2]	13.646	**0.000**	0.465	0.592	Supported
H_3	Value -> **Social Norms**	0.414[5]	8.245	**0.000**	0.331	0.495	Supported
H_4	Value -> **Subjective Norms**	0.439[4]	9.732	**0.000**	0.363	0.512	Supported
H_5	Value -> **Moral Obligation**	0.470[3]	12.512	**0.000**	0.407	0.531	Supported

Note: Statistically significant values are marked in bold.
Source: Own Elaboration from PLS-SEM 4.0

The indirect or mediation effects for the hypotheses H6 to H10 were tested. It was found that attitude, social norm, and subjective norm had significant mediation effects on participation behaviour, that is, value on regeneration -> attitude -> participation behaviour (t = 2.729; p = 0.003), value on regeneration -> social norm -> participation behaviour (t = 3.511; p = 0.000), and value on regeneration -> subjective norm -> participation behavior (t = 3.008; p = 0.001). However, it was observed that value on regeneration -> personal norm -> participation behavior (t = 0.705; p = 0.240) and value on regeneration -> moral obligation -> participation behavior (t = 0.487; p = 0.313) were not significant. Therefore, hypotheses H6, H8, and H9 were supported, whereas H7 and H10 were not supported. The results of the mediation effects showed that social norm had the strongest mediation effects, followed by subjective norm and attitude, which is illustrated in detail in Table 4.

Table 4. Results of Mediation Effects.

Hypo	Relationship	Path coefficient	T statistics (|O/STDEV|)	P values	CI 5.0%	CI 95.0%	Decision
H_6	CQ1. Value on Regeneration -> **CQ2. Attitude** -> CQ9. Participation Behaviour	0.085[3]	2.729	**0.003**	0.036	0.139	Supported
H_7	CQ1. Value on Regeneration -> **CQ3. Personal Norms** -> CQ9. Participation Behaviour	0.026	0.705	0.240	-0.034	0.086	Not Supported
H_8	CQ1. Value on Regeneration -> **CQ4. Social Norms** -> CQ9. Participation Behaviour	0.133[1]	3.511	**0.000**	0.073	0.199	Supported
H_9	CQ1. Value on Regeneration -> **CQ5. Subjective Norms** -> CQ9. Participation Behaviour	0.096[2]	3.008	**0.001**	0.043	0.148	Supported
H_{10}	CQ1. Value on Regeneration -> **CQ6. Moral Obligation** -> CQ9. Participation Behaviour	0.012	0.487	0.313	-0.027	0.056	Not Supported

Note: Statistically significant values are marked in bold.
Source: Own Elaboration from PLS-SEM 4.0

5. Discussion and Implications

5.1. Discussion

Value and behaviour did not directly correlate, according to earlier research. However, through attitude, value influences behaviour in an indirect relationship (Chen & Tung, 2014; Kim & Hall, 2022). Additionally, prior research indicates that the VAB model needs further development to describe consumer behaviour adequately. In order to explain heritage regeneration participation behaviour, this study confirms this by extending the VAB and adding the additional norms and moral obligation variables. The findings imply that participation behaviour in heritage regeneration was not mediated by domestic tourists' personal norms or moral obligation. This

suggests that the majority of domestic tourists might still be disengaged from heritage regeneration initiatives, which could be brought on by a dearth of public awareness campaigns or a lack of stakeholder representation. The 2023 United Nations report indicates that poor implementation of legal frameworks limits the ability to safeguard these WHS, eventually leading to their deterioration over time (United Nations, 2023). Malaysians' preference for economic growth over heritage regeneration initiatives could be another factor. This is also seen in the research findings which showed low visitation to heritage sites like Kinabalu Park, Mulu National Park, and the Archaeological Heritage Site in Lenggong Valley. Social and subjective norms drove behavioural changes toward local heritage regeneration efforts. Therefore, this study makes a novel contribution in incorporating these variables in the VAB framework, which reinforces that policymakers should leverage broader societal values and belief systems to foster positive collaboration in heritage regeneration projects.

5.2. Academic and practical implications

In the face of social pressures and economic development, heritage managers face difficulties maintaining and protecting historic places. A favourable environment for managing and maintaining heritage sites in the Asia-Pacific region can be created by encouraging and establishing social entrepreneurial behaviour through the ongoing review and implementation of suitable policies and projects (Law et al., 2024; Ugong et al., 2024). For instance, in George Town and Melaka (Malaysia), initiatives such as the George Town World Heritage Incorporated have supported local businesses and artisans in maintaining traditional crafts while ensuring sustainable economic opportunities (GWTHI, 2024). Similarly, in Luang Prabang, Laos, the local government has partnered with UNESCO to implement strict building regulations that maintain the city's historic architecture while promoting heritage-based tourism to benefit the local community (Somsamone, 2023). Aside from that, several ways exist to encourage and improve heritage regeneration participation behaviour, including fortifying the existing frameworks for heritage protection, encouraging local participation in revitalisation and renewal efforts, and cultivating collaborations between public and private entities, non-governmental organisations (NGOs), and government agencies.

For example, in Kyoto, Japan, the city has introduced financial incentives and tax reductions for property owners who restore and maintain traditional machiya houses rather than replacing them with modern buildings (Kyoto-Machisen, 2025). In Hoi An, Vietnam, authorities have established an entry fee system for tourists, with revenues directed toward conservation efforts and community projects, ensuring that local residents see the benefits of heritage preservation (Thanh, 2023). Meanwhile, in Australia's Great Barrier Reef region, Indigenous communities have collaborated with environmental and heritage organisations to develop sustainable tourism models that both protect the reef and preserve Indigenous cultural sites (GBR Restoration, 2024). This suggests that well-designed government interventions incorporating strategic projects to tap into an individual's belief system are necessary to foster a collective commitment toward heritage regeneration. By integrating these approaches, countries in the Asia-Pacific region can create a more inclusive and effective heritage regeneration framework that balances economic growth with the preservation of cultural identity.

5.3. Limitations of this study and suggestions for future research

Future studies should explore other WHS sites or heritage buildings expanding to other developing countries in the Asia Pacific region, such as Indonesia, Thailand, or Vietnam, which are facing similar difficulties. This study also used a cross-section data collection approach, which helped to determine the direction of the variables' relationship but was unable to highlight the causative conclusions. In order to investigate the causal relationships between factors, future research may use a longitudinal or empirical approach.

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BAMFEST: A Cultural Architecture Festival as a Model for Special Interest Tourism in Northern Thailand (Paper#201)

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Abstract:

This paper examines BAMFEST, an international bamboo architecture and cultural design festival in Chiang Mai, as a model of Special Interest Tourism (SIT). Using a qualitative case study approach, it analyzes how the festival operationalizes SIT principles through material storytelling, community collaboration, and regenerative tourism practices. Findings highlight BAMFEST's role in fostering cultural immersion, revitalizing urban space, and advancing sustainable creative economies. The study demonstrates that locally rooted, design-led festivals can serve as scalable platforms for value-based tourism and regional development.

Keywords: Special Interest Tourism, Creative Tourism, Cultural Architecture Festival, Bamboo Architecture, Community-based Tourism, Chiang Mai

1. Introduction

In recent decades, cultural festivals have emerged as strategic platforms for promoting creative economies, sustainable tourism, and regional identity. Among these, the International Bamboo Architecture and Material Innovation Festival also known as BAMFEST serves as a distinctive model that integrates architectural design, cultural heritage, and community-based innovation. Initiated by the Faculty of Architecture, Chiang Mai University, with support from the Thailand Convention and Exhibition Bureau (TCEB), BAMFEST operates as a multi-year initiative (2021–2025) aimed at leveraging bamboo as both a sustainable material and a cultural medium. The festival is positioned not merely as an artistic or academic event but as a flagship project designed to stimulate Chiang Mai's creative economy, strengthen community linkages, and contribute to regional development aligned with global sustainability goals.

Chiang Mai, often referred to as the cultural and artistic hub of Northern Thailand, provides a context for such an initiative. Recognized as a UNESCO Creative City in Crafts and Folk Art, the city is deeply rooted in Lanna traditions while simultaneously embracing contemporary innovation. The region's long-standing expertise in bamboo craft, coupled with a vibrant design and academic community, has allowed BAMFEST to emerge as a platform for dialogue, experimentation, and co-creation. Through exhibitions, international conferences, design-build workshops, and public installations, BAMFEST fosters collaborative engagement across various stakeholders from upstream bamboo cultivators to midstream designers and artisans, and downstream market and tourism actors. Its multidisciplinary and multi-scalar approach reflects a commitment to both preserving intangible cultural heritage and creating new pathways for sustainable innovation.

As global tourism trends continue to shift toward experiential and meaningful forms of travel, the concept of Special Interest Tourism (SIT) has gained increasing relevance. SIT refers to travel experiences that cater to individuals with specific motivations such as environmental responsibility, cultural appreciation, or creative participation (Novelli, 2005). These forms of travel are increasingly found in cultural festivals, which provide curated, interactive, and participatory experiences. The role of cultural festivals in urban revitalization and place-making has also been widely acknowledged in contemporary research. According to Richards and Palmer (2010), festivals are increasingly utilized as tools for economic regeneration, civic pride, and global positioning of cities. For instance, as observed in other global events such as the Seoul Biennale of Architecture and Urbanism, architecture festivals have the potential to not only showcase innovation but also catalyze sustainable urban discourse (Kim, 2019).

BAMFEST exemplifies this form of tourism by curating experiences that center around design, sustainability, and cultural identity. Visitors are not only spectators but active participants—constructing bamboo structures, engaging with local narratives, and contributing to the co-creation of place-based knowledge. Such attributes position BAMFEST as a case study within the growing literature on niche tourism and creative engagement. In terms of the concept of SIT,

BAMFEST leverages Chiang Mai's historical sites and urban networks to reanimate public space through temporary yet meaningful architectural interventions. These interventions often have long-term impacts physically, symbolically, and economically serving as the intersection of culture, sustainability, and regional development.

Fegure 1. Key objectives of BAMFEST outlining its focus on bamboo, culture, community, and sustainability



Furthermore, BAMFEST contributes to the creative economy through its emphasis on material innovation and cultural value. Bamboo, a material deeply rooted in the architectural and cultural practices of Southeast Asia, is reimagined here as both an economic asset and a design language. Santagata (2009) emphasizes that embedding local resources within frameworks of creativity can lead to new forms of economic and symbolic capital. BAMFEST facilitates this process by connecting rural producers with urban designers and international markets, thereby reinforcing a value chain rooted in sustainability, identity, and craftsmanship. The festival thus acts as both a site of cultural preservation and a laboratory for progressive experimentation.

While BAMFEST positions itself as a cultural platform for SIT, it remains critical to ask: to what extent has it succeeded in shifting Chiang Mai's tourism trajectory from volume-driven models to more value-based, participatory, and sustainable formats? In a city increasingly challenged by mass tourism marked by rising visitor numbers but stagnating per-capita revenue and growing environmental impacts the relevance of BAMFEST hinges on whether it delivers more than cultural celebration. Can a design-led, bamboo-centered festival truly serve as a catalyst for regenerative tourism and creative economies?

In light of national strategies outlined in the Thailand National Tourism Development Plan (2023–2027), which calls for quality-based, creative, and sustainable tourism, it is timely to examine whether cultural architecture festivals like BAMFEST can offer an alternative to mass tourism in Chiang Mai and similar northern cities. This plan emphasizes decentralization, cultural authenticity, and environmental stewardship priorities that align with the festival's emphasis on community engagement and sustainable materials.

This paper explores these questions through the lens of BAMFEST, assessing its role as a cultural intervention and evaluating its alignment with national tourism strategies that prioritize sustainability, decentralization, and community empowerment.

2. Research Objectives

This study aims to investigate the potential of BAMFEST (Bamboo Architecture and Material Festival) as a case study for understanding how Special Interest Tourism (SIT) can be realized through cultural festivals in secondary cities. Grounded in the specific context of Chiang Mai and Northern Thailand, the research is guided by the following objectives:

1. To analyze how BAMFEST fosters immersive and meaningful cultural tourism experiences that align with SIT principles.
2. To examine how the festival engages with diverse stakeholders—including local artisans, designers, students, and policymakers—and promotes community participation.
3. To evaluate the broader impacts of BAMFEST in terms of regenerative tourism, creative economy development, and place-making strategies.
4. To identify key factors that enable BAMFEST to serve as a scalable and adaptable model for sustainable tourism initiatives in other culturally rich but underrepresented regions.

3. Literature Review

3.1 Special Interest Tourism (SIT)

In recent years, Chiang Mai has experienced a steady increase in tourist arrivals. However, despite this growing volume, per capita tourism revenue has remained relatively stagnant, and the distribution of income to local communities remains limited. Moreover, the environmental and socio-cultural impacts of mass tourism including overcrowding, resource depletion, and cultural commodification have become increasingly apparent. These challenges raise concerns about the long-term sustainability of volume-driven tourism models, especially in culturally and ecologically sensitive regions like Northern Thailand.

In response, national development strategies have emphasized the need for sustainable tourism that balances economic growth with social and environmental responsibility. The National Tourism Development Plan (2017–2021) advocates for "inclusive tourism," aiming to distribute tourism income to local communities and promote value-based tourism experiences. Similarly, the Chiang Mai Provincial Development Plan (2023–2027) prioritizes enhancing tourism value by integrating natural, cultural, and local economic assets to foster sustainable growth.

Within this broader policy context, Special Interest Tourism (SIT) has gained increasing relevance as a pathway to enhance visitor engagement, reduce environmental strain, and generate more equitable socio-economic outcomes.

SIT has emerged as a vital segment within the broader tourism industry, catering to travelers motivated by specific interests beyond leisure and relaxation (Novelli, 2005). Unlike mass tourism, which focuses on generalized sightseeing and entertainment (Sezgin & Yolal, 2012), SIT emphasizes in-depth engagement, often linked to themes such as culture, environment, education, or craftsmanship. Tourists in this category actively seek immersive experiences aligned with their passions, whether related to architectural heritage, gastronomy, or ecological conservation (Trauer, 2006). Douglas et al. (2001) further emphasize that key motivators for SIT include educational content, cultural connection, and active participation factors that are particularly prominent in cultural tourism.

Read (2018) introduces the notion of "transformational tourism," in which visitor experiences become spaces of learning, reflection, and social exchange. These SIT concepts articulate a shift from passive consumption to deep engagement through cultural and creative activities. BAMFEST reflects these SIT principles through its focus on bamboo architecture, cultural workshops, and community-based knowledge sharing. The multi-day event encourages thematic participation from seminars on the bamboo value chain to hands-on design-build workshops appealing to architects, designers, researchers, and eco-conscious travelers. It also facilitates meaningful cultural immersion through co-creation with local artisans, architects, and international participants.

3.2 Festival Economy and Urban Development

Cultural festivals have increasingly been recognized as strategic tools for urban development, economic stimulation, and cultural diplomacy. According to Richards and Palmer (2010), festivals serve both symbolic and practical functions: they celebrate local identity while attracting new economic flows and international attention. These events are often part of broader city-branding strategies, particularly in cities aiming to position themselves as creative or cultural hubs.

In Thailand, BAMFEST is supported by the Thailand Convention and Exhibition Bureau (TCEB) as a flagship five-year project designed to drive Chiang Mai's festival economy. The festival leverages bamboo not only as a sustainable material but also as a medium for narrative expression and spatial experimentation. According to project documentation (BAMFEST, 2024), its core strategy is to activate Chiang Mai's role as a regional hub for the creative industries by linking design, tourism, and community-based production through an annual international program.

Furthermore, the festival engages with local economies by connecting actors across the "upstream, midstream, and downstream" segments of the bamboo value chain from bamboo growers and craft cooperatives to product developers and tourism operators. This value chain integration, supported by academic institutions such as Chiang Mai University, ensures that the festival is rooted in the region's socio-economic and ecological fabric.

Similar models have been observed in other global cities. Events such as Melbourne Design Week or the Seoul Urban Design Biennale also use creative festivals as forms of soft infrastructure tools that not only animate space but also advance urban innovation, economic resilience, and cultural diplomacy (Evans, 2015).

3.3 Creative and Regenerative Tourism

Creative tourism, as defined by Richards and Raymond (2000), involves active participation in a destination's cultural life. BAMFEST reflects this through hands-on design labs where visitors build with bamboo alongside local artisans. The festival also incorporates elements of regenerative tourism, which seeks to enhance not merely sustain local socio-cultural ecosystems (Hughes & Weaver, 2022). Activities such as carbon neutral design, intergenerational learning, and resource-sensitive practices align with national BCG (Bio-Circular-Green) economy goals and global frameworks such as SDGs 11, 12, and 17.

3.4 Bamboo Architecture and Cultural Narratives

Bamboo has long been a symbol of sustainable, vernacular architecture in Southeast Asia. In design-focused events such as Vietnam's Bamboo Biennale and Bali's Green School, the material serves both aesthetic and pedagogical purposes. BAMFEST builds on these precedents, using bamboo as a medium for cultural expression and environmental engagement.

Installations located in Chiang Mai's alleys and public spaces blend traditional craftsmanship with contemporary storytelling. This integration of design and narrative reflects the concept of "material storytelling" (Lehmann, 2016), in which architectural form communicates values such as resilience, identity, and collaboration.

3.5 Place-Making through Festival Design

Successful place-making requires more than physical design; it also involves community participation and embedded meaning (Carmona, 2010). BAMFEST transforms overlooked urban areas into cultural corridors through temporary installations and exhibitions. These design actions reflect the principles of tactical urbanism (Lydon & Garcia, 2015), where small-scale, participatory interventions lead to broader urban transformation.

The festival acts as a "living lab" for experimentation in spatial justice and ecological awareness. By inviting designers, students, and communities to co-create public spaces, BAMFEST reinforces Chiang Mai's identity as a creative city. It also illustrates how cultural events can function as testbeds for Special Interest Tourism (SIT) and regenerative tourism frameworks.

4. Methodology

This research employs a qualitative case study approach to investigate how BAMFEST operates as a model for Special Interest Tourism (SIT) and creative tourism in Northern Thailand. This approach is appropriate for exploring the multidimensional character of a cultural festival that merges architecture, local knowledge, and place-making into both a spatial and social experience. The case study method enables the researcher to understand BAMFEST in its natural context and to analyze how it functions as a platform for cultural exchange, creative economy development, and sustainable tourism.

Building on the premise that BAMFEST serves as an experimental platform for SIT, the methodology is not limited to descriptive analysis but also examines how the festival operationalizes SIT principles in practice. The research explores how abstract policy visions such as value-based, participatory, and decentralized tourism are translated into lived, place-specific experiences. BAMFEST is thus treated as both a cultural intervention and a real-world testing ground for policy implementation. By evaluating its impact on local communities, stakeholders, and visitors, the study assesses the extent to which BAMFEST aligns with national SIT goals and contributes to regenerative tourism models in Northern Thailand.

4.1 Data Collection

Multiple data sources were employed to ensure a comprehensive and triangulated understanding of the case:

1. Project Reports and Internal Documents:Key materials included the BAMFEST 2024 report, project proposals, policy documents, and budget statements. These documents outlined the festival's objectives, structure, stakeholder roles, and operational strategies, providing essential context for analysis.

2. Semi-Structured Interviews: In-depth interviews were conducted with approximately 15 stakeholders, including organizers, university staff, local artisans, international collaborators, and participants. Interviews explored motivations, cultural perceptions, knowledge exchange, and perceived social impacts.

3. Observation and Visual Documentation: The researcher attended BAMFEST 2023 and 2024 events such as workshops, exhibitions, and academic panels. Field notes and photographs captured the festival's spatial, cultural, and social dynamics, with focus on how participants engaged with bamboo structures and narratives.

4. Questionnaires and Feedback Forms: Surveys were distributed to attendees, collaborators, and local community members to assess satisfaction, perceived value, and engagement. The responses offered both quantitative and qualitative insights into visitor experience and community outcomes.

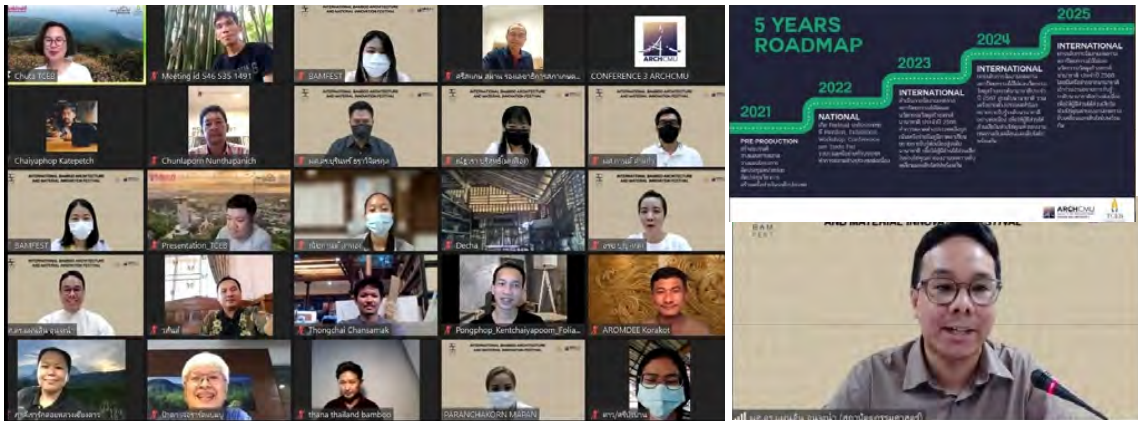
5. Participation Statistics Review: Participation data from 2021–2024—sourced from reports, registrations, and online metrics show steady growth in both physical and digital formats. From early workshops (50–100 participants) in 2021–2022, the festival expanded to over 2,500 participants in 2024, including 2,310 seminar attendees (2,123 via Facebook Live), 89 workshop participants, and 100+ exhibition visitors (see Table 1).

6. SROI-Based Data Collection: Social Return on Investment (SROI) analysis, based on BAMFEST 2024 documentation, drew on stakeholder consultations, feedback workshops, and financial data. The SROI captures intangible benefits such as community cohesion, knowledge exchange, and place identity, with an estimated ratio of 7.11 indicating high social value per unit of investment.

Table 1. BAMFEST Participation Statistice by Year (2021-2024)
Summary of estimated participants and activity formats across four annual editions of BAMFEST

Year	Event Focus	Estimated Participants	Engagement Format
2021	Planning meetings and network workshops	134 total (Onsite: 30, Online: 13; Plus 3 workshops: 91)	Hybrid (in-person meetings and online planning sessions)
2022	Design and community network development	≥70 (Core team: 15+, Broad network: 35+, public: 20+)	Workshops with upstream, midstream, and downstream stakeholders
2023	Workshops, symposium, exhibition, and field visits	Over 500 participants (across all activities)	Multi-day program with international talks, bamboo workshops, and community co-creation
2024	International seminar, workshop, and exhibition	Seminar: 2,310 (Thai: 85, Int'l: 102, FB Live: 2,123); Workshop: 89; Exhibition: 100+	International seminar, design-build workshop, public showcase

Figure 2. Online launch of BAMFEST 2021 and presentation of its 5-Year Roadmap. The session included stakeholders from academia, government (e.g., TCEB), community leaders, and international collaborators. This session marked the formal initiation of BAMFEST as a long-term, co-created platform for cultural tourism and design innovation.



4.2 Data Analysis

Data were analyzed using thematic analysis following Braun and Clarke's (2006) six-phase framework, which supports the identification of recurring patterns across qualitative data. This method was applied to interviews and field notes, particularly in relation to cultural participation, creative collaboration, and SIT motivations.

Content analysis was conducted on BAMFEST reports, exhibition texts, promotional materials, and visual archives to understand how the festival constructs its identity around sustainability, creativity, and community engagement. This included interpreting the use of language, materials, and spatial metaphors in alignment with broader development goals.

SROI analysis supported the qualitative findings by assessing broader social impacts. It included stakeholder mapping, identifying inputs and outcomes, and assigning proxy values to capture intangible effects such as social cohesion, intergenerational learning, skill development, and cultural identity. These metrics demonstrate how BAMFEST translates SIT principles into measurable results.

4.3 Summary

By employing a mixed qualitative approach grounded in participatory and context-sensitive methods, this study provides a holistic analysis of BAMFEST as an evolving model for SIT and creative tourism. The integration of SROI and participation data adds a critical dimension to understanding how cultural festivals generate long-term value and contribute to regional regenerative strategies. Ultimately, this methodology supports a deeper interpretation of how architecture, creativity, and community-driven design intersect in shaping new forms of tourism in Northern Thailand.

5. Discussion and Implications

The findings presented in this section are organized according to key themes identified through thematic analysis, following the six phase framework proposed by Braun and Clarke (2006). This approach enabled the systematic interpretation of stakeholder interviews, workshop observations, and participant feedback, revealing recurring patterns related to cultural experience, community collaboration, and the operationalization of SIT principles within BAMFEST. These themes are grouped under four key dimensions: (1) cultural immersion, (2) community engagement, (3) tourism impact and urban identity, and (4) scalability as a SIT model.

5.1 BAMFEST as a Cultural Experience

The analysis of BAMFEST's cultural and experiential dimensions was guided by thematic analysis following Braun and Clarke's (2006) six phase framework. This method facilitated the identification of patterns within qualitative data including interviews, observations, and participant feedback that reveal how BAMFEST fosters immersive and meaningful tourism experiences aligned with the principles of Special Interest Tourism (SIT).

A central theme that emerged was bamboo as a medium of immersion. Rather than functioning solely as a building material, bamboo was presented as a cultural symbol, a tactile experience, and a narrative device. Visitors engaged with bamboo not only visually but also through hands-on interactions that connected them with local craft traditions and ecological values. Installations such as "Bamboo in the Alley" and community-built pavilions encouraged sensory engagement and sparked curiosity about the region's relationship with the material.

This immersive encounter was further deepened through learning-by-making experiences. Participants took part in workshops and design-build sessions, collaborating with local artisans and students to create bamboo furniture, structures, and craft prototypes. These activities fostered intergenerational dialogue and highlighted the festival's commitment to co-creation as a form of cultural transmission. The process of making together rather than simply consuming finished objects created space for reflection, knowledge exchange, and the reinterpretation of tradition in contemporary forms.

Figure 3-4. Exhibition scene from "SHELTERS and so" held during BAMFEST 2022. The display showcased community co-created bamboo installations and design narratives, reflecting the festival's emphasis on immersive and educational cultural experiences



Another key dimension was the dialogue between local identity and global participation. BAMFEST brought together designers, researchers, and visitors from over a dozen countries, yet its core remained deeply rooted in Northern Thai culture. Events were held in historic urban alleys, village temples, and community markets, allowing global guests to experience Lanna identity in place. Rather than diluting local authenticity, the international presence contributed to a sense of mutual respect and cultural diplomacy transforming the festival into a space of both rootedness and exchange.

Many participants described their experiences at BAMFEST as personally meaningful and transformative. Whether through building with bamboo for the first time, hearing community stories, or engaging in design dialogues, visitors often reported a shift in perspective. Feedback forms and interviews revealed that participants felt more connected to local culture, inspired by the role of design in sustainable living, and more aware of the social and environmental impact of tourism.

Collectively, these cultural experiences demonstrate that BAMFEST is not merely a display of craft and architecture, but a platform for transformational tourism that encourages emotional connection, social learning, and deeper engagement. In doing so, the festival exemplifies the values of Special Interest Tourism fostering authenticity, creativity, and regeneration in ways that extend beyond the festival timeframe.

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Figure 5-6. Participants working in the Design & Build Studio during BAMFEST 2024, World Bamboo Day 2024, Chaing Mai University, Thailand.





Figure 7-8. Collaborative furniture-making workshop integrating traditional techniques and modern design. World Bamboo Day 2024, Chaing Mai University, Thailand.





5.2 Community Engagement and Stakeholder Collaboration

One of the most compelling aspects of BAMFEST is its multi-scalar stakeholder ecosystem, which activates what organizers refer to as the "bamboo value chain": upstream (raw material cultivation), midstream (craftsmanship and design), and downstream (product innovation and tourism). This integrated model reflects Thailand's national goals for inclusive and regenerative development, particularly within the Bio-Circular-Green (BCG) economy framework. Bamboo farmers and community forest networks supply raw materials with ecological sensitivity; artisans and faculty co-create workshops and exhibitions; while SMEs and tourism operators generate demand through markets and design showcases.

Beyond its structural model, BAMFEST is deeply rooted in participatory collaboration. Local communities do not merely serve as venues or cultural subjects but act as co-designers of content from curating exhibitions in temples to leading hands-on bamboo workshops. Decision-making is iterative and dialogic, involving planning meetings, joint prototyping, and mutual adaptation. These engagements build trust, foster local ownership, and reposition traditional knowledge as contemporary cultural capital.

Stakeholders across sectors including academics, designers, policymakers, and residents contributed to shaping the festival's format and meaning. Interviewees noted that this approach contrasts with conventional top-down management, allowing BAMFEST to operate as a decentralized yet cohesive platform. Importantly, participation led to tangible social outcomes: community members reported increased confidence, visibility, and economic potential. Women-led cooperatives, for example, used the festival to reframe their craft as innovation, reinforcing the festival's role in promoting both social value and Special Interest Tourism (SIT) principles.

Figure 9-10. A bamboo forest exploration in Mae Rim, Chiang Mai, exemplifies efforts to connect material sourcing, craftsmanship, and sustainable tourism within Northern Thailand's cultural and ecological landscape.



5.3 Tourism Impacts and Urban Identity

BAMFEST has played a crucial role in reframing Chiang Mai's tourism identity—not merely as a heritage destination, but as a creative and regenerative city. This shift aligns closely with the principles of Special Interest Tourism (SIT), where destinations are expected to offer depth, uniqueness, and emotional resonance (Trauer, 2006; Novelli, 2005).

Spatially, the festival reclaims forgotten or underutilized urban areas, turning them into cultural corridors. Projects such as "Bamboo in the Alley" transformed neglected alleys within Chiang Mai's historic district into immersive spaces for exhibitions and performance. These interventions exemplify the principles of tactical urbanism (Lydon & Garcia, 2015), in which small-scale design actions trigger broader reimagining of urban possibilities. Such spatial activations foster new relationships between locals, visitors, and the built environment anchoring tourism in everyday, lived spaces rather than isolated attractions.

Economically, BAMFEST contributes to local income generation and cultural enterprise development. According to the 2023–2024 BAMFEST report, over 200 artisans and SMEs participated in festival activities, benefiting from both direct sales and long-term partnerships. The event also fosters a knowledge-based economy by promoting design education, content creation, and the circulation of cultural capital key components of Thailand's Bio-Circular-Green (BCG) strategy for inclusive growth.

Socially, the festival emphasizes inclusive participation across generations, languages, and sectors. Events were co-designed with communities, temple networks, and youth groups, ensuring cultural relevance and accessibility. Interview feedback indicated that many participants especially women-led cooperatives and student groups experienced increased confidence and recognition, affirming the festival's role as a platform for empowerment and social innovation.

Environmentally, BAMFEST models low-impact tourism practices through its use of biodegradable materials, zero-waste principles, and carbon-conscious education programs. Design installations are typically temporary, mobile, and locally sourced, minimizing environmental disruption while maximizing symbolic and experiential impact.

Symbolically, BAMFEST contributes to Chiang Mai's evolving identity as a UNESCO Creative City, not just in name but in practice. Through its integration of architecture, craft, education, and civic participation, the festival positions Chiang Mai as a contemporary design capital grounded in cultural heritage. This transformation is not superficial but rooted in long-term collaborations between academic institutions, community networks, and policy frameworks making the city's creative identity both authentic and resilient (Landry, 2000; UNESCO, 2022).

BAMFEST demonstrates how a place-based cultural event an generate meaningful tourism impacts while contributing to an evolving urban identity by embedding cultural content into the spatial, economic, social, and symbolic dimensions of urban life. Its design-led model re-inforces SIT values and offers a regenerative alternative to conventional tourism development in heritage-rich cities.

5.4 BAMFEST as a Model for Special Interest Tourism

The case of BAMFEST offers a compelling example of how Special Interest Tourism (SIT) can be operationalized through a culturally grounded, design-led initiative. Rather than promoting volume-based visitation, the festival engages a niche audience architects, designers, students, and eco-conscious travelers who seek immersive, educational, and values-driven experiences (Novelli, 2005; Trauer, 2006). Through its hands-on workshops, community collaborations, and place-specific installations, BAMFEST exemplifies SIT principles in practice.

Although BAMFEST operates at a relatively modest scale compared to larger international biennales, its reach and participation have grown steadily since its inception. Between 2021 and 2024, the festival engaged diverse audiences through seminars, exhibitions, and hands-on workshops. In 2021 and 2022, the event primarily focused on stakeholder collaboration and design prototyping, involving approximately 100 participants from local communities, artisans, and academic institutions. By 2023, the festival expanded to include structured public activities and qualitative evaluations, with over 85% of surveyed participants reporting increased cultural understanding and design awareness.

The most recent edition in 2024 saw a significant increase in both physical and digital attendance. The international seminar attracted 2,310 participants, including 102 international guests and 2,123 online viewers via Facebook Live. Additionally, 89 individuals participated in co-design workshops, while the exhibition welcomed over 100 local visitors. These figures, while relatively small in absolute terms, reflect BAMFEST's targeted approach in engaging Special Interest Tourism (SIT) audiences particularly those with interests in cultural immersion, sustainable architecture, and place-based design practices.

Importantly, the festival does not evaluate success purely through headcounts. Its emphasis on co-creation, educational content, and qualitative impact measurement such as SROI and community feedback illustrates how SIT initiatives can generate deep value despite limited scale. The evolving participation data also supports BAMFEST's position as a regenerative tourism model that prioritizes long-term cultural relationships over short-term consumption.

Figures 11-12. TROK: Bamboo Pavilion Chiang Mai Design Week 2023 ing Chiang Mai's old town





Figure 13-14. Bamboo installation at Jing Jai Market (2023), co-created by growers, designers, demonstrating how bamboo fosters urbun identity and extends BAMFEST's inflsence beyond the festival.





Figures 15-16. "BAMFEST: EXHIBITION and Talks" in Thailand 2023





Figure 17-20. International seminar during World Bamboo Day 2025 at Chiang Mai University brought together participants from 12+ countries to exchange knowledge on bamboo architecture and sustainability highlighting BAMFEST's role in global cultural tourism.









Figure 21. Local bamboo artisans and master weavers in Northern Thailand engaging in cultural dialogue and craft demonstrations as part of BAMFEST's community engagement initiatives. This documentation supports network building in design and cultural tourism.



Beyond its immediate setting, BAMFEST can be understood as a replicable model for regional tourism innovation. It integrates five key components: (1) design as cultural practice, (2) local wisdom and material specificity (bamboo), (3) festival as an educational platform, (4) inclusive governance through cross-sector collaboration, and (5) sustainability through low-impact infrastructure and zero-waste principles. These elements offer an adaptable framework that can support tourism diversification in secondary cities such as Mae Hong Son, Lampang, or Nan provinces rich in cultural capital but often excluded from the mainstream tourism narrative.

In this sense, BAMFEST serves not only as a case study but also as a prototype for how localized, culturally driven initiatives can evolve into strategic models for regenerative tourism. It illustrates a shift from preservation-based tourism toward active cultural production anchored in place, yet open to exchange and innovation.

Table 2. Key components of BAMFEST's SIT model, integrating design, local wisdom, education, collaboration, and sustainability

Key Component	Description
Design as Cultural Practice	Uses design to express cultural narratives, activate space, and promote creativity in place-making.
Local Wisdom and Material Specificity (Bamboo)	Centers bamboo as both material and metaphor, drawing from local knowledge and ecological tradition.
Festival as Education Platform	Engages participants in hands-on learning, knowledge exchange, and co-creation with communities.
Inclusive Governance through Cross-Sector Collaboration	Coordinates planning among universities, communities, SMEs, and designers for shared decision-making.
Sustainability through Low-Impact Infrastructure and Zero-Waste Principles	Implements biodegradable materials, temporary installations, and SROI to measure long-term social value.

To further understand BAMFEST's social and cultural value, a Social Return on Investment (SROI) analysis was conducted. The table below summarizes key inputs, outcomes, and estimated social value based on the 2024 report:

Table 3. Summary of BAMFEST's SROI dimensions and outcomes, highlighting design, local wisdom, education, collaboration, and sustainability.

SROI Dimension	Key Activities	Observed Outcomes	Evidence Source
Social Cohesion	Community co-creation workshops	Increased collaboration between sectors and locals	Interview transcripts, field observations
Intergenerational Learning	Workshops involving elders and youth	Exchange of traditional and new knowledge	Workshop reflections, participant surveys
Community Empowerment	Leadership roles for local groups	Boost in confidence and visibility of community groups	SROI stakeholder feedback
Environmental Awareness	Carbon-neutral design and exhibitions	Participants report increased eco-consciousness	Post-event evaluations and media coverage
Skill Development	Hands-on bamboo building and crafts	Participants gain new design and construction skills	Skill assessment forms, interviews
Cultural Identity Reinforcement	Storytelling installations and exhibitions	Renewed interest and pride in local heritage	Exhibition visitor feedback, social media

6: Conclusion & Recommendations

6.1 Conclusion

BAMFEST represents a compelling prototype of Special Interest Tourism (SIT) that bridges architecture, creativity, and community-based cultural heritage. Grounded in Northern Thailand particularly Chiang Mai's ecosystem of crafts, design, and education the festival demonstrates how a locally embedded yet globally resonant initiative can foster cultural learning, economic regeneration, and social empowerment.

From upstream bamboo cultivation to downstream tourism experiences, BAMFEST operationalizes SIT through material storytelling, participatory design, and inclusive programming. The festival provided transformational experiences through hands-on workshops, co-creation platforms, and community-based exhibitions deepening engagement and enabling reflection among visitors and locals alike.

These findings resonate with Novelli's (2005) and Trauer's (2006) conceptualizations of SIT, where niche tourism is driven by depth, thematic immersion, and active participation. The learning-by-doing model reflects Read's (2018) notion of transformational tourism, in which experience becomes a site of emotional connection, identity formation, and personal change. At the spatial level, the activation of urban alleys and community spaces aligns with theories of place-making (Carmona, 2010) and tactical urbanism (Lydon & Garcia, 2015), highlighting how small-scale cultural interventions can reimagine public space and civic identity.

BAMFEST's implementation also advances ideas of regenerative tourism (Hughes & Weaver, 2022), in which tourism contributes positively to ecological and cultural systems. Its integration with Thailand's Bio-Circular-Green (BCG) economy framework further supports this, situating the festival within national sustainable development strategies.

Table 4. Summary of BAMFEST's key findings and their implications for Special Interest Tourism (SIT) and policy development

Key Dimension	Summary of Findings	Implication for SIT and Policy
Cultural Immersion	Hands-on bamboo workshops, storytelling exhibitions, and sensory design installations fostered deep visitor engagement and learning-by-doing.	Supports SIT through immersive, meaningful experiences beyond sightseeing.
Community Engagement	Multi-scalar collaboration (upstream-midstream-downstream) empowered artisans, students, and SMEs; participatory governance-built community ownership.	Demonstrates community co-creation as a foundation for long-term impact.
Urban and Tourism Impact	Repositioned Chiang Mai as a creative city through urban revitalization (e.g., 'Bamboo in the Alley'), SME growth, and hybrid tourism events.	Aligns with BCG framework and Creative City branding strategies.
SIT Model Components	Five integrated principles: design as culture, bamboo specificity, festival as learning platform, inclusive networks, and sustainable infrastructure.	Provides a scalable, adaptable model for regional tourism innovation.

Governance-wise, the festival demonstrates how decentralized, cross-sectoral collaboration spanning universities, artisans, SMEs, and local and international partners can foster innovation and trust. The integration of Social Return on Investment (SROI) methodology enabled the evaluation of non-monetary outcomes such as intergenerational learning, community pride, and skill development. Participation data from 2021 to 2024 show a steady increase in physical and digital engagement, affirming the scalability and adaptability of the model.

In sum, BAMFEST exemplifies how SIT can be translated from theory into practice. Through design, cultural co-creation, and place-based interventions, the festival offers a replicable model for regenerative tourism positioning Chiang Mai as a living laboratory of sustainable creativity.

6.2 Policy Recommendations

Festivals like BAMFEST should be recognized as strategic tools for cultural diplomacy and regional development. Recommendations include:

- Integrating Special Interest Tourism (SIT) into national and provincial tourism strategies, with explicit support for niche festivals.
- Institutionalizing SROI metrics for assessing intangible cultural and social impacts.

• Facilitating inter-ministerial collaboration to strengthen the bamboo value chain across agriculture, education, and tourism.

6.3 Future Development of BAMFEST

BAMFEST holds strong potential to scale regionally across northern provinces with rich bamboo traditions. Rather than duplicating the format, localized co-curation and adaptation should be encouraged.

Future directions include:

- Creating a regional festival brand such as "BAMFEST North."
- Embedding university programming into community-based festival formats.
- Utilizing digital platforms for broader reach, knowledge exchange, and documentation.

Pursuing international affiliations with organizations such as UNESCO and the World Bamboo Organization will help amplify BAMFEST's global positioning and credibility.

Figure 22-23. Community-based co-design sessions under the BIG BAM,2025 initiative, facilitating dialogue among master artisans in Northern Thailand. The discussions aim to strengthen networks and develop market-oriented bamboo craft innovations.





6.4 Recommendations for Researchers

Further research should explore BAMFEST and similar festivals through comparative, longitudinal, and interdisciplinary approaches:

- Comparative studies of SIT festivals across Southeast Asia.
- Long-term impact tracking on communities and creative ecosystems.
- Integrating GIS and SROI frameworks to map cultural and spatial impact.
- Ethnographic studies on identity formation and visitor experience.

In conclusion, BAMFEST exemplifies how cultural architecture festivals can serve as engines of regeneration. Its programming blends bamboo-based innovation with storytelling, education, and collaboration. Its success lies not in scale, but in the depth of participation, cultural relevance, and stakeholder integration qualities that define it as a replicable SIT model in Thailand and beyond.

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Important Factors Influencing Museum Experiences of Visitors with ADHD: A Preliminary Study from Macao (Paper#098)

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Abstract:

ADHD is one of the most studied neurodevelopmental disorders to date. There is a distinct scarcity in the literature pertaining to the identification of factors that motivate and influence people with ADHD to visit museums; this study makes the first attempt to bridge this gap. Five key dimensions were identified through a quantitative study; interpretation, spatial-temporal experience, staff, interaction and connection, and quiet environment. Those with inattentive type, mild symptoms and employed were found to have the highest museum engagement.

Keywords: Museum visit, Museum experience, Value, Inclusive, ADHD, Macao

1. Introduction

Apart from the traditional roles of museums in collecting, preserving, promoting, and educating knowledge of heritage and culture, there are several advocates supporting the idea of museums acting as agents of social inclusion (Kinsley, 2016; Sandell, 1998; Tlili et al., 2007). It means that museums are expected to utilize their resources and services to alleviate factors that lead to social exclusion. To make museum visits not only for general public, but also to some social exclusion groups, as of poor health, high crime, low educational background, unemployment, and special needs (Sandell, 2003; Tlili, 2012). In addition to their social justice mission, museums also need to meet the requirements of sustainable development, especially financial sustainability (Kinsley, 2016). To do so, museums have fundamental desires to safeguard and growth public access and participation (UNESCO, 2025). As stated by Gaweł (2023), a museum without visitors just another empty hall without any meaning of life. Therefore, it is reasonable to argue that museums are working hard to serve as many target segments as possible, by retaining their current traditional target groups, while working on to increase the number of visitors from the underrepresented groups.

In order to retain and increase visitor numbers, it is generally accepted that museum management needs to ensure a positive experience has been delivered, which could make visitors satisfied with their museum visit (Prayag et al., 2017; Preko et al., 2020). The importance of maintaining a high level of visitor experience and satisfaction seems to influence their intention to revisit and recommendation to others (Brida et al, 2013; Vu et al. 2018). Visitor experience and satisfaction are influenced by various factors, including some from the visitor side, such as demographic and cultural background, perception and behaviour, as well as some from the museum side, such as infrastructure facilities, internal and external environment, service and exhibit quality (Brida et al., 2013; Çolak & Karakan, 2024; Del Chiappa et al., 2013; Eleni & Constantine, 2013). On the one hand, when the behaviour and experience of museum visitors were understood, and the museum management could offer such services that fulfil their needs and wants, visitors' attraction to specific museums would be enhanced. On the other hand, when museum management could not understand or misinterprets perception, behaviour, and experience of museum visitors, this would create some difficulties during their visits, which probably lead to dissatisfaction. To summarise, if a museum wants to increase visitor numbers, it is crucial to study the perceived important factors that affect the visiting experience of different visitor groups (Gurel & Nielsen, 2018; Preko et al., 2020).

As of the need of inclusion and accessibility for more underrepresented segments of the society, neurodiverse visitors have drawn some concerns from governments, scholars, and museum curators (e.g., Granland et al., 2025; Hutson & Hutson, 2024; Johnson, 2022). However, visitors with Attention Deficit Hyperactivity Disorder (ADHD) are considered one of the marginalised groups when visiting museums (King, 2023), yet do not receive enough attention. According to the Centers for Disease Control and Prevention (CDC) (2025), ADHD is one the most common neurodevelopmental disorders of childhood, apart from autism. ADHD is usually first diagnosed in childhood and often lasts into adulthood. People with ADHD might have trouble paying attention, controlling impulsive behaviour, or sometimes be overly active, which can present either mentally or physically. There are very few studies examining how museums should operate to meet the unique needs and wants of visitors with ADHD. The focus is still limited to some specific sub-groups of ADHD, which mostly centre on families with ADHD children (King, 2023), or ADHD children themselves (Johnson, 2022). A recent study explains how exhibition design and display in museums could influence an ADHD visitor's experience (Hutson & Hutson, 2023), but to the best of our knowledge, no research aims to elaborate the perceived important factors of museum facilities and services concerned by adult visitors with ADHD when they have gone through the museum door.

To fully understand which factors impact museum experience and satisfaction of visitors with ADHD, the study proposed the application of the scale developed by previous important research for motivation, service quality, satisfaction, and loyalty in museum setting to evaluate the research gap (Hsieh et al., 2015; Nowacki, 2005; Vareiro et al., 2021; Wu & Li, 2015). Macao Special Administrative Regions of China has been chosen as the case content of this study,

for the following reasons. First, this post-colonial city is located in southern China, which fills the gap where current research on ADHD is mainly focused on the West. Second, within Macao's tiny territory of only 32.9 km2, this small city has 27 museums and galleries (Museums in Macao, 2025), densely located museum might increase the likelihood that people with ADHD will visit museums. Last but not least, Macao has a considerable number of non-governmental organizations (NGOs) focusing on civil society and community service, which could help the research team to deliver questionnaires to the related groups and assist in collecting and reading of data. Therefore, this study recruited people with ADHD in Macao, who have been to museum(s) in the city in the past 24 months to fill in the questionnaire. Moreover, this study involved two research objectives: (1) to explore the perceived important factors that influencing visiting experience of ADHD visitors based on their experience of visiting museum(s) in Macao; (2) to understand the impact of the perceived important factors that influencing visiting experience of ADHD visitors on the value of visiting museum(s).

2. Literature Review

2.1. Importance of museum facilities and service towards satisfied museum experience

Visitor experience is a multifaceted combination of factors which shaped by the feelings and perception of tourists towards their visit (Page & Dowling, 2002). In order to study how tourists evaluate and experience the quality of facilities and service they have used during their visit, literature suggested the use of the SERVQUAL scale, covered the following five dimensions of tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1985, 1988; Williams, 1998). This original conceptual model, which was developed in service industry, has been extended and used for different sectors related with service nature and scope in tourism industry, including cultural and heritage ones (Frochot, 2001; Kowalska & Ostręga, 2020; Nowacki, 2005; Puri & Singh, 2018).

Understanding the museum experience of visitor is a complex issue that related to subjective perception, behaviour, vision, and experience that is reflected in the museum practices (Chan & Yeoh, 2010). As of the nature of cultural visitors in museum setting, Hsieh et al. (2015) suggest that the following five dimensions, including tangibility, responsiveness, empathy, communications, and consumables, should have used to evaluate the visitor element of the museum experience and satisfaction. These suggested dimensions are from the combination of Frochot's HISTOQUAL model (2001) and Allen's MUSEQUAL model (2001), which was proposed to use as theoretical foundation of this study.

2.2. Value of visiting museums for museum visitors

Values for visiting museums have been studied widely in the museum management and marketing literature, as to achieve the best customer service, museums need to know what the visitors wants (Homburg et al., 2015; Thyne, 2001). Prebensen et al. (2013) defined experience

value as the benefits tourists feel from visiting and staying at a particular attraction, including the services and facilities that they, other tourists, and hosts bring to the process of co-creating experience. The values of visiting museums for visitors can include different segments due to their differences in demographic background, factual recall need, to psychographic segment (Antón et al., 2018). Among the works that use a general approach to measure perceived value (Prebensen et al., 2014; Sweeney & Soutar, 2001; Prebensen & Xie, 2017), we find that Pine and Gilmore's (1998) experience economy model established four areas of experience value is more suitable to measure the value of experience in museum setting. This model includes entertainment, education, aesthetics, and escapism, which depend on the individual visitor's personal degree of involvement and engagement during their visit. Under this framework, it is argued that visitors would assign value to their experiences, no more passive receptors (Suntikul & Jachna, 2016). Therefore, the model is used to study the value of visiting museums for ADHD visitors.

2.3. ADHD in adults

Assisting with the issues that ADHD adults encounter when visiting museums is necessary due to the following factors: (1) the increasing number of ADHD diagnoses in the world population, (2) the complex and unique needs arising from their condition, and more importantly, (3) the potential benefits that museum visits or tours can bring to individuals with ADHD (Hutson & Hutson, 2023). Therefore, in order to have more inclusive and responsive design strategies, museum professionals need to understand the characteristics and symptoms of ADHD, as well as the challenges that they subsequently encounter (Muller et al., 2008).

ADHD symptoms can change over time and can look different throughout life stages. Some may become more severe or decrease depending on when the demands of adulthood change (CDC, 2025). But in general, adults with ADHD can struggle with the following three major types of symptoms (National Institute of Mental Health, 2025). First is inattention, in which they find it is difficult in paying attention, staying on task, or being organised. Second is hyperactivity. Even at inappropriate times, they might show overactivity or restlessness. They can have difficulty in performing quiet activities. Last but no least is impulsivity. They might act without thinking or having trouble with self-control. These can present obvious challenges for museum management when their aim is to maximise engagement with their exhibitions.

In terms of diagnosis for ADHD, most countries adopt the three-type categorization system, as denoted in the diagnostic and statistical manual of mental disorders (DSM-5); predominantly inattentive type, predominantly hyperactive/impulsive type, and combined type where both symptom types are presented (American Psychiatric Association, 2013). Symptoms can be classified as mild, moderate, or severe.

3. Methodology

3.1. Questionnaire design

A cross-sectional approach with a paper survey was designed. The survey included five sections. The first section consisted of two screening questions, which aimed to filter out the irrelevant samples. The second section included the 46-item scale drawn from previous literature (Hsieh et al., 2015; Nowacki, 2005; Vareiro et al., 2021; Wu & Li, 2015) to evaluate respondents' perception of the importance of museum facilities and services. The third section focused on evaluating respondents' value perception associated with their recent museum visits (Pine & Gilmore, 1998; Suntikul & Jachna, 2016). The second and third section used a 5-point Likert scale, with responses ranging from 1 (strongly disagree) to 5 (strongly agree). The final section collected demographic information and details related to ADHD. Considering ADHD respondents may have limited proficiency in English, the research team translated the survey from English to Chinese to ensure clarity and accessibility. Each team member independently translated the questionnaire, after which the translations were cross-checked and compared. Through a collaborative process, the team reviewed and discussed each item to reach a mutual agreement on the most accurate and culturally appropriate wording.

3.2. Panel review

Before administering the main survey, a panel review was conducted to evaluate the clarity of wording and its applicability to ADHD respondents. The panel review consisted of individuals with ADHD. In order to recruit relevant samples, the research team contacted NGOs focused on civil society in Macao. An invitation outlining the study's background and objectives was sent, and for those expressing interest, a follow-up phone call was made to request their assistance in identifying eligible ADHD respondents and distributing the questionnaire. One NGO was agreed to help.

The panel members were required to evaluate the representativeness of each item for ADHD using a Likert scale ranging from 1 (Not representative) to 3 (Clearly representative). Six responses were received from the panel, and three items that scored below 2 were removed due to their lack of representativeness. Minor revisions were also made to the wording based on feedback. Additionally, some members suggested that the survey design needed to be more user-friendly, so the research team to make slight modifications to the layout accordingly.

3.3. Data collection

Similar to the panel review, the participants in the main survey were recruited via NGOs focused on civil society in Macao. The target respondents included individuals aged 18 or older who had been diagnosed with ADHD and had visited museum(s) in Macao in the past 24 months.

Throughout the data collection process, the researchers supported the NGOs by addressing any questions or concerns. Eventually, three NGOs agreed to collaborate, resulting in the collection of 31 valid responses. Respondents were supervised by their parents or social workers throughout the survey process. Participation in the study was voluntary, anonymous, and uncompensated.

3.4. Data analysis

The Statistical Package for the Social Sciences (SPSS) was used for the quantitative data input and analysis. Several analytical techniques, such as descriptive statistics, factor analysis, multiple regression, independent sample T-test and one-way ANOVA, were used.

4. Results

4.1. Demographic profile of ADHD visitors

Table 1 shows the demographic profile among 31 respondents. Given the potential sensitivity of ADHD respondents to sharing personal information, all demographic questions were optional, with an additional response option labelled "did not mention". Among the respondents, 15 were male and 10 were female, while 6 chose not to disclose their gender. Over half of the participants (n=17) were aged between 18 and 35. Nearly two-thirds had an education level of secondary school or below (n=22) and were single (n=22). Regarding education level and monthly personal income, over half of the respondents reported low income (n=18), and were unemployed (n=7). In terms of their ADHD profiles, 40% (n=13) had been diagnosed with the combined type, including both inattentive and hyperactive symptoms. The majority (n=22) had received a diagnosis indicating moderate or lower severity levels of ADHD. On average, respondents had been living with an ADHD diagnosis for 20.64 years.

Table 1. Demographic profile of samples (n=31)

	n	%		n	%
Gender (Optional)			**Monthly personal income (Optional)**		
Male	15	48.4	MOP* 5,000 or below	18	58.2
Female	10	32.3	MOP 5,001 – 10,000	1	3.2
Did not mention	6	19.3	MOP 10,001 – 14,999	1	3.2
			MOP 15,000 – 19,999	1	3.2
Age (Optional)			MOP 20,000 or above	1	3.2
18 – 35	17	54.8	Did not mention	9	29.0
36 or above	7	22.6	**Macanese patacas (1USD= 8.01 MOP)*		
Did not mention	7	22.6			
			Types of ADHD (Optional)		
Education (Optional)			Inattentive type	8	25.8
Primary school or below	11	35.5	Combined type	13	41.9
			Did not mention	6	19.4
Secondary school	11	35.5			
Vocational education	2	6.4	**Severities of ADHD (Optional)**		
			Mild	11	35.5
Bachelor's degree	1	3.2	Moderate	10	32.2
Did not mention	6	19.4	Severe	4	12.9
Marital status (Optional)			**Years of being diagnosed with ADHD (Optional)**		
Single	22	71.0	0 – 10 years	7	22.5
Married	2	6.5	11 – 20 years	3	9.7
Did not mention	7	22.6	21 – 30 years	6	19.4
			31 years or above	6	19.4
Employment (Optional)			Did not mention	9	29.0
Employed	7	22.6	Mean (years)	20.64	
Unemployed	16	51.6			
Did not mention	8	25.8			

4.2. Underlying dimensions of ADHD visitors' perceptions of the importance of museum facilities and services

Principal components factor analysis with varimax rotation was used to identify the underlying dimensions influencing ADHD visitors' perceptions of the importance of museum facilities and services. The decision to include a variable in a factor was based on factor loadings of 0.70 or higher and eigenvalues equal to, or greater than, 1 (Hair et al., 2014).

It should be noted that a small sample size may compromise the accuracy of the findings. De Winter et al. (2009) examined the minimum sample size required to achieve reliable factor solutions under various conditions. Their findings indicated that, in scenarios with high communality, a large number of observed variables, and a small number of factors, factor analysis can produce stable estimates of population loadings even with sample sizes below 50. Table 2 showed that five factors were extracted from the 20 items, with a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of 0.684, which is higher than the recommended index of 0.600 (Hair et al., 2014). The Barlett Test of Sphericity was 493.380 (p=0.000), and the communalities for all items were above 0.70, except for one item. Cronbach's alphas for the five factors ranged from 0.665 to 0.798, thus suggesting acceptable internal consistency. Considering De Winter et al.'s (2009) suggestions, the results of factor analysis with a sample size of 31 respondents appear to be reliable under these conditions.

Of the five factors, interpretation comprises seven items that focused on communicating information, stories, and meanings about collections and objects to ADHD visitors. The second factor, spatial-temporal experience factor relates to how museums configure and represent time and space through their layout, queue arrangements, and exhibition design. It addresses the physical and temporal aspects of the museum experience that may impact ADHD visitors. The third factor, staff, is associated with three items focusing on proactive staff service. It encompasses the staff's readiness to assist, provide information, and offer precise guidance to ADHD visitors. The fourth factor, interaction and connection, include three items that address how ADHD visitors engage with museum services and facilities. This factor encompasses elements such as participatory workshops, reminder services for rental items, and Wi-Fi connectivity. The final factor, quiet environment, relates to a carefully designed space that reduces sensory stimuli and provides a calmer, more comfortable experience for ADHD visitors.

Table 2. Factor analysis results of ADHD visitors' perceptions of the importance of museum facilities and services

	Mean	Factor loading	Communality	Eigenvalue	% of variance	Reliability coefficient
Factor 1: Interpretation	**3.46**			**5.118**	**25.589**	**0.715**
Providing lighting choice	3.29	0.897	0.862			0.919
Providing an introduction through video shows	3.52	0.807	0.796			0.907
Providing additional information about any exhibits	3.26	0.800	0.811			0.911
Short and/or precise information on the introductory panel	3.42	0.788	0.730			0.914
Providing an introduction by a docent	3.55	0.780	0.755			0.913
Providing an easy-to-follow exhibition guide	3.65	0.746	0.731			0.911
Crowd control	3.55	0.737	0.670			0.921
Factor 2: Spatial-temporal experience	**3.43**			**3.401**	**17.007**	**0.798**
Short queuing time	3.55	0.840	0.734			0.836
Ventilation/windows open	3.55	0.801	0.844			0.831
Barrier free exhibitions (E.g., no glass cabinets, no barring off)	3.39	0.800	0.801			0.846
Photo taking opportunities	3.45	0.799	0.843			0.846
Fast track for online tickets	3.19	0.743	0.844			0.858
Factor 3: Staff	**3.77**			**2.880**	**14.402**	**0.728**
Staff proactively provide information	3.81	0.923	0.921			0.807
Short and/or precise information from staff members	3.71	0.829	0.889			0.871
Readiness of staff members to help	3.81	0.749	0.837			0.868
Factor 4: Interaction and connection	**3.63**			**2.767**	**13.834**	**0.665**
Interesting workshops	3.61	0.861	0.836			0.787
Reminder to return rental items to the museum (e.g., Audio guide, noise cancelling headset)	3.55	0.775	0.830			0.812
Wi-Fi connectivity	3.74	0.721	0.766			0.877
Factor 5: Quiet environment	**3.83**			**1.884**	**9.422**	**0.709**
Providing hassle-free areas (e.g., quiet rooms, calm down rooms and lounges)	3.68	0.817	0.758			0.629
Maintaining a quiet environment	4.00	0.663	0.793			0.629
Total variance explained					80.253	

Note. KMO = 0.684; Bartlett's Test of Sphericity = 493.380 at df = 190 with a significance of .000. Principal component method with Varimax Rotation: Loadings ≥ 0.70.
5-point scale was used, where 1 = Strongly Disagree and 5 = Strongly Agree.

4.3. Impact of ADHD visitors' perceptions of the importance of museum facilities and services on value of visiting the museum

Considering the sample size of 31 in this study, it aligns with the findings of Jenkins and Quintana-Ascencio (2020), who suggested that a minimum of 25 samples is sufficient for identifying meaningful data patterns in regression analyses. The results of the multiple regression are shown in Table 3. The regression equation with value of visiting the museum as the dependent variable explained 49.9% of the variance in this variable. Regression analysis identified only interpretation that is statistically significant predictor of value of visiting the museum (β=0.387, $p<0.05$), while other four factors were not found to be statistically significant.

It is believed that adults with ADHD could obtain the same value of experience (i.e., entertainment, education, aesthetics, and escapism) in museum setting like others (Pine & Gilmore, 1998; Suntikul & Jachna, 2016). The interpretation predictor shared that there are three sub-groups that need further attention to help them gain the value of visiting museums. First, due to their inattention symptom, museums should provide more channels for them to receive necessary information, like videos shows, introductory panels, docent service. Second, the level of information provided should range from simple to rich (e.g. from short/precise, easy-to-follow to additional information), and leaving the choice of learning to them. Last but not least, as of the hyperactivity and impulsivity symptoms, adult ADHD visitors need a special design quiet environment for their visit, like different light choices, and crowd control.

Table 3. Results of multiple regression

	Dependent variable
	Value of visiting the museum
Factor 1: Interpretation	0.387*
Factor 2: Spatial-temporal experience	0.094
Factor 3: Staff	0.312
Factor 4: Interaction and connection	0.206
Factor 5: Quiet environment	-0.133
Constant	1.107
Prob > F	4.975*
R-Squared	0.499
R	0.706

Note. *Significant at the 0.05 level

4.4. Mean comparison between ADHD visitors' demographic profile and their perceptions of the importance of museum facilities and services

Independent sample T-test and one-way ANOVA were used to examine whether there is a mean difference between ADHD visitors' demographic profile and their perceptions of the importance of museum facilities and services. Table 4 shows significant mean differences in interpretation across several demographic factors. First, a significant difference was found between ADHD subtypes and interpretation ($p<0.01$). Visitors with inattentive ADHD placed greater emphasis on the communication of information, stories, and meanings about collections and objects compared to those with hyperactive or combined ADHD types. Second, ADHD severity levels also showed significant differences ($p<0.05$). Visitors with mild symptoms prioritized museum interpretation facilities and services more than those with moderate or severe symptoms. Finally, employment status demonstrated a significant mean difference in relation to interpretation ($p<0.01$). Employed ADHD visitors are more concern with museum interpretation facilities and services compared to those who were unemployed.

Table 4. Mean comparison between ADHD visitors' demographic profile and their perception of the importance of museum facilities and services

		Mean				
		F1: Interpretation	F2: Spatial-temporal related	F3: Staff related	F4: Interaction and connection	F5: Quiet environment
Gender	Male (n=15)	3.31	3.27	3.80	3.44	3.83
	Female (n=10)	3.74	3.80	3.80	4.07	4.05
	t-value	-1.359	-1.643	-0.692	-1.834	-0.749
	Effect size η^2	0.074	0.105	0.020	0.128	0.024
Age	18 – 35 (n=17)	3.40	3.41	3.94	3.61	4.00
	36 or above (n=7)	3.63	3.57	3.71	3.86	3.71
	t-value	-0.657	-0.419	0.699	-0.617	0.883
	Effect size η^2	0.019	0.008	0.022	0.017	0.034
Education	Primary school or below (n=11)	3.44	3.40	3.73	3.36	3.68
	Secondary school (n=11)	3.41	3.35	3.94	3.91	4.09
	Vocational education (n=2)	3.64	4.00	4.17	3.67	4.00
	Bachelor's degree (n=1)	4.43	4.80	4.33	5.00	4.50
	F-value	0.514	1.306	0.420	1.617	0.859
	Effect size η^2	0.068	0.157	0.057	0.188	0.109
Marital	Single (n=22)	3.44	3.46	3.91	3.70	3.93
status	Married (n=2)	3.71	3.40	3.50	3.50	3.75
	t-value	-0.456	0.101	0.768	0.295	0.337
	Effect size η^2	0.009	0.001	0.026	0.004	0.005
Employment	Employed (n=7)	4.20	3.40	4.14	4.05	4.00
	Unemployed (n=16)	3.15	3.48	3.75	3.50	3.94
	t-value	3.525**	-0.190	1.200	1.362	0.191
	Effect size η^2	0.372	0.002	0.064	0.081	0.002

Monthly personal income	MOP 5,000 or below (n=18)	3.26	3.32	3.81	3.65	3.89
	MOP 5,001 – 10,000 (n=1)	4.00	3.60	5.00	3,00	3.00
	MOP 10,001 – 14,999 (n=1)	4.14	3.20	3.67	3.67	4.00
	MOP 15,000 – 19,999 (n=1)	3.29	3.60	3.33	3.33	3.50
	MOP 20,000 or above (n=1)	4.43	4.80	4.33	4.33	4.50
	F-value	0.933	0.726	0.830	0.653	0.602
	Effect size η^2	0.180	0.146	0.163	0.133	0.124
Types of ADHD	Inattentive type (n=8)	4.23	3.53	4.29	4.04	4.31
	Hyperactivity type (n=4)	3.29	3.45	3.50	3.33	3.63
	Combined type (n=13)	3.09	3.46	3.74	3.59	3.77
	F-value	9.017**	0.016	2.499	1.081	2.071
	Effect size η^2	0.450	0.001	0.185	0.089	0.158
		1 > 3*; 1>2*				
Severities of ADHD	Mild (n=11)	3.94	3.58	4.24	4.06	4.14
	Moderate (n=10)	3.06	3.30	3.63	3.53	3.65
	Severe (n=4)	3.32	3.65	3.50	3.08	4.00
	F-value	4.302*	0.388	3.173	2.371	1.321
	Effect size η^2	0.281	0.034	0.224	0.177	0.107
		1>2*				
Years of being diagnosed with ADHD	0 – 10 years (n=7)	3.33	3.60	3.86	3.71	3.93
	11 – 20 years (n=3)	3.33	4.07	4.56	3.89	4.33
	21 – 30 years (n=6)	3.21	3.47	3.67	3.22	3.83
	31 years or above (n=6)	3.48	3.50	3.67	3.72	3.58
	F-value	0.122	0.555	1.341	0.528	0.744
	Effect size η^2	0.020	0.085	0.183	0.081	0.110

Note. ** Significant at the 0.01 level (2-tailed).
* Significant at the 0.05 level (2-tailed).

5. Conclusion

This study attempts to contribute to the lack of research relating to museum visiting in the adult ADHD community. By revealing the perceived concerned factors that influencing visiting experience of ADHD visitors based on their experience of visiting museum(s) in Macao, and understanding the impact of their perceived important factors in reaching their value of visiting museum(s). This study contributes to the growing literature of a more inclusive museum. Museum curators could also develop strategies, facilities, and services that best fit the study group.

In general, the following five factors (i.e., interpretation, spatial-temporal experience, staff, interaction and connection, and quiet environment) are reported important in influencing visiting experience for the adult ADHD visitors when they pay a visit to a normal setting museum (e.g. museums in Macao in this study). Although there is a mean difference between ADHD visitors' demographic profile and their perceptions of the importance of museum facilities and services, the rule of thumb is that all respondents considered interpretation factor plays the

most important role in helping them reaching the values of their museum visit. Museum curators need to present a museum with a well-designed interpretation system, including the following characteristics: (1) diversified channels to receive information; (2) the amount of information provided need to range from simple to complex; and (3) a quiet and less crowd environment. Moreover, this study also suggests museum management should pay more attention to the adult ADHD visitors with the following status, inattentive type, mild symptoms, and have employment. This particularly status visitors seem showing more interest to museum visits. Therefore, future research can explore more of this specific sub-group, as they may be the ADHD community who visit museums most often than others. The biggest limitation of this preliminary study is the limited sample size of respondents. With limited resources and nature of ADHD group, the research team have tried for a very long time to recruit the current sample size. To address this limitation, the research team hopes to collect relevant data in different Asian regions in order to increase the robustness of data. Further studies could also investigate the potential of incorporating qualitative methods to complement the quantitative analysis.

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Theme: New Insights from Foodservice

Exploring the Role of Food Storytelling in Fine Dining and Casual Dining Restaurants (Paper#108)

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Abstract:

This study explores how fine and casual dining restaurants in Thailand integrate food storytelling to enhance customer experiences. Using semi-structured interviews with 10 restaurant professionals, six key storytelling elements are identified: ingredient-focused, visual and sensory, cultural and historical, chef-centered, sustainability and ethical, and health and nutritional. Findings reveal that fine dining emphasizes exclusivity, while casual dining highlights authenticity. This research provides insights for restaurant managers on leveraging storytelling to enhance branding and customer engagement.

Keywords: Food storytelling, Dining experience, Fine dining, Casual dining, Restaurant branding

1. Introduction

The restaurant industry plays a crucial role in the global economy, continuously evolving to meet changing consumer preferences and market demands. In 2023, the global restaurant market was valued at approximately USD 2,073.89 billion, with significant growth projected in the Asia-Pacific region due to rising disposable income and an increasing demand for unique dining experiences (The Business Research Company, 2024). Thailand, known for its rich culinary heritage, has emerged as a prominent gastronomic destination, blending traditional flavors with modern innovations. Cities like Bangkok, Chiang Mai, and Phuket offer diverse dining options, ranging from street food vendors to high-end fine dining establishments (TAT Newsroom, 2024). To further position Thailand as a global culinary hub, initiatives such as the "Kitchen of the World" campaign and the collaboration with the Michelin Guide have elevated the country's restaurant sector, generating significant revenue and boosting gastronomic tourism (Bangkokbiznews, 2024; Chukajorn, 2020; Thansettakij, 2023).

Despite this success, the restaurant industry remains highly competitive, requiring establishments to adopt innovative strategies to attract and retain customers. Traditionally, restaurant success has been attributed to factors such as food quality, service, pricing, and ambiance (Chua et al., 2020; Jung et al., 2015; Karamustafa & Ülker, 2019; Kim & Choi, 2019; Liu & Tse, 2018).

However, contemporary diners increasingly seek immersive and meaningful experiences, prompting restaurants to incorporate storytelling into their brand identity and service approach (Choi, 2016; Clair et al., 2011; Michael & Fusté-Forné, 2022; Karasakal et al., 2022; Zaltman et al., 2015). Food storytelling extends beyond marketing; it serves as a core element in shaping customer perceptions and engagement by conveying the history, inspiration, and values behind a dish or restaurant concept (Michael & Fusté-Forné, 2022; Tan, 2019).

While storytelling has been widely recognized as an essential component of experiential dining, much of the existing literature focuses on its role in tourism, museums, and entertainment venues rather than its application within restaurants (Bassano et al., 2018; Chautard & Collin Lachaud, 2019; Godwin, 2017; Michael & Fusté□Forné, 2022). Research on restaurants primarily emphasizes traditional success factors, leaving a gap in understanding how food storytelling contributes to customer experience and restaurant differentiation. Given the increasing importance of narrative-driven dining experiences, it is crucial to explore how fine dining and casual dining restaurants integrate storytelling into their operations.

This study aims to identify the key elements of food storytelling used in fine and casual dining restaurants and analyze their impact on customer engagement. By examining how restaurants implement storytelling in menu design, service interactions, and ambiance, this research offers insights into how narrative techniques enhance dining experiences. The findings provide practical recommendations for restaurant owners and chefs seeking to strengthen customer relationships through storytelling while contributing to the academic discourse on experiential dining.

2. Literature Review

2.1. Food storytelling in restaurants

Food storytelling has emerged as a powerful tool in the restaurant industry, shaping customer perceptions, strengthening brand identity, and enhancing dining experiences. Unlike traditional marketing, food storytelling integrates narrative elements into various aspects of restaurant operations, including menu descriptions, dish presentation, and service interactions (Michael & Fusté-Forné, 2022; Stone et al., 2017; Zohry et al., 2021). Storytelling allows customers to connect emotionally with the food, reinforcing authenticity and cultural significance (Chunkajorn, 2020; Karasakal et al., 2022; Stone et al., 2017; Zohry et al., 2021). Research suggests that modern diners seek meaningful dining experiences that extend beyond taste and presentation, placing greater value on the history, inspiration, and ethics behind a meal (Chen et al., 2017). This aligns with the broader trend of experiential dining, where sensory and emotional engagement play a critical role (Yoo et al., 2022).

Restaurants use various storytelling techniques to create immersive narratives. Menus often incorporate descriptions that highlight ingredient origins, cultural heritage, or personal inspirations from chefs (Junkrachang et al., 2021). Dish presentation can also serve as a storytelling medium, with plating techniques reflecting artistic expression or historical references (Justiniano et al.,

2018). Additionally, direct chef interactions, such as omakase-style dining or chef's table experiences, offer customers insight into the creative process and philosophy behind each dish (Batat et al., 2019).

Beyond in-person storytelling, digital media has become an essential tool for engaging customers before and after their visit. Social media, restaurant websites, and food documentaries—such as Chef's Table and Street Food—extend storytelling to a global audience, showcasing the craftsmanship, struggles, and inspirations of chefs and restaurateurs (Stein, 2015; Morabito, 2019). These platforms not only reinforce a restaurant's brand identity but also foster emotional connections between customers and the dining establishment (Chunkajorn, 2020).

As consumer preferences evolve, food storytelling has become a critical element in differentiating restaurants in a competitive market. While fine dining establishments often use storytelling to convey exclusivity and craftsmanship, casual dining restaurants leverage narratives to emphasize authenticity and cultural heritage (Michael & Fusté-Forné, 2022). However, despite the increasing adoption of storytelling in the restaurant industry, research on its practical applications and impact remains limited.

2.2. Fine dining vs. casual dining: storytelling strategies

The distinction between fine dining and casual dining extends beyond pricing and service formality; it also influences how storytelling is integrated into the dining experience. Fine dining establishments are characterized by elaborate service, meticulously crafted dishes, and an emphasis on exclusivity (Chua et al., 2020; Jung et al., 2015; Justiniano et al., 2018; Liu & Tse, 2018; Michel et al., 2014; Njite et al., 2014; Schifferstein et al., 2020; Tan, 2019). These restaurants often employ storytelling to enhance their premium positioning, incorporating narratives about rare ingredients, complex preparation techniques, and the chef's personal journey (Michel et al., 2014; Schifferstein et al., 2020). The theatricality of fine dining further reinforces storytelling, as elements like tableside service and interactive plating transform meals into immersive experiences (Junkrachang et al., 2021; Justiniano et al., 2018; Stone et al., 2017; Tan, 2019).

Conversely, casual dining restaurants focus on accessibility and familiarity, using storytelling to create a sense of cultural connection and authenticity (Chua et al., 2020; Jung et al., 2015). Unlike fine dining, where exclusivity is a key appeal, casual dining establishments emphasize relatable narratives such as family traditions, local sourcing, and personal histories (Kim et al., 2009; Liu & Tse, 2018). These restaurants often incorporate storytelling through digital engagement, using social media and multimedia content to highlight their brand's values and mission (Karamustafa & Ülker, 2019).

While storytelling in fine dining leans toward exclusivity and artistry, casual dining storytelling emphasizes inclusivity and cultural connection. Despite these differences, both restaurant types leverage narrative-driven experiences to build customer loyalty and enhance brand perception

(Stone et al., 2017; Junkrachang et al., 2021). However, empirical studies comparing the effectiveness of storytelling in these different dining settings remain scarce, presenting a research gap that this study aims to address.

Existing studies have explored the impact of storytelling in various sectors, including tourism, hospitality, and branding (Bassano et al., 2018; Godwin, 2017; Chautard & Collin-Lachaud, 2019). However, research on how restaurants integrate storytelling into their operations—particularly in fine and casual dining contexts—is still developing. Much of the literature on restaurant success focuses on conventional factors such as food quality, service, and atmosphere, with limited attention to storytelling as a core component of customer engagement (Chua et al., 2020; Jung et al., 2015).

Additionally, while storytelling has been recognized as a branding tool, its role in shaping the holistic dining experience is underexplored. Few studies have examined how narrative techniques influence customer perceptions, emotional connections, and repeat patronage (Njite et al., 2014; Zohry et al., 2021). This study addresses these gaps by investigating how food storytelling is operationalized in both fine and casual dining restaurants and identifying key elements that contribute to an immersive dining experience. It provides insights into how restaurants can strategically leverage storytelling not just for marketing purposes but as an integral part of their brand identity and service experience.

3. Methodology

3.1 Research design

This study employs a qualitative research approach to explore how fine dining and casual dining restaurants integrate food storytelling into their dining experiences. A semi-structured interview method was chosen to allow for in-depth discussions while maintaining a consistent framework across participants. Qualitative methods are particularly effective in capturing the subjective and experiential aspects of storytelling, offering rich insights into how narratives are integrated into restaurant branding and customer engagement.

3.2 Sampling strategy

The study adopted a purposive sampling strategy to recruit restaurant professionals directly involved in storytelling practices, such as restaurant owners, chefs, and managers. This approach ensures that participants possess relevant expertise and firsthand experience in implementing storytelling within restaurant settings.

A total of 10 participants were selected, with equal representation from fine dining (5) and casual dining (5) restaurants. To be eligible, participants had to meet the following criteria: (1) be actively involved in the restaurant industry; (2) work in a restaurant that employs food

storytelling as part of its customer engagement strategy; (3) have at least two years of experience in implementing storytelling techniques. Recruitment was conducted through professional networks, industry connections, and direct invitations via email and phone calls. Participants were provided with a summary of the study's objectives and ethical considerations before agreeing to participate.

3.3 Measurement and data collection

Semi-structured interviews were used as the primary data collection method. This approach allowed for flexibility, enabling participants to elaborate on their experiences while ensuring that key research themes were consistently addressed. The interview protocol was structured into three sections, including background information (i.e., participants' roles, experience, and restaurant type), storytelling strategies (i.e., how storytelling is integrated into menu design, service interactions, and restaurant branding), and the impact of storytelling (i.e., perceived effects on customer engagement, brand differentiation, and business performance).

Each interview lasted between 30 to 60 minutes and was conducted either in person or via video conferencing, depending on participant availability. With consent, all interviews were audio-recorded and transcribed to ensure accuracy in data interpretation.

3.4 Data analysis

This study employed thematic analysis to identify patterns within the interview data, following Braun and Clarke's (2006) framework. The process began with transcription and a thorough review of the interviews to ensure accuracy and familiarity with the data. Coding was then conducted to segment meaningful statements related to food storytelling, which were categorized into broader thematic groups. These themes were refined through comparisons between fine dining and casual dining restaurants, highlighting both shared and distinct storytelling practices.

To enhance validity and reliability, the interview protocol and thematic framework were reviewed by hospitality and food service scholars. Triangulation was achieved by incorporating perspectives from both fine and casual dining professionals. Additionally, researcher reflexivity was maintained to minimize bias and ensure interpretations were data-driven rather than subjective.

4. Results

The thematic analysis of interview data identified six key elements of food storytelling in both fine dining and casual dining restaurants: ingredient-focused, visual and sensory, cultural and historical, chef-centered, sustainability and ethical, and health and nutritional storytelling. These themes highlight how restaurants integrate storytelling into their operations to enhance customer experiences and establish brand identity. To ensure confidentiality and facilitate pattern identification, participants are referred to using pseudonyms (e.g., F1 for fine dining participant 1, C2 for casual dining participant 2).

4.1 Ingredient-focused storytelling

Ingredient-focused storytelling emphasizes the origin, quality, and sourcing of ingredients to build customer trust and enhance perceived authenticity. Casual dining restaurants primarily highlight locally sourced and seasonal ingredients, reinforcing a connection to regional food traditions. One participant (C2) noted, "We emphasize seasonal ingredients to ensure freshness and support local farmers." In contrast, fine dining establishments focus on rare and imported ingredients to convey exclusivity. A chef from a fine dining restaurant (F1) stated, "We use imported Edo-style ingredients from Japan to ensure authenticity and a premium experience." Both restaurant types use ingredient-focused narratives to establish credibility and create deeper customer engagement.

4.2 Visual and sensory storytelling

Visual and sensory storytelling enhances customer engagement through aesthetics, interactivity, and sensory stimulation. Fine dining restaurants often incorporate theatrical elements, such as tableside preparation and intricate plating, to create a more immersive experience. One fine dining chef (F3) explained, "We fillet the fish at the table so that guests can witness the preparation firsthand." Casual dining restaurants also engage customers through interactive experiences, such as farm-to-table demonstrations or participatory menu elements. A casual dining manager (C1) described, "We invite farmers to showcase their produce and explain its role in our seasonal specials." These strategies strengthen the emotional connection between diners and their meals.

4.3 Cultural and historical storytelling

Many restaurants incorporate cultural and historical storytelling to enhance authenticity and provide customers with deeper meaning behind their meals. Casual dining establishments often emphasize heritage-based narratives, linking their dishes to regional traditions or family recipes. A participant (C4) noted, "Our signature noodle dish reflects the migration of Vietnamese communities to northeastern Thailand." Fine dining restaurants, on the other hand, focus on historical influences and exclusivity, incorporating references to royal cuisine or historical culinary techniques. One fine dining chef (F5) stated, "Our Kaeng Ranjuan dish traces back to King Rama V's royal palace, where it was originally created from repurposed leftovers." These narratives not only educate customers but also enhance their emotional connection to the dining experience.

4.4 Chef-centered storytelling

Chef-centered storytelling highlights the personal experiences, philosophies, and culinary inspirations of chefs. In fine dining restaurants, the chef's reputation often plays a central role in branding, with direct chef interactions enhancing the dining experience. A Michelin-starred chef (F2) explained, "Our menu reflects my personal culinary journey, blending techniques I learned in France with Thai ingredients." Casual dining establishments also incorporate chef-centered narratives, though they tend to focus on approachability and personal history rather

than prestige. A casual dining participant (C3) shared, "Our dishes are inspired by the meals our chefs grew up eating at home, making the experience more relatable for customers." This storytelling element personalizes the dining experience and fosters stronger customer loyalty.

4.5 Sustainability and ethical storytelling

Sustainability and ethical storytelling have become increasingly important as customers seek socially responsible dining experiences. Both fine and casual dining restaurants use sustainability narratives to showcase commitments to ethical sourcing, waste reduction, and eco-friendly practices. A casual dining participant (C1) explained, "We list farm names on our menu to build trust and highlight our support for local producers." Fine dining establishments emphasize high-quality artisanal ingredients and sustainable culinary techniques. One participant (F4) stated, "We work with skilled producers who share our philosophy of sustainability, ensuring that our ingredients are ethically sourced." These narratives align with the growing consumer demand for transparency and environmental responsibility in the restaurant industry.

4.6 Health and nutritional storytelling

Health and nutritional storytelling focuses on the safety, quality, and well-being aspects of food. Casual dining restaurants often highlight health-conscious menu options, such as reduced sugar and salt content. A casual dining participant (C1) stated, "Our menu is designed with food safety and wellness in mind, avoiding artificial additives." Fine dining establishments, while not primarily health-focused, incorporate fresh, chemical-free ingredients to reinforce their commitment to quality. One fine dining chef (F5) noted, "We make everything in-house to ensure the highest quality, avoiding processed ingredients." By emphasizing health and nutrition, restaurants cater to the increasing consumer preference for wellness-oriented dining.

Table 1 offers a comprehensive overview of the six identified themes, illustrating their prevalence in both fine dining and casual dining contexts. It underscores the universal significance of storytelling among all participants while also highlighting the differences in how these elements are prioritized and implemented across various restaurant types.

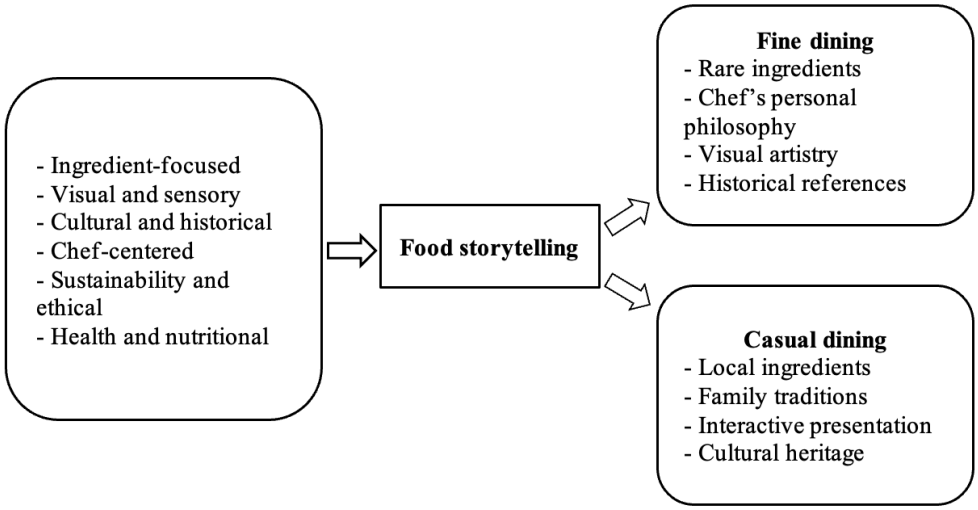
Table 1. Summary of food storytelling elements and participant contributions
Note: "x" indicates that the participant emphasized or discussed the corresponding storytelling element during the interview.

Theme	Restaurant Type	Participants				
		1	2	3	4	5
Ingredient-focused	Casual dining (C)		x	x	x	x
	Fine dining (F)	x		x	x	x
Visual and sensory	Casual dining (C)	x	x	x	x	x
	Fine dining (F)	x	x	x	x	x
Cultural and historical	Casual dining (C)				x	
	Fine dining (F)	x	x		x	x
Chef-centered	Casual dining (C)		x	x		x
	Fine dining (F)	x	x	x		x
Sustainability and ethical	Casual dining (C)	x				
	Fine dining (F)				x	
Health and nutritional	Casual dining (C)	x				
	Fine dining (F)					x

In summary, the analysis reveals that while both fine dining and casual dining restaurants integrate storytelling into their operations, their approaches differ significantly. Fine dining storytelling emphasizes exclusivity, artistry, and history, while casual dining storytelling focuses on authenticity, cultural heritage, and accessibility. However, both restaurant types recognize the importance of ingredient sourcing, sensory engagement, sustainability, and chef narratives in shaping the customer experience.

Figure 1 provides a conceptual model illustrating the six key storytelling elements identified in this study, which are ingredient-focused, visual and sensory, cultural and historical, chef-centered, sustainability and ethical, and health and nutritional. The model also highlights how these elements are emphasized differently across fine dining and casual dining settings, offering a visual summary of their narrative strategies and thematic priorities.

Figure 1. Conceptual model of food storytelling in fine dining and casual dining restaurants



5. Discussion and Implications

This study highlights the significant role of food storytelling in shaping customer experiences in both fine dining and casual dining contexts. By identifying key storytelling elements—ingredient-focused, visual and sensory, cultural and historical, chef-centered, sustainability and ethical, and health and nutritional—this research underscores how narratives enhance customer engagement and brand differentiation. The findings suggest that while fine dining establishments leverage storytelling to emphasize exclusivity and artistry, casual dining restaurants focus on authenticity and cultural connection. Both approaches, however, contribute to strengthening emotional ties with customers and fostering brand loyalty.

A critical takeaway from this study is that storytelling is not merely a marketing tool but an essential component of the dining experience. By understanding how storytelling enhances the dining experience, restaurant managers can create more engaging and emotionally resonant customer experiences, ultimately strengthening customer loyalty. This aligns with previous studies highlighting the impact of narrative-driven experiences on customer perception, trust, and repeat patronage (Njite et al., 2014; Yoo et al., 2022; Zohry et al., 2021).

From a practical perspective, restaurant managers can integrate storytelling more effectively by focusing on the authenticity of ingredient sourcing, interactive presentation techniques, and chef-driven narratives. Furthermore, incorporating digital storytelling through social media and online platforms can extend the customer experience beyond the physical restaurant setting, reinforcing brand identity and customer connection. Training restaurant staff in storytelling techniques could also enhance service interactions, making them more engaging and informative.

Future research should explore the quantitative impact of food storytelling on customer perceptions and behaviors. Specifically, studies could assess how different storytelling elements influence customer satisfaction, loyalty, and willingness to pay. Comparative research across cultural contexts could provide insights into how storytelling resonates with diverse audiences. Since this study is based solely on restaurants in Thailand, the findings may not be fully generalizable to other cultural or regional settings. Future studies could examine food storytelling in different gastronomic landscapes, such as comparing Southeast Asian contexts with European restaurants, to understand how cultural values influence narrative strategies and customer responses. Additionally, examining the role of digital storytelling, such as social media engagement and influencer-driven narratives, could shed light on its effectiveness in shaping restaurant brand identity in the digital age. By advancing the understanding of food storytelling, this study contributes to both academic literature and industry practice, offering a foundation for future research and strategic implementation in restaurant management.

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Management perspectives for food waste reduction in Thai casual restaurants (Paper# 120)

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Abstract:

This study addresses the gap in research concerning cultural influences on food waste management within restaurants. Through interviews, it explores the viewpoints of Thai restaurant managers. The research reveals that managers recognize the significance of food waste but identify consumers and cultural norms as major challenges to effective reduction.

Keywords: Food, Tourism, Image, Technology, Intention

1. Introduction

Food waste is a major challenge for tourism and hospitality industries, with economic losses of billions of dollars annually (United Nations, 2021). This immense challenge was recognized by United Nations Sustainable Development Goal (SDG) 12.3 to reduce per capita global food waste, at the retail level, by 50% within a decade (De Visser-Amundson, 2020). However, cultural-based understanding of food waste reduction strategies is lacking (Filimonau et al., 2021; Juvan et al., 2018) and Liu et al. (2021, p17) calls for 'culture-specific' studies that address the social settings of eating outside the home. Accordingly, the aims of this study are to draw insights into food waste reduction issues from the perspective of restaurant management in Thailand.

2. Literature Review

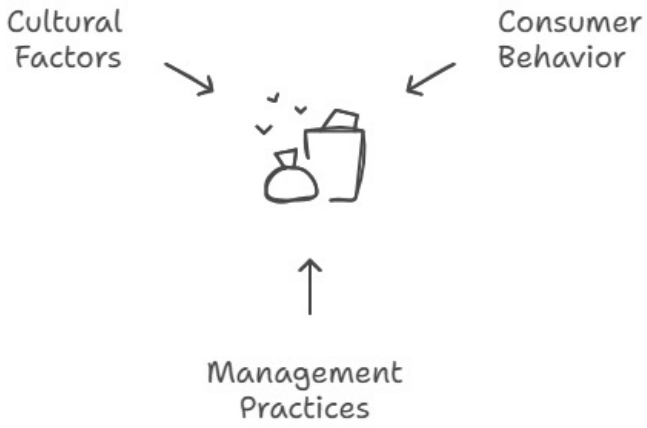
Food waste can be defined as food that has been produced for human consumption but redirected to non-consumption purposes (Dhir et al. 2020). A growing number of researchers are reporting investigations into the food waste practices of restaurants and how to minimize food waste (Dhir et al., 2020; Filimonau et al., 2021). Investigations into food waste, at the

retail level, tend to cover three broad areas: (1) the level of food waste generated (e.g., Vizzoto et al., 2021), (2) organizational attitudes and behaviors (e.g., Okumus, 2020), and (3) consumer perceptions (e.g., Lui et al., 2021). Studies into organizational attitudes and practices have mostly focused on restaurants in western-style developed countries (e.g., Okumus, 2020; Pearson, 2024; Sakaguchi et al., 2018). However, growing interest in how restaurants in less-developed countries manage food waste is emerging (e.g., Filimonau et al., 2019; Filimonau et al., 20223; Morkunas et al., 2025). In particular, investigations into South-East Asian restaurants have been reported in recent literature (e.g., Bhaskara et al., 2024; Koiwanit & Filimonau, 2025).

Numerous studies highlight a wide range of opportunities available for restauranteurs, their managers, and employees to engage in fruitful food waste reduction practices (e.g., Filimonau & De Coteau, 2019: Vizzoto et al., 2021). Such practices tend to be categorized as either preventative or corrective and largely focus on what restaurants do. In contrast to such normative approaches, a smaller group of studies have attempted to elicit a deeper understanding of why restaurants implement, or not implement, food waste reduction strategies (e.g., Bhaskara et al., 2024; Koiwanit & Filimonau, 2025; Okumus, 2020; Pearson, 2024). Reasons for food waste were sought from owners, managers, employees, and chefs by Okumus (2020) and Pearson (2024), with the latter paper adopting a storytelling narrative to elicit information. More recent studies draw insights from the views of Asian chefs (Bhaskara et al., 2024) and restaurant managers (Koiwanit & Filimionau, 2025). The latter paper found that organizational culture and industry norms inhibited waste reduction strategies. While deeper socio-cultural insights were not reported, the authors suggested that this was a rich area for future research.

Conceptualization

Figure 1. Factors Contributing to Food Waste in Thai Casual restaurant



3. Methodology

3.1. Measurement

A thematic approach, following Wei et al. (2023) was used for the analysis of data. Two members of the research team generated the initial sub-themes, which were subsequently checked for consistency and adjusted through a process of interpretive iteration. Furthermore, triangulation of data analysis was achieved by using a third team member to check the resulting themes. Moreover, using ATLAS.ti for coding and memo the data.

3.2. Data collection

A qualitative study comprising a set of interviews was undertaken with restaurant management level recruited from recognized casual dining venues across Thailand. The casual-dining sector makes up the majority of full-service restaurants worldwide (Skyquest, 2023). A small convenience sample of twelve restaurant managers was recruited from personal contacts with the research team. Managers represented leading hotels and stand-alone restaurants from major cities in the capital city of Bangkok, together with the Southern and Northern regions of Thailand. A semi-structured format was used to guide the interviews. While interviews were relatively brief, lasting from 15-45 minutes, this period of time allowed for sufficient probing of informants to elicit salient insights. Interviews were taped, transcribed, and analyzed by the research team progressively.

4. Results

4.1. Profile of the respondents

No	Code	Gender	Age	Managerial work experience	Restaurant size (seats)	Position	Area Based
1	AA	Female	44	16 years	40	Restaurant Manager	Bangkok
2	AB	Female	43	13 years	100	Restaurant Manager	Bangkok
3	AC	Female	42	10 years	100	Restaurant Manager	Bangkok
4	AD	Female	47	17 years	100	Restaurant Manager	Phuket
5	AE	Female	41	12 years	100	Restaurant Manager	Phuket
6	AF	Male	55	27 years	100	Restaurant Manager	Chiang Mai
7	AG	Male	42	11 years	100	Restaurant Manager	Chiang Mai
8	AH	Male	28	5 years	20	Restaurant Owner	Chiang Rai
9	AI	Female	60	30 years	60	Restaurant Owner	Chiang Rai
10	AJ	Male	45	16 years	30	Restaurant Owner	Chiang Rai
11	AK	Female	38	9 years	100	Restaurant Manager	Chiang Rai
12	AL	Male	38	16 years	150	Restaurant Owner	Lampang

4.2. Results of data analysis

Food waste in Thai Casual Restaurants		
Customer attitude and behavior	**Restaurant management practices**	**Thai socio-cultural norms**
• Lack of awareness and value regarding food waste among Thai consumers. • Cultural practices like shared dining leading to excess ordering and waste. • Consumer expectations for visually appealing and abundant meals, even if it leads to waste.	• Reluctance to invest heavily in proactive food waste reduction strategies unless directly impacting costs (e.g., incorrect forecasting). • Limited staff engagement in educating diners about food waste. • Prioritization of attractive meal presentation for competition, even if it increases waste. • Passivity of management, as shown by the "If foods are not eaten 'they will become organic fertilizer afterward'" attitude.	• Perception of Thailand as an agricultural society with abundant and inexpensive food, leading to a lack of urgency regarding waste. • The managerial perspective reveals a disposition to disclaim accountability for consumer education in the realm of sustainability, deferring this responsibility to extraneous parties

5. Discussion and Implications

5.1. Discussion

Overall, the lack of perceived incentives to reduce food waste combined with the acceptance that diners are largely responsible for food waste inhibits greater attention being given to food waste reduction strategies in Thai restaurants. While a proportion of the industry is keen to promote better food waste practices, the sector is perceived to be largely indifferent. This research extends the food waste literature by focusing more closely on front of house aspects leading to plate waste (e.g., Filimonau & De Coteau, 2019; Vizzoto et al., 2021). While Koiwanit

and Filimonau (2025) reported customer values are partially to blame for plate waste, our findings reveal a more complex web of factors. For instance, a socio-cultural norm of shared dining contributes to plate waste. Likewise, the business practices of restaurants also lead to greater plate waste.

5.2. Academic and practical implications

Accordingly, the initiative for plate waste reduction strategies should squarely fall to restauranteurs. Normalizing food waste as an intractable industry issue (Koiwanit & Filimonau, 2025) is not adequate. Restauranteurs can take the lead through better education of frontline staff and more informed interaction with diners to elicit their food preferences. Furthermore, restaurant managers can examine business practices designed to deliver attractive presentations of meals for their efficacy.

5.3. Limitations of this study and suggestions for future research

Limitations of this qualitative study include the use of a small convenience sample. Furthermore, the scope of the study focused primarily on the casual restaurant sector in the cultural context of Thailand. Consequently, the study's findings may differ when applied to other restaurant types. Future research could incorporate the perspectives of customers or other stakeholders within the restaurant industry to elicit more insights.

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Theme: AI & Chatbot

How AI-Based Camera Perception Affects Travelers' Trust: A Study on Mediation and Moderation (Paper#058)

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Abstract:

This study investigates how AI-based camera perception affects travelers' trust, highlighting the mediating role of perceived surveillance and the moderating effect of AI privacy concerns across accommodation types.

Keywords: AI-based camera perception, Travelers' trust, Perceived surveillance, Privacy concerns.

1. Introduction

The advancement of AI technology is transforming service delivery and customer experiences in hospitality. AI-based camera perception systems are widely adopted in public hotels and private room-sharing platforms like Airbnb, offering security and personalization while raising concerns over privacy, surveillance, and trust. This study examines the interplay between AI-based camera perception, perceived surveillance, privacy concerns, and trust erosion, providing insights into AI surveillance's psychological and behavioral impacts in hospitality.

This research has three key objectives. First, it investigates the direct impact of AI-based camera perception on travelers' trust, hypothesizing that trust erosion is greater in public hotels due to heightened institutional surveillance. Second, it examines perceived surveillance as a mediator, where AI cameras amplify the feeling of being monitored, leading to trust erosion. Third, it explores the moderating effect of AI privacy concerns, suggesting that higher privacy concerns intensify negative responses to perceived surveillance. Overall, this study analyzes how AI-based camera perception influences travelers' trust in AI across public and private accommodation settings. Based on these objectives, this study seeks to answer the following research questions: RQ1: How does AI-based camera perception in public hotels versus private room-sharing platforms differentially impact travelers' trust in AI?

RQ2: To what extent does perceived surveillance mediate the relationship between AI-based camera perception and travelers' erosion of trust in AI?

RQ3: How does AI privacy concerns moderate the mediating effect of perceived surveillance on travelers' trust in AI?

2. Literature Review

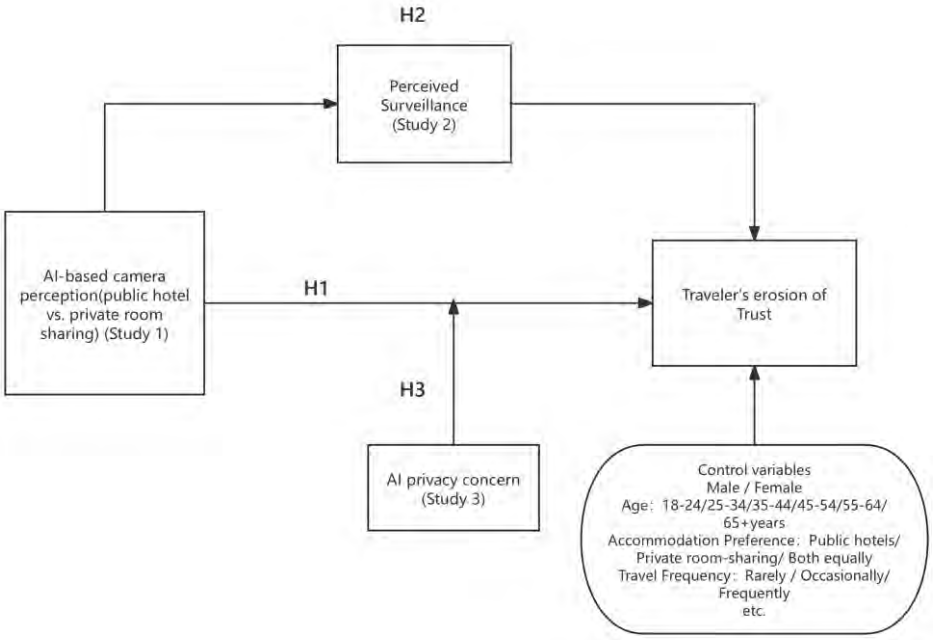
2.1 Research Background

The widespread application of AI in hospitality and tourism is transforming service delivery and customer experiences. However, AI surveillance technologies, such as AI-driven cameras, raise significant privacy and trust concerns. Gefen et al. (2003) emphasized that trust is crucial for AI adoption, and perceived privacy violations can reduce trust in AI systems (Beldad et al., 2010).

As AI surveillance becomes more prevalent in public spaces, travelers increasingly encounter facial recognition and behavioral analysis, heightening awareness of continuous monitoring (De Brito, 2021). Smith et al. (2020) noted that a perceived lack of control over personal data collection amplifies privacy and autonomy concerns. Lu et al. (2021) further highlighted that travelers, being in unfamiliar environments, are particularly sensitive to AI surveillance. Those with higher privacy concerns experience stronger negative effects, leading to greater trust erosion.

Based on the theoretical background, the following research model is proposed. as shown in Figure 1.

Figure 1. Proposed Model



2.2 Hypothesis Development

This study examines the impact of AI-based camera perception (IV) on travelers' erosion of trust in AI (DV) across two different accommodation environments. The research is grounded in the Privacy Calculus Theory (Dinev & Hart, 2006) and the Institutional Trust Theory (McKnight et al., 2002) as theoretical foundations. Additionally, it explores the mediating role of perceived surveillance and the moderating effect of AI privacy concerns.

2.2.1 Perceived Surveillance

Smith et al. (2011) defined perceived surveillance as individuals' awareness of being monitored, which shapes their attitudes toward AI technologies. In hospitality, AI-based cameras influence travelers' perceptions differently across accommodation types. Buhalis and Sinarta (2019) found that in public hotels, cameras are generally viewed as security and efficiency tools, aligning with travelers'expectations for safety. However, when used in private room-sharing accommodations, such as Airbnb rentals, these cameras may be perceived as privacy intrusions, leading to distrust (Tussyadiah & Pesonen, 2015).

The transparency and purpose of AI surveillance also affect trust. Gretzel et al. (2020) emphasized that clear communication about surveillance for crime prevention or crowd management in hotels can alleviate concerns and foster trust. Conversely, in private rentals, undisclosed AI cameras can heighten distrust, as travelers may feel deceived (Ert et al., 2016). These findings underscore the importance of ethical AI deployment and transparent communication in maintaining travelers' trust. Therefore, we propose the first hypothesis:

H1: AI-based camera perception in public hotel settings will lead to greater erosion of travelers' trust in AI compared to private room-sharing accommodations, due to heightened institutional surveillance.

2.2.2 AI Privacy Concerns and Moderating Effect

Xu et al. (2011) suggested that AI privacy concerns influence the relationship between perceived surveillance and trust in AI, with the effect varying based on travelers' sensitivity to privacy risks. Martin (2018) found that travelers with high privacy concerns are more likely to perceive AI as intrusive and exploitative, leading to greater trust erosion. In contrast, Tussyadiah (2020) suggested that those with lower privacy concerns are less affected, as they prioritize AI's convenience and efficiency over potential privacy risks. Malhotra et al. (2004) described privacy concerns as a psychological filter that amplifies or mitigates the impact of perceived surveillance on trust. This aligns with Privacy Calculus Theory, which explains how individuals weigh the security benefits of surveillance against privacy costs (Dinev & Hart, 2006). When AI-based cameras are perceived as highly intrusive, the perceived costs may outweigh the benefits, leading to a decline in trust. Lee and See (2004) emphasized that trust in technology is closely linked to fairness, transparency, and accountability, while Binns et al. (2018) highlighted the need

for AI systems to prioritize user consent and ethical considerations to maintain trust. Without addressing these concerns, the widespread use of AI-based cameras in tourism may further erode public confidence in AI technologies. Therefore, we propose the second hypothesis:

H2: Perceived surveillance will mediate the relationship between AI-based camera perception and travelers' erosion of trust in AI.

This moderating effect highlights the need for transparent data practices, strong regulations, and user education to mitigate AI surveillance's impact on trust erosion (Acquisti et al., 2015). Hofstede et al. (2010) emphasized that sociocultural factors shape privacy perceptions and AI trust, warranting further cross-cultural study.

As AI adoption in tourism expands, concerns over perceived surveillance persist. De Brito (2021) showed that AI systems collect vast personal data without explicit consent, raising transparency issues. Buhalis & Sinarta (2019) noted that awareness of AI-driven surveillance, such as facial recognition, can weaken trust when privacy risks are perceived. Gefen et al. (2003) emphasized that trust erosion directly impacts AI adoption and user engagement. Therefore, we propose the third hypothesis:

H3: Travelers with higher AI privacy concerns will exhibit a stronger negative relationship between perceived surveillance and trust in AI, thereby exacerbating the impact of surveillance on trust erosion.

3. Methodology

This study adopts a sequential quantitative research design consisting of three interrelated sub-studies. Each study addresses a distinct hypothesis, progressively deepening the investigation from the main effect to the underlying mechanism and, finally, to the boundary conditions of that mechanism. Importantly, all three sub-studies are based on a single cross-sectional survey dataset, allowing for a unified and layered analytical approach.

Study 1 (for H1) aims to examine the direct effect of AI-based camera perception on travelers' trust across different accommodation contexts. An independent samples t-test and ANOVA are used to compare trust levels between public hotels and private room-sharing platforms, as well as across varying levels of AI surveillance intensity.

Study 2 (for H2) builds on the findings of Study 1 by exploring the underlying mechanism of trust erosion. Specifically, it tests whether perceived surveillance mediates the relationship between AI-based camera perception and travelers' trust in AI. This is conducted using Hayes PROCESS Model 4 for mediation analysis.

Study 3 (for H3) further extends the analysis by examining the boundary condition of the mediation effect identified in Study 2. Using Hayes PROCESS Model 7, this study investigates whether AI privacy concerns moderate the indirect relationship between AI-based camera perception and trust via perceived surveillance.

Through this phased design, the research not only identifies whether AI-based camera perception affects trust (Study 1), but also how it does so (Study 2), and under what conditions the effect is intensified or mitigated (Study 3). This integrated approach contributes to a more comprehensive understanding of travelers' trust formation in the context of AI surveillance in hospitality.

4. Expected Contribution

This study advances AI adoption research in hospitality by examining the interplay between technology and psychological responses, particularly how AI-based camera perception affects travelers' trust. It identifies key mediating and moderating factors—namely, perceived surveillance and AI privacy concerns—that shape this trust relationship, offering theoretical insights grounded in Privacy Calculus and Institutional Trust Theory. By differentiating AI surveillance impacts across public hotels and private room-sharing accommodations, the study fills an important gap in understanding trust dynamics in the digital hospitality era. From a managerial perspective, the findings offer actionable implications for hospitality operators and platform managers. In private accommodations, clearly disclosing the presence, purpose, and location of AI cameras is essential to mitigate guests' distrust. In hotel environments, transparent communication about surveillance intentions (e.g., safety or crowd management) can help maintain trust. Moreover, segmenting guests based on their privacy sensitivity enables providers to design tailored options—such as privacy-friendly rooms or low-surveillance settings—to enhance guest satisfaction, loyalty, and perceived fairness.

5. Limitations and Future Research

This study has several limitations. The U.S.-based sample may not capture cultural differences in AI surveillance perception, requiring more diverse participants for better external validity. The cross-sectional design limits causal inference, and a longitudinal approach could track changes in AI trust over time. Additionally, the focus on AI surveillance, privacy concerns, and trust erosion excludes factors like technology acceptance, cultural influence, and brand reputation. Incorporating these elements could enhance AI trust models.

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The Effect of Trust and Satisfaction on Gen Z's AI Chatbots Adoption in Tourism and Hospitality (Paper#070)

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Abstract:

This study examines how trust and satisfaction influence Gen Z's adoption of AI chatbots in Danang City. To collect data, a survey questionnaire was delivered to 210 travelers at Gen Z. The results were analyzed using SmartPLS 4.0 software. Consequently, perceived satisfaction positively affects Gen Z's adoption of AI chatbots while perceived trust does not affect their acceptance.

Keywords: Trust, Satisfaction, AI Chatbots Adoption, Gen Z

1. Introduction

Nowadays, AI chatbots have become more and more developed in the tourism and hospitality industry. Businesses are increasingly relying on these tools to streamline customer service, assist with bookings, and provide travel recommendations. What makes these AI chatbots particularly useful is their ability to learn over time. The more they interact with users, the smarter they become. They can also operate in multiple languages, making them a great tool for international travelers. However, training these AI models takes time, and businesses must invest in proper development to ensure accuracy and efficiency (Power et al., 2019).

For travelers, chatbots act as virtual assistants, helping with everything from searching for flights to comparing hotel prices. They offer budget-friendly suggestions and even recommend promotional deals based on past behavior. On the business side, companies benefit from increased engagement, automated customer support, and higher efficiency (Pillai & Sivathanu, 2020). Many well-known travel platforms, including Booking, Expedia, and Cheapflights, have already implemented chatbot technology to improve user experience (Rasheed et al., 2024).

As technology is essential in forming consumer behavior, understanding how different generations interact with AI chatbots is essential for the hospitality industry (Law et al., 2020; Sweezey, 2018). Besides, Gen Z is more open to using new technology compared to Gen X and Millennials (Özkan & Solmaz, 2017).

Although AI chatbots are gaining popularity, research on their acceptance in the travel and tourism sector is still lacking (Brandtzaeg & Følstad, 2017; McLean et al., 2020). To ensure their future success, it is essential to examine how trust and satisfaction impact consumer attitudes toward these tools (de Kervenoael et al., 2020). From the review of the relevant literature on AI chatbots in the travel and tourism sector, no research has been conducted in Danang. Hence, the objective of this research is to fill this gap by analyzing how trust and satisfaction influence Gen Z's intentions to use AI chatbots in tourism and hospitality in Danang City by using the TAM model.

2. Literature Review

2.1. TAM model

David presented the TAM model in his thesis in 1986 and refined it in 1989. Until now, TAM has been extensively used to analyze how individuals interact with new information technologies (C. H. Hsiao & Yang, 2011). The TAM model provides a simple yet effective explanation for technology adoption based on two basic models (the Theory of Reasoned Action, the Theory of Planned Behavior). At its core, TAM suggests two main factors affecting users' acceptance of new innovation, including perceived usefulness and perceived ease of use.

TAM has been applied to various aspects of tourism and hospitality. Scholars have utilized it to investigate the adoption of RFID technology (Honarzade et al., 2018), augmented reality technology (Ronaghi & Ronaghi, 2022), mobile augmented reality (Pinto et al., 2022), mobile technologies (Li et al., 2024). More recently, studies have turned their attention to AI-powered chatbots, investigating whether travelers are willing to continue using them for trip planning and customer support (Pereira et al., 2024). In tourism sectors, an emerging technology in travel and hospitality is AI chatbots, therefore, TAM is used in this research to investigate the influence between trust and satisfaction towards the AI chatbots.

2.2. Perceived Usefulness

David defined perceived usefulness as the degree to which a consumer supposes that utilizing technology will refine job or task performance (Davis, 1989). In previous studies, there are significant effects between perceived usefulness and people's intentions to adopt new technology (Ashfaq et al., 2020; Khlaif et al., 2022; Nguyen et al., 2021; Wang et al., 2022). Moreover, perceived usefulness was demonstrated to affect the acceptance behavior in tourism and hospitality (Kaushik et al., 2015; Oh et al., 2013; Pan et al., 2017). Additionally, previous studies have examined the noteworthy impact of perceived usefulness on satisfaction in the setting of information technology (Dhiman & Jamwal, 2023; Thong et al., 2006). Therefore, we hypothesize that:

H1: Perceived usefulness positively affects Gen Z's AI chatbots adoption

H2: Perceived usefulness positively affects Gen Z's satisfaction

2.3. Perceived Ease of Use

Perceived ease of use is the conviction that using a certain technology would involve little effort on the side of the user (Davis, 1989). Perceived ease of use characterizes how straightforward an AI chatbot's functioning is. AI chatbots are made to be easy to use when organizing a trip. The more useful and easy an AI chatbot is, the more tourists are inclined to use it for planning and traveling. Perceived ease of use has been shown to positively influence attitudes toward embracing new technology in tourism and hospitality (Pan et al., 2017; Pillai & Sivathanu, 2020). Prior studies have shown that customer satisfaction was positively impacted by the perceived ease of using mobile websites (Ariff et al., 2014), social networking sites (Ariff et al., 2014), and online repurchases (Rezaei & Amin, 2013). Because of this outcome, the simpler a new technology is, the more customers are satisfied. Hence hypotheses are formed as:

H3: Perceived ease of use positively affects Gen Z's AI chatbots adoption.

H4: Perceived ease of use positively affects Perceived usefulness.

H5: Perceived ease of use positively affects Gen Z's satisfaction.

2.4. Perceived trust

Perceived trust refers to the degree to which customers believe the chatbot or robot is reliable and reputable (Gallimore et al., 2019; Yagoda & Gillan, 2012; You et al., 2018). Research on tourism technology supports the positive effect of perceived trust on the behavioral adoption of emerging technologies in tourism (Park & Gretzel, 2006), online travel purchases (Ponte et al., 2015), self-service hotel technology (Kaushik et al., 2015), and smartphone apps (Gupta et al., 2017). According to (Gallimore et al., 2019; Pillai & Sivathanu, 2020; Smith, 2019), users are more likely to adopt and use technology regularly when they believe it to be trustworthy. Hence hypotheses are formed as:

H6: Perceived trust positively affects Gen Z's AI chatbots adoption

H7: Perceived trust positively affects Perceived usefulness.

H8: Perceived trust positively affects Perceived ease of use.

2.5. Perceived Satisfaction

Satisfaction is defined as positive sentiments that consumers have after utilizing an IT service or product are known as satisfaction (Rasheed et al., 2024). Following their use of information technology, customers' intentions to buy or keep using it will be influenced by both their positive and negative experiences. According to recent studies, the intention of users to utilize chatbots will also be influenced by users' satisfaction with advertising hotel brands (Lee & Oh, 2021), bank services (Nguyen et al., 2021), and veterinary consultation (Huang & Chueh, 2021). Hence hypothesis is formed as:

H9: Satisfaction positively affects Gen Z's AI chatbots adoption.

3. Methodology

3.1. Measurement

Four researchers/experts with backgrounds in tourism and hospitality were requested to examine the survey questions during the qualitative research phase. The survey's construct items were chosen from many literatures in the past. The perceived usefulness and perceived ease of use items were sourced from (Pillai & Sivathanu, 2020). The scales suggested by (Al-Abdullatif, 2023) were used to gauge perceived trust. The satisfaction scale was borrowed from (K.-L. Hsiao & Chen, 2022). The perception of AI chatbots was modified from the research of Melián (Melián-González et al., 2021).

To eliminate any potential ambiguity, we used straightforward and easily understandable words in both English and Vietnamese for the survey, which was divided into two sections: one is for collecting the general demographic data capturing gender, academic level, and regularity of using AI chatbots, and the other covered factors affect AI chatbots adoption, including perceived trust and perceived satisfaction. In the first part of the survey, multiple-choice questions are used to enable respondents to select the answer that suits them best. A 5-point Likert scale is applied in the second part. Drawing on earlier studies such as (Babakus & Mangold, 1992; Bouranta et al., 2009), which recommend employing a 5-point Likert scale, claiming that it enhances both the response rate and the quality of responses.

During the quantitative research phase, a partial least squares (PLS) tool, SmartPLS 4.1.0.8 is utilized to conduct the measurement and structural model testing. The data was analyzed using partial least squares structural equation modeling (PLS-SEM). There are two main reasons for utilizing PLS-SEM instead of covariance-based structural equation modeling (CB-SEM). In the first place, PLS-SEM is especially suitable for small samples (Esposito Vinzi et al., 2010). Secondly, PLS-SEM is more suitable for complex structural models that contain numerous constructs, indicators, and/or relationships (Hair et al., 2019). Hence, PLS-SEM is appropriate for testing the goodness of fit, as well as assessing and evaluating the hypotheses in this study.

3.2. Data collection

As mentioned above, this study utilized a 5-point Likert scale, in which 1 stood for "strongly disagree" and 5 signified "strongly agree". Between November and December 2024, the survey was distributed to Gen Z tourists arriving in Danang City. Convenience sampling is a cost-effective method (Hair et al., 2019) and was therefore used for this study.

A total of 250 responses that meet the minimum requirement of sample size (Bentler & Chou, 1987; Bollen, 1989) were received, but following meticulous examination, 40 responses were considered invalid. Thus, of the 250 questionnaires distributed, 210 valid responses were obtained. These 210 questionnaires continued to be included in the subsequent analyses. The sample size from 200 to 400 is sufficient for analyzing statistical tests in research models with multiple variables (Hair et al., 2019). Therefore, the sample size of 210 is appropriate for validating the methodology and testing the hypotheses

4. Results

4.1. Profile of the respondents

Table 1. General demographic information

Characteristic	Frequency	%
Gender		
Male	83	39.5
Female	127	60.5
Academic level		
High school or lower	62	29.5
Bachelor's degree	101	48.1
Master's degree	47	22.4

According to the above results, the percentages for men and women are 39.5% and 60.5% respectively. Regarding educational qualifications, 48.1% of the respondents had bachelor's degree.

4.2. Assessment of the measurement model

4.2.1. Reliability and validity

Table 2. Cronbach's alpha, Composite reliability, and Average Variance Extracted.

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
PE	0.867	0.880	0.903	0.652
PI	0.842	0.854	0.894	0.680
PT	0.896	0.898	0.923	0.707
PU	0.899	0.899	0.925	0.712
SF	0.874	0.875	0.914	0.728

SmartPLS 4 provides three indicators to assess scale reliability and internal consistency reliability: Cronbach's alpha, Composite reliability rho_a, and Composite reliability rho_c (CR). (Hair et al., 2019) suggested focusing on two indicators: Cronbach's alpha and Composite reliability rho_c.

Cronbach's alpha of each constructor surpassed 0.70 (Hair et al., 2019). PI had the lowest value (0.842), while PU had the highest (0.899).

For exploratory studies, CR values ranging from 0.6 to 0.7 are deemed acceptable, the ideal level is from 0.7 - 0.9 (Bagozzi & Yi, 1988; Hair et al., 2019; Henseler & Sarstedt, 2013). All CR values in this study are above 0.7, indicating that the measurement scales satisfied the requirement of reliability and are appropriate for further analysis.

In addition, to evaluate the constructs' validity, we use the Average variance extracted (AVE). (Hair et al., 2019) suggested that a scale achieves convergent validity if the AVE is 0.5 or higher. The AVE of this study ranged from 0.652 to 0.728, and all data were adapted to the recommended value for AVE. This result indicates that all constructs are convergent.

4.2.2. Discriminant validity test

A discriminant validity test was used to determine if the items could completely explain their own constructs and have a minor connection to other constructs (Fornell & Larcker, 1981). Two criteria were taken into consideration to test the discriminant validity. Initially, all factors satisfy the criterion put forth by (Fornell & Larcker, 1981), discrimination is ensured when the square root of the AVE of a factor is higher than all the correlation coefficients of that factor with other factors in the model. Secondly, (Garson, 2016) suggested that the discriminant validity between two latent variables is guaranteed when the HTMT value is less than 1. (Henseler et al., 2015) suggested that if this value is below 0.9, the discriminant validity will be guaranteed.

Table 3. Discriminant validity - Fornell-Larcker criterion

	PE	PI	PT	PU	SF
PE	**0.807**				
PI	0.660	**0.825**			
PT	0.586	0.646	**0.841**		
PU	0.592	0.679	0.727	**0.844**	
SF	0.600	0.722	0.681	0.701	**0.853**

As we can see, the bolded numbers in Table 3 are the square root of each AVE. All of them are higher than the correlation coefficients of that factor with other factors. This proves that the discriminant validity of latent variables is guaranteed.

Table 4. Discriminant validity (HTMT)

	PE	PI	PT	PU	SF
PE					
PI	0.764				
PT	0.655	0.741			
PU	0.655	0.775	0.807		
SF	0.675	0.830	0.769	0.790	

HTMT achieves higher specificity and sensitivity rates than Fornell-Lacker (Henseler et al., 2015). In Table 4, all data are below 0.85. Thus, discriminant validity is attained, supporting results similar to those of the Fornell-Lacker criterion.

4.3. Assessment of the structural model

Once the measurement model is established, the structural model must be analyzed. The connections among all the latent constructs are evaluated by testing the structural model. Before testing the hypothesis, the collinearity issue needs to be assessed. Collinearity is one of the main possible problems in a structural model, and it arises when the Variance Inflation Factor (VIF) value surpasses 3 (Hair et al., 2019).

Table 5. Collinearity statistics (VIF) – Inner model

	PE	PI	PT	PU	SF
PE		1.782		1.524	1.540
PI					
PT	1.000	2.507		1.524	
PU		2.641			1.540
SF		2.389			

The results in Table 5 show that all VIF coefficients are less than 3, so collinearity among the constructs does not occur.

4.3.1. Hypotheses testing

The bootstrapping procedure was utilized from the viewpoint of PLS-SEM to test the hypotheses. This procedure involved considering 5,000 resamples based on 210 cases. This method is regarded as beneficial since it allows for hypothesis testing without the need for parametric tests (Esposito Vinzi et al., 2010).

Table 6. Path analysis

	Path coefficient (β)	T value	P values	Remarks
PE -> PI	0.272	4.832	0.000	Supported
PE -> PU	0.253	3.719	0.000	Supported
PE -> SF	0.284	4.896	0.000	Supported
PT -> PE	0.586	12.367	0.000	Supported
PT -> PI	0.108	1.503	0.066	Not supported
PT -> PU	0.579	8.301	0.000	Supported
PU -> PI	0.194	2.493	0.006	Supported
PU -> SF	0.533	9.572	0.000	Supported
SF -> PI	0.348	5.273	0.000	Supported

Figure 1. The structural model

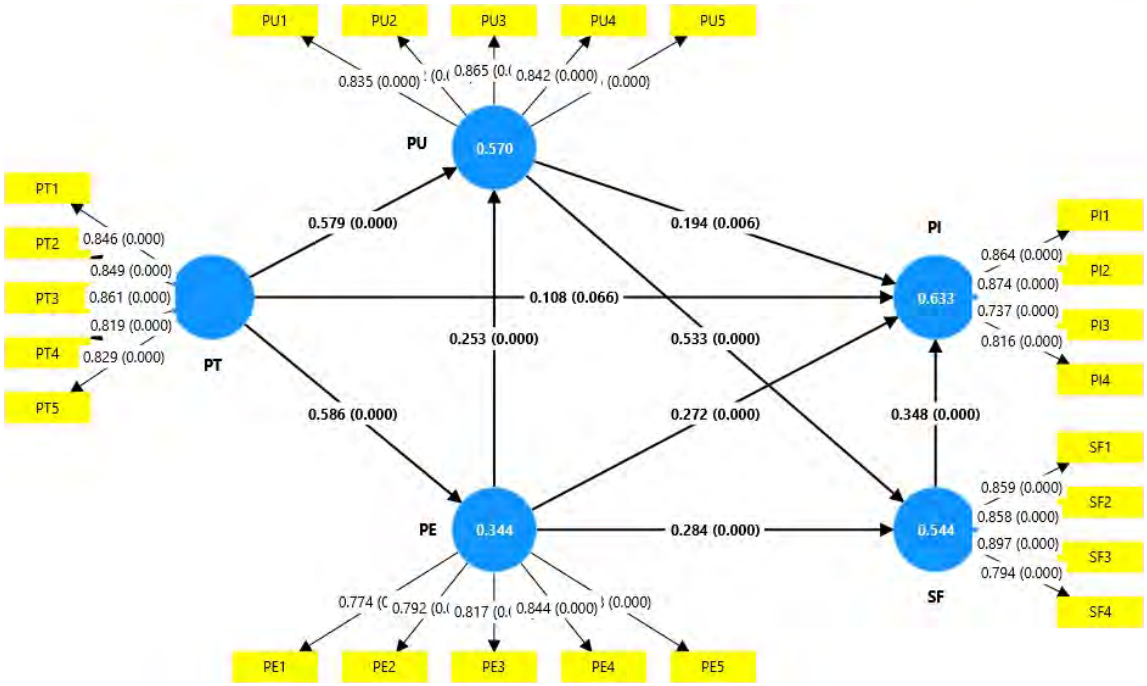


Table 6 and Figure 1 shows the results of the effects and hypothesis testing. It is evident that all variables show statistical significance within a 95% confidence interval except the relation between perceived trust and perceived intention. It was identified that the factor having the highest effect on the adoption of the AI Chatbots of GenZ is satisfaction (β=0.348), followed by Perceived ease of use (β=0.272) and perceived usefulness (β=0.194). Meanwhile, the relationship between Perceived trust and intention to use AI chatbots is not statistically significant due to P-values (0.066) being higher than 0.05. However, perceived trust impacts significantly on perceived usefulness (β=0.579) and perceived ease of use (β=0.586).

Our research results confirm that hypothesis H6 is rejected, the others are all accepted.

4.3.2. Predictive power, predictive relevance, and effect size

Table 7. Predictive power (R2) and predictive relevance (Q2)

	Predictive power (R^2)		Predictive relevance (Q^2)
	R-square	R-square adjusted	
PE	0.344	0.341	0.217
PI	0.633	0.626	0.417
PU	0.570	0.566	0.399
SF	0.544	0.540	0.392

The adjusted R2 values indicate that 34.4%, 63.3%, 57.0%, and 54.4% of the variance in PE, PI, PU, and SF respectively, can be explained by the independent variable of the model. The Q2 value represents the predictive capability of independent variables on the dependent variable. According to (Tenenhaus et al., 2005), Q2 serves as an indicator of the overall quality of a component-based model. When all components exhibit Q2>0, the structural model as a whole is considered to meet the required quality standards. In this study, all of the Q2 values exceed zero. This result indicates that the model has a substantial predictive quality.

Table 8. Effect size f2

	PE	PI	PT	PU	SF
PE		0.113		0.098	0.115
PI					
PT	0.524	0.013		0.511	
PU		0.039			0.405
SF		0.138			

The f^2 coefficient was estimated to evaluate the effect size of the constructs (Cohen, 2013). From the above table, it can be seen that PT has a strong influence on PE (0.524) and PU (0.511), underscoring the critical role of trust in shaping users' perceptions of AI chatbots' usability and effectiveness. Additionally, PE positively affects PI (0.113), aligning with previous studies based on the TAM, which suggest that an intuitive and easy-to-use system enhances users' adoption. Furthermore, PU exhibits a significant impact on SF (0.405), emphasizing that higher levels of usefulness can enhance users' satisfaction with AI chatbots. Although PT has a minimal direct effect on PI ($f^2 < 0.02$), indirect influences may still be present through mediating variables. The effect size of each of the remaining constructs on the dependent construct is medium ($0.02 < f^2 < 0.15$). Overall, these findings reinforce the research model by demonstrating that trust and ease of use play a fundamental role in promoting AI chatbot adoption among Gen Z, while satisfaction directly influences the intention to use this technology.

5. Discussion and Implications

5.1. Discussion

This study provides valuable insights into how trust and satisfaction directly or indirectly influence Gen Z's intention to use AI chatbots. The findings confirm Hypothesis H1, indicating that perceived usefulness positively impacts Gen Z's acceptance of AI chatbots. This aligns with previous studies (Kaushik et al., 2015; Oh et al., 2013; Pan et al., 2017), which have highlighted the crucial role of perceived usefulness in fostering the adoption of new technologies.

Additionally, the study supports Hypothesis H2, which asserts that perceived usefulness positively influences user satisfaction. Specifically, Gen Z tends to be more satisfied when they recognize AI chatbots as beneficial in assisting them with travel planning. This result is consistent with previous research by Dhiman & Jamwal (Dhiman & Jamwal, 2023) and Thong et al. (Thong et al., 2006).

Hypothesis H3 is also validated, demonstrating that perceptions of usefulness directly enhance AI chatbot acceptance. These findings are in line with prior studies (Pan et al., 2017; Pillai & Sivathanu, 2020), which suggest that users are more likely to adopt AI chatbots when they perceive them as both easy to use and effective. Similarly, Hypothesis H5 is confirmed, showing that the greater the perceived usefulness of AI chatbots, the higher the satisfaction level among Gen Z. These insights imply that businesses in the tourism and hospitality sectors should focus on improving chatbot usability and effectiveness to enhance customer satisfaction.

Contrary to earlier research on technology adoption (Gupta et al., 2017; Kaushik et al., 2015; Park & Gretzel, 2006; Ponte et al., 2015), this study does not provide sufficient evidence to support Hypothesis H6, which proposed that perceived trust directly influences Gen Z's acceptance of AI chatbots. However, trust was found to have an indirect effect on chatbot adoption through two mediating factors: perceived ease of use and perceived usefulness.

Finally, Hypothesis H9 is supported, revealing that satisfaction has a positive impact on Gen Z's intention to use AI chatbots. This suggests that when AI chatbots meet users' expectations regarding quality and efficiency, Gen Z is more inclined to incorporate them into their travel experiences.

5.2. Academic and practical implications

This study employs the TAM model to investigate the influence of perceived trust and satisfaction on AI chatbot adoption, with perceived ease of use and perceived usefulness acting as mediating variables. Furthermore, the study examines the dual role of satisfaction and trust in shaping Gen Z's adoption of AI chatbots, particularly within the tourism industry in Danang City, Vietnam. As AI-driven solutions become increasingly integral to the tourism and hospitality sectors, understanding these dynamics is critical for both academic research and practical applications.

From a theoretical standpoint, this study contributes to the growing literature on technology adoption by exploring the intricate relationships between perceived trust, ease of use, usefulness, and satisfaction in influencing behavioral intentions. While prior studies have emphasized the significance of perceived usefulness and ease of use in technology acceptance, this research underscores the additional role of satisfaction and trust in shaping user attitudes toward AI chatbots. These findings enhance scholarly discussions on trust and satisfaction in tourism, highlighting the necessity of reassessing traditional TAM constructs within the evolving landscape of AI-powered customer service technologies.

In terms of practical implications, the findings offer valuable guidance for travel agencies, hotels, and other tourism-related enterprises aiming to enhance their AI chatbot services. A comprehensive understanding of the key factors driving chatbot adoption enables businesses to design AI solutions that are not only user-friendly and intuitive but also reliable and aligned with Gen Z's digital behaviors and expectations. Given that this demographic is highly tech-savvy and willing to invest in travel experiences, optimizing chatbot functionality can lead to improved customer engagement, more efficient booking processes, and greater overall satisfaction. To achieve this, businesses should prioritize refining chatbot interfaces to enhance usability, implementing advanced personalization features to cater to individual travel preferences, and reinforcing trust-building mechanisms—such as ensuring data privacy, providing clear and accurate information, and improving chatbot responsiveness. By leveraging these strategies, tourism and hospitality businesses in Danang and beyond can maximize the potential of AI technology, ultimately fostering customer loyalty and enhancing operational efficiency.

5.3. Limitations of this study and suggestions for future research

Like any research study, this study has certain limitations that should be acknowledged. First, it primarily focuses on the impact of satisfaction and trust on Gen Z's adoption of AI chatbots. While these factors are significant, user adoption is a complex process influenced by a wide range of variables. Other elements, such as prior experience with technology, perceived risks, technological literacy, novelty-seeking tendencies, and social influence, may also play a crucial role in shaping adoption intentions. Future studies could explore these additional dimensions to provide a more comprehensive understanding of Gen Z's decision-making process regarding AI chatbot usage. By incorporating broader psychological, contextual, and behavioral factors, researchers may gain deeper insights into the intricate mechanisms underlying technology acceptance among this demographic.

Second, due to constraints in research scope and time, this study employs a convenience sampling method (a non-probability sampling technique) and is based on a limited sample size. While this approach is common in exploratory research, it may not fully capture the diversity of Gen Z's perspectives. As a result, the findings should be interpreted with caution, as they may not be entirely representative of the broader population. Additionally, the study is geographically limited to Danang City, which, although a popular tourist destination, may not reflect the varying travel behaviors, preferences, and technological adoption patterns of Gen Z travelers across different regions of Vietnam. Future research could enhance the generalizability of findings by expanding the study to a nationwide scale, incorporating diverse regions with different economic, cultural, and technological environments. A larger and more representative sample, possibly employing stratified or random sampling techniques, would help ensure that the conclusions drawn are more robust and applicable to a broader audience.

Despite these limitations, the findings of this study provide valuable insights into the factors influencing AI chatbot adoption among Gen Z. By addressing these constraints in future research, scholars can further refine the understanding of AI-driven customer service adoption and offer more nuanced recommendations for the tourism and hospitality industries.

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A Comparative Study of ChatGPT and DeepSeek Performance in Enhancing Hospitality Customer Service (Paper#057)

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Abstract:

This study compares ChatGPT-3.5 and DeepSeek in hospitality customer service, evaluating response efficiency, fluency, accuracy, and satisfaction. Findings inform effective AI deployment in service contexts.

Keywords: Artificial Intelligence, Hospitality, Generative Model, Retrieval Model, Customer Service, Chatbot

1. Introduction

The hospitality industry is undergoing a significant digital transformation, with artificial intelligence (AI) increasingly integrated into customer service to enhance efficiency, personalization, and operational effectiveness. AI-powered chatbots play a critical role in hotel management by streamlining guest interactions, improving response accuracy, and reducing labor costs (Wang et al., 2021). Among the leading AI models, ChatGPT, a generative model developed by OpenAI, excels in natural language generation and multi-turn dialogues (Brown et al., 2020; OpenAI, 2023). In contrast, DeepSeek, a retrieval-augmented language model, prioritizes precise information retrieval and structured query processing, making it particularly effective for fact-based and transactional inquiries (Zhong, Tang, & Liu, 2023). Given their distinct functionalities, a comparative evaluation is essential for optimizing AI applications in hospitality customer service.

Selecting an AI model requires assessing key performance metrics, including response efficiency, generation capability, accuracy, and adaptability to customer interactions. A seamless, contextually relevant response is critical to customer satisfaction, directly impacting guest experience and brand loyalty (Kim et al., 2024). While ChatGPT offers superior fluency and adaptability, DeepSeek may provide greater precision and reliability, particularly for FAQ-based and structured queries (Roumeliotis, Tselikas, & Nasiopoulos, 2024). Understanding these trade-offs is crucial for hotel managers optimizing AI-driven service solutions.

This study empirically evaluates ChatGPT and DeepSeek through a structured benchmarking approach, assessing response time, accuracy, multi-turn dialogue performance, and complainthandling effectiveness. Given the increasing reliance on AI in hospitality, a systematic, reproducible analysis will offer industry practitioners valuable insights. Standardized datasets and automated assessment methodologies will ensure objectivity and comparability.

As AI continues to redefine hospitality customer service, decision-makers must strategically balance innovation with operational efficiency. This study aims to provide data-driven insights to guide AI adoption in hospitality, clarifying the advantages and limitations of generative and retrieval-based models. The findings will support more effective and sustainable AI integration within the sector.

2. Literature Review

2.1. Application of AI Chatbots in Hospitality Services

The hospitality sector has witnessed transformative adoption of AI-powered chatbots, with distinct architectures emerging for customer service optimization. Generative models, particularly ChatGPT, have demonstrated exceptional competency in managing multi-turn interactions through advanced contextual understanding and adaptive response generation (Limna & Kraiwanit, 2023; Wang, 2024). Empirical evidence grounded in the technology acceptance model (TAM) confirms their efficacy in facilitating complex decision-making processes during customer engagements (Solomovich & Abraham, 2024).

Conversely, retrieval-augmented systems like DeepSeek employ knowledge-based architectures that prioritize precision in structured service encounters (Zhong, Tang, & Liu, 2023). This approach substantially mitigates hallucination risks while maintaining exceptional factual accuracy, particularly when processing routine inquiries regarding reservations, policies, and service specifications (Roumeliotis, Tselikas, & Nasiopoulos, 2024). The architectural dichotomy between generative and retrieval-based systems necessitates comprehensive performance evaluation across diverse hospitality service scenarios.

2.2. Performance Metrics and Hypothesis Development

The comparative evaluation of AI chatbot architectures in hospitality services necessitates examination of four critical performance dimensions: response efficiency, generation capability, accuracy, and user satisfaction metrics. Generative models demonstrate superior performance in conversational fluency and contextual adaptation, particularly in dynamic service scenarios such as complaint resolution (Zhong et al., 2023). However, this advantage may be counterbalanced by occasional inconsistencies when processing fact-based inquiries (Kim, Lee, & Hong, 2024), where retrieval-based systems maintain stronger performance through their knowledge-constrained response mechanisms (Ciechanowski et al., 2019).

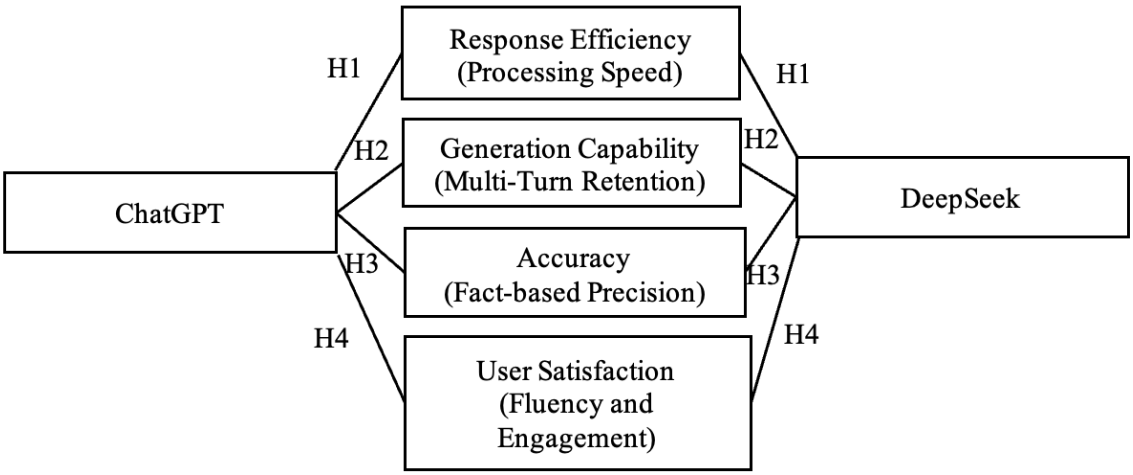
Response latency analysis reveals systematic differences between architectures, with retrievalbased systems typically demonstrating faster processing times for structured queries due to their deterministic lookup procedures (Roumeliotis, Tselikas, & Nasiopoulos, 2024). These operational characteristics generate the following research hypotheses:

H1: DeepSeek will exhibit shorter response times than ChatGPT in structured customer service inquiries due to its retrieval-based architecture.

H2: ChatGPT will demonstrate superior generation capability compared to DeepSeek, exhibiting greater fluency and coherence in multi-turn conversations.

H3: DeepSeek will achieve higher accuracy in structured, fact-based queries, while ChatGPT will perform better in sentiment-driven interactions.

H4: ChatGPT will receive higher user satisfaction ratings in open-ended conversations, whereas DeepSeek will be preferred for precise, transactional inquiries.



3. Methodology

This study employs an experimental design to compare the performance of ChatGPT-3.5 and Deepseek (base version) in hospitality customer service across four key dimensions: response efficiency, generation capability, accuracy, and user satisfaction. A dataset of 50 multi-turn customer service queries was developed, encompassing transactional inquiries, policy-related questions, complaint resolution, and personalized recommendations, with each model tested across multiple trials, generating at least 5,000 interactions for statistical reliability. Response efficiency was measured by recording response times, with the mean and standard deviation calculated and t-tests conducted to compare differences. Given DeepSeek focus on retrievalbased responses, it was expected to deliver faster results for structured queries, whereas

ChatGPT-3.5, as a generative model, might exhibit longer response times in multi-turn interactions. Generation capability was assessed through coherence scores (rated by GPT-4), n-gram diversity analysis for linguistic variability, and multi-turn retention to evaluate contextual continuity. As ChatGPT-3.5 is optimized for natural language generation, it was anticipated to perform better in maintaining conversational flow, while DeepSeek was expected to produce more structured yet potentially rigid responses. Accuracy was evaluated using keyword matching for factual correctness, semantic similarity scores (BERTScore) for alignment with reference responses, and sentiment accuracy for appropriate emotional tone in complaint-handling scenarios. DeepSeek was expected to excel in structured queries, while ChatGPT-3.5 was hypothesized to adapt better to sentiment-driven interactions. Since human participants were not involved, user satisfaction was approximated using fluency scores (assessing grammatical coherence) and helpfulness ratings (evaluating response adequacy), while engagement was measured by tracking conversation depth across multiple turns. ChatGPT-3.5 was anticipated to receive higher scores in fluency and engagement, whereas DeepSeek was likely to be preferred for factual accuracy. To ensure the robustness of findings, statistical analyses included descriptive statistics, independent t-tests for model comparisons, and ANOVA to assess variations across query types.

4. Results

Preliminary findings are expected to indicate that ChatGPT-3.5 excels in multi-turn interactions, demonstrating superior fluency and contextual retention, while DeepSeek outperforms in structured queries, ensuring higher precision and consistency. ANOVA tests are anticipated to reveal significant differences in response patterns across query types. DeepSeek is expected to provide faster responses for factual inquiries due to its retrieval-based approach, whereas ChatGPT-3.5 may require more processing time for complex, open-ended dialogues. Accuracy assessments are likely to confirm DeepSeek advantage in structured tasks, while ChatGPT-3.5 may exhibit stronger adaptability in sentiment-driven queries. User satisfaction evaluations are expected to show higher fluency and engagement ratings for ChatGPT-3.5, while DeepSeek may be preferred for precision and factual reliability. These insights will inform AI deployment strategies in hospitality, suggesting ChatGPT-3.5 for dynamic guest interactions and Deepseek for efficient, fact-based support. Future research should examine scalability, multilingual adaptability, and real-world customer feedback integration to enhance AI-driven customer service solutions.

5. Discussion and Implications

5.1. Discussion

The present findings contribute to the growing body of literature examining AI applications in hospitality customer service by providing a systematic comparison between generative and retrieval-based language models. Existing research has established the efficacy of AI chatbots in enhancing operational efficiency (Wang et al., 2021; Zhong et al., 2023); however, this study

advances current understanding by demonstrating how distinct architectural approaches yield differential performance across service scenarios. The observed trade-offs between response efficiency, factual accuracy, and conversational fluency not only align with prior research but also provide novel insights into context-dependent model suitability. For instance, DeepSeek's superior performance on structured queries corroborates findings regarding retrieval-based systems' advantages for transactional tasks, while ChatGPT's strengths in multi-turn dialogues reflect documented benefits of generative architectures for dynamic interactions.

The introduction of the task-model fit framework represents a significant theoretical contribution, offering a structured approach for evaluating AI systems in service environments. This framework addresses a notable gap in current hospitality literature by providing empirically grounded criteria for model selection. Furthermore, the methodological approach - employing standardized datasets and automated evaluation metrics - establishes a replicable paradigm for future benchmarking studies in this domain. Such methodological rigor ensures findings maintain both objectivity and comparability across diverse hospitality contexts.

5.2. Academic and practical implications

The academic significance of these findings manifests in two primary dimensions. First, the study substantiates task-model fit as a valuable theoretical lens for examining AI implementation in service industries. By systematically demonstrating how different model architectures align with specific interaction types, this research bridges critical gaps between technical AI capabilities and practical service requirements. Second, the findings extend conventional service quality frameworks (e.g., SERVQUAL) by establishing measurable relationships between AI performance metrics (e.g., reliability, empathy) and user satisfaction outcomes. These contributions create new avenues for investigating how AI systems might meet or exceed established service standards.

From a practical perspective, the results offer actionable insights for hospitality practitioners. The task-model fit framework provides clear guidance for technology adoption decisions, enabling managers to strategically match model capabilities with operational needs. Generative models prove particularly suitable for handling complex, sentiment-driven interactions such as complaint resolution, whereas retrieval-based systems demonstrate clear advantages for routine informational queries. The potential for hybrid systems warrants serious consideration, though additional research is necessary to explore optimal implementation strategies. Furthermore, these findings highlight the importance of developing staff training protocols that facilitate effective routing between AI and human service channels based on interaction complexity.

5.3. Limitations of this study and suggestions for future research

Several methodological limitations warrant consideration when interpreting these findings. Although the experimental framework developed in this study was intentionally designed to be model-agnostic and theoretically applicable to the evaluation of any conversational AI system, the present implementation was necessarily constrained to specific versions of ChatGPT and DeepSeek. A more critical limitation lies in the reliance on pre-defined query sets. Despite being carefully curated from real-world hospitality platforms to reflect typical customer interactions, these queries are unable to fully replicate the dynamic and unpredictable nature of human-generated dialogues. The absence of live user testing further restricts ecological validity, as authentic service conversations often involve spontaneous follow-up questions, diverse linguistic expressions, and nuanced contextual references that may influence model performance in real-world applications.

To enhance the robustness and applicability of future research, several methodological refinements should be prioritized. Foremost among these is the integration of controlled user studies involving actual hotel guests and staff, which would offer essential empirical validation while capturing the complexity inherent in naturalistic service interactions. These studies could utilize the existing evaluation framework while allowing participants to generate queries spontaneously. Furthermore, the implementation of longitudinal field experiments within operational hotel environments could yield insights into long-term performance patterns and practical deployment challenges. The advancement of hybrid evaluation methodologies—integrating automated metrics with human judgment—also represents a promising direction for more holistic assessment. Additionally, extending the current research paradigm to accommodate emerging model architectures and multilingual contexts would significantly enhance the generalizability of the findings.

In summary, while this study establishes a rigorous comparative framework for the evaluation of conversational AI systems in hospitality, the identified limitations underscore critical avenues for methodological advancement. The foundational principles and evaluation metrics proposed herein provide a robust basis for future extensions, ensuring continued relevance as both AI technologies and hospitality applications evolve.

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Theme: Sustainability & ESG

The impact of a hotel's ESG activities on customers' booking intentions: The moderating effect of political ideology (Paper#087)

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Abstract:

This study examines the impact of a hotel's ESG activities on booking intentions and explores the moderating effect of political ideology. Environmental and social responsibility activities had a positive impact on booking intentions, while governance improvement activities had no significant impact. Conservatives had a negative response to governance improvement activities.

Keywords: ESG, Hotel, Political ideology, Perceived fairness

1. Introduction

The increasing global focus on sustainability and responsible corporate behavior has elevated the importance of ESG initiatives in various industries, particularly hospitality. ESG activities contribute not only to corporate social responsibility but also enhance corporate image, brand equity, and customer loyalty. However, the effectiveness of these initiatives on consumer behavior is contingent upon various consumer attributes, notably political ideology. Political polarization has heightened in many societies, influencing how consumers perceive and respond to corporate ESG efforts. Prior studies indicate notable ideological differences, with liberals generally responding positively towards sustainability efforts, whereas conservatives show either neutral or skeptical responses.

The hospitality industry faces unique challenges and opportunities in ESG implementation, as hotels increasingly incorporate sustainable practices to attract environmentally and socially conscious consumers. Understanding customer responses to different ESG initiatives and the role of political ideology in shaping these responses is crucial for effective marketing and customer relationship management. Furthermore, perceived fairness, a psychological construct, is believed to mediate customer attitudes towards ESG efforts and subsequently impact behavioral intentions, such as hotel booking decisions.

Therefore, this study aims to address gaps in the literature by examining separately how hotel ESG activities—categorized into environmental protection, social responsibility, and governance improvement—affect booking intentions. Additionally, the moderating role of customers' political ideologies and the mediating role of perceived fairness will be explored to understand the underlying mechanisms influencing consumer decision-making. Such insights can significantly enhance the effectiveness of hotel ESG marketing strategies.

2. Literature Review

Prior research on ESG indicates that corporate sustainability efforts positively influence consumer purchase intentions (Filieri et al., 2021; Grimmer & Woolley, 2014). Studies examining environmental protection activities consistently find that consumer intentions are positively affected, particularly among consumers with heightened environmental concerns. Environmental awareness drives consumers to prefer brands and services that visibly commit to sustainable practices, leading to increased purchase and brand loyalty.

Social responsibility activities, encompassing community contributions, ethical labor practices, and philanthropic efforts, have similarly demonstrated positive influences on customer intentions and corporate image (Louis & Lombart, 2024; Uzunoğlu et al., 2017). Messages emphasizing authenticity and clear outcomes amplify consumer trust and intention to engage with socially responsible brands.

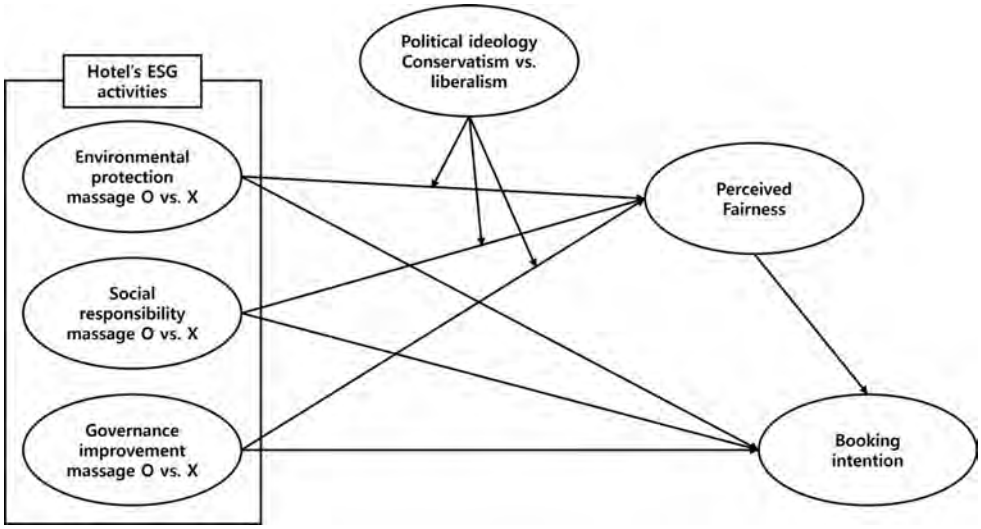
However, governance improvements have been less studied from the consumer perspective. Existing research primarily investigates governance activities' influence on financial performance and shareholder trust rather than direct consumer responses (Altawalbeh, 2020; Zhou et al., 2021). Still, there is an emerging acknowledgment that governance transparency and fairness can indirectly influence consumer attitudes through trust and perceived fairness (Ltifi & Hichri, 2022).

Political ideology significantly moderates consumer responses to ESG. Liberals generally express greater environmental and social consciousness and show increased intentions to purchase or engage with sustainable brands (Harring & Sohlberg, 2017). Conversely, conservatives often demonstrate resistance to corporate ESG initiatives, influenced by perceptions of market interference, skepticism towards regulatory involvement, and preference for traditional values (Chan & Faria, 2022). Identifying ideological differences in consumer behavior regarding ESG initiatives is essential for developing targeted marketing strategies.

Perceived fairness has been identified as a critical mediator between ESG activities and consumer behavior. When consumers perceive corporate ESG actions as fair and genuinely motivated, their trust and subsequent intentions increase significantly. Transparency, authenticity, and clarity in communication strongly influence fairness perceptions, thereby enhancing customer intentions toward sustainable corporate practices.

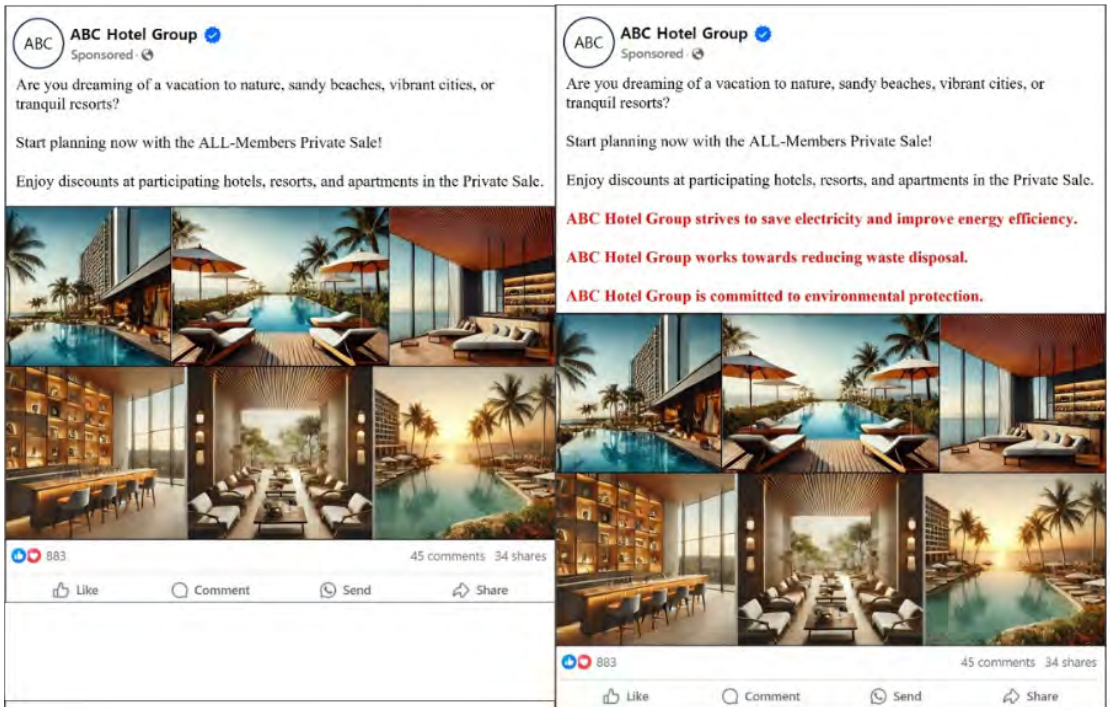
3. Methodology

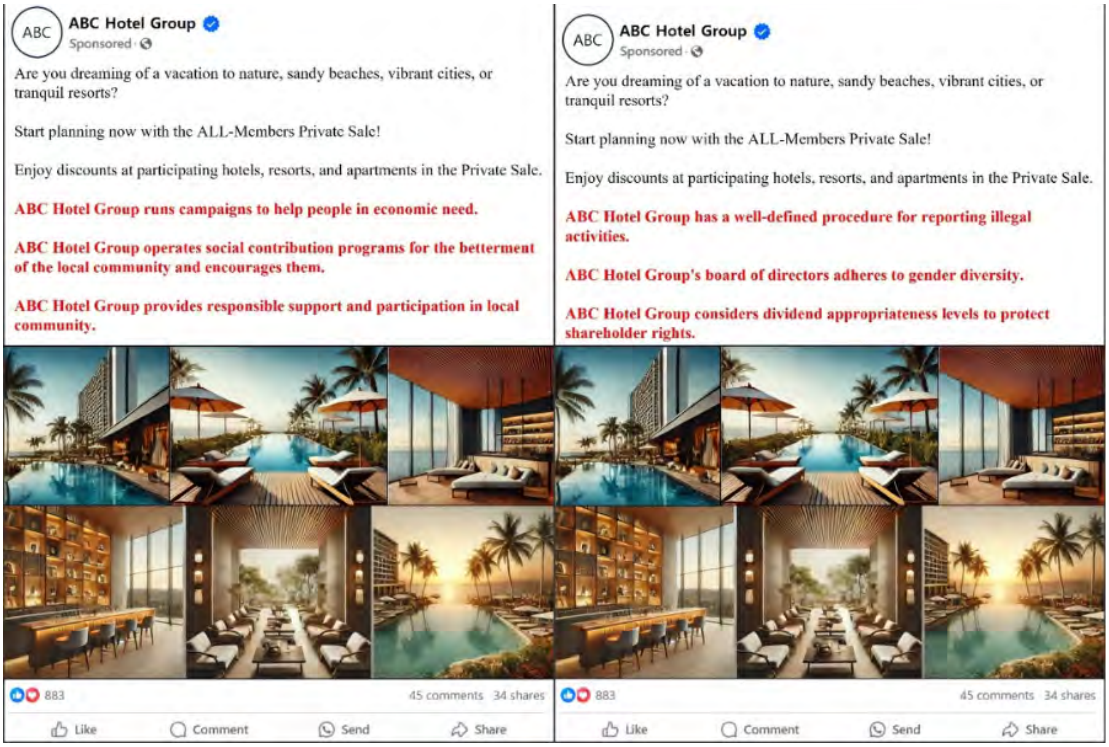
Figure 1. Research model.



This study employed an experimental design with a sample of 300 adult participants randomly assigned to one of four conditions: environmental protection, social responsibility, governance improvement, or a control group with general hotel marketing messages. Each group viewed tailored hotel advertisements incorporating specific ESG activity messages relevant to their assigned condition.

Figure 2. Advertising photos presented by group.





After viewing the advertisements, participants completed a survey measuring booking intentions, political ideology, and perceived fairness using validated scales. Booking intentions were assessed through statements measuring participants' likelihood of hotel reservation. Political ideology was measured using scales identifying participants on a spectrum from liberalism to conservatism. Perceived fairness was measured through trustworthiness, honesty, and procedural fairness regarding hotel services and ESG activities.

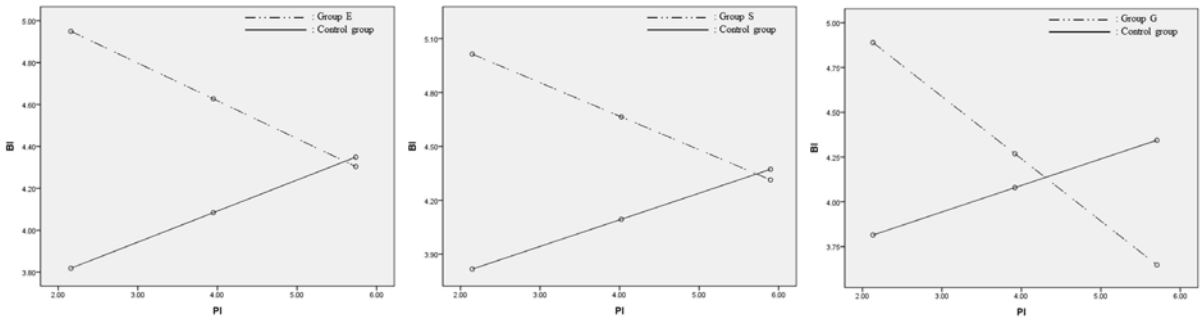
Data analysis employed IBM SPSS Statistics and Process Macro Models. Initial analyses included frequency and descriptive statistics for demographic variables such as age, gender, income, education, and marital status. ANOVA and post hoc analyses confirmed successful manipulation checks for ESG activity awareness among participants.

The main analyses employed t-tests and moderation/mediation analyses using Process Macro Models 1, 4, and 7. These analyses tested the impact of ESG activities on booking intentions, the moderating effect of political ideology, and the mediating effect of perceived fairness.

4. Results

Results indicated that environmental protection and social responsibility activities significantly enhanced booking intentions compared to the control group. Participants exposed to environmental protection activities showed significantly higher intentions to book the hotel, suggesting that highlighting environmental efforts effectively attracts customers. Similarly, social responsibility activities positively influenced booking intentions, reinforcing the appeal of ethical practices and community engagement.

Figure 3. Moderating effect of political ideology on the relationship between ESG activities and booking intention.



Contrary to expectations, governance improvement activities did not directly impact booking intentions significantly. This indicates a potential consumer disconnect or lack of awareness about the direct benefits of corporate governance activities in hospitality contexts.

Political ideology significantly moderates responses to ESG initiatives. Liberals showed increased booking intentions across all ESG dimensions, with particularly pronounced reactions to environmental and social initiatives. Conservatives exhibited neutral responses to environmental and social responsibility activities but reacted negatively to governance improvement activities, likely due to concerns about market interference.

Perceived fairness significantly mediated the relationship between ESG activities and booking intentions across all categories. When consumers perceived ESG initiatives as fair, their intentions to book increased, highlighting the critical role of fairness perceptions in ESG marketing.

Table 1. Interaction effect of a hotel's environmental protection activities and political ideology on perceived fairness.

Variable	Perceived fairness				Booking intention			
	B	SE	t	p	B	SE	t	p
Environmental protection (E)	1.2030	0.3934	3.0576	0.002**	0.2680	0.1701	1.5762	0.117
Political ideology (PI)	0.0283	0.0746	0.3799	0.704		-		
E * PI	-0.2165	0.0977	-2.2157	0.028*		-		
Perceived fairness		-			0.7672	0.0801	9.5745	0.000***
F(p)		5.0605(0.002***)				52.2490(0.000***)		
R^2		0.1004				0.4327		
Environmental protection activities ⇒ Perceived fairness ⇒ booking intention								

Variable	B	BootSE	95% CI	
			BootLLCI	BootULCI
-1SD (liberalism)	0.6216	0.1920	0.2647	0.9960
MEAN (neutrality)	0.3237	0.1326	0.0718	0.5937
+1SD (conservatism)	0.0258	0.2037	-0.3855	0.4116

***: p<0.001, **: p<0.01, *: p<0.05

Table 2. Interaction effect of a hotel's social responsibility activities and political ideology on perceived fairness.

Variable	Perceived fairness				Booking intention			
	B	SE	t	p	B	SE	t	p
Social responsibility (S)	1.3799	0.4421	3.1211	0.002**	0.3394	0.1679	2.0220	0.04
Political ideology (PI)	0.0283	0.0774	0.3662	0.714		-		
S * PI	-0.2617	0.1081	-2.4213	0.016*		-		
Perceived fairness		-			0.7902	0.0765	10.3262	0.000
F(ρ)		4.7503(0.003***)				61.0203(0.000***)		
R^2		0.0995				0.4842		

Social responsibility activities ⇒ Perceived fairness ⇒ booking intention

Variable	B	BootSE	95% CI	
			BootLLCI	BootULCI
-1SD (liberalism)	0.6724	0.2076	0.2897	1.0891
MEAN (neutrality)	0.3200	0.1424	0.0507	0.6120
+1SD (conservatism)	-0.0323	0.2356	-0.5095	0.4069

***: p<0.001, **: p<0.01, *: p<0.05

Table 3. Interaction effect of a hotel's governance improvement activities and political ideology on perceived fairness.

Variable	Perceived fairness				Booking intention			
	B	SE	t	p	B	SE	t	p
Governance improvement (G)	1.4855	0.4148	3.5816	0.000***	-0.2389	0.1963	-1.2166	0.226
Political ideology (PI)	0.0283	0.0744	0.3806	0.704		-		
G * PI	-0.2765	0.0979	-2.8255	0.005**		-		
Perceived fairness		-			0.8194	0.0913	8.9791	0.000***
F(p)		6.6127(0.000***)				40.3690(0.000***)		
R^2		0.1333				0.3831		

Governance improvement activities ⇒ Perceived fairness ⇒ booking intention

Variable	B	BootSE	95% CI	
			BootLLCI	BootULCI
-1SD (liberalism)	0.7584	0.2283	0.3459	1.2353
MEAN (neutrality)	0.3408	0.1504	0.0666	0.6617
+1SD (conservatism)	-0.0768	0.2077	-0.5017	0.3316

***: p<0.001, **: p<0.01

5. Discussion and Implications

The study's findings offer significant implications for academic research and hospitality industry practice. Academically, this research expands ESG literature by providing a nuanced exploration of how specific ESG initiatives affect consumer intentions. Unlike previous studies, this research uniquely incorporates political ideology as a moderating factor, emphasizing the critical role sociopolitical orientation plays in consumer responses to sustainability initiatives.

Practically, hospitality marketers should strategically leverage ESG activities, particularly environmental and social responsibility initiatives, to attract and retain customers. Given liberals' greater sensitivity to ESG activities, hotels operating in predominantly liberal regions or targeting progressive consumers should actively communicate their ESG commitments through transparent and authentic marketing. Conversely, marketing strategies targeting conservative customer segments should either minimize ESG messaging, particularly governance improvements, or emphasize traditional values and reliability rather than regulatory compliance.

Moreover, the findings underscore the need for nuanced ESG communication. Authenticity and transparency in ESG messaging significantly enhance perceived fairness, thus strengthening customer trust and increasing booking intentions. Despite the lack of direct impact from governance activities, their role remains crucial for maintaining long-term stakeholder confidence and mitigating reputational risks, suggesting hotels should maintain their commitment to robust governance practices.

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From Policy to Practice: Implementing Corporate Digital Responsibility in New Zealand's Tourism Industry (Paper#043)

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Abstract:

This study examines Corporate Digital Responsibility (CDR) in New Zealand's tourism industry, highlighting its importance in promoting ethical digital practices amid digital transformation. While CDR can generate social and economic value and mitigate digital risks, its adoption faces challenges, including data governance, legal compliance, and integration into business strategies. Using qualitative analysis of corporate websites, the study finds a gap between regulatory requirements and actual digital responsibility, emphasising the need for stronger CDR structures, transparent policies, and industry best practices.

Keywords: Corporate Digital Responsibility, Digital Transformation, Tourism Industry, Data Governance, Ethical Digital Practices, New Zealand.

1. Introduction

Tourism has long been a powerful driver of economic growth and cultural exchange, contributing significantly to national and regional development worldwide (Li et al., 2018). The tourism industry generates employment, stimulates economic growth, and attracts investment, while also promoting global awareness of a country's culture and natural environment (Chambers, 2009). With the easing of COVID-19 restrictions, international tourism is rebounding, with global travel volumes gradually returning to pre-pandemic levels. In New Zealand, tourism is a vital sector, contributing approximately 5.8% to the national GDP and supporting around 10% of the total workforce (Tourism New Zealand, 2023). Given its economic and social importance, the sector's resilience and sustainability are critical.

As digital technologies transform industries globally, the tourism sector is increasingly adopting digital tools to enhance operational efficiency and improve customer experiences (Warner & Wäger, 2019). Digital innovations, such as online booking systems, big data analytics, and personalised marketing, have enabled tourism businesses to optimise their services and better meet consumer needs (Pencarelli, 2020). However, the adoption of digital technologies also introduces challenges, particularly concerning data privacy, cybersecurity, and ethical technology

use (Wang, 2024). Data breaches, misuse of personal information, and algorithmic biases have raised significant concerns, eroding consumer trust and highlighting the need for robust digital governance (Quach et al., 2022; Yallop et al., 2021).

Corporate Digital Responsibility has emerged as a critical framework for addressing these ethical challenges in the digital age. CDR encompasses responsible digital practices, focusing on transparency, accountability, and ethical use of technology to create positive social and economic impacts (Basu et al., 2024; Lobschat et al., 2021). In the tourism industry, where businesses frequently handle sensitive customer data—from booking details to travel preferences—the implementation of CDR is particularly relevant. Modern consumers are increasingly aware of data privacy issues and are more likely to choose companies demonstrating strong digital responsibility (Kim et al., 2007).

Despite the recognised benefits of CDR, its implementation in New Zealand's tourism sector faces challenges. These include complex data governance requirements, stringent legal compliance under New Zealand's Privacy Act 2020, and difficulties in integrating CDR principles into core business strategies. Many tourism businesses, particularly small and medium-sized enterprises (SMEs), may lack the awareness, resources, or expertise to effectively adopt CDR practices (Kim & Kim, 2024). Additionally, there is a gap between regulatory requirements and proactive digital responsibility, often reflected in inadequate privacy policies and a lack of industry-wide standards.

This study aims to address these challenges by exploring current CDR practices in New Zealand's tourism industry, identifying barriers to effective implementation, and providing practical recommendations for enhancing digital responsibility. Using a qualitative research methodology, this study analyses corporate websites of tourism businesses to assess privacy practices, legal compliance, data management strategies, and alignment with CDR principles. The research objectives are: (1) to evaluate how New Zealand tourism businesses implement CDR in managing customer data and ensuring privacy protection, and (2) to identify the primary challenges they face in achieving compliance with privacy legislation and integrating ethical digital practices into operations.

The significance of this study lies in its potential to bridge the gap between academic research and practical application in the tourism industry. Academically, the study contributes to the emerging literature on CDR by contextualising its application within the tourism sector, offering insights into digital ethics, privacy, and governance. Practically, the findings provide valuable guidance for tourism stakeholders, including business managers, policymakers, and technology developers, on implementing CDR effectively. The study emphasises the need for more robust CDR frameworks, transparent data policies, and the development of best practices to promote sustainable digital transformation in the tourism sector. This research not only highlights the

critical role of CDR in supporting ethical digital transformation but also offers a practical framework for tourism businesses to enhance consumer trust, comply with regulatory requirements, and improve competitiveness in a digitally-driven market. By promoting responsible digital practices, this study aims to contribute to the sustainable development of New Zealand's tourism industry and serve as a model for other sectors navigating the complexities of digitalisation.

2. Literature Review

2.1 Tourism Industry of New Zealand

New Zealand is internationally renowned for its breathtaking landscapes, diverse ecosystems, and rich cultural heritage, making it a premier global destination for tourists. Primarily consisting of the North and South Islands and numerous smaller islands, its varied terrain encompasses glaciers, mountains, fjords, volcanic highlands, and pristine beaches (Dowling, 2018). The nation has successfully marketed itself globally through the "100% Pure New Zealand" campaign, significantly enhancing its visibility and attracting millions of international visitors annually (Bell, 2008).

Tourism holds substantial economic importance for New Zealand, being one of its largest export earners before the COVID-19 pandemic. Directly contributing around 5.8% of national GDP and employing approximately 10% of the workforce, the industry supports both urban and regional economic development (Stats NZ, 2019). Adventure tourism is a distinctive component, particularly in Queenstown, widely regarded as the "adventure capital of the world." Queenstown pioneered commercial bungee jumping in 1988 and continues to offer numerous adventure activities such as skiing, mountain biking, and extreme sports (Cater, 2006). Additionally, New Zealand's landscapes have attracted filmmakers, most notably for "The Lord of the Rings" and "The Hobbit" trilogies, further elevating its international tourism profile and stimulating regional economies through film tourism (Tourism New Zealand, 2024).

International tourists primarily originate from Australia, the United States, China, the United Kingdom, and Germany. Australian visitors, making up nearly half of all international tourists, underscore the importance of geographic proximity and cultural similarities in shaping tourism patterns (Tourism New Zealand, 2024). Visitors from other major markets such as the US, UK, and Germany each demonstrate unique travel behaviours and spending patterns, benefiting regional economies significantly.

Despite its robust contribution, the tourism industry's heavy reliance on international arrivals has made it vulnerable to global disruptions. The COVID-19 pandemic starkly illustrated this vulnerability, with international visitor numbers dropping by over 98% in early 2020. This decline severely impacted regional economies dependent on tourism and caused significant job losses (MBIE, n.d.). Although borders reopened gradually from mid-2022, recovery has been slow and uneven, highlighting ongoing vulnerabilities and the urgent need for more resilient strategies in tourism management (Gauld, 2022).

2.2 Digital Transformation in New Zealand Tourism

The global digital revolution has profoundly impacted the tourism sector, and New Zealand has actively embraced this change. Digital transformation within tourism involves adopting technologies such as online booking systems, big data analytics, artificial intelligence (AI), and robotics, fundamentally reshaping business operations and consumer interactions. Historically, AI integration in tourism has evolved through distinct stages, including the initial stage (1991–2014) with basic internet presence, exploratory adoption (2015–2018) featuring big data and online communities, and accelerated development since 2019 due to the COVID-19 pandemic (Kong et al., 2022). Recent developments include AI-driven contactless services, enhancing safety protocols and customer experiences during public health crises (Afaq & Gaur, 2021).

In New Zealand, the growth of Information and Communications Technology (ICT) has significantly influenced tourism competitiveness. Since 2017, total sales in software and IT services increased substantially, reflecting broader economic digitisation (Stats NZ, 2024). Tourism businesses utilise ICT extensively for digital marketing, online bookings, and customer engagement. Online platforms allow direct consumer interactions, reducing reliance on traditional intermediaries such as travel agents, fundamentally altering distribution channels (Garkavenko, 2007).

From a consumer perspective, digital technologies offer greater convenience, enabling easy comparison of prices, reviews, and real-time booking of travel services (No & Kim, 2015). For businesses, ICT boosts productivity, enhances revenue management, and expands market reach. New Zealand companies extensively using the internet are notably more productive than industry averages (MBIE, 2017). As of August 2024, Tourism New Zealand collaborates with numerous specialised digital travel agencies, exemplifying the practical benefits of digitisation.

Innovations such as smart tourism and robotics are becoming increasingly prevalent. Christchurch Airport's introduction of humanoid robots for passenger assistance demonstrates innovative applications of technology in enhancing customer experience and operational efficiency (Christchurch International Airport, n.d.). Similarly, hospitality businesses like Andy's Burgers & Bar and Sudima Hotels have adopted robotic service delivery to enhance customer experience and address operational challenges posed by the COVID-19 pandemic (SkyCity Auckland, n.d.; NZ Herald, 2024). The rapid digital transformation of New Zealand's tourism industry presents significant opportunities and challenges. Embracing innovative digital strategies is essential for long-term sustainability, competitiveness, and resilience in the increasingly digitised global tourism market.

2.3 Corporate Digital Responsibility in Tourism

CDR has emerged as a crucial concept addressing the ethical implications associated with the rapid integration of digital technologies within the tourism industry. With advancements such as big data analytics, artificial intelligence (AI), and online service delivery increasingly embedded in tourism operations, the ethical challenges around data privacy, security, algorithmic fairness, and digital inclusion have become significant concerns (Basu et al., 2024; Dhirani et al., 2023; Zeng et al., 2020). The tourism sector's reliance on digital technology has amplified these risks, with incidents of data breaches, cybercrime, and privacy violations undermining consumer trust and potentially damaging corporate reputations (Herden et al., 2021).

At its core, CDR extends traditional corporate social responsibility by specifically targeting digital ethics. It involves proactively managing digital technologies in ways that safeguard privacy, ensure fairness, and promote transparency and accountability in the handling of consumer data (Le et al., 2024; Lobschat et al., 2021). Effective CDR implementation can help tourism businesses strengthen consumer trust, maintain regulatory compliance, and mitigate reputational risks (Let et al., 2024). Given the sensitivity of data commonly collected by tourism businesses—including payment details, travel histories, and personal preferences—robust CDR practices are essential to ensure consumer protection and secure data handling (Wirtz et al., 2023).

In New Zealand, tourism businesses operate within a legal framework that includes the Privacy Act 2020, Consumer Guarantees Act, and Harmful Digital Communications Act, reflecting a strong legislative emphasis on protecting consumer rights and privacy (New Zealand Government, 2020). These regulatory requirements emphasise the need for transparency in data practices and proactive privacy management. Additionally, New Zealand promotes a Privacy by Design (PbD) approach, encouraging businesses to integrate privacy considerations early in the development of digital services, thus embedding privacy into organisational practices from inception (New Zealand Digital Government, 2024).

However, despite robust regulatory environments, significant challenges remain in effectively implementing CDR within the tourism sector. Research highlights low awareness, resource constraints, and inconsistent adoption practices, particularly among small and medium-sized enterprises (SMEs) (Merwe & Achkar, 2022). SMEs often lack the financial and technical resources to fully implement CDR frameworks or to maintain ongoing compliance with stringent regulatory demands. This gap is further exacerbated by inconsistent international data protection standards, complicating compliance for businesses operating across multiple jurisdictions.

To address these challenges, clear guidance and governance frameworks for CDR implementation are essential. Organisations must integrate digital ethics into their core business strategies, transcending regulatory compliance and viewing CDR as a strategic imperative rather than merely an obligatory practice. According to Angermann (2023), successfully embedding CDR into organisational culture requires dedicated leadership, clear policy frameworks, and ongoing employee education and engagement.

Moreover, CDR implementation involves several critical principles. Digital stewardship encompasses responsible data management practices ensuring ethical, secure, and compliant use of consumer data. Digital transparency involves openly communicating data practices to consumers, enhancing trust through clear and accessible privacy policies. Digital empowerment provides consumers with control over their personal information, actively involving them in managing their data privacy. Digital equity ensures fair treatment and equitable benefits from digital interactions, avoiding biases and exploitation. Finally, digital inclusion ensures that digital technologies and services are accessible and beneficial to all consumers, regardless of their socio-economic status (Angermann, 2023; Elliott et al., 2021).

3. Methodology

3.1 Research Design and Approach

A qualitative research methodology was adopted for this study to critically analyse CDR implementation within New Zealand's tourism industry. Qualitative research was selected because of its suitability for exploring and interpreting complex social phenomena through rich, descriptive data. Unlike quantitative approaches that focus primarily on numerical data, qualitative research aims to understand underlying meanings, perceptions, and behaviours (Nassaji, 2020). This research specifically used thematic content analysis to interpret non-numerical data derived from tourism organisations' websites, providing a deeper understanding of how tourism operators communicate and manage digital responsibility practices.

Qualitative methodology was appropriate for addressing the study's research objectives due to its ability to capture nuanced insights into organisations' practices related to data management and privacy protection. This methodological choice enabled the identification of nuanced practices, interpretations, and barriers related to Corporate Digital Responsibility (CDR), which quantitative methods alone might not reveal comprehensively.

3.2 Sampling and Data Collection

The study utilised secondary data obtained from publicly accessible corporate websites of tourism businesses operating in New Zealand. These websites provided critical insights into how Corporate Digital Responsibility (CDR) principles are communicated and implemented in practice, particularly in relation to transparency, data handling, and user engagement.

The sample was derived from travel agencies accredited by Tourism New Zealand under the Qualmark standard. Qualmark is New Zealand's official quality assurance certification, globally recognised for ensuring that businesses meet defined standards of quality, safety, and service delivery (Florek & Insch, 2008). As of August 2024, Tourism New Zealand had accredited approximately 701 travel agencies worldwide under this certification. For greater relevance and contextual specificity, the study refined the sample to include only those businesses with web-sites ending in '.co.nz' or '.nz'. This ensured a clear focus on organisations operating

within New Zealand's domestic regulatory environment, particularly in relation to privacy and digital responsibility, as overseen by InternetNZ (Liddicoat, 2019). From the accredited list, the first 30 companies with active websites using the specified domain extensions were selected for analysis, ensuring consistency and comparability across the sample.

Each of these websites was systematically reviewed, with attention given to publicly accessible textual content relevant to digital responsibility. This included the analysis of privacy policies, terms and conditions, cookie consent notices, disclosures regarding third-party data sharing, and any mention of appointed privacy officers or contact points for data-related enquiries. For example, commonly identified excerpts included statements such as "We collect your personal information to provide and improve our services," "Your data may be shared with trusted third-party service providers," and "To contact our Privacy Officer, please email [address provided]." These texts were extracted directly from the websites and compiled into a dataset for further analysis. The study also examined the functionality of the websites where relevant to CDR practices. This included features such as user account registration, online booking systems, and newsletter sign-up options. The presence of these features was documented to assess how digital interaction mechanisms may influence the collection and management of user data and how transparency and consent were handled in such contexts.

All textual data and website feature observations were entered into NVivo 15 for qualitative coding and thematic analysis. A coding framework was applied to identify recurring patterns and differences across five core CDR dimensions: data privacy, transparency, user consent mechanisms, third-party data disclosures, and the presence of formal governance elements such as designated privacy officers. This approach enabled a systematic evaluation of how CDR is communicated and operationalised across the sampled tourism businesses in New Zealand.

3.3 Data Analysis

Thematic analysis was chosen as the analytical method due to its strength in identifying, analysing, and reporting patterns within qualitative data (Braun & Clarke, 2006). This approach facilitated the exploration of underlying meanings and organisational practices that numerical data alone could not capture. Braun and Clarke's (2006) six-phase framework guided the analysis process. The phases included data familiarisation, generating initial codes, searching for themes, reviewing and refining themes, defining and naming themes, and finally, producing a detailed thematic narrative.

Initially, a thorough review and familiarisation with the data collected from tourism businesses' websites were conducted to identify recurring topics related to digital responsibility. Following this, initial codes were developed to represent specific features identified in the data, such as privacy policy visibility, transparency regarding data use, data-sharing disclosures, and clarity of terms and conditions.

Subsequent steps involved grouping related codes into coherent and meaningful themes reflecting broader categories such as privacy management, legislative compliance, and CDR implementation strategies. For instance, elements concerning how privacy policies were communicated or how clearly businesses outlined their adherence to privacy legislation constituted significant themes. Similarly, codes indicating the presence of privacy officers or departments responsible for data governance indicated organisational commitments to digital responsibility.

Each theme was reviewed to ensure accuracy and representativeness of the collected data, with relevant examples documented clearly. Themes included data privacy management, regulatory compliance, and strategies for digital governance, enabling comprehensive

4. Results

This section presents the findings of the study, focusing on three critical themes related to CDR practices within New Zealand's tourism industry: privacy practices and transparency, legal compliance, and organisational guidance. The analysis of 30 travel agencies' websites revealed a varied approach to implementing CDR principles, with some agencies demonstrating robust frameworks and transparent practices, while others exhibited significant gaps, particularly in digital stewardship and consumer empowerment. Through a critical evaluation of best practices and poor examples, this section highlights how well travel agencies align with CDR standards and identifies opportunities for improvement in promoting a responsible and ethical digital environment.

4.1 Privacy Practices and Transparency

Privacy practices and transparency are central to Corporate Digital Responsibility (CDR), particularly in the tourism industry, where companies handle vast amounts of personal data. Of the 30 travel agencies analysed, 50% displayed a privacy policy on their websites, while the remaining half did not provide easily accessible privacy information. Privacy policies play a crucial role in informing users about data collection, usage, and their rights under privacy laws. A privacy policy outlines the types of personal data collected, the purposes of data processing, and how users can exercise their data rights. However, the absence of clear privacy policies on half of the analysed websites indicates a significant gap in transparency and potentially undermines customer trust. As Steinfeld (2016) highlighted, "When users are unaware of a company's terms and conditions, they may unknowingly agree to use their personal information in ways they disapprove of." This underscores the necessity for travel agencies to improve their communication about privacy practices. Privacy policies regulate how internet service providers interact with their users while enabling users to monitor how companies handle their data. By reviewing the web pages of 30 New Zealand travel agencies, the study identified whether the companies had listed a privacy policy on their sites. According to the findings, 50% of the companies have listed privacy conditions on their websites, while the other half lacked visible privacy policies. Travel Agency 18 demonstrated best practice by displaying a clearly visible privacy

policy on its homepage, with simple language and a dedicated section explaining how data is collected, used, and protected. This transparency aligns with CDR principles of digital transparency and stewardship. Conversely, Travel Agency 29 failed to provide an accessible privacy policy. Users had to navigate through multiple pages, and even then, the information provided was minimal and lacked specific details on data usage, undermining trust and transparency.

The New Zealand Privacy Act 2020 requires organisations to inform individuals when collecting personal information, stating the purpose, data usage, and their rights. Of the travel agencies that displayed privacy policies, all complied with these requirements to varying extents. Typically, the privacy policies included information about data collection for service improvement, marketing, and legal compliance. Travel Agency 1 not only stated its compliance with the Privacy Act but also provided detailed explanations of data protection practices, including how it handles data requests and ensures data security. On the other hand, Travel Agency 13 merely mentioned compliance with privacy laws without providing any tangible details on how these legal requirements are implemented, leaving consumers uninformed about their rights.

The analysis revealed diverse practices regarding data collection among travel agencies. Most companies collected basic identifying information, contact details, and payment information. Additionally, some agencies gathered sensitive data, such as health information, to tailor their services to customer needs. Travel Agency 2 provided clear, detailed descriptions of what data is collected and the specific purposes, such as service improvement and legal compliance, promoting digital stewardship and transparency. In contrast, Travel Agency 16 collected a broad range of personal data, including sensitive information, without adequately explaining why this data was necessary or how it would be used, potentially violating CDR principles.

The study also examined how travel agencies disclosed the sharing of personal data with third parties. Of the 30 agencies analysed, 14 provided clear information about their data disclosure practices, including the types of third parties involved, such as service providers, legal authorities, and business partners. Travel Agency 1 set a strong example by transparently listing all potential data-sharing partners, including IT service providers and anonymised statistical data users, maintaining high standards of digital transparency. Conversely, Travel Agency 7 did not provide any details on who might receive customers' personal data, creating uncertainty and diminishing trust.

An additional finding of the study was the complexity and accessibility of privacy policies. Many policies were located at the bottom of websites, requiring users to actively search for them. Moreover, the language used in these documents was often complex, with advanced legal terminology that could hinder understanding. Travel Agency 18 not only provided a clear and accessible privacy policy but also committed to notifying users of significant changes via email, enhancing transparency and user control. In contrast, Travel Agency 14 required users to manually check for privacy policy updates without providing proactive notifications, making it difficult for users to stay informed about their data rights.

4.2 Legal Compliance

Legal compliance is a fundamental aspect of CDR that ensures travel agencies adhere to relevant laws and regulations, particularly concerning data privacy and consumer protection. In New Zealand, compliance with the Privacy Act 2020 is a critical requirement for organisations that handle personal data. The act mandates transparency in data collection, use, and sharing practices, aiming to safeguard consumers' rights and promote trust. Terms and conditions serve as a legal framework that outlines the rights and responsibilities of both businesses and consumers. They provide clarity on service agreements, data usage, and the handling of disputes. According to the study, 60% of the examined travel agencies included terms and conditions on their websites, while 40% did not. Clear and well-defined terms and conditions provide businesses with a structured framework to safeguard their interests and offer protection for consumers by clearly outlining their rights and defining how disputes will be handled.

Travel Agency 1 demonstrates best practices by including a detailed and transparent terms and conditions page on its website. It explicitly states compliance with the New Zealand Privacy Act 2020 and provides clear information about data handling, customer rights, and dispute resolution processes. This approach enhances digital transparency and empowers consumers by giving them a clear understanding of their rights. Conversely, Travel Agency 13 does not provide any terms and conditions on its website. The absence of this crucial information creates ambiguity for consumers and raises concerns about the company's legal compliance and commitment to digital responsibility. Without clear terms, customers may not be fully aware of their rights, leading to potential trust issues.

Adhering to privacy laws such as the New Zealand Privacy Act 2020 is a critical component of CDR. The act sets out principles for data collection, storage, and sharing, requiring organisations to ensure transparency and fairness in their data practices. Travel Agency 2 showcases strong legal compliance by not only adhering to the New Zealand Privacy Act 2020 but also offering a clear privacy policy that outlines how personal data is collected, processed, and protected. The agency also provides consumers with contact details for the Privacy Officer and guidance on how to make data-related enquiries or complaints. In contrast, Travel Agency 22 lacks a privacy policy and offers no indication of compliance with the New Zealand Privacy Act. The absence of this information hinders consumers' ability to understand how their data is managed and may violate legal requirements. This practice highlights a significant gap in digital stewardship and transparency.

Respecting and protecting consumer rights is an essential element of legal compliance. Organisations must inform customers of their rights under applicable laws and ensure that these rights are upheld throughout all business practices. Travel Agency 29 provides a comprehensive outline of consumer rights under the Privacy Act 2020. The agency explains how customers can access their data, request corrections, and exercise their rights to data privacy. By promoting

these rights, the agency enhances digital empowerment and builds consumer trust. On the other hand, Travel Agency 16 fails to mention consumer rights or provide guidance on how customers can exercise their data protection rights. The lack of transparency in this area diminishes digital empowerment and suggests a reactive rather than proactive approach to CDR.

4.3 Guidance and Organisational Responsibility

Guidance and organisational responsibility are critical components of Corporate Digital Responsibility (CDR), ensuring that travel agencies have robust frameworks to manage data ethically and transparently. A well-defined guidance framework within organisations not only facilitates compliance with legal requirements but also promotes digital stewardship, transparency, and empowerment among stakeholders. A clear guidance framework is essential for implementing CDR principles effectively. This involves creating internal policies, assigning specific roles for data management, and ensuring that digital responsibility is embedded within organisational culture. The New Zealand Privacy Act 2020 mandates that companies appoint a Privacy Officer to oversee compliance with privacy laws and manage data-related enquiries. However, only 4 (13%) of the 30 travel agencies examined in this study had a designated privacy officer mentioned on their websites.

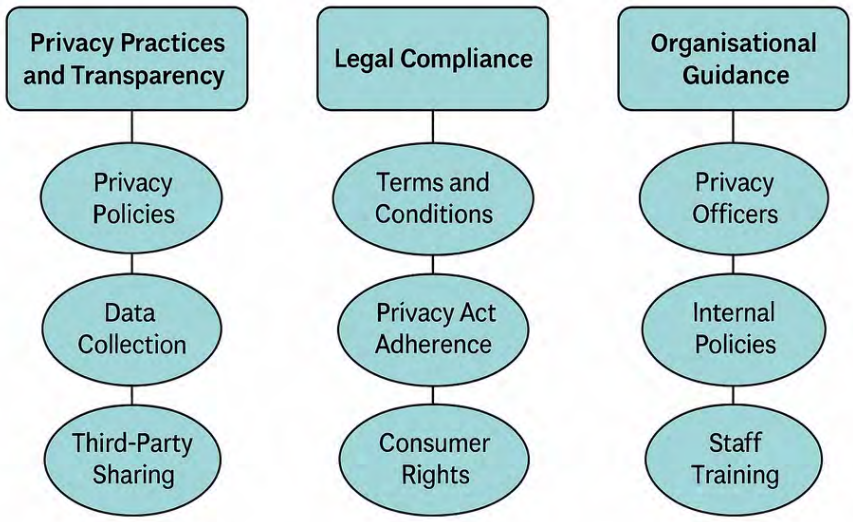
Travel Agency 2 demonstrates a robust approach to guidance by not only assigning a Privacy Officer but also providing detailed contact information for customers across multiple regions, including New Zealand, Australia, and the UK. This agency also offers alternative contact points for privacy-related complaints, showcasing strong digital empowerment and transparency. By making it easy for customers to address their privacy concerns, Travel Agency 2 sets a high standard for CDR implementation. In contrast, Travel Agency 16 does not mention a designated Privacy Officer or provide clear guidance on how consumers can address privacy-related issues. The absence of this critical role may lead to a lack of accountability and hinder effective communication with customers regarding their data rights. This omission reflects a gap in digital stewardship and fails to meet CDR best practices.

Internal policies play a significant role in guiding how travel agencies handle digital responsibilities. Establishing clear internal protocols for data collection, processing, and storage is fundamental to achieving compliance with CDR principles. Companies with well-established internal policies often demonstrate better digital stewardship and transparency, promoting trust among consumers. Travel Agency 21 has a comprehensive internal policy framework that includes regular data audits, staff training on privacy practices, and a clear governance structure for digital data management. These measures enhance digital transparency and empower employees to manage data responsibly. Such proactive approaches align with CDR principles and create a safer data environment for customers. Conversely, Travel Agency 22 lacks publicly available internal policies and provides no clear indication of accountability structures within the organisation. This lack of transparency can lead to potential risks related to data misuse and reduces consumer confidence in the company's digital practices.

A strong organisational culture that prioritises CDR is vital for the effective implementation of digital responsibility practices. Regular training and awareness programmes can help employees understand their roles in maintaining digital transparency and protecting consumer data. Travel Agency 29 integrates CDR principles into its organisational culture by offering regular staff training on privacy laws and digital ethics. The agency's commitment to continuous learning ensures that all staff members are well-versed in handling data responsibly and are aware of the latest regulatory requirements. Conversely, Travel Agency 13 provides no evidence of staff training or initiatives to promote digital responsibility. The absence of such programmes suggests a reactive rather than proactive approach to CDR, which may affect the organisation's ability to handle data ethically and transparently.

Figure 1 illustrates the three main themes and associated sub-concepts identified in the analysis of Corporate Digital Responsibility (CDR) practices among New Zealand travel agencies.

Figure 1. Key Themes and Sub-Concepts of Corporate Digital Responsibility in New Zealand's Tourism Sector



5. Discussion and Implications

5.1. Discussion

The findings of this study reveal significant disparities in how New Zealand travel agencies implement CDR principles, particularly concerning privacy, legal compliance, and organisational guidance. While some agencies demonstrate best practices in digital stewardship, transparency, and empowerment, there are considerable gaps in digital equity and inclusion across the sector.

The study evaluated 30 travel agencies using the five application areas of CDR—digital stewardship, digital transparency, digital empowerment, digital equity, and digital inclusion (Angermann, 2023). The findings suggest that while some agencies, such as Travel Agency 2 and 29, exhibit robust digital practices, many fall short of expectations. For example, only 50% of agencies displayed a visible privacy policy on their websites, and just 13% mentioned a designated privacy officer. Additionally, the complexity of privacy policies often hindered transparency, with many documents containing dense legal language that undermines the principle of 'informed consent'. Legal compliance with the New Zealand Privacy Act 2020 also showed mixed results. While some agencies clearly communicated their compliance with relevant legislation, others lacked transparency and failed to provide clear guidance on consumer rights. Furthermore, only a small proportion of agencies had well-established internal policies and regular staff training to promote digital responsibility.

5.2. Academic and Practical Implications

This study contributes to the theoretical discourse on CDR by highlighting the challenges of translating regulatory compliance into effective organisational practices. Angermann's (2023) framework suggests that integrating CDR into core business strategies, exceeding regulatory compliance, and providing clear governance are essential for successful implementation. However, the findings indicate that most New Zealand travel agencies adopt a reactive approach to CDR, focusing on minimal compliance rather than proactive digital responsibility. This aligns with the observations of Lobschat et al. (2021), who argue that true digital responsibility requires embedding ethical practices into the organisational culture, not merely meeting legal obligations.

The practical implications of this study are significant for travel agencies, policymakers, and consumers. For travel agencies, the findings highlight the need for more robust digital governance frameworks, particularly by appointing a dedicated privacy officer to ensure compliance with data protection laws and oversee internal practices. Training programmes for staff can also enhance organisational awareness of CDR principles, fostering a culture of transparency and ethical data management. Moreover, updating privacy policies to be more user-friendly and less legally complex can improve consumer understanding and support informed consent. For policymakers, the study suggests a need to develop more comprehensive regulations around digital transparency and consumer data rights. Introducing industry-specific guidelines for CDR implementation could support consistency across the tourism sector. Government initiatives that provide training, resources, and financial support, particularly to small and medium-sized enterprises (SMEs), would also enable broader compliance with CDR standards. Consumers also play a vital role in driving digital responsibility. By actively engaging with privacy policies, asking questions about data practices, and exercising their data rights, consumers can hold organisations accountable. Educational campaigns to increase awareness of privacy rights and data protection measures could empower consumers to make more informed choices when interacting with digital platforms.

5.3. Limitations of This Study and Suggestions for Future Research

This study has several limitations, including its reliance on publicly available data and a relatively small sample size of 30 travel agencies. While the data collection process ensured a fixed temporal reference, the exact publication or update dates of some website content remained unspecified, which may limit the assessment of its currency or reflectiveness of the organisations' most recent digital practices. Future research could adopt primary data collection methods, such as interviews and surveys, to gain deeper insights into organisational practices. Expanding the sample size and comparing CDR practices across different regions or industries could also provide a broader understanding of how digital responsibility is implemented in practice. Additionally, future studies could explore the perspectives of consumers and employees within the tourism sector to offer a more holistic view of CDR practices.

Overall, enhancing CDR practices in New Zealand's travel industry will require a multifaceted approach involving stronger regulatory frameworks, increased organisational accountability, and greater consumer awareness. Addressing the identified gaps will not only improve compliance with privacy laws but also strengthen consumer trust and support the industry's digital transformation.

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Theme: Transformation in Tourism Study

Smartwashing in Tourism: Conceptual Foundations and Scale Developments (Paper#083)

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Abstract:

With the increasing importance of smart tourism technology, destinations increasingly misrepresent or exaggerate its applications and capabilities. Therefore, tourists' trust has been eroded, posing hindrances to the growth of smart tourism. This study defines this phenomenon as 'smartwashing,' and, through analogy with greenwashing, determines six dimensions of smartwashing, each reflecting varied misleading strategies, and develops a validated scale. This research constructs a comprehensive framework for analyzing smartwashing and offers implications for further research on deceptive marketing in smart tourism.

Keywords: Smartwashing, Smart tourism, Greenwashing, Smart tourism technology

1. Introduction

Over the past decade, smart tourism has undergone substantial development by leveraging smart tourism technologies, contributing to the rise of smart tourism destinations (Koo et al., 2016; Gretzel et al., 2015). It was expected that the smart tourism market would experience significant expansion from USD 29.15 billion in 2024 to about USD 52.61 billion by 2031, a compound annual growth rate (CAGR) of 8.8% , mainly facilitated by smart tourism technologies (Sneha Mali, 2022). They include the Internet of Things (IoT), Artificial Intelligence (AI), Virtual Reality (VR), and Augmented Reality (AR). These technologies cause swift changes in tourism, with substantial benefits for operational efficiency, service personalization, and immersive experiences (Jeong & Shin, 2019; Li et al., 2021). For example, Seoul's local government has introduced AI-guided cultural tours and IoT-based sensor networks to enhance crowd management (Lee et al., 2024; Um & Chung, 2019). Meanwhile, the Louvre Museum employs VR technologies to offer virtual tours, creating global access to cultural heritage (Yang & Zhang, 2022). However, as these technologies become integral to the tourism industry, a concerning trend is emerging: inconsistencies between promotional advertisements and actual functionality are surfacing (Fedeli, 2019).

Those so-called 'smart tourism destinations' often market 'smart' technologies as ground-breaking or revolutionary, often exaggerating their actual applications or capabilities to gain a competitive advantage (Williams et al., 2020). For example, some 'smart hotels' lack the smart technology generally expected, with even basic WiFi signals proving unstable. While these inflated claims might generate short-term benefits, they eventually undermine tourists' long-term trust and the destination's credibility. Therefore, the Federal Trade Commission (2024) cautioned companies against exaggerating AI claims, indicating the need to address deceptive marketing in tourism technology.

Existing research on deceptive marketing, as described above, has been most extensively developed in the environmental field, where 'greenwashing' refers to misleading claims about eco-friendly practices (Delmas & Burbano, 2011; Parguel et al., 2011; Siano et al., 2017). In contrast, deceptive marketing in the technology sector appears fragmented. Terms such as AI washing (Fioravante, 2024), machinewashing (Seele & Schultz, 2022) and autonowashing (Dixon, 2020) focus on exaggerations of specific digital tools. To date, existing research has yet to integrate these parts in a comprehensive study of deceptive marketing in 'smart technologies.' This gap remains to be filled amid the ongoing development of smart technologies (Kye & Hao, 2024), suggesting the need for a comprehensive definition to address the convergence of misrepresentation in the technology field. Especially as destinations adopt 'smart' claims to enhance their competitiveness (Ivars-Baidal et al., 2023). In the context of tourism and hospitality, such misrepresentations are particularly noteworthy. A defining characteristic of this industry is that tourists are particularly susceptible to hype and exaggerated marketing (Guan et al., 2024). When tourists discover inconsistencies between advertising and actual functionality, trust in a "smart" tourism destination may erode (Choi et al., 2021). These inconsistencies not only undermine trust in the specific tourism destination but also affect the perception of all tourism destinations, ultimately hindering the development and innovation of smart tourism.

To fill this gap, this study introduces 'smartwashing' as a framework for understanding deceptive marketing practices related to smart technologies in tourism. Based on analogical reasoning from greenwashing research (Netto et al., 2020) and the unique features of smart tourism technologies (Huang et al., 2017), this study defines smartwashing in tourism as: "The practice of organizations (tourist attractions, hotels, museums, etc.) misleading the consumers (tourists) through misrepresentation, exaggeration or selective disclosure of the advancement, benefits, or innovation of 'smart' tourism technologies (AI, Robot, IoT, AR/VR/Metaverse, other applications etc.)."

Based on this conceptualization, this study identifies six sub-dimensions of smartwashing: misleading with words; misleading with visuals or graphics; misleading by omission; misleading with symbolic actions; misleading by exaggerations; and misleading with technology. Through these, organisations can exaggerate or misrepresent their so-called 'smart' technological advancements. Based on the six dimensions, this research also developed a scale for

smartwashing through a four-step process (1) item generation; (2) item purification; (3) scale validation; and (4) nomological validation (Churchill, 1979). In the final step, the nomological validity of the scale is tested by exploring the relationship between smartwashing, destination experiences and 'smart trust' - a newly introduced construct reflecting consumer confidence in "smart" technologies derived from online trust (Gefen et al., 2003). Smart trust draws on sub-dimensions (ability, benevolence, integrity) of trust (Yhee et al., 2023).

This study makes significant theoretical and practical contributions to the tourism field. Theoretically, it fills a notable gap in tourism research by formally conceptualizing smartwashing as a comprehensive framework for understanding deceptive technology marketing in tourism. In addition, the study develops a validated smartwashing scale, laying the foundation for further experimental research. Practically, it offers implications for industry stakeholders to mitigate the risk of smartwashing, increase transparency and foster sustainable trust in smart tourism.

2. Literature Review

2.1. Greenwashing

Jay Westerveld created the term "greenwashing" to describe hotels that promoted towel reuse for environmental reasons in 1986, when their true objective was to cut costs (Netto et al., 2020). Delmas and Burbano (2011) subsequently defined greenwashing as "the intersection of two firm behaviors: (i) positive communication about environmental performance; and (ii) poor environmental performance." Over time, the term includes a variety of corporate practices that mislead consumers about the environmental impact of an organization (Siano et al., 2017). Such washing practices bring considerable consequences: they can incur regulatory or legal penalties (Sun & Zhang, 2019), erode consumer trust (Ha et al., 2022) and brand reputation (Ioannou et al., 2022), as well as generate negative word-of-mouth (Nhat Tan Pham et al., 2024), and spawn consumer skepticism (Rahman et al., 2015).

2.2. Defining Smartwashing in Tourism

With the rapid development of smart technology, some organizations have shifted their focus from "environmental responsibility" to "smart technologies." Although many related "-washing" terms have emerged previously, they focus on specific technologies rather than the general concept of "smart" technology. For instance, autowashing is defined as the gap between the capabilities of automation and the actual performance (Dixon, 2020). Moreover, machinewashing refers to organizations' use of misleading communication or actions to falsely suggest ethical AI or algorithmic systems (Seele & Schultz, 2022). Therefore, there is a need for a unified definition to address the broader and more systematic deceptive practices in the field of smart technologies, known as smartwashing in tourism.

Analogical reasoning is a cognitive process that involves understanding and defining new concepts by drawing parallels with established ones (Goswami, 1996; Sternberg & Rifkin, 1979). The transition from greenwashing to smartwashing in a specific field of tourism can be

comprehended through this approach. Initially, this research identifies greenwashing as the source concept, given its well-established theoretical foundation and structural similarities with our target concept - smartwashing. Where greenwashing exploits environmental concerns, smartwashing leverages technological enthusiasm; where greenwashing misrepresents environmental benefits, smartwashing distorts technological capabilities; and while greenwashing targets eco-conscious consumers, smartwashing focuses on tech-savvy tourists (Gretzel et al., 2015). This analogical framework enables the transfer of established theoretical constructs from environmental to technological domains. Furthermore, due to the inherent complexities of smart tourism technology - such as algorithmic bias (Ledford, 2019) - our model extends beyond a direct mapping from greenwashing, ensuring it fully covers smartwashing.

Based on the framework of greenwashing, smartwashing can be defined as "the practice of organizations (tourist attractions, hotels, museums, etc.) misleading the consumers (tourists) through misrepresentation, exaggeration or selective disclosure of the advancement, benefits, or innovation of 'smarty' technologies in tourism."

2.3. Dimensions of Smartwashing

To more precisely examine smartwashing in tourism, this research categorizes it according to various types of misrepresentation into six dimensions. The first five dimensions, derived through structural mapping from greenwashing research, are: misleading with words, misleading with visuals or graphics, misleading by omission, misleading with symbolic actions, and misleading by exaggerations. The sixth dimension, misleading with technologies, is specifically introduced to address the unique characteristics of smart tourism technologies. This framework provides a structured approach for identifying, analyzing, and understanding smartwashing practices in the context of smart tourism. It effectively integrates parallels with greenwashing and addresses the unique characteristics of smart tourism technologies.

2.3.1. Misleading with Words

Misleading with words refers to the use of vague, exaggerated, or technical jargon to create a false impression of technological advances in smart tourism. For instance, a museum might advertise an exhibit "with AR effect", in reality only four images with AR effect (Rmontino, 2019). This practice is similar to "greenwashing," in which businesses create the appearance of environmental responsibility by using buzzwords such as "go-green", "environmentally friendly", and "eco-friendly" (Chen et al., 2019).

2.3.2. Misleading with Visuals or Graphics

Misleading with visuals or graphics is to exaggerate the application or function of smart tourism technology by manipulating visual content such as images and videos. Some hotels create deepfake videos to attract tourists through combination of artificial intelligence and machine learning (Sivathanu & Pillai, 2022). Similarly, greenwashing often implies a strong link between its brand and sustainability through the use of biodiversity symbols or green visual images (Kassinis & Panayiotou, 2017).

2.3.3. Misleading by Omission

Misleading by omission refers to the deliberate concealment of key risks, limitations and related information in smart tourism technology. For instance, many travel apps collect tourist information without their consent, raising privacy concerns (Mitchell, 2024). This is similar to what has been going on in green washing, for example, when Starbucks announced in 2018 that it was phasing out plastic straws which constitute only a small fraction of total plastic use in an attempt to downplay its larger problem with plastic use (Arwa Mahdawi, 2018).

2.3.4. Misleading with Symbolic Actions

Misleading with symbolic actions refers to the implementation of some superficial technical measures to create the illusion of innovation, without real substantive improvement. The Henn-na Hotel in Japan, for example, drew attention with a large number of robots as its highlight, but the robots did not work as expected in practice (Burton, 2019). Similarly, some hotels or businesses may encourage guests to reuse bath towels in the name of being "environmentally friendly" when they are actually saving money (Mansour Alyahia et al., 2024).

2.3.5. Misleading by Exaggerations

Misleading by exaggeration refers to excessive claims about the actual functions or applications of smart technology, often using quantitative claims that are far from reality. This is distinct from misleading with words, which relies on vague or technical jargon without necessarily making verifiable claims. Several online travel agencies have recently boasted "AI-driven platforms" that promise fully personalised recommended trips , yet the systems merely filter results based on matching keywords. Analogously, Volkswagen heavily promoted its diesel cars as "clean" and environmentally friendly, actually on-road nitrogen oxide emissions far higher than advertised (Hotten, 2015).

2.3.6. Misleading with Technologies

Misleading with technologies is a unique dimension of smartwashing that fundamentally differs from traditional deceptive practices (e.g. greenwashing) (Fioravante, 2024). As the travel industry continues to digitalize, organizations have discovered that the inherent complexity and perceived neutrality of smart technologies can be exploited to create misleading impressions (Dan, 2020). Unlike misleading by omission (which simply hidding information), this dimension uses the complexity of the technology itself - the "black box" nature of algorithms, digital systems, etc.- as the mechanism of deception, making spot nearly impossible for tourists (Xu et al., 2024). Misleading with technologies can thus be described as the deliberate use of technological complexity to create false impressions of functionality, fairness, or benefit to tourists.

Numerous technologies deployed by tourism organisations reflect this dimension: 1) recommendation systems that claim to personalize experiences while systematically prioritizing high-margin offerings (Ghanem et al., 2022); 2) a real-time facial recognition system fail to disclose its high error rates with certain demographic groups (Birhane, 2022); 3) AI-driven platforms can also generate fabricated reviews or images, misleading tourists into trusting seemingly authentic endorsements (Sharma & Kaur, 2021). Because such content appears data-driven, travelers rarely question whether the system manipulates outputs for corporate gain. When errors or biases inevitably surface such as discriminatory facial recognition algorithms or questionable data encryption, operators tend to shift the blame to the technology itself, claiming that the system made its own decisions (Kneer & Stuart, 2020). As complex systems lend credibility to misleading claims while creating barriers to verification that are nearly impossible for most tourists to overcome. The consequences extend beyond disappointment to fundamental ethical issues of informed consent, privacy, and algorithmic discrimination (Huang et al., 2022).

2.4. Smart Trust

In the tourism and hospitality industry, trust has been a critical factor influencing tourists' intentions (Kim et al., 2020), experience (Kim et al., 2018), loyalty (Kim et al., 2012) and satisfaction (Martínez & Rodríguez del Bosque, 2013). Traditionally, trust is defined as a willingness to rely on an exchange partner in whom one has confidence (Moorman et al., 1992). As environmental concerns gained prominence, green trust emerged as a significant concept that reflects consumers' confidence in environmental claims and sustainable practices of tourism products (Chen, 2010). However, with the rapid digitalization and integration of technology into tourism experiences, traditional concepts of trust fail to address consumers' concerns about data privacy, transparency, and technological capabilities. Given that trust is a critical determinant in the digital market (Palácios et al., 2021), there is a pressing need to introduce and conceptualize smart trust. Smart trust can be defined as tourists' confidence that a business or organisation's smart tourism technologies are reliable, beneficial, and function as promoted.

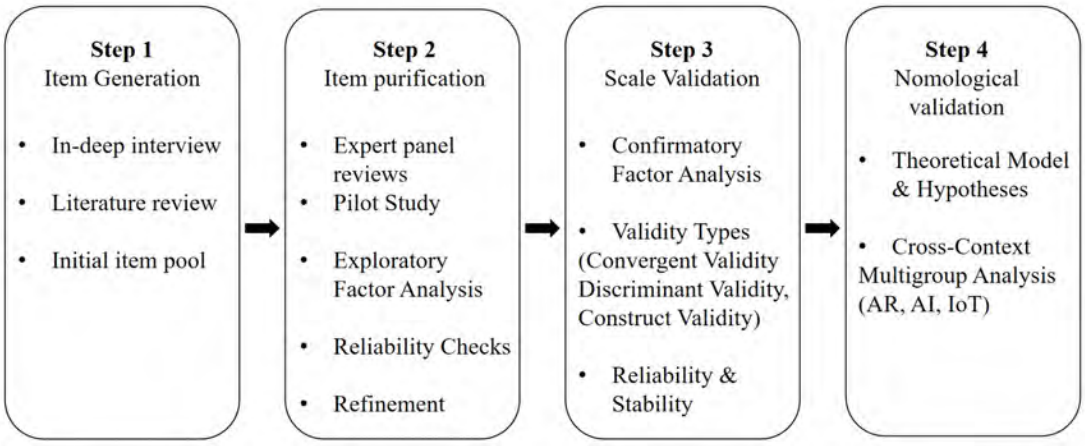
Based on the established trust framework, smart trust covers three core dimensions inherited from traditional trust: ability, integrity, and benevolence (Schoorman et al., 2007; Mayer et al., 1995). The ability dimension reflects tourists' belief in the technological competence, functionality, and reliability of smart systems to deliver promised digital experiences. The integrity dimension includes tourists' confidence in the honest representation of technological capabilities and ethical data management practices. The benevolence dimension reflects tourists' perception that smart technology applications prioritize their well-being over purely commercial interests. Through a systematic analysis of these three dimensions, destinations can mitigate concerns about smartwashing, increase smart trust, and enhance the overall travel experience in a rapidly evolving digital landscape.

3. Methodology

Following Churchill's (1979) scale development paradigm, this research employs a four-stage methodological approach to develop and validate a smartwashing measurement scale. As shown in Fig.1, the approach covers three parts: (i) item generation; (ii) item purification; (iii) scale validation; and (iv) nomological validation.

The first stage involves a comprehensive literature review and in-depth interviews to create an initial item pool for smartwashing dimensions. The second stage begins with expert panel reviews for content validation, followed by a pilot study that utilizes exploratory factor analysis (EFA), reliability checks, and item purification. In the third stage, confirmatory factor analysis (CFA) is used to evaluate various validity types - convergent, discriminant, and construct validity, while assessing reliability and stability. The final stage assesses the scale's nomological validation through model testing and cross-context multigroup analysis across different smart tourism technologies (AI, AR, IoT).

Figure 1. Scale develop procedure



3.1 Stage 1: Item Generation

In the first stage, a comprehensive initial item pool is generated through qualitative methods that integrate a literature review and in-depth interviews. This process begins with a systematic literature review on smartwashing, greenwashing, smart tourism technology, and related concepts to establish a solid theoretical foundation. Subsequently, in-depth interviews are conducted with a diverse group of stakeholders, including tourists, tourism policymakers, tourism practitioners, and academic experts in tourism. These interviews ensure theoretical and practical grounding of smartwashing' conceptual definition (Zhang et al., 2024). Panel members also evaluate the comprehensiveness of the definition and provide suggestions for additional dimensions (Kim & Fung So, 2024). The insights from both the literature review and interviews are then synthesized to create an extensive item pool.

3.2. Stage 2: Item Purification

The initial item pool first undergoes expert panel reviews comprising tourism industry professionals and academic experts, to assess content validity and face validity (Hair Jr. et al., 2021). Items deemed ambiguous, irrelevant, or redundant by the expert panel are modified or eliminated as needed. After expert validation and item refinement, a pilot study is conducted using exploratory factor analysis (EFA) with principal component analysis and varimax rotation (maximum variance method). Before EFA, the Kaiser-Meyer-Olkin (KMO>0.8) and Bartlett's test of sphericity are conducted to ensure the sample's suitability for EFA (Kaiser, 1974). Items are eliminated based on standardized criteria: factor loadings less than 0.50, cross-loadings greater than 0.40 on multiple factors, and commonalities below 0.40. The remaining items are assessed for reliability using Cronbach's α (>0.7) to ensure internal consistency.

3.3. Stage 3: Scale Validation

To validate the purified scale, data will be collected from tourists who have used smart tourism technologies within the past year. Confirmatory factor analysis (CFA) will then be conducted to assess construct validity and confirm the six-dimensional structure (Gerbing & Anderson, 1988). Model fit indices (χ^2/df, CFI, TLI, RMSEA, SRMR, etc.) will be examined to evaluate the measurement model's adequacy (Otoo et al., 2020). Convergent validity will be assessed using factor loadings, average variance extracted (AVE ≥ 0.50), and composite reliability (CR ≥ 0.70). Discriminant validity will be established based on Fornell and Larcker's (1981) criterion, comparing the square root of AVE with inter-construct correlations. Together, these procedures ensure the robustness and statistical validity of the developed measurement scale.

3.4. Stage 4: Nomological Validation

Nomological validation examines whether the new scale aligns with theoretical expectations in a broader framework, confirming its relevance to related constructs (Bagozzi, 1980). To establish nomological validity, this study will test a theoretical model that explores the relationships between smartwashing, smart trust (comprising ability, integrity, and benevolence), and destination experience (as shown in Figure 2). This analysis will establish whether smartwashing negatively influences smart trust and destination experience, and whether smart trust mediates the relationship between smartwashing and destination experience, as hypothesized in our theoretical model. Additionally, this study will investigate the unique influence of each of the six smartwashing dimensions on the three dimensions of smart trust.

This stage will involve a cross-context multigroup analysis across various smart tourism applications (AR, AI, IoT) to assess whether the relationships in the model vary depending on the technological context (Cheah et al., 2023). As different smart technologies may involve different smartwashing practices and have a unique impact on smart trust and destination experience, this study will test for measurement invariance across these groups to ensure comparability of results. This comprehensive nomological validation will confirm the validity of the scale and shed light on the theoretical mechanisms through which smartwashing influences destination experience and smart trust.

3.4.1. Hypothesis development

Tourists have greater expectations for their experiences when their smart technology capabilities in marketing are exaggerated by destinations (Foroudi et al., 2018). According to Expectation-Disconfirmation Theory, tourists feel dissatisfied due to negative disconfirmation when actual performance falls short of these expectations (Lankton et al., 2016). Therefore, the following hypothesis is formulated:

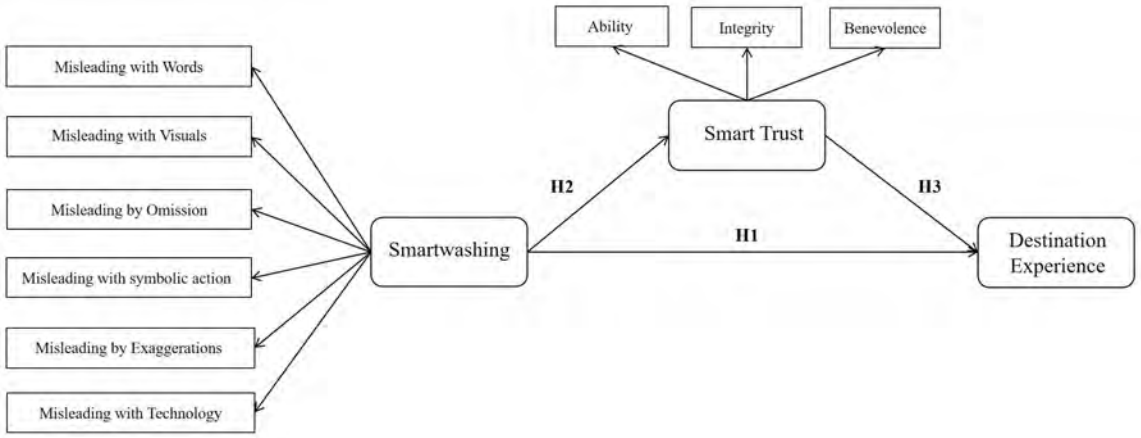
H1: Smartwashing affects destination experience negatively.
According to the research on greenwashing, consumers feel their green trust severely damaged when detecting exaggerated or false environmental claims (Chen & Chang, 2013). Similarly, the consumer trust in the destination's smart tourism technologies is likely to be eroded by the deceptive marketing about technological capabilities (smartwashing). Therefore, the following hypothesis is formulated:

H2: Smartwashing affects smart trust negatively.
Research on green trust shows that trust positively affects intentions (Wasaya et al., 2021). In smartwashing settings, trust reduces uncertainty and perceived risk, encouraging tourists to engage with smart tourism technologies (Kim et al., 2008). When tourists trust a destination's smart technology applications, they perceive greater value from these interactions, which leads to enhanced overall destination experiences. Therefore, the following hypothesis is formulated:
H3: Smart Trust affects destination experience positively.

The perceptual experiences created by technologies for tourists varies. AR enhances immersion (Daassi & Debbabi, 2021), AI promotes personalized interactions (Gao & Liu, 2022), and IoT improved operational efficiency (Gajić et al., 2024). Therefore, the following hypothesis is formulated:

H4: There are significant differences in the relationship between smartwashing, smart trust, and destination experience across technology types (AR, AI, and IoT).

Figure 2. Theoretical model



4. Implications

4.1. Theoretical Implications

By introducing the concept of "smartwashing," this study establishes a comprehensive framework for understanding deceptive technological marketing in smart tourism. While existing research has explored technology-based deceptive marketing, such as "AI washing" in specific contexts, few studies have addressed the broader landscape of smart tourism technology from a deceptive marketing perspective. Our conceptualization builds on established frameworks of environmental deception (Du, 2015), with a focus on how destinations misrepresent or overstate technological capabilities. This theoretical expansion ensures that deception in tech-driven tourism contexts receives comprehensive and systematic academic attention.

Second, based on analogical reasoning from the "greenwashing" literature and the unique features of smart tourism technologies, this study identified the six dimensions of smartwashing. This dimensional framework provides a comprehensive categorization system for the analysis of deceptive technological marketing practices in tourism, thereby expanding existing theories of marketing deception (Aditya, 2001). By revealing how destinations exaggerate "smart" attributes, this study illustrates the complexity of deceptive information in the field of tourism.

The development and validation of a smartwashing scale constitutes a significant methodological contribution to tourism research. While instruments exist for measuring greenwashing (Andreoli et al., 2022), no validated scales specifically address technological deceptive marketing in tourism. Our scale development followed rigorous methodological standards (Churchill, 1979; Hinkin et al., 1997), with multi-group analysis conducted to ensure the instrument's reliability across diverse technological contexts. The final validation phase examined the relationships between smartwashing, smart trust, and destination experience, confirming the scale's nomological validity.

4.2 Practical implications

This research offers important practical implications for three key stakeholders in the tourism ecosystem: (i) for tourists, this research sheds light on smartwashing, helping them to make informed decisions about destinations that truly implement smart tourism technologies (Wang et al., 2016). Moreover, the smartwashing scale developed in this study enables tourists to assess smart technology advertising, thereby reducing the risk of disappointment or distrust; (ii) for policymakers, this study highlights the need for regulatory frameworks and industry standards to curb smartwashing in the tourism industry. As destinations increasingly vie for "smart" status, certification for smart tourism technologies and smart tourism destinations could establish industry benchmarks (Cerdá-Mansilla et al., 2024). Such policy interventions would promote sustainable technological development in tourism while protecting consumer interests in an ever-more digitalized marketplace (Tops & Lamers, 2023); and (iii) for practitioners, understanding the repercussions of smartwashing facilitates a shift away from superficial claims toward authentic technology applications (Chen & Chang, 2013). As such, they can foster long-term trust and positive word-of-mouth, rather than risk jeopardizing credibility with deceptive promotions.

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Relationship between Serious Leisure and Leisure Involvement of Volunteer: Moderating Effect of Family Support (Paper#158)

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Abstract:

This study explores the relationship between serious leisure and leisure involvement among volunteers, with a focus on the moderating effects of family support. Volunteers from the 2018 Taichung World Flora Exposition participated in the research. The findings reveal that: (1) serious leisure positively and significantly influences leisure involvement; (2) family support also has a positive and significant impact on leisure involvement; and (3) the moderating effect of family support on the link between serious leisure and leisure involvement is insignificant.

Keywords: serious leisure, leisure involvement, family support

1. Introduction

With the implementation of a two-day weekend, individuals have more discretionary time to engage in leisure activities at their convenience, choosing pursuits that bring satisfaction, enjoyment, and a sense of reward. Leisure is an essential aspect of an individual's life (Tsaur, Liang, & Hsu, 2012). Most people believe that leisure activities can help cope with work-related stress (Iwasaki, & Mannell, 2000).

However, Iso-Ahola and Wessinger (1984) argued that watching television is a form of passive leisure that leads to ineffective leisure functions and may even negatively impact mental health. Stebbins (1982) introduced the concept of "casual leisure," which refers to empty and passive leisure activities that neither improve quality of life nor address emotional fulfillment, potentially resulting in a sense of spiritual emptiness. In contrast, Stebbins also proposed the idea of "serious leisure," which encompasses three categories: amateurs, hobbyists, and career volunteers. In this regard, volunteer participants fall within the domain of serious leisure.

Stebbins (2015) introduced three types of leisure in the serious leisure perspective (SLP): casual, project-based and serious leisure. Casual leisure is a short-term pleasurable activity that does not require pre-existing knowledge of skills, such as napping or watching TV (Stebbins, 1997). Casual leisurists experience brief pleasure, sensory stimulation, or infotainment, when they happen to learn something inadvertently while being entertained (Stebbins, 2015). Project-based leisure involves a degree of serious pursuit, and is a one off or occasional activity, like tourism or volunteering (Stebbins, 2005). It involves effort, pre-existing skill or knowledge, and generates the same rewards that serious leisure does (Stebbins, 2005). Serious leisure is the third type of leisure, which according to Stebbins (1992, p. 3) is 'the systematic pursuit of an amateur, hobbyist, or volunteer activity that is sufficiently substantial and interesting for the participant to find a career there in the acquisition and expression of its special skills and knowledge'. It is a self-directed learning process which is systematic and intentional. Serious leisurists possess knowledge and skills and gain durable benefits, such as personal enrichment, self-actualization, self-gratification and recreation (Stebbins, 1992).

In recent years, government authorities have organized large-scale global or international events, while public sectors routinely host a variety of leisure activities annually. Additionally, private organizations hold sports competitions and various promotional events. All of these endeavors require the recruitment of a significant number of volunteers for support. Volunteering is an alternative form of leisure activity, distinct from typical leisure pursuits, where individuals can experience the joy of helping others and embrace the philosophy that "helping others brings happiness" (Weng, Lin, & Wu, 2006).

According to data from the Ministry of Health and Welfare Volunteer Service Network (2025), in 2021, there were 20,473 volunteer teams, with a total of 1,042,957 volunteers. By 2025, the number of volunteer teams increased to 21,441, while the total number of volunteers grew to 1,114,604. This indicates a steady growth in volunteer participation over recent years.

The degree to which participants commit themselves to a leisure activity reflects their leisure involvement. This concept represents the close bond between participants and the activity, resulting in sustained participation (Kyle & Chick, 2004). Volunteer participants, driven by the six characteristics of serious leisure, can develop a high level of commitment to volunteer activities. This commitment fosters a strong sense of connection, enabling sustained participation in the activities, which ultimately becomes an integral part of their lives. Iwasaki and Havitz (1998) identified personal traits as precursors to leisure involvement. The characteristics of serious leisure encourage participants to devote more time to leisure activities (Huang, Lin, Yang, & Lian, 2016).

Family support, an extension of social support, serves as a fundamental source of security throughout an individual's life. It provides a critical foundation of confidence and alleviates stress (Torres & Solberg, 2001). Previous research has primarily focused on areas such as well-being

and recreation specialization, with limited exploration into whether family support affects the degree of leisure involvement or serves as a moderating factor. Volunteer participants often originate from familial settings, and in Eastern societies, family support functions similarly to social support. Roskies and Lazarus, (1980) have demonstrated that spousal support, as a form of social support, plays a role in reducing marital pressures. Family support significantly helps alleviate the newborn mother's stress (Reid, & Taylor, 2015). However, the extent to which family support influences participants' level of engagement in activities has been scarcely examined in previous literature, sparking the motivation for this study.

As Taiwan's society continues to age, retirees should shift their focus from formal employment to leisure activities. Many retirees possess extensive professional experience and expertise, making them well-suited for transitioning into serious leisure (Li, A. T., 2004). In recent years, volunteer services have flourished, with both government agencies and civic organizations actively promoting volunteer recruitment to address workforce shortages in large-scale events and enhance societal efficiency. As a result, effectively managing volunteers and guiding their long-term development has become a crucial topic of discussion. Leisure involvement emphasizes long-term dedication and skill refinement in specific leisure activities. With the rapid growth of volunteer organizations, volunteer recruitment and retention have become pressing issues. Additionally, family support plays a pivotal role in an individual's life, influencing participation in work, leisure, and volunteer service. However, existing research has rarely explored how family support impacts the level of volunteer involvement, which serves as a key motivation for this study.

This study aims to establish a relationship model between serious leisure and leisure involvement while examining the moderating effect of family support within this framework. The findings will provide valuable insights for nonprofit organizations to formulate more effective strategies for volunteer management, including recruitment, training, leadership, retention and motivation, thereby enhancing the efficiency and sustainability of volunteer services. By deepening our understanding of volunteer participation mechanisms, this research aspires to contribute to future studies in leisure and social service fields.

2. Literature Review

2.1. Serious leisure

Stebbins (1992, p. 3) define serious leisure is 'the systematic pursuit of an amateur, hobbyist, or volunteer activity that is sufficiently substantial and interesting for the participant to find a career there in the acquisition and expression of its special skills and knowledge'.

Stebbins (1982) introduced the concept of "serious leisure," defined as systematic, regular, and planned engagement in activities by amateurs, hobbyists, or career volunteers. These individuals are deeply attracted to the diversity, complexity, and challenges of the activities, leading to sustained participation akin to running a business with focused dedication. Through this process, participants acquire and demonstrate professional skills, knowledge, and experience, which provide a sense of fulfillment and interest (Wu et al., 2006).

Amateurs are drawn to serious leisure activities due to their appeal, engaging in these activities with the expectation of personal growth and development, sometimes achieving a level of expertise that surpasses that of professionals. Enthusiasts, on the other hand, utilize their non-working hours to participate in leisure activities that they find both enjoyable and interesting, engaging in them in a continuous and systematic manner. The distinction between amateurs and enthusiasts lies in their level of professional knowledge and skills, with amateurs demonstrating higher expertise and placing greater emphasis on skill improvement during their participation. Volunteer work is inherently non-coercive and not profit-driven. Volunteers dedicate their skills, knowledge, and experience to serving community activities and helping others, embodying altruism and the spirit of "giving is better than receiving."

Additionally, Stebbins (1982) outlined six characteristics of serious leisure: perseverance, long-term career development, significant personal effort, lasting personal benefits, unique values, and strong identity.

This paper defines serious leisure as " the volunteer participants systematic pursuit of a volunteer activity that is sufficiently substantial and interesting for the participant to find a career there in the acquisition and expression of its special skills and knowledge. " Their commitment resembles the focused dedication required in managing a career, through which they acquire and demonstrate professional skills, knowledge, and experience. Such participation also enables them to perceive a sense of fulfillment and enjoyment."

2.2. Leisure Involvement

Selin and Howard (1988) introduced the concept of ego involvement into the field of leisure studies, marking the beginning of research on leisure involvement. Ego involvement is conceptualized as the strength or degree of cognitive connection between the self and leisure activities. Thus, involvement reflects the extent of an individual's commitment to an activity or its related outcomes, with leisure studies primarily focusing on the aspects of long-term and sustained involvement (Kyle & Chick, 2004). Leisure involvement reflects the degree to which individuals dedicate themselves to activities or related outcomes, with the leisure domain emphasizing long-term engagement (Kyle & Chick, 2004).

Leisure involvement is a key factor influencing tourists' leisure experiences (Havitz & Dimanche, 1997) and can manifest as the significance, enjoyment, and self-expression derived from activities (Selin & Howard, 1988). Havitz and Dimanche (1997) described involvement as an "unobservable motivation, evoked by stimuli or situations, that drives interest in recreational activities or related products." Involvement establishes cognitive connections between self-continuity and leisure activities, offering self-expression, appeal, and becoming a central life focus. Leisure involvement refers to how individuals perceive leisure activities, influencing their behavior. Tao, Zhou, Tian, & Zhu (2022) defines leisure involvement as a psychological state in which an individual is engaged in a certain leisure activity, a state that encompasses the degree of relevance to specific leisure activities that the individual perceives, and the positive psychological state of satisfaction with self-expression and pleasure in leisure.

This paper defines leisure involvement as "the psychological state exhibited by volunteer participants when engaging in their favored volunteer activities, characterized by excitement, engagement, and focus. Volunteers perceive the importance of these activities and derive joy from them. Through volunteer activities, they express themselves, fostering a strong connection between these activities and their daily lives."

2.3. Family Support

Family support stems from social support, referring to the care and assistance individuals receive from their personal networks. It includes work-related support (from supervisors and colleagues) and non-work support, primarily from family members. Among these, spousal support plays a crucial role in non-work-related social support. High levels of social support effectively alleviate stress and promote mental and physical well-being (Weng & Lin, 2006).

Additionally, family members often serve as key partners in leisure activities, enhancing individual leisure participation (Weng & Lin, 2006). As remote work becomes more prevalent, the role of family assistance in mitigating the encroachment of work on personal life has become even more significant (Shockley, Clark, Dodd, & King, 2021)

This paper defines "family support" as the care and assistance perceived and received by volunteer participants from their family members.

2.4 Hypothesis and Framework

Serious leisure participants regard their leisure activities as the central focus of their lives, spending their free time engaging in preferred leisure pursuits while continuously exerting effort and embracing challenges (Stebbins, 1982). Additionally, Stebbins (1992) proposed that serious leisure participants engage in such activities due to the benefits they derive, emphasizing that sustained involvement is driven by the gains obtained from these activities. This aligns with McIntyre and Pigram (1992), who defined leisure involvement for volunteer participants as the significance, enjoyment, and self-expression experienced during volunteer activities and the

critical connection to their personal lives. Additionally, the six characteristics of serious leisure proposed by Stebbins (1982) perseverance, long-term career development, significant personal effort, enduring personal rewards, unique values, and strong sense of identity are closely related to the concepts introduced by McIntyre and Pigram (1992). Based on this understanding, the following hypothesis is proposed:

H1: Serious leisure has a positive and significant impact on leisure involvement.

In the field of leisure and recreation studies, Stebbins (1992) found that participants with serious leisure characteristics may experience misunderstandings with friends, relatives, or family members due to their excessive commitment to activities (Cheng & Chang, 2011). Serious leisure participants inevitably face challenges regarding family and spousal support during their pursuit of such activities. When individuals devote significant time and energy to activities they are passionate about, their engagement with family and spouses tends to decrease. This highlights the close relationship between family and leisure (Kelly & Kelly, 1994). During the pandemic, the indispensability of familial support has strengthened as individuals grappled with professional obligations coupled with domestic responsibilities, necessitating greater reliance on family (Craig and Churchill, 2021). Gao (2011) confirmed that social support has a significant positive impact on the degree of involvement.

Hobfoll (1989) proposed that individuals can gain greater psychological resources through support provided by significant others from various domains. This support effectively alleviates stress and emotional pressure in both work and family contexts. Tsaur and Huang (2016) emphasized that social support facilitates resource exchange between individuals. When individuals receive support from significant others across emotional, practical, informational, and self-esteem dimensions, they are better able to engage in leisure activities. Therefore, this study extends its focus to explore the relationship between family support and leisure involvement among volunteers, leading to the following hypotheses:

H2: Family support has a positive and significant impact on leisure involvement.

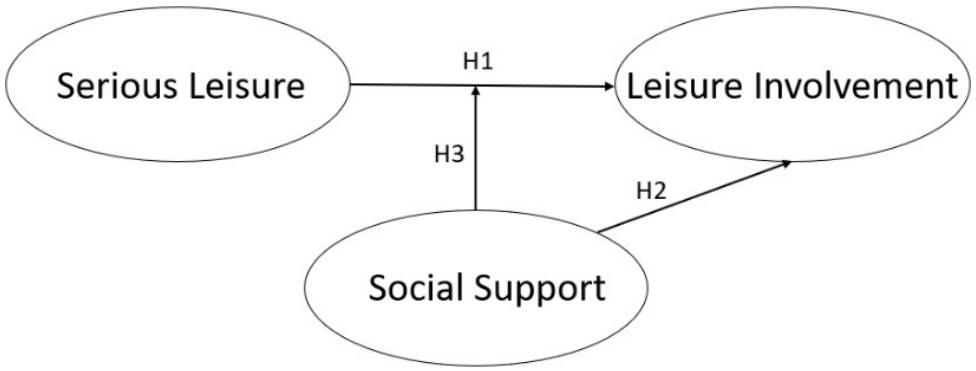
Orthner and Mancini (1990) found that husbands and wives who participate in the same leisure activities tend to be more satisfied with their leisure lives, whereas the opposite scenario can have adverse effects. Furthermore, Chen, Ou and Ou (2009) confirmed the moderating effect of spousal support on the relationship between serious leisure traits and well-being. The findings of Chang (2011) confirmed the moderating effect of family support on the relationship between leisure involvement and leisure-family conflict.

Family support originates from social support (Weng & Lin, 2006). Chen et al. (2009) suggested that the family aspect of social support includes spousal support and support from significant relatives or friends, and they demonstrated the moderating effects of social and family support on bidirectional work-family conflict. Lin (2016) further verified the moderating effect of social

(family) support on the relationship between recreational involvement and specialization. These studies collectively illustrate that spousal support, family support, and social support all have moderating effects on the relationships among serious leisure, leisure involvement, and other related variables. Based on this, the following hypotheses are proposed:

H3: Family support moderates the relationship between serious leisure and leisure involvement.

This study uses serious leisure among volunteer participants as the independent variable, family support as the moderating variable, and leisure involvement as the dependent variable. It aims to construct and validate a relational model between serious leisure and leisure involvement, as well as to examine the moderating effect of family support. The following framework diagram is presented based on the hypotheses above:



Based on the literature review, the exploration of relationships among variables, and the framework established in this study, the following hypotheses are proposed:

H1: "Serious leisure" has a positive and significant impact on "leisure involvement."
H2: "Family support" has a positive and significant impact on "leisure involvement."
H3: "Family support" moderates the relationship between "serious leisure" and "leisure involvement."

3. Methodology

Based on the research framework and hypotheses mentioned above, the questionnaire for this study is divided into four sections: serious leisure among volunteer participants, leisure involvement, family support, and personal demographic information.

3.1 Measurement

Due to the excessive number of items, a total of 90 items are compiled, there is a concern that future respondents may lose interest in completing the questionnaire, and having too many items may also negatively impact validity analysis. Based on this perspective, this study

simplifies the items within the scale's factors. In the first step, adjectives describing emotions that are repetitive or similar in meaning were removed. In the second step, construct validity was established through factor analysis, with all factor loadings exceeding 0.5 (Tsai & Hsu, 2007).

Similar to the methodology of the aforementioned research, this study selects questionnaire items with the highest factor loadings from various dimensions across the literature. All selected items also exhibited factor loadings above 0.5.

Descriptive statistics, item analysis, reliability analysis, validity analysis, and structural equation modeling (SEM) were employed to construct and validate the causal relationships among the variables (Chiu, 2006).

3.1.1 Measurement of Serious Leisure

This study modifies the Serious Leisure Scale developed by Liang and Tsaur (2007) to align with the research context. The scale is based on six characteristics proposed by Stebbins (1982): perseverance, a well-planned leisure career, continuous personal benefits, significant personal effort, unique ethos, and strong identification with the activity, comprising 21 items.

Perseverance: Highest factor loading item 0.66**—"Even during difficult times, I continue my volunteer activities."

Well-Planned Leisure Career: Highest factor loading item 0.67**—"For me, volunteering is an integral part of my life."

Continuous Personal Benefits: Highest factor loading item 0.56**—"Volunteering allows me to meet many new friends."

Significant Personal Effort: Highest factor loading item 0.83**—"To enhance my volunteer skills, I am willing to read relevant books or prepare necessary tools."

Unique Ethos: Highest factor loading item 0.70**—"Privately, I participate in activities or gatherings with fellow volunteers."

Strong Identification with the Activity: Highest factor loading item 0.70**—"I enjoy discussing interesting aspects of volunteering with others."

3.1.2 Measurement of Leisure Involvement

This study references Kyle and Mowen's (2005) leisure involvement framework, which consists of three dimensions: attraction, centrality, and self-expression, with 11 items.

Attraction: Highest factor loading item 0.83**—"Engaging in volunteer activities is one of the most fulfilling things I do."

Centrality: Highest factor loading item 0.91**—"I realize that many aspects of my life revolve around volunteering."

Self-Expression: Highest factor loading item 0.74**—"Volunteering represents the role I aspire to fulfill."

3.1.3 Measurement of Family Support

The study adapts the social support framework developed by Huang and Tsaur (2016) to formulate a family support scale. This scale is categorized into four dimensions: emotional support, self-esteem support, instrumental support, and informational support, comprising 16 items.

Emotional Support: Highest factor loading item 0.91**—"People around me listen to my feelings about volunteering."

Self-Esteem Support: Highest factor loading item 0.87**—"The support I receive from those around me makes me feel good about volunteering."

Instrumental Support: Highest factor loading item 0.85**—"When I have additional volunteer needs, I can request assistance from those around me."

Informational Support: Highest factor loading item 0.9**—"When I encounter issues related to volunteering, people around me often provide useful information."

This structured measurement approach ensures an effective evaluation of serious leisure, leisure involvement, and family support, contributing to a comprehensive understanding of volunteer engagement.

3.2 Participants and Sampling Design

A review of the literature revealed related published studies with solid theoretical foundations and comprehensive frameworks, supporting the use of quantitative research as the methodology for this study. The research subjects primarily consisted of volunteer participants. Questionnaires were distributed during the 2018 Taichung Flora Expo, where various volunteer teams across Taichung City adopted task-based support methods to assist in Expo activities. The surveyed volunteer teams were all established organizations, ensuring the representativeness of the sample.

3.3 Data collection

Questionnaires were distributed and data collected using non-random convenience sampling. Following the development of the initial survey draft, a pre-test survey was conducted, distributing 100 pre-test questionnaires. A total of 400 questionnaires, both online and paper-based, were issued, and 344 valid responses were obtained after excluding invalid ones.

3.4 Data analysis methods

Through descriptive statistics, item analysis, reliability analysis, validity analysis, and the use of structural equation modeling (SEM), the causal relationships among the variables were constructed and validated (Chiu, 2006).

3.4.1 Descriptive Statistical Analysis

This study utilizes descriptive statistical analysis to examine the basic characteristics of the sample, including gender, age, educational background, occupation, individual monthly income, and residential area. The analysis presents frequency distributions, means, standard deviations, and percentages to illustrate the sample's demographic profile. Additionally, descriptive statistics were applied to key research variables—serious leisure, leisure involvement, and family support—to assess the distribution of means and standard deviations, thereby determining the concentration and dispersion of the data (Chiu, 2013).

3.4.2 Item Analysis

To ensure data reliability, this study performed a comprehensive assessment using missing value analysis, descriptive statistical indices, and extreme group tests. The missing value analysis examined response omissions, while means, standard deviations, and skewness coefficients were used to determine potential extreme values. The extreme group test involved summing item response scores and categorizing participants based on their total scores: the top 27% formed the high-score group, and the bottom 27% comprised the low-score group. Independent sample t-tests were conducted to compare these two groups.

3.4.3 Reliability Analysis

Cronbach's α was employed to assess the internal consistency of various dimensions in the study. According to Guieford (1965), a Cronbach's α coefficient below 0.35 indicates low reliability, values between 0.35 and 0.7 suggest acceptable reliability, and values exceeding 0.7 signify high reliability with strong internal consistency. The overall reliability for serious leisure was 0.752, for leisure involvement was 0.759, and for family support was 0.728—all falling within the high-reliability range. Since each item exhibited the highest factor loading within its respective dimension, it confirms the strong internal consistency of the measurement constructs.

3.4.4 Validity Analysis

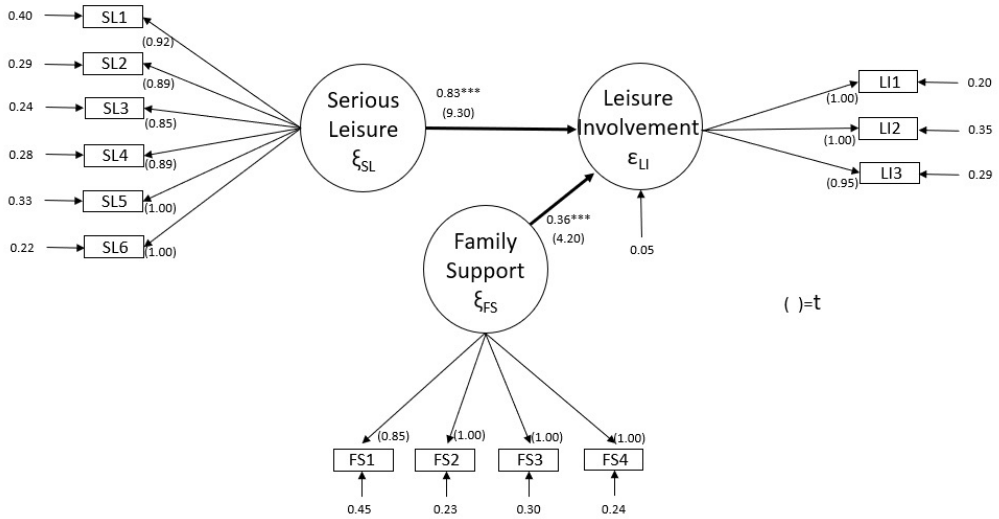
Content validity reflects the extent to which a measurement tool (questionnaire scale) accurately covers the scope and depth of the intended concept (Chiu, 2013). The items used in this study's measurement scales were based on established theoretical frameworks, referencing validated scales from both domestic and international research. Consequently, the measurement tools employed in this study possess strong theoretical foundations and robust validity.

3.4.5 Structural Equation Modeling (SEM)

Structural equation modeling (SEM) is a statistical approach used to examine causal relationships. It allows for the simultaneous evaluation of multiple latent and observed variables, assessing model fit and estimating measurement errors to determine the impact of independent variables on dependent variables. SEM consists of two key components:

1. Measurement Model – Evaluates the relationship between latent and observed variables using confirmatory factor analysis (CFA) to test the reliability and validity of the measurement framework.
2. Structural Model – Explores relationships between latent variables via path analysis to confirm the model's fit.

This study employs SEM to construct and validate the causal relationships between key research variables (Chiu, 2006). Following is empirical results of the Theoretical Model Diagram.



Empirical Results of the Theoretical Model Diagram

4. Results

This study focuses on volunteer participants to explore the relationship between serious leisure and leisure involvement, while also examining the moderating effects of work-leisure conflict and family support. In this chapter, SPSS statistical software is employed to conduct descriptive statistical analysis on the valid questionnaires collected from the formal survey, aiming to understand the distribution and characteristics of sample attributes as well as the descriptive statistics of the survey items. Additionally, LISREL analysis software is used for confirmatory factor analysis and validation of the theoretical model.

4.1 Descriptive Statistical Analysis

4.1.1 Descriptive Statistical Analysis of Participants' Basic Information

This study distributed paper questionnaires at several locations, including the Houli Horse Ranch Pavilion of the Taichung International Flora Expo, Huludun Cultural Center, and the Taichung Public Library's Huludun Branch, between February 22 to April 23, 2019. A total of 400 questionnaires were distributed, with 344 valid samples collected. Invalid questionnaires were excluded due to overly uniform responses or incomplete answers.

The questionnaire covered nine demographic categories: gender, age, education level, occupation, monthly personal income, residential area, years of volunteer experience, weekly hours of volunteer service, and number of volunteer groups currently joined. The results are summarized in below:
Gender: Female participants accounted for the majority at 73.8%, while males represented 26.2%, indicating a predominance of female involvement in volunteer activities.

Age: Age distribution was as follows: 61 years and older (41.9%), 51–60 years (37.2%), 41–50 years (11.0%), 30 years and younger (7.3%), and 31–40 years (2.6%).

Education Level: Education levels were distributed as follows: university graduates and college diploma holders both at 23.8%, high school/vocational school at 21.8%, middle school at 16.3%, elementary school and below at 9.6%, and graduate-level and above at 4.7%.

Occupation: The most common occupations were retirees (27.9%) and homemakers (24.7%), followed by service industry workers (12.5%), industrial workers (7.6%), students (6.4%), military, police, or civil servants (5.2%), business professionals (4.4%), agricultural workers (3.5%), finance and insurance professionals (2.9%), others (2.3%), healthcare workers (1.7%), and technology professionals (0.9%).

Monthly Personal Income: The majority of respondents reported a monthly income of NT$0–20,000 (54.1%), followed by NT$20,001–40,000 (25.6%), NT$40,001–60,000 (15.4%), NT$60,001–80,000 and NT$100,001 or more (both 2.0%), and NT$80,001–100,000 (0.9%).

Residential Area: Most participants resided in Fengyuan District (31.7%), followed by Houli District (20.9%), Tanzi and Xitun districts (5.5%), Beitun District (5.2%), Shengang District (4.9%), others (4.7%), North and Nantun districts (2.6%), South District (2.3%), Qingshui District (2.0%), Wuri and Taiping districts (1.7%), Central, East, and Daya districts (1.2%), Dali and Waipu districts (0.9%), and West, Shalu, Longjing, and Dongshi districts (0.6%). Other areas, such as Dajia, Wufeng, Xinshe, Wuci, Dadu, Heping, Shigang, and Daan districts, had no volunteer representation.

Years of Volunteer Experience: Most respondents had over five years of volunteer experience (58.1%), followed by less than one year (16.0%), three to four years (8.7%), two to three years (8.1%), one to two years (5.2%), and four to five years (3.8%).

Weekly Hours of Volunteer Service: Weekly volunteer hours were primarily 4–8 hours (36.6%) or less than 4 hours (32.3%), followed by 8–12 hours (15.4%), 16–20 hours and over 20 hours (both 5.5%), and 12–16 hours (4.7%).

Number of Volunteer Groups: The majority of participants were involved in one to three volunteer groups (87.2%), with fewer participants in four to six groups (9.3%) and seven to nine or ten and above (1.7%).

4.2 Results of data analyses

Through descriptive statistical analysis, model data review, theoretical model validation, and tests for moderating effects, the following results were obtained:

Serious leisure has a significant and positive impact on leisure involvement. Therefore, Hypothesis 1 (H1) is established.

Family support has a significant and positive impact on leisure involvement. Hence, Hypothesis 2 (H2) is established.

The degree of family support among volunteer participants does not significantly moderate the relationship between serious leisure and leisure involvement. Thus, Hypothesis 3 (H3) is not established.

5. Discussion and Implications

This chapter is divided into four sections, which will address the following topics in sequence: research conclusions, practical recommendations, study limitations, and suggestions for future research.

5.1 Research Conclusions

This study surveyed 344 volunteer participants, focusing on individuals engaged in large-scale local events and public-sector volunteer activities in Taichung City. The findings revealed several key demographic trends:

Gender and Age: Over 70% of participants were female, with individuals aged 61 and older comprising the largest age group at over 40%. This highlights both a greater female interest in public affairs and a notable aging trend among volunteers.

Occupation and Availability: More than half of the participants were retired or unemployed (27.9% retired and 24.7% homemakers). This indicates that a significant portion of volunteers have flexible schedules, often dedicating their time to volunteering as a central focus of their daily lives post-retirement. On weekends, family visits provide a balanced and adaptable routine.

Income Levels: The majority of volunteers reported an average monthly income of NT$0–20,000 (54.1%)-(US$0-600). This suggests that many volunteers are not financially affluent, which could be linked to reduced income sources after retirement. Nevertheless, their participation demonstrates a strong spirit of dedication and selflessness.

Education Levels: Approximately 45% of participants held higher education qualifications, with an equal split between university graduates (23.8%) and college diploma holders (23.8%). This suggests that older adults with higher education levels are more likely to embrace volunteerism as a means of giving back to society.

Residential Areas: Most volunteers resided in Fengyuan District (31.7%) and Houli District (20.9%), together accounting for over 50%. This indicates that proximity and accessibility are major considerations for volunteering, with participants prioritizing opportunities close to home.

Years of Service: Around 60% of participants had over five years of volunteering experience, reflecting their long-term commitment and alignment with the six key traits of serious leisure and the three dimensions of leisure involvement.

Working Hours: The majority of participants devoted small but consistent amounts of time to volunteering, with 36.6% contributing 4–8 hours per week, followed by 32.3% contributing fewer than 4 hours. Combined, nearly 70% of volunteers balanced their schedules effectively by allocating spare time to service.

Number of Organizations: About 90% of participants were involved in one to three volunteer organizations, indicating that they pursue volunteer activities based on personal interest and their capacity to contribute effectively. The diagram is as follows:

Volunteers indicated that participating in volunteer activities added breadth and enjoyment to their social lives, became an integral part of their daily routines, and enhanced their skills. Psychologically, they gained significant feedback and fulfillment. Volunteer activities provided a pathway for self-actualization based on Maslow's five-stage theory of needs, offering a sense of life achievement and completeness. Participation increased self-realization and a sense of accomplishment, while volunteer organizations evolved into mutual support groups with close companionship.

This study confirmed that the serious leisure traits of volunteer participants positively influence their level of leisure involvement. Family support also positively affects their leisure involvement. However, family support did not significantly moderate the relationship between serious leisure and leisure involvement, contrary to the study's hypothesis. Reviewing prior literature, no existing studies have directly verified that family support moderates the relationship between the two variables. It is speculated that only specific aspects of family support, such as "self-esteem support," correlate with specific facets of leisure involvement, like "self-expression," and the degree of association is not significant.

5.2 Results of Research

Through descriptive statistical analysis, model data review, theoretical model validation, and tests for moderating effects, the following results were obtained:

Serious leisure has a significant and positive impact on leisure involvement. Therefore, Hypothesis 1 (H1) is confirmed.

Family support has a significant and positive impact on leisure involvement. Hence, Hypothesis 2 (H2) is confirmed.

The degree of family support among volunteer participants does not significantly moderate the relationship between serious leisure and leisure involvement. Thus, Hypothesis 3 (H3) is not confirmed.

5.2 Academic and Practical Recommendations

To effectively recruit new volunteers, increase participation, reduce turnover, and promote holiday and family day volunteer engagement, organizations can adopt the following strategies based on serious leisure and family support principles:

5.2.1 Strengthening Serious Leisure for Greater Involvement

Professional Training & Challenges
Organize workshops, advanced training, and certification programs to help volunteers develop skills and gain a sense of achievement. Design progressive challenge tasks or special projects to foster engagement and self-improvement.

Personal Growth & Development Pathways
Establish clear volunteer career paths with opportunities for leadership, promotions, and cross-functional collaboration. Implement performance feedback and recognition programs, including certificates, award ceremonies, or online achievement showcases to boost retention.
Building Community & Team Interaction

Create an online and offline volunteer community with regular gatherings, networking events, and discussion forums to foster a sense of belonging. Encourage volunteers to participate in decision-making and project planning, increasing their emotional connection and engagement.

5.2.2 Enhancing Family Support for Greater Participation

Family-Friendly Activities & Engagement
Host family days, parent-child volunteer events, or open house programs to allow families to experience and support volunteer work. Design family-inclusive volunteer projects, encouraging joint participation and strengthening emotional connections.

Flexible Work Arrangements & Communication
Offer flexible scheduling, remote participation, or hybrid volunteering options to help volunteers balance work and family commitments. Establish family communication channels or virtual support groups to engage with volunteers' families and acknowledge their contributions.

5.2.3 Volunteer Organization Strategies

5.2.3.1 Recruiting & Attracting New Volunteers

Diverse Promotion & Marketing
Leverage social media, online platforms, campus outreach, and community engagement to showcase volunteer success stories and attract potential participants. Host open days or short-term trial programs for first-hand volunteer experiences.

Partnerships & Brand Development
Collaborate with schools, businesses, and social organizations to integrate resources and raise awareness. Highlight the personal growth and social impact of volunteering to strengthen its appeal.

5.2.3.2 Boosting Participation & Preventing Turnover

Incentives & Recognition Programs
Implement regular awards, certification programs, and service credits to reinforce volunteers' sense of accomplishment. Offer tailored career development plans, including advanced training, internal promotions, or cross-departmental experiences.

Supportive Management & Environment
Conduct continuous satisfaction surveys and feedback loops to refine volunteer roles and enhance their experience. Strengthen team-building and internal communication, organizing frequent meetings and social activities to cultivate a supportive network.

5.2.3.3 Increasing Holiday & Family Day Volunteer Engagement

Themed Holiday Events
Plan festive volunteer activities, such as charity markets, community celebrations, or cultural festivals, integrating family-oriented elements to boost participation. Offer holiday rewards, discounts, or special recognitions to encourage involvement.

Advance Promotion & Flexible Arrangements
Use early announcements and pre-registration systems to allow volunteers sufficient preparation time. Create holiday-specific volunteer teams or online communities to share success stories and amplify engagement.

By leveraging serious leisure experiences, family support, and targeted incentive strategies, volunteer organizations can attract newcomers, enhance satisfaction, reduce attrition, and elevate participation rates, particularly during holidays and family events. These approaches contribute to sustainable volunteer engagement and long-term success.

5.3 Limitations of this study and suggestions for future research

5.3.1 Limitations of this study

This study's sample is limited to cultural volunteers, half of whom are retirees (unemployed) or homemakers, with the majority residing in the Fengyuan and Houli areas. Therefore, the findings of this research can only be generalized to samples with similar characteristics and are not representative of volunteer activity participants across Taiwan. The study faced constraints in terms of time, location, and sample acquisition. Due to restrictions on surveying during volunteers' active duty hours and within the Expo sites, questionnaires were filled out informally during volunteers' breaks. Samples were obtained using non-random convenience sampling, which limits the ability to generalize the findings to other regions or serious leisure activities.

The limitations inherent to quantitative research also apply here. Questionnaire responses may have been influenced by respondents' subjective perceptions, mood fluctuations, or social desirability bias. The concise nature of the questionnaire items may have failed to fully capture

the realities of volunteer participants' experiences. For retired, elderly homemaker volunteers, case interviews may provide more effective insights if resources allow. Consequently, future researchers are encouraged to complement quantitative approaches with qualitative research. By comparing both methods, researchers can gain a deeper understanding of volunteers' current situations and psychological states, thereby enhancing the value and objectivity of the study.

5.3.2 Suggestions for future research

5.3.2.1 Suggestions for Research Subjects

The subjects of this study were limited to volunteers engaged in activity support, museum support, guiding, event planning, library services, and Expo teams for performance, and customer service. Volunteers from other divisions—such as environmental protection, firefighting, safety, guidance, traffic, and ticketing—were not included. Furthermore, the sample was confined to the Taichung area, which limits the applicability of the findings to other regions. Future research could consider verifying this study's model using different activities or expanding the scope to other regions in Taiwan with large-scale events and unexamined volunteer groups and organizations to conduct more extensive validation.

5.3.2.2 Incorporating Additional Variables

Follow-up researchers could explore additional variables such as place attachment, organizational commitment, participation motivation, or activity demands to construct and validate a more comprehensive relational model. Given the cultural differences between Eastern and Western contexts, family support variables may introduce bias; further exploration of family and social support is suggested.

5.3.2.3 Adding Control Variables

This study did not account for other influencing factors, such as individual circumstances (e.g., student status, employment, age, marital status) or site characteristics (e.g., place of residence, accessibility). Future research could include these factors as control variables for deeper investigation.

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Sleep Well, Serve Better: A Daily Diary Study on the Cognitive and Emotional Mechanisms of Proactive Customer Service Behaviors (Paper#189)

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Abstract:

This study examines how sleep affects proactive customer service performance among hospitality employees. Using experience sampling methodology with 86 frontline hotel employees over ten consecutive workdays, we found that sleep positively influenced proactive customer service behaviors through cognitive work engagement and emotional energy. Additionally, perceived service climate moderated the relationship between emotional energy and proactive service performance. Our findings highlight the importance of sleep and organizational climate in enhancing customer service in the hospitality industry.

Keywords: Sleep, Proactive customer service behaviors, Cognitive work engagement, Emotional energy, Service climate

1. Introduction

Sleep is a fundamental biological process essential for human functioning, emotional regulation, and overall well-being (Barnes, 2012). It has become an increasingly important issue influences employees' work performance (National Sleep Foundation, 2008). In the hospitality industry, sleep issues are particularly widespread due to the nature of the work, irregular shifts, round-the-clock operations, seasonal workload fluctuations, and high emotional labor demands. Despite these challenges compromising sleep quality and quantity, frontline employees are expected to deliver exceptional customer service. While prior research has linked sleep to health outcomes and basic work performance, its impact on proactive customer service behaviors has received limited attention.

According to Whiteley (2019), nearly 40% of hospitality employees reported dissatisfaction with the amount of sleep they were getting. Although sleep disturbances are highly prevalent among hospitality employees, the hospitality literature has largely overlooked how poor sleep affects the ability of employees to go above and beyond in service delivery. Specifically, the cognitive and emotional pathways through which sleep influences proactive customer service performance remain unclear. Previous research has primarily focused on how workplace stressors affect employees' well-being outside work, with limited attention to how sleep influences workplace behaviors (Shi & Wang, 2022). Furthermore, little is known about how organizational climate, such as service climate, moderates how cognitive and emotional resources convert into proactive service behaviors.

To fill these gaps, this study investigates how sleep influences proactive customer service behavior among frontline hospitality employees through two key mechanisms: cognitive work engagement and emotional energy. We conducted a time-lagged experience sampling study with 86 frontline employees from nine full-service hotels in Jiangsu province, China. Data was collected across ten consecutive workdays using pre-shift surveys (measuring sleep quality) and post-shift surveys (measuring cognitive work engagement, emotional energy, and proactive service performance).

This study contributes to the hospitality and organizational behavior literature in several ways. Theoretically, it examines spillover effects from sleep to service behaviors and identifies cognitive and emotional mechanisms underlying these relationships. Practically, our findings emphasize the need for organizational policies supporting healthy sleep habits and creating environments that maximize the benefits of employees' personal resources for service delivery in the hospitality industry.

2. Literature review

2.1 Sleep behaviors

Sleep is defined as "a condition of body and mind which typically recurs for several hours every night, in which the nervous system is inactive, the eyes closed, the postural muscles relaxed, and consciousness practically suspended" ("Sleep", 2020). This is a fundamental biological process essential for human functioning (Siegel, 2005).

In previous literature, researchers have consistently distinguished two primary dimensions of sleep: quality and quantity (Barnes, 2012). These dimensions are conceptually distinct constructs that can be measured with independent raters.

Sleep quantity refers to the amount of time an individual spends in a sleeping state (Barnes, 2012). While most adults function optimally on 7 to 9 hours of sleep per night, research indicates that many adults sleep substantially less on work nights than on non-work nights (National Sleep Foundation, 2008).

On the other hand, sleep quality consists of multiple factors, including the difficulty of falling asleep, staying asleep, the frequency of awakenings experienced during the night, and the subjective feeling of restfulness upon waking (Barnes, 2012). This multidimensional construct emphasizes that an individual might experience adequate sleep duration, but poor sleep quality characterized by frequent disruptions. Conversely, even relatively short periods of sleep can be of high quality. Barnes et al. (2011) found a small within-person correlation (-.14) between sleep quantity and quality. Therefore, both of these sleep dimensions are crucial to an individual's health and well-being, as deficiencies in either sleep quantity or quality can result in similar negative outcomes (Barnes et al., 2011).

The affective and cognitive consequences of poor sleep influence both attitudinal and performance outcomes in the workplace. Regarding attitudinal outcomes, poor sleep has been shown to increase negative responses such as turnover cognition (Rogers & Kelloway, 1997) and work–family conflict (Lallukka et al., 2010), while decreasing positive attitudinal outcomes like job satisfaction (Barnes et al., 2013), organizational commitment (Tucker & Rutherford, 2005), and work engagement (Garrick et al., 2014).

In addition, these same sleep-impaired affective and cognitive functions impact performance outcomes, including task performance and contextual performance (OCB) (Litwiller et al., 2017). Specifically, task performance suffers when sleep deprivation diminishes both emotional (Shockley et al., 2012) and cognitive resources (Ree et al, 1994). Similarly, contextual performance declines when sleep-related decreases in self-regulation and job satisfaction (Barnes et al., 2013) reduce employees' willingness to engage in helping behaviors.

2.2 Self-regulation and proactive performance

Self-regulation represents the human capacity to intentionally modify internal states and external actions. Baumeister and Vohs (2007) define self-regulation as the ability to regulate and change one's cognition, emotions, and behaviors to achieve desired goals and adapt to the demands of specific contexts. This process often requires constraining unwanted impulses to gain control of the incipient response (Baumeister & Vohs 2007), enabling individuals to override automatic reactions in favor of more strategic behavior.

Self-regulatory resources refer to the energy that individuals rely on for various self-control actions, including suppressing thoughts, inhibiting impulses, executing behaviors, and making decisions (Baumeister et al., 2000). According to Baumeister et al.'s (2000) model, each act of self-control requires energy that depletes a limited resource pool. These resources include crucial cognitive capacities such as motivation, control, and concentration (Muraven et al., 1998), which are essential for volitional behaviors, such as decision-making, taking responsibility, initiating and inhibiting actions, and implementing plans (Baumeister et al., 1998).

Self-regulation plays a critical role in workplace effectiveness and organizational success. According to self-regulation theory, employees continually rely on limited self-regulatory resources to function effectively in organizational settings (Baumeister et al., 1998). When employees follow job-related rules and override immediate intentions or emotions in favor of organizationally appropriate responses, they actively deplete these valuable internal resources (Baumeister et al., 2000). When these resources are depleted, employees struggle to align their actions with organizational expectations (Hayes et al., 1996). This resource depletion occurs naturally in workplace contexts; as Liu et al. (2017) emphasized, "individuals regulate their attitudes and behaviors with self-regulatory resources, and such resources can be impaired by regulatory demands from the external environment" (Baumeister et al., 1998).

Self-regulation becomes particularly essential when facing difficult decisions in the workplace. As Kao (2016) noted, "self-regulatory resources are required when people try to display certain behaviors that are difficult, uncomfortable, or require significant physical or mental effort to sustain". This is especially evident when employees have to follow work standards that are inconvenient or uncomfortable. For example, consistently wearing helmets or following detailed safety procedures requires employees to expand self-regulatory resources to resist the temptation to take easier shortcuts (Kao, 2016).

2.3 Mediating effect

Given the limited nature of self-regulatory resources, identifying effective replenishment processes becomes essential in workplace contexts. Sleep emerges as one of the most fundamental recovery mechanisms in this process. Barnes (2012) established that sleep quality and quantity directly impact the restoration of self-regulatory resources. There is substantial evidence that poor sleep serves as a key predictor of self-regulation impairment (Barber & Munz, 2011). This occurs because self-regulation imposes cognitive and emotional demands, requiring regular and adequate rest for resource recovery (Barber, 2017).

2.3.1 Sleep and Cognitive Outcomes

The restorative function of sleep operates through specific neurophysiological mechanisms. Research demonstrates that sleep effectively recovers the cognitive resources depleted throughout daily activities (Barber & Munz, 2011). This recovery manifests in multiple dimensions of workplace functioning. For example, employees who consistently maintain healthy sleep habits show enhanced restoration of resources for self-control (Pilcher et al., 2015), sustained concentration (Swanson et al., 2011), and increased motivation (Odle-Dusseau et al., 2010).

Cognitive work engagement can be viewed as a level of focus, concentration, and focused intensity for a job (Huang et al., 2022). Lanaj et al. (2014) demonstrated that insufficient sleep quantity increases next-day resource depletion, which subsequently influences work engagement. Importantly, cognitive resource depletion has significant implications for work engagement

because engaging in work requires regulatory resources for employees to maintain concentration and resist distractions (Christian et al., 2011). This aligns with Method et al.'s (2021) finding that activities depleting cognitive resources negatively affect cognitive work engagement. In addition, drawing on self-regulation theory, Brossoit et al. (2019) identified that when employees have good sleep quality and quantity, they are more likely to feel well-rested in the morning, which in turn provides them with more available resources and leads to a decrease in workplace cognitive failures. Therefore, we predict that good sleep will replenish the cognitive resource, leading to higher levels of cognitive work engagement.

Therefore, we propose that:
H1: Prior night sleep is positively associated with employees' cognitive work engagement at work.

2.3.2 Sleep and emotional outcomes

In addition to cognitive resources, sleep also replenishes employees' emotional resources through mechanisms explained by self-regulation theory (Barnes, 2012). Empirical evidence consistently demonstrates the negative effects of insufficient sleep on emotional regulation. Research has found that accumulated sleep loss leads to a progressive increase in emotional disturbance (Dinges et al., 1997) and an amplification of negative emotions in daytime experiences (Zohar et al., 2005). More broadly, sleep loss has been shown to increase the experience of negative emotions, reduce positive emotions, and alter how individuals understand, express, and modify these emotions (Kahn, 2013). These findings collectively suggest that adequate sleep diminishes negative emotions and enhances positive emotional states.

Previous research indicates that high sleep quality buffers the negative effects of emotional dissonance on well-being because sleep, as a psychological process, refuels and restores limited regulatory resources, thereby facilitating self-control functioning during the subsequent day (Barber et al., 2010). Diestel et al. (2015) demonstrated that emotional labor consumes regulatory resources and causes psychological strain; conversely, sustaining consistent emotional energy at work requires resource replenishment. They further argue that sleep facilitates coping with daily emotional dissonance because high sleep quality replenishes limited resources, making the day-specific availability of those resources dependent on sleep quality. Consequently, employees who experience high-quality sleep on the previous night can more effectively provide emotional energy at work. Through the lens of self-regulation theory, sleep fuels and restores employees' resources; hence, high quality and quantity sleep will replenish these resources, in turn increasing employees' emotional energy.

Therefore, we propose:
H2: Prior night sleep is positively associated with employees' emotional energy at work.

2.4 Sleep and proactive customer service performance

Proactive customer service behavior is defined as "self-started, long-term-oriented, and persistent service behavior" of service employees (Rank et al., 2007, p. 366). It is crucial in the tourism and hospitality industry, where frontline employees always need to provide extra service beyond their formal roles to deliver successful customer experiences (Zhu et al., 2017). These self-initiated service behaviors, not directly supervised by organizations, are essential for meeting customers' expectations and increasing satisfaction (Raub & Liao, 2012). Consequently, the capability of frontline employees to initiate and commit to such proactive customer service behavior is critical for the success of hospitality organizations (Sun et al., 2022).

Sumaneeva et al. (2021) identified that hotel frontline employees' work engagement positively impacts their proactive customer service behaviors. Furthermore, Zhu et al. (2017) argued that under Conservation of Resources (COR) theory, employees experiencing negative emotions will reduce proactive behavior to preserve their existing psychological and affective resources. Conversely, we predict when frontline employees possess sufficient positive emotional resources, they are more likely to utilize these resources to provide extra-effort customer service in the workplace to enhance customer satisfaction.

Sonnentag (2003) proposed a relationship between an individual's state of recovery on a specific day and their proactive behavior on that same day, mediated by work engagement. The recovered resources are critical for providing the extra effort required for proactive behaviors. As Karoly (1993) mentioned, an employee's ability to display expected behaviors depends on their available self-regulatory resources. Drawing on COR theory, when employees have sufficient resources generated from good rest, they possess additional capacity to perform discretionary efforts that increase proactive behavior.

In addition, Cheng et al. (2021) confirmed that hotel employees who are thriving at work, which is a positive affective and cognitive state, can produce and preserve sufficient resources to engage in proactive behaviors that meet customers' needs, which is consistent with COR theory. As established earlier in our arguments, sleep quality and quantity are positively associated with increased cognitive work engagement and emotional energy. Therefore, drawing on COR theory, when employees have adequate cognitive work engagement and emotional energy resulting from good sleep, they will demonstrate increased proactive customer service behaviors.

Therefore, we propose that:
H3: Prior night sleep is positively associated with employees' proactive customer service performance through increased (a) cognitive work engagement and (b) emotional energy.

2.5 Moderating effect of perceived service climate

Climate is defined as the shared perceptions of employees about the practices, procedures, and behaviors that are rewarded and supported within a specific environment (Schneider, 1990). The service climate, as one of the most critical climates in the hospitality industry, refers to employees' perceptions of the practices, procedures, and behaviors that get rewarded, supported, and expected concerning customer service (Schneider et al., 1998). It is also defined by Schneider et al. (2006, p.111) as "the degree to which management emphasizes service quality in all of its activities".

Service climate is a critical factor in the success of service-oriented industries. For example, Johnson (1996) found that most service climate dimensions were strongly related to personal-contact aspects of customer satisfaction, which subsequently influenced customer loyalty and retention (Dean, 2004). Manning et al. (2012) further emphasized in their review that service climate is essential for enhancing individual contributions toward organizational objectives. Evidence suggests that service climate positively influences employee satisfaction and employee engagement (Ram, 2011).

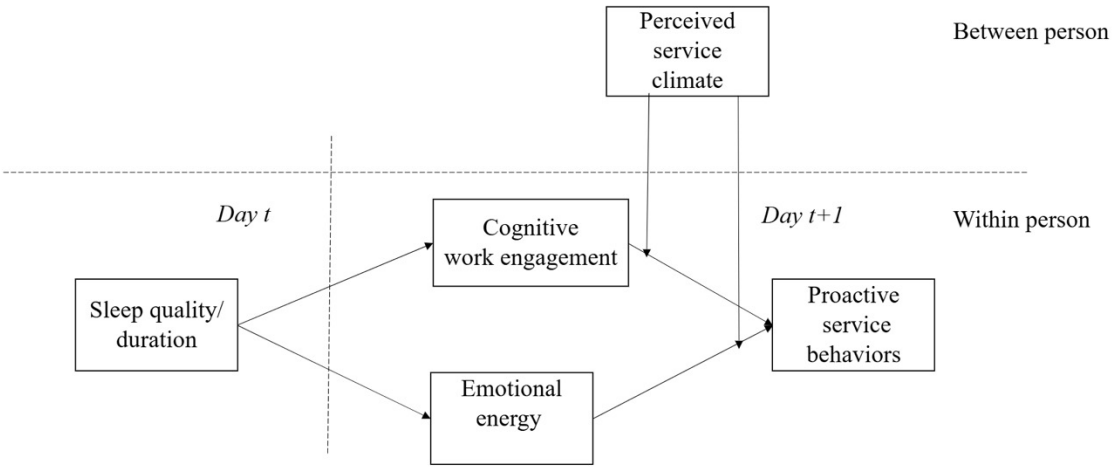
A positive service climate strongly signals that the organization expects, supports, and rewards proactive high-standard service (Schneider et al., 1998). Under the lens of self-regulation theory, a strong service climate creates a shared understanding of high service quality standards. Within this environment, customer-focused performance will be more strongly valued; consequently, employees are more likely to feel obligated to provide excellent customer service, and more inclined to transfer their cognitive and emotional resources into proactive customer service behaviors.

Conversely, when high-standard customer service is neither supported nor rewarded by the organization, employees are less willing to allocate their cognitive and emotional resources to deliver proactive customer service.

Therefore, we propose that:
H4: Employees' perceived service climate will moderate the effect of (a) cognitive work engagement and (b) emotional energy on proactive customer service behaviors, such that the effects are stronger when perceived service climate is high (vs. low).

Combining the hypotheses above, we propose that:
H5: Employees' perceived service climate will moderate the positive indirect effect of sleep quality engagement on proactive service behaviors via cognitive work, such that the indirect effect is stronger when perceived service climate is high (vs. low).

H6: Employees' perceived service climate will moderate the positive indirect effect of sleep quality on proactive service behaviors via emotional energy, such that the indirect effect is stronger when perceived service climate is high (vs. low).



3. Method

3.1 Sample and Procedure

Data were collected from nine full-service hotels located in Jiangsu province, China. The recruitment flyer was distributed by student interns working in these hotels. Only employees who were in guest-service positions were qualified for the study. Therefore, a screening survey was distributed to employees who were willing to participate in the study to identify their department and daily tasks. The data collection period was between June to September 2024. A total of 84 employees were qualified for the study and completed the initial survey. The participants who completed the initial survey were asked to take a pre- and post-shift survey for ten consecutive workdays. The current study used a time-lag ESM (Yu et al., 2021) to capture employees' daily reactions. At the beginning of each workday, employees were asked to complete a survey about sleep quality and quantity last night, which refers to the day *t* pre-shift survey. Employees were asked to complete a second survey after they completed their shift about their cognitive work engagement, emotional energy, and proactive customer service performance during the day, which refers to the day *t* post-shift survey.

Since hotels use flexible schedules based on the departments' operation, six research assistants were involved in the data collection process. Each research assistant was responsible for 15-20 participants. Research assistants sent the links to participants via messages to remind them to complete the survey before and after their shifts. Participants received $1 per survey and received a $7 bonus if they successfully completed 20 surveys within 10 workdays. Participants were retained if they completed at least three consecutive matched daily surveys (Gabriel et al., 2019).

A total of 86 participants submitted 787 pre-shit surveys and 769 post-shift surveys, yielding 730 daily responses (match pre- and post-shift surveys in a given day). The sample was mainly female (65.1%). The average age of the sample was 24.2 (SD = 5.2) and most employees

worked in the hotel for less than three years (76.9%). The majority of the participants worked in the front desk department (56.4%), followed by the food and beverage department (25.7%). More than half of the sample had a bachelor's degree (62.9%). The average work hour per week was 48.43 (SD = 15.86).

3.2 Measures

The questionnaire was developed based on the literature and back-translated into Chinese following Douglas and Craig's (2007) recommendations. Two bilingual authors carried out the translation process. One translated the survey from English to Mandarin, while the other performed a back-translation into English. A third bilingual author then examined both English versions to identify any inconsistencies. Additionally, three Chinese graduate students, fluent in both languages, reviewed and refined the Mandarin survey to improve clarity and readability.

Sleep quality and quantity (pre-shit at Day *t*). Sleep quality was assessed by a single item from the Pittsburg Sleep Quality Index (Buysse et al., 1989) on a five-point Likert scale (1 = very poor, 5 = very good). The single-item measure has been found to have a high correlation with the full Pittsburg Sleep Quality Index, suggesting the high validity of the single-item measure (e.g., Hahn et al., 2011; Park & Kim, 2019). Since daily diary studies can only include a limited number of items to reduce fatigue bias (Gabriel et al., 2019), many daily diary studies have used the single-item sleep quality measure (e.g., Park & Kim, 2019; Pow et al., 2017). The sleep quantity was measured by a single item, asking participants to report the hours they slept last night, adapting from Sayre et al. (2021).

Cognitive work engagement (post-shift at Day *t*). Six items were adapted from Rich et al. (2010) to measure daily cognitive work engagement on a five-point Likert scale (1 = not at all like me, 5 = very much like me). An example item is "At today's work, my mind was focused on my job". The mean Cronbach's alpha was .91.

Emotional energy (post-shift at Day *t*). Eight items were modified based on Atwater and Carmeli (2009) to measure the daily emotional energy on a five-point Likert scale (1 = not at all, 5 = a large extent). An example item is "I felt active and energetic at work today". The mean Cronbach's alpha was .88.

Proactive customer service performance (post-shift at Day *t*). A seven-item scale was modified based on Rank et al. (2007) on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree. An example item is "I anticipated issues or needs customers might have and proactively developed solutions today". The mean Cronbach's alpha was .86.

Perceived service climate (initial survey). Seven items were used to measure perceived service climate adapted from Schneider et al. (1998) on a five-point Likert scale (1 = poor, 5 = excellent). An example item is " How would you rate efforts to measure and track the quality of the work and service in your business?". The Cronbach's alpha was 0.84.

Control variables. Four variables were controlled in the current study, including age, gender, organization tenure, and sleep quantity based on the recommendations of Schmitt et al. (2017).

3.3 Analytical approach

Given that daily data was nested within employees, this study employed a multi-level linear modeling approach. A one-way analysis of variance decomposed the variance of sleep, cognitive work engagement, emotional energy and proactive customer service performance into within-individual and between-individual components. The results indicated substantial between-individual variance in sleep quality (ICC1 = .25), cognitive work engagement (ICC1 = .48), emotional energy (ICC1 = .56), and proactive customer service performance (ICC1 = .56), supporting the suitability of multi-level linear modeling. To examine within-individual relationships among c sleep, cognitive work engagement, emotional energy and proactive customer service performance, a fixed-effects approach was used (Bartels et al., 2023). Additionally, random effects were tested for sleep impact on proactive service behavior, and the cross-level effect of service climate on the random slope of sleep was specified to assess its moderating role. Credible intervals (CI) for indirect and moderating effects were estimated using a Bayesian approach with 15,000 iterations (Zyphur & Oswald, 2015). The Bayesian method helps generate unbiased results, particularly when working with smaller sample sizes, nonnormal data distributions, or complex models (Zyphur & Oswald, 2015).

4. Results

4.1 Descriptive analysis

Table means, standard deviations, and correlations of all the variables at within- and between-individual level are shown in Table 1. A multilevel confirmatory factor analysis (CFA) was conducted to assess the multilevel construct validity. The model fit results ($\chi 2$= 1062.25, df = 523, comparative fit index (CFI)= .940, Tucker-Lewis's index (TLI)=.932, root-mean-square error of approximation (RMSEA)=.041, standardized root means square residual (SRMRwithin) =.033, and SRMRbetween = 0.059) indicated an acceptable model fit (Kline, 2023). The average variances extracted (AVE) of each construct at both levels were above 0.50, indicating adequate convergence validity. The AVE of each construct was more than the squared correlation coefficients of this construct and any other constructs, indicating discriminant validity (Kline, 2023). Additionally, we compared the three-factor model with alternative models and the results showed that the three-factor solution was significantly better than the alternative models. The average variance extracted (AVE) for all constructs at both levels was above 0.50, confirming adequate convergent validity. Moreover, each construct's AVE was higher than the squared correlations with other constructs, supporting discriminant validity (Kline, 2023). Comparisons between the three-factor model and alternative models further indicated that the three-factor model had a significantly better fit.

Table 1. Means, Standard Deviations, and Correlations Among Variables

Variable	Mean	SD_W	SD_B	1	2	3	4	5	6	7	8	9
Level 1												
1. Sleep quality (t)	3.37	1.10	.63	-	.27**	.54**	.42**	.46**				
2. Sleep quantity (t)	7.11	1.45	.89	.42**	-	.20**	.09*	.07				
3. Cognitive work engagement (t)	3.44	.98	.89	.29**	.06	-	.66**	.57**				
4. Emotional energy (t)	3.07	1.14	.71	.31**	.09*	.52**	-	.70**				
5. Proactive customer service performance (t)	3.58	.93	.73	.25**	.01	.53**	.46**	-				
6. Level 2												
7. Age	24.16		5.16	-.19**	-.09*	.16**	.15**	.18**	-			
8. Gender	.63		.49	.12**	-.06	.08*	-.03	.27**	.23**	-		
9. Tenure	2.82		2.79	-.15**	-.08*	.17**	.16**	.10**	.39**	-.08*	-	
10. Perceived service climate	3.65		.82	.29**	-.01	.44**	.41**	.40**	.23**	.14**	.18**	-

Note. Correlations above the diagonal are within-person level correlations (n = 730). Correlations below the diagonal are between-person-level correlations (n = 86). t refers to time point; SD_W = within-person standard deviation; SD_B = between-person standard deviation. Gender: male = 0, female = 1; $^{*}p < .05$. $^{**}p < .01$.

Table 2. Multilevel CFA results

Construct	Item	Within-level factor loading	Between-level factor loading
Cognitive work engagement			
CWE1	At today's work, my mind was focused on my job.	.72**	.98**
CWE2	At today's work, I paid a lot of attention to my job.	.81**	.97**
CWE3	At today's work, I focused a great deal of attention on my job	.83**	.98**
CWE4	At today's work, I was absorbed by my job	.71**	.91**
CWE5	At today's work, I concentrated on my job	.86**	.99**
CWE6	At today's work, I devoted a lot of attention to my job	.87**	.99**
Emotional energy			
EE1	I felt active and energetic at work today	.76**	.97**
EE2	I had high energy to complete my work today	.76**	.94**
EE3	During the workday I felt I was full of energy	.84**	.99**
EE4	I had the energy to successfully do my job today.	.78**	.93**
EE5	When I got to work this morning, I had energy for the new day	.78**	.96**

Construct	Item	Within-level factor loading	Between-level factor loading
EE6	I felt enthusiastic when I was doing my work	.78**	.98**
EE7	The work in this organization gave me positive energy today	.80**	.98**
EE8	When I was at work, I felt vital and alive today	.82**	.98**
Proactive customer service performance			
PCSP1	I proactively shared information with customers to meet their needs today	.70**	.88**
PCSP2	I anticipated issues or needs customers might have and proactively developed solutions today	.71**	.95**
PCSP3	I used own judgement and understanding of risk to determine when to make exceptions or improvise solutions today	.76**	.97**
PCSP4	I took ownership by following through with the customer interaction and ensured a smooth transition to other service representatives today	.81**	.98**
PCSP5	I actively created partnerships with other service representatives to better service customers today.	.87**	.99**
PCSP6	I took initiative to communicate client requirements to other service areas and collaborated in implementing solutions today	.87**	.99**
PCSP7	I proactively checked with customers to verify that customer expectations have been met or exceeded today	.80**	.96**
Service climate			
SC1	How would you rate the job knowledge and skills of employees in your business to deliver superior quality work and service?	-	.86**
SC2	How would you rate efforts to measure and track the quality of the work and service in your business?	-	.82**
SC3	How would you rate the recognition and rewards employees receive for the delivery of superior work and service?	-	.80**
SC4	How would you rate the overall quality of service provided by your business?	-	.80**
SC5	How would you rate the leadership shown by management in your business in supporting the service quality effort?	-	.83**
SC6	How would you rate the effectiveness of our communications efforts to both employees and customers?	-	.79**
SC7	How would you rate the tools, technology, and other resources provided to employees to support the delivery of superior quality work and service?	-	.70**

Note. Daily-level n = 730, Employee-level n = 86. CWE = cognitive work engagement; EE = emotional energy; PCSP: Proactive customer service performance; SC = service climate * $p < 0.05$, ** $p < 0.01$.

4.2 Hypotheses tests

H1 proposes that prior night sleep quality is positively associated with employees' cognitive work engagement at work. The results of Model 1 of Table 3 showed that after controlling the effects of age, gender, industry tenure, and sleep quantity, the relationship between sleep quality and cognitive work engagement was significant and positive (γ = .53, SE = .16, $p < .01$). H2 proposes that prior night sleep quality is positively associated with employees' emotional energy at work. The results of Model 2 of Table 3 suggested that the effect of sleep quality on emotional energy was significant after controlling for the effects of age, gender, industry tenure, and sleep quantity (γ = .45, SE = .17, $p < .01$). In addition, as shown in Model 3 of Table 3, the effects of cognitive work engagement (γ = .29, SE = .03, $p < .01$) and emotional energy (γ = .12, SE = .03, $p < .01$) on proactive customer service performance were both significant and positive. The 95% Bayesian credible interval indicated that the indirect effect of sleep quality on proactive customer service performance through cognitive work engagement was significant (indirect effect = .13, Posterior SD = .05, 95% CI = [.03, .24]), thereby supporting H3(a). The indirect effect of sleep quality on proactive customer service performance through emotional energy was also significant (indirect effect = .05, Posterior SD = .02, 95% CI = [.01, .11]), thereby supporting H3(b).

Table 3. Multilevel direct effects

	CWE (*t*)	EE (*t*)	PCSP (*t*)	
	Model 1	Model 2	Model 3	Model 4
Gender	.24 (.18)	.10 (.23)	.15** (.03)	.10* (.05)
Age	.09* (.04)	.10 (.06)	.09* (.04)	.05 (.06)
Industry tenure	-.13 (.16)	-.12 (.20)	-.18 (.16)	-.03 (.19)
Sleep quantity (*t-1*)	-.03 (.02)	-.03 (.03)	.06** (.02)	.05** (.02)
Sleep quality (*t-1*)	.53** (.16)	.45** (.17)	.31* (.13)	.25* (.13)
CWE (*t*)			.29** (.03)	.28** (.03)
EE (*t*)			.12** (.03)	.11** (.03)
Service climate				.27** (.08)
CWE (*t*) * SC				.02 (.05)
EE (*t*) * SC				.11* (.05)
Random effects				
Level 1 variance	.80**	.77**	.73**	.72**
Level 2 variance	.81**	.64**	.66**	.51**

Indirect effect	Effect	*Posterior SD*	95% credible interval	
Sleep quality → CWE → PSB	.13	.05	.03	.24
Sleep quality → EE → PSB	.05	.02	.01	.11

Note. Daily-level n = 730, Employee-level n = 86. SD = standard deviation. CWE = cognitive work engagement; EE = emotional energy; PCSP: Proactive customer service performance; SC = service climate. Gender: female = 1 *$p < 0.05$, **$p < 0.01$.

H4 proposed that perceived service climate moderates the effect of (a) cognitive work engagement and (b) emotional energy on proactive customer service performance. As shown in Model 4 of Table 4, the interaction effect of cognitive work engagement and perceived service climate

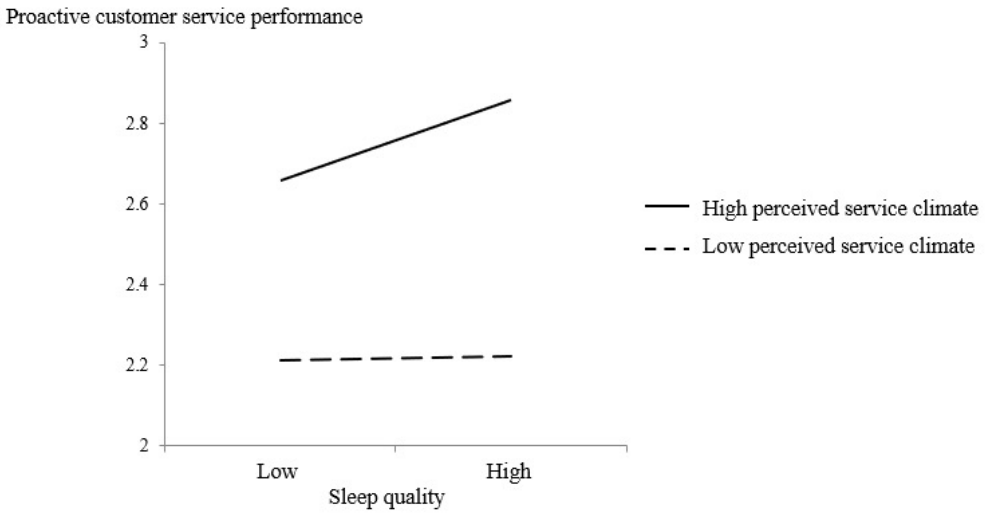
on proactive customer service performance was not significant (β = .02, SE = .05, p > .05, CI = [-.08, .11]). Thus, H4(a) was not supported. The interaction effect of emotional energy and perceived service climate on proactive customer service performance was significant (β = .11, SE = .05, p < .05, CI = [.01, .22]), thus supporting H4(b). In addition, as shown in Table 4, the cross-level index of moderated mediation for the conditional effect via cognitive work engagement was not significant (Index = .01, 95% CI = [-.04, .06]). Thus, H5 was not supported. The cross-level index of moderated mediation for the conditional effect via emotional energy was significant (Index = .06, 95% CI = [.01, .14), suggesting that perceived service climate moderated the indirect effect of sleep quality on proactive customer service performance through emotional energy. The simple slope analysis, shown in Table 4 and Figure 2, suggested that there was a significant positive relationship between sleep quality and proactive customer service performance via emotional energy when perceived service climate was high (Indirect effect = .10, 95% CI = [.04, .19], whereas the indirect effect was not significant when perceived service climate was low (Indirect effect = .01, 95% CI = [-.03, .06]), thereby supporting H6.

Table 4. Conditional indirect effects of sleep quality on proactive customer service performance

	Effect	95% credible interval
Conditional indirect effect via cognitive work engagement		
Sleep quality, High SC (+1 SD)	.13**	(.03, .24)
Sleep quality, Low SC (-1 SD)	.12**	(.03, .22)
Index of moderated mediation	.01	(-.04, .06)
Conditional indirect effect via emotional energy		
Sleep quality, High SC (+1 SD)	.10**	(.04, .19)
Sleep quality, Low SC (-1 SD)	.01	(-.03, .06)
Index of moderated mediation	.06*	(.01, .14)

Note. SC = service climate; *$p < .05$. **$p < .01$.

Figure 2.
Cross-level moderated mediation effect of perceived service climate on the indirect effect of sleep quality on proactive customer service performance via emotional energy



5. Discussion

5.1 Theoretical Contributions

This study contributes to literature in three perspectives. First and most importantly, this study contributes to the tourism and hospitality literature by indicating the spillover from the nonwork domain to the work domain. Prior literature mainly focused on investigating the effect of work stressor on employees' well-being in the nonwork domain, but the understanding of the flow from the work domain to the nonwork domain is especially limited (Shi & Wang, 2022). By demonstrating that employees' sleep quality on the prior day can influence employees' proactive service on the next day, our study indicated that employees' working performance is influenced by their recovery experience at home. This finding highlights the bidirectional impact between the work and home domains.

Second, our study contributes to the literature by showing the two different mechanisms: emotional and cognitive mechanisms. Prior literature mainly explored the relation between work stressor and employees' well-being through emotional perspective (McGinley & Wei, 2020; Shi & Xu, 2022), but the cognitive mechanism has been heavily ignored. This study contributes to the literature by providing a comprehensive of mechanisms to explain the effect of sleep quality on employees' proactive behaviors.

Lastly, this study contributes to the literature review by highlighting the moderating role of organizational climate. Prior literature mainly focused on the personal traits as moderators and less is known about the moderating effect of contextual factors (Shi et al., 2021). Thus, this study fills the research gap by testing the moderating effect of perceived service climate on the relation between sleep quality and proactive service behaviors. It is also very interesting to see that perceived service climate exhibited different moderating effects, highlighting the differences between the emotional and cognitive mechanisms. Results show that service climate only moderated the effect of emotional energy, but not cognitive work engagement on pro-active behaviors. This finding is consistent with some previous findings, which indicates that feeling emotional energized is necessary but not enough to conduct the extra role behaviors (Bao et al., 2025).

5.2 Practical Implications

Our findings indicate the importance of sleep quality on employees' proactive behavior, so organizations should conduct workplace practices to improve employees' ability to gain a high-quality sleep. For example, prior literature has found that workplace mindfulness-based trainings intervention can improve employees' sleep quality (Cropley et al., 2006). In addition, Barnes et al. (2017) designed an online therapy training, which can improve employees' sleep quality. Further, training employees on sleep hygiene behaviors (e.g., avoiding alcohol, having a consistent sleep schedules) is also very necessary to improve employees' sleep quality (Brossoit et al., 2019).

The present study results also indicated the moderating effect of service climate on the effect of emotional energy on proactive behavior. Thus, we suggest organizations develop and maintain a service climate on organizations to maximize the positive effect of emotional energy on employees' performance. Bowen and Schneider (2014) highlighted the importance of leadership in creating a service climate. For example, leaders should model on improving the service quality in their own behavior and reward employees who are working to improve the service quality (Salvaggio et al., 2007). A meta-analysis by Hong et al. (2013) found out that service-oriented leadership had a stronger relation with service climate than other generic leadership styles. We also suggest leaders to do the following practices: "listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, responsibility for human growth and building a community", (Zhang et al., p. 450), which are the core of service-oriented leadership.

5.3 Limitations and Future Research

This study has several limitations, which provides avenues for future research. First of all, this study only applied self-reports to subjectively measure employees' sleep quality and duration, which can be not accurate due to the method bias. Thus, future studies can use other objective measures of participants' sleep quality and quantity, such as sleep trackers that record sleep duration and sleep phases (Barnes et al., 2023).

Secondly, this study only examined the service climate as one moderator on the impacts of two mechanisms on employees' proactive behaviors. Future research can expand our model to explore how other moderators adjust those impacts. For example, it will be interesting to see how professionalism climate moderates the effect of cognitive or emotional factors on employees' behaviors, since the people with professionalism may try to meet job's expectation regardless of their emotion and cognitive levels.

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Theme: Evolving Food Consumption

Establishing a conceptual model in profiling Philippine Heritage Foods: Utilizing Sinudsod (rice pancake with cold soup) of Naic, Cavite, Philippines as a case study (Paper#004)

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Abstract:

This study established a conceptual model in profiling Philippine heritage foods using Sinudsod as a reference. It is hypothesized that despite the popularity of Sinudsod, a significant knowledge gap regarding perceived authenticity remains. To address this, the study gathered narratives of local consumers, producers and a food historian expert. Responses identified crucial aspects of Sinudsod specifically, agrarian history, local farmers, family, Naic and Barangay Makina. However, the food historian expert identified several challenges including ingredients and deviation from traditional preparation techniques.

Keywords: Gastronomic Heritage, Food Tourism, Heritage Foods, Food Authenticity

1. Introduction

Heritage foods are emphasized as ambassadors of culture and tourism (Jang et al., 2012). Filipino cuisine depicts the country's rich cultural heritage and philosophy (Kirshenblatt-Gimblett & Fernandez, 2003). Despite the importance of and increasing interest in heritage foods, its definition remains unclear due to limited available information which affects its genuineness to represent specific places and local culture (Almansouri et al., 2021). To address this, several Philippine local government units (i.e. Ilocos Norte, Batangas, Pampanga) initiated several campaigns towards gastronomic tourism strategies by preservation of authentic heritage foods. In tourism research, the theory of "staged authenticity" emphasizes authenticity as an intrinsic property of a tourism object, and acquiring an authentic experience is the fundamental goal of tourists (Zhang, 2019). Therefore, food authenticity has been considered as a crucial attribute of heritage foods, thereby serving as a mediating measurement of the quality and legitimacy of consumption experience (Gaytan, 2008). This emphasizes the significance of authenticity embedded in unique

foodways as a key motive for food tourism (Kim et al., 2019). However, food authenticity can be negotiated and dependent on different contexts (historical, social, and cultural), making it more relevant to subjective social constructs compared to objective product specifications or characteristics (Belhassen et al., 2008).

Given this challenge, this study aimed to establish a conceptual model that will be used to profile "Philippine heritage foods" using as case study, Sinudsod or rice pancake with cold coconut soup. The product is considered a local food of Naic, a municipality of Cavite province in the southern part of Luzon, the biggest of the three major islands of the Philippines. Specifically, the study aimed to a) define the concept of Sinudsod as an ethnic, traditional, and local food from the lens of the local consumers, and traditional producers, b) determine crucial food dimensions (people, place, legacy) of Sinudsod from the perception of said respondents; and c) create a model based on the above results and the validation of a local food historian expert. These specific objectives were aligned with the conceptual model of heritage food established by Almansouri et al. (2021), which hypothesized "heritage food" as a combination of preliminary food concepts (ethnic, traditional, and local), further represented by three dimensions (legacy, people, place). The Sinudsod was chosen as a case study because of four reasons: a) It is made of rice which fittingly represents the main staple of Filipinos, b) It has the most unique recipe, having the shortest shelf life among the rice cakes/delicacies of the Philippines which is only 3-4 hours; c) It is a vanishing tradition with its preparation evolving considerably such that the new generation has little awareness or knowledge about it and d) The authors discovered a reliable source of information about Sinudsod's history that includes its provenance, original recipe and preparation among others in the person of 93-year old producer Ante (auntie) Nats.

2. Literature Review

2.1 The definition of heritage foods

Despite the increasing interest in heritage foods throughout the years, it had not been defined clearly citing lack of available information (Almansouri et al., 2021). However, Omar et al. (2011), defined "heritage food" as the physical object integrated in the production and consumption process. Consequently, they defined "food heritage" as pertaining to the cultural elements (food qualities, cultural heritage, food production area, traditions, and food authenticity) represented by the food product (Omar et al. 2015). In respect to this, several studies have been conducted to fully understand the term "heritage foods" and its different aspects. Almansouri et al, (2021) cited a study utilizing literature review defining "heritage foods" as the combination of three preliminary food concepts (ethnic food, traditional food, and local food) with its main determinants identified as place, people, and legacy

2.2 The concept of Local, Traditional, and Ethnic food

The increasing consumer appeal of traditional and less sophisticated products increases the significance of product authenticity (Sidali et al., 2021). The commercial value of authenticity in the food industry is emphasized in terms of product branding and other value-added forms (Beer, 2008). In food tourism, the integration of local culture and spirit in restaurant and dishes are crucial for authentic food experience (Jang et al., 2012). Food authenticity is characterized by different domains such as cooking methods, odors, recipes, ingredients, food customs, social connotations, relevant ceremonies/festivals, hunting, and farming traditions (Timothy & Ron, 2013).

The demand for authentic traditional food is relevant to the concept of tourists' nostalgia, feeling of insecurity, and interest in heritage (Richard, 2002). The concept of traditional food was commonly associated with cultural identity and heritage which makes its concept ambiguous and confusing (Rocillo-Aquino et al., 2021). The term "traditional" could initiate different perspectives and ideas (based on origin, eating habits, socio-demographic profile, and experiences) which makes it complicated to define (Weichselbaum et al., 2009). Traditional foods pertain to edibles that are transferred to different generations in a specific country or region (Almansouri et al., 2021).

Local food conveys the sensory expression of local culture and tradition (Beverland et al., 2010). It refers to a specific place in which raw materials and ingredients for food and drinks are produced locally (van der Meulen et al., 2016). In this regard, distance, geography, and origin are determined as crucial determinants in the concept of local foods (Almansouri et al., 2021). Consequently, authenticity (exotic sensory experience and unique foreign characteristics) influences ethnic food consumption development (Jang et al., 2012). It pertains to edibles that are eaten and prepared by groups of people who share common religion, culture, or heritage (van der Meulen et al., 2016, 2016). Despite this, Kwon (2015), emphasized that the concept of ethnic food is vague for it can also pertain to country's food products which are socially & culturally accepted by international consumers (i.e. Japanese, Thai and Korean food).

2.3 Harmonizing the historical, societal, and cultural aspects of heritage foods

Heritage foods are emphasized as ambassadors of culture and tourism (Jang et al., 2012). Since food is a crucial component of cultural heritage, destinations became sensitive in establishing gastronomic experiences emphasizing food products and their cultural context (Kim et al., 2013). Except for ingredients, utensils, and preparation techniques, food products have also been related to the local's wisdom and proficiency (Omar et al., 2011).

Heritage food acknowledges the culinary traditions' significance in establishing personal and collective identities (Kapelari et al., 2019). Food is an integral marker of regional and ethnic identities facilitating the expression of varying religions and customs (Stringer, 2016). It is an extensive expression of culture that defines the codes and rules considered in food acceptance

based on the local context of food provisions, moral code, and political ideas (Sassatelli, 2018). Tourists' consumption of heritage food was considered as a paradox which consists of both obligatory and symbolic facets (Mak et al., 2012). The obligatory facets pertain to the "act of eating during travel" while symbolic facets mean exploration of local culture and quests of authenticity (Zhang et al., 2019). This emphasizes the importance of understanding subjective determinants in terms of heritage food (Sanda et al., 2014). Subjective food determinants are relevant to the affective dimensions (emotion and values) that influence the consumer's sensory perception and mental image about food (Franchi, 2012). From this perception, food is not seen as a commodity but an instrument in establishing societal interactions between consumers, producers, family, and kinship linkages powering local communities (Zhang et al., 2019).

2.4 The Philippine heritage foods and Sinudsod of Naic, Cavite

In the Philippines, cuisines depict the country's rich cultural heritage and philosophy (Kirshenblatt-Gimblett & Fernandez, 2003). Local native cuisines are characterized by complex tastes referred to as linamnam, which means savory and fragrant (Florendo, 2019). In their study, Cuevas et al. (2017) stated that the Filipino cuisines are a combination of indigenous foods with Malay cultural mix and influences from other Southeast Asian countries carried through migration and trade. The cultural development of Filipino cuisine from pre-colonial times and the specific foreign influences that molded the current food landscape (Florendo, 2019). Despite the arrival of foreign influences (Spanish, American, Chinese) the Philippines was able to sustain its native foods through food indigenization (Kirshenblatt Gimblet & Fernandez, 2003). Food indigenization is the borrowing of foreign food elements and makes them compatible with local cuisines to fit the Filipino palate.

This study concentrated on one of Naic, Cavite's native rice delicacies called Sinudsod. It is made from rice, sugar, coconut milk, and ice. Sinudsod together with other rice delicacies reflects the agrarian history of Naic (Liba et al., 2017). The development of rice delicacies was mainly influenced by the utilization of bountiful rice harvest (Liba et al., 2017). In the Philippines, specifically Naic, Cavite, Spanish friars historically controlled majority of the farmlands and forced Filipino farmers to plant coconut, sugar, and rice. In this regard, these food commodities were termed as "Cavite's historical - crops of oppression", symbolizing the historical uprising and intensification of farmers unrest in Naic, a feudal municipality during Spanish colonization (Ledesma, 2016; Ileto, 1993).

3. Methodology

3.1. Measurement

To meet the objectives, the study utilized a mixed-method approach in gathering both quantitative and qualitative data. In addition to this, triangulation was also employed to validate all collected information, these being, surveys with local consumers, interviews with traditional producers, and validation with food experts. Ethical clearance for survey instruments and protocol was received from the Social Science Ethics Review Board (CB-23-07) of the Philippine Social Science

Council. A purposive design was employed for the identification of eighty (80) local consumers from producing and non-producing barangays (Philippine's small unit of local government) and five (5) traditional producers as study respondents. For data analysis, quantitative data from surveys (local consumers) were analyzed using Chi-square and Cramers V coefficient to establish the relevance and strength of association of sociodemographic characteristics namely, age and gender with survey responses, respectively. Items with significant results were further examined with post-hoc analysis. For the traditional producers, quantitative data were only analyzed with percentage frequency, mean, and standard deviation.

Consequently, themes from qualitative data (open-ended questions) were established through thematic analysis. Finally, for the validation process with a food historian expert, a non-structured interview design from the study of Bihu (2020) was adopted, which consisted of three significant stages: contextualizing (historical and cultural), emphasizing concrete details (physical and practical), and establishing emotional and intellectual reflection.

3.2 Data Collection

Data gathering in Naic, Cavite was implemented from January to March 2025. The following procedures was followed: first, hired enumerators explained the project overview, objectives, content of questionnaires to potential respondents, and sought their willingness to participate in the survey. Respondents were assured that data collected from the interview would be kept confidential and data management will be in accordance with Data Privacy Act of 2012.

Those who agreed participate were asked to sign two (2) copies of informed consent forms with one serving as their copy. The interview duration was between 45 minutes to 1 hour. After the survey, respondents were provided tokens for their participation. All respondent information and responses were encoded and tallied using Microsoft Excel365® (version 2209, Microsoft Inc., Redmond, WA, USA).

4. Results

4.1. Profile of the respondents

The socio-demographic profile of respondents was summarized in Table 1. Majority of the respondents were female (58.75%), with age ranging from 24-42 years old (43.75%), completed high school (46.25%) and currently employed (57.5%). Thirty six percent (36.25%) belonged to low-income families with monthly income less than-10,000 (USD 172.65).

For the Sinudsod producers, all respondents were female, with age ranging from 43 to 59 years old (60%), completed high school (40%) and vocational courses (40%). Forty percent (40%) belonged to families with monthly income ranging from Php 10,000.00 to 19,999.00 (USD 172.65 to 345.39)

Table 1. Profile of consumer and Sinudsod respondents

Socio-demographic profile		Consumers (n=80) N (%)
Gender	Female	47 (58.8)
	Male	33 (41.3)
Age	81-102 years old	1 (8.75)
	60 – 80 years old	9 (11.25)
	43 – 59 years old	28 (35)
	24 – 42 years old	**35 (43.75)**
	≤ 23 years old	7 (8.75)
Educational attainment	Elementary	4 (5)
	Highschool	**37 (46.25)**
	College	35 (43.75)
	Graduate	1 (1.25)
	Vocational	3 (3.75)
Job Situation	Employed	**46 (57.5)**
	Unemployed	21 (26.25)
	Student	4 (5)
	Retired	9 (11.25)
Monthly Family Income	Under ₱ 10,000	**29 (36.35)**
	₱ 10,000 - ₱ 19,999	10 (12.5)
	₱ 20,000 - ₱ 29,999	4 (5)
	₱ 30,000 - ₱ 39,999	2 (2.5)
	₱ 40,000 - ₱ 49,999	2 (2.5)
	Over ₱ 50,000	6 (7.5)
	No answer	27 (33.75)

4.2 Sinudsod as an ethnic food

Analysis of quantitative data show that majority of consumers (58-63%) agree that Sinudsod possesses the characteristics of an ethnic food product (Table 3). However, results show that traditional producers neither agree nor disagree with item A1: food prepared and consumed by group of people with similar language and culture. in determining the relevance of demographic profile (independent variable) to consumers' perception (dependent variable), chi-square test and Cramers V showed that gender is moderately associated with the consumers' positive perception emphasizing items A2:authenticity of recipe ($x2 = 13.816$, $p = 0.008$, $V = 0.416$) and A3:knowledge of local ingredients ($x2 = 11.193$, $p = 0.025$, $V = 0.374$) as crucial factors (Table 2).

Table 2. The association of gender and age to the consumer perception of Sinudsod as an ethnic food from Naic, Cavite

Item Code	Gender			Generation		
	X^2	*p-value*	Cramers V	X^2	*p-value*	Cramers V
A1	3.972	0.410	0.223	6.345	0.898	0.163
A2	13.816	0.008*	0.416***	6.762	0.873	0.168
A3	11.193	0.025*	0.374**	15.839	0.199	0.257
A4	8.197	0.085	0.320	10.479	0.574	0.209

* levels of significance of 5%: $p < 0.05$, ** Cramer's V Coefficient: V = 0.3 (moderate association), *** Cramer's V Coefficient: V = 0.4 (strong association)

Thematic analysis of qualitative data indicate that ethnic food concept was represented by "people" and "legacy" dimensions. Responses emphasized Sinudsod as an agricultural product which originated during Spanish period (themes: agricultural economy of Naic, farmers, and Spaniards):

"Since coconuts are used in Sinudsod and we have rice fields for the rice"
"Maybe because someone told me that the idea of Sinudsod originated from the Spaniards"

Another recurring response was the consumption of Sinudsod during family reunions and celebrations (themes: family and consumption of rice delicacies). The theme "consumers from other municipalities" represents the extensive market and consumption of Sinudsod outside Naic municipality.

Food historian expert, Mr. Ramos underscored the crucial role of Sinudsod in the annual celebration of Flores de Mayo (May Flower Festival) where it serves as an offering to Immaculate Conception (Saint Patroness of Naic) for good harvest. Catholicism has a strong foothold in Naic and the light flavor and white color of the traditional Sinudsod is associated to the "purity" of Immaculate Conception which is different from the current version of the rice delicacy which has a sweet flavor and colorful toppings. He also emphasized that the introduction of Sinudsod as a migrant food in other municipalities/provinces may have led to limited understanding of cultural nuances or social functions associated with the rice delicacy (i.e. use of colorful toppings).

The above juxtaposition of the various data obtained from the study in terms of Sinudsod as an ethnic food is represented by Table 3.

Table 3. Results of survey and validation with food historian experts relevant to Sinudsod as an ethnic food

Food Concept	Item Code	Quantitative Findings	Qualitative Findings (Themes)	Validation with food historian expert (Mr. Guillermo Ramos)
Ethnic Food	A1	▪ *Sinudsod* is eaten and prepared by group of people who shares common religion, language, culture, and heritage o Consumers: ($\bar{x}$ = 4.01± 0.95; **Agree**) o Producers: ($\bar{x}$ = 3.60± 1.52; **Neither agree nor disagree)**	People Dimension: ▪ Farmers ▪ Family ▪ Spaniards ▪ Consumers from other municipalities	▪ *Sinudsod* is a rice delicacy served during Flores de Mayo which serves as an offering to Immaculate Conception for good harvest.
	A2	▪ *Sinudsod* reflects the knowledge of ethnic groups relevant to local ingredients (animal sources/plants) o Consumers: ($\bar{x}$ = 4.19± 0.71; **Agree**) o Producers: ($\bar{x}$ = 4.80± 0.45; **Agree**)	Legacy Dimension: ▪ Agricultural economy of Naic ▪ Consumption of rice or rice delicacies	▪ During the Spanish era, Naic, Tanza, and General Trias served as rice producing areas owned by friars. ▪ Traditional preparation of *Sinudsod* utilized mixture of guava twigs, guava leaves, charcoal smoke, and banana leaves which provided complex and layered flavor profile to the rice. ▪ *Sinudsod* were prepared with ingredients of varying shades of white to represent the "purity" of Immaculate Concepcion. However, due to market forces (i.e. consumer preferences), local producers utilize colored ingredients (i.e. gulaman) for toppings.
	A3	▪ The original recipe was transferred to different family generations without manipulation o Consumers: ($\bar{x}$ = 4.05 ± 0.63; **Agree**) o Producers: ($\bar{x}$ = 4.00± 1.73; **Agree**)		▪ *Sinudsod* has a light flavor profile from the mixture of coconut milk, sugar, and coconut water. However, due to the shifting preference of consumers towards sweets, more sugar was added to the recipe.
	A4	▪ *Sinudsod* is culturally and socially accepted by consumers from other provinces o Consumers: ($\bar{x}$ = 4.10 ± 0.79; **Agree**) o Producers: ($\bar{x}$ = 4.20 ± 1.30; **Agree**)		▪ Rural to urban mass migration influences the acceptance of *Sinudsod* to other municipalities. However, limited knowledge of cultural nuances or social functions can introduce changes (i.e. use of red gulaman of local producers from Tanza, Cavite)

4.3 Sinudsod as a traditional food

Quantitative data show that majority of respondents (62-73%) agree that Sinudsod signifies the characteristics of a traditional food product (Table 5). However, results show that traditional producers neither agree nor disagree in items B8: consumption of food associated with

specific celebration or season in the municipality and B9: key production steps and ingredients are performed within the area of municipality. In determining the relevance of demographic profile (independent variable) to consumer perception (dependent variable), chi-square test and Cramers V show that gender and age were moderately associated to the consumers' positive perception of Sinudsod as a traditional food product emphasizing items B1:gastronomic heritage (x2 = 16.077, p = 0.003, V = 0.448), B4:commercial availability for 50 years (x2 = 10.104, p = 0.039, V = 0.355), B5:authenticity of recipe, production, raw material (x2 = 9.78, p = 0.044, V = 0.350), and B9:association with specific celebration or season (x2 = 17.54, p = 0.002, V = 0.468) as crucial factors (Table 4).

Table 4. The association of gender and age to the consumer perception of Sinudsod as a traditional food from Naic, Cavite

Item Code	Gender			Generation		
	X^2	*p-value*	Cramers V	X^2	*p-value*	Cramers V
B1	16.077	0.0029*	0.4483***	5.543	0.9374	0.1520
B2	6.744	0.1501	0.2903	5.632	0.9335	0.1532
B3	6.826	0.1454	0.2921	25.036	0.0147*	0.3230**
B4	10.104	0.0387*	0.3554**	20.204	0.0633	0.2901
B5	9.777	0.0444*	0.3496**	10.508	0.5715	0.2092
B6	5.315	0.2565	0.2577	13.133	0.3595	0.2239
B7	4.342	0.3617	0.2330	6.092	0.9114	0.1593
B8	5.918	0.2054	0.2720	24.378	0.0181*	0.3187**
B9	17.540	0.0015*	0.4682***	22.002	0.0375*	0.3028**

* levels of significance of 5%: $p < 0.05$, ** Cramer's V Coefficient: V = 0.3 (moderate association), *** Cramer's V Coefficient: V = 0.4 (strong association)

Thematic analysis of qualitative data show that traditional food concept was represented by "place" and "legacy" dimensions. Responses emphasized Sinudsod as a rice delicacy representing Naic as an agricultural municipality (themes: agrarian history of Naic and Naic as origin of Sinudsod). For legacy dimensions, several recurring themes describes the role of Sinudsod (Figure 1) during the celebration of Flores de Mayo, a Marian festival celebrated during summer season in honor of Immaculate Conception (themes: staple summer food, festival and religious food)

Mr. Ramos explained, "That is why they call Sinudsod as Immaculate. pure and white so you can see the layers of whiteness and clearness. Also, its flavor has a strong nuance, not so strong, with less sugar and as you confirmed, with half young coconut juice, half coconut milk so its coldness makes it perfect to be serves during May Flower Festival which is also the biggest Marian Festival not necessarily December."

Figure 1. Ingredients of Sinudsod rice delicacy



In addition to legacy dimension, responses also highlight the "traditional preparation of Sinudsod" which includes the use of stone grinder and frying without oil (Figure 2). Upon validation of the above results with the food historian expert, Mr. Ramos explained that Sinudsod like other rice delicacies follows a traditional and systematic schedule which preserves its social function in relevance to important events like Christmas among other celebrations. The coinciding of the selling period (summer) with various harvest festivals facilitates its association with family celebrations due to the increased reunions parties during this period. In terms of Sinudsod preparation, he emphasized that the biggest challenge is the use of electrical grinders and non-stick pan instead of stone grinders and alloy pans which changed the texture of the products

Figure 2. Traditional frying of Sinudsod pancake without oil



The above juxtaposition of the various data obtained from the study in terms of Sinudsod as a traditional food is presented in Table 5.

Table 5. Results of survey and validation with food historian experts relevant to Sinudsod as a traditional food

Food Concept	Item Code	Quantitative Findings	Qualitative Findings (Themes)	Validation with food historian expert (Mr. Guillermo Ramos)
Traditional Food	B1	▪ *Sinudsod* is an integral part of gastronomic heritage o Consumers: ($\bar{x}$ = 4.16± 0.68; **Agree**) o Producers: ($\bar{x}$ = 4.80± 0.45; **Agree**)	<u>Legacy Dimension</u>: ▪ Local cold rice delicacy ▪ Traditional techniques in the preparation of *Sinudsod* ▪ *Sinudsod* as a staple summer food ▪ *Sinudsod* as food during Lenten Season	▪ Local producers of rice delicacies follow traditional foodways (seasonality of ingredients) preserving the social function of *Sinudsod* and other rice delicacies. The system emphasized the relevance of ecological events (season), availability of ingredients, and celebration of cultural/traditional events.
	B2	▪ *Sinudsod* is a coherent tradition in the daily lives and kitchen o Consumers: ($\bar{x}$ = 4.14 ± 0.65; **Agree**) o Producers: ($\bar{x}$ = 4.00 ± 1.73; **Agree**)		
	B3	▪ *Sinudsod* is a food product derived from land which represents the agrarian history and territory o Consumers: ($\bar{x}$ = 4.03 ± 0.69; **Agree**) o Producers: ($\bar{x}$ = 4.60 ± 0.54; **Agree**)	<u>Place Dimension</u>: ▪ Naic as the origin of *Sinudsod* ▪ Established market of *Sinudsod* in Naic	▪ Like most foodways, *Sinudsod* was started by a community not just a single person. However, Auntie Nats from Barangay Makina as the oldest producer (93 years old) was the best narrative. ▪ Historically, Barangay Makina derived its name as one of the first barrio to be industrialized and receive diesel powered rice mill during the American period which affected the production of *Sinudsod.*
	B4	▪ *Sinudsod* was commercially available for 50 years o Consumers: ($\bar{x}$ = 4.00 ± 0.75; **Agree**) o Producers: ($\bar{x}$ = 4.60 ± 0.89; **Agree**)		
	B5	▪ The recipe, raw material, production process is authentic o Consumers: ($\bar{x}$ = 4.15 ± 0.75; **Agree**) o Producers: ($\bar{x}$ = 4.00 ± 1.73; **Agree**)		▪ Fermented rice is ground with metal grinders instead of traditional hand-grinding mill stones ▪ Rice batter is fried with non-stick pan which gives it flat shape. Traditionally, rice batter is fried using frying pans made of alloy and banana leaf which provides concave shape. The combination of alloy content (slows down conduction of heat) of the pan and the enzymes from the banana leaf limits the sticking of the rice batter during cooking. Consequently, the concave shape of the fried batter facilitates the spread of the flavor during cooking. However, higher flavor concentration can be perceived at the edge of the pancake due to higher temperature at the side of the pan.
	B6	▪ *Sinudsod* was a naturally grown whole food which only undergoes basic processing (i.e. drying, cooking, natural fermentation) o Consumers: ($\bar{x}$ = 4.06 ± 0.70; **Agree**) o Producers: ($\bar{x}$ = 4.80 ± 0.44; **Agree**)		▪ *Sinudsod* was originally cooked using charcoal and enclosed in a furnace. This facilitates the entrapment of smoke produced from the burning charcoal, guava twigs, and leaves. This practice provides a more layered and complex flavor to *Sinudsod* compared to buthane gas and electric hot plate.

Table 5. (cont.)

Food Concept	Item Code	Quantitative Findings	Qualitative Findings (Themes)	Validation with food historian expert (Mr. Guillermo Ramos)
Traditional Food	B7	▪ *Sinudsod* is known for its product characteristics (i.e. color, texture, flavor) which are associated with the municipality o Consumers: ($\bar{x}$ = 4.05 ± 0.63; **Agree**) o Producers: ($\bar{x}$ = 4.00 ± 1.41; **Agree)**		▪ *Sinudsod* were prepared with ingredients of varying shades of white to represent the "purity" of Immaculate Concepcion (patron saint of Naic). It was composed of ingredients derived from rice, coconut, and sugar which are the primary crops produced in Naic. ▪ *Sinudsod* was commonly served during the celebration of Flores De Mayo (month of May) which is considered as one of the biggest Marian Festivals in the municipality. The coinciding schedule of Flores De Mayo to other harvest festivals (Feast of San Nicolas and Feast of San Isidro Labrador) emphasized the social function of *Sinudsod* in the celebration of harvest season.
	B8	▪ Consumption of food is associated with specific celebration or season in the municipality o Consumers: ($\bar{x}$ = 4.06 ± 0.70; **Agree)** o Producers: ($\bar{x}$ = 3.80 ± 0.70; **Neither Agree nor Disagree)**		▪ As a cold dessert, *Sinudsod* was commonly served to feasts and family reunions during summer season.
	B9	▪ Key production steps and ingredients are performed within the area of municipality o Consumers: ($\bar{x}$ = 4.15 ± 0.71; **Agree**) o Producers: ($\bar{x}$ = 3.80 ± 0.71; **Neither Agree nor Disagree**)		▪ *Sinudsod* was a hyper-localized rice delicacy in Barangay Makina and San Roque due to its proximity to Brgy. Poblacion (location of Diocesan Shrine of Immaculate Concepcion and Naic Public Market), Brgy. Poblete & Nazareno (primary customers of bulk orders of *Sinudsod*)

4.4 Sinudsod as a local food product

Quantitative data show that majority of respondents (58-63%) agree that Sinudsod signifies the characteristics of a local food product (Table 7). In determining the relevance of demographic profile (independent variable) to consumer perception (dependent variable), chi-square test and Cramers V showed that gender and generation were not significantly relevant to the consumers' positive perception of Sinudsod as local food product (Table 6).

Table 6. The association of gender and age to the consumer perception of Sinudsod as a local food from Naic, Cavite

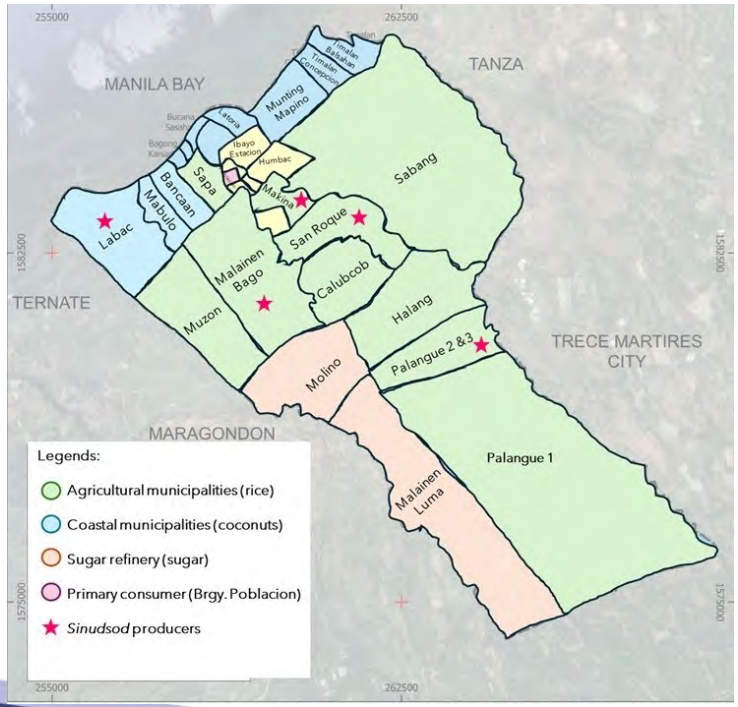
Item Code	Gender			Age		
	X^2	*p-value*	Cramers V	X^2	*p-value*	Cramers V
C1	7.961	0.093	0.315	10.142	0.604	0.206
C2	6.461	0.167	0.284	8.1052	0.777	0.184
C3	4.386	0.356	0.234	7.439	0.8273	0.177
C4	8.194	0.085	0.320	11.048	0.525	0.215

* levels of significance of 5%: p < 0.05, ** Cramer's V Coefficient: V = 0.3 (moderate association), *** Cramer's V Coefficient: V = 0.4 (strong association)

Thematic analysis of qualitative data show that ethnic food concept was represented by "place" dimensions Preliminary survey results showed the partial agreement of consumers that Sinudsod embodies the characteristics of a local food with the barangays of Labac, Malainen Bago, Palangue 2 and 3 identified as primary Sinudsod producers. Ramos explained:

"According to narratives, Sinudsod production activities were associated with the barangays of Labac, Makina, Palangues 2&3, Malainen Luman, Muzon, San Roque, Kanluran, Capt. C. Nazareno, Timalan, Concepcion" These small units of government are all located in Naic.

Figure 3. Sinudsod supply chain map in Naic Cavite (based on agricultural data provided by Naic Agircultural Office; personal communications with Naic Tourism Office, market vendors: personal communication March 5, 2024)



Validating the above data, Ramos identified Sinudsod as a hyper-localized rice delicacy in Barangays Makina (home of Auntie Nats - 93 years old, the oldest Sinudsod producer) and San Roque due to its proximity to primary customers for bulk orders which include rich well-known families from Brgy. Poblacion, Brgy. Poblete and Brgy. Nazareno. He also emphasized that sustainability of local ingredients has always been the weakest link in the conservation of heritage food products which he attributed to inevitable development.

More of his comments in relation to the qualitative and qualitative data can be gleaned from Table 7.

Table 7. Results of survey and validation with food historian experts relevant to Sinudsod as a local food

Food Concept	Item Code	Quantitative Findings	Qualitative Findings (Themes)	Validation with food historian expert (Mr. Guillermo Ramos)
Local Food	C1	▪ *Sinudsod* was considered as a local specialty ○ Consumers: ($\bar{x}$ = 4.01± 0.95; **Agree**) ○ Producers:($\bar{x}$ = 4.40 ± 0.89; **Agree**)	Place Dimension: ▪ Labac ▪ Malainen Bago ▪ Palangue 2 & 3	▪ *Sinudsod* was a hyper-localized rice delicacy in Barangay Makina and San Roque due to its proximity to Brgy. Poblacion (location of Diocesan Shrine of Immaculate Concepcion and Naic Public Market), Brgy. Poblete & Nazareno (primary customers of bulk orders of *Sinudsod*)
	C2	▪ *Sinudsod* was prepared from local ingredients grown (within 50km range) of the municipality ○ Consumers: ($\bar{x}$ = 4.01± 0.95; **Agree**) ○ Producers:($\bar{x}$ = 4.60 ± 0.89; **Agree**)		▪ My biggest concern will be the availability of traditional hand-grinding mill stones. During pre-pandemic (2004), my study managed to record at least 4-5 families who still have traditional mill stones in Barangay Makina. The recorded families include Ante Nats and her niece Ka-Julia, who were both known as original *Sinudsod* producers and still adopt traditional preparation techniques (i.e. use of mill stones). However, nowadays *Sinudsod* producers tend to bring their rice mixtures to the public market and ground it with metal grinders.
	C3	▪ The food supply chain was characterized by the proximity of producers, processors, and consumers within the municipality ○ Consumers: ($\bar{x}$ =3.99 ± 0.83; **Neither agree nor disagree**) ○ Producers: :($\bar{x}$ = 4.60 ± 0.89; **Agree**)		▪ As for the ingredients, when it comes to [heritage] food, the sustainability of the local supply chain of ingredients was always the weakest link. Production of quality food is limited when there are no authentic ingredients. However, development is inevitable, considering industrial estates and infrastructures provide higher return of investments (ROI) which helps the municipality thrive.
	C4	▪ *Sinudsod* is prepared based on local traditions and techniques associated with the municipality ○ Consumers: ($\bar{x}$ = 4.10 ± 0.79; **Agree**) ○ Producers: :($\bar{x}$ =3.80 ± 1.78; **Neither agree nor disagree**)		

5. Discussion and Conclusion

5.1 Discussion

The study showed the agreement of local consumers and traditional producers that Sinudsod is a heritage food product of Naic, Cavite. Results of the mixed method of survey and interview described it as one that embodies the characteristics that are relevant to ethnic, traditional, and local foods (Figure 1). While oral narratives and perceptions of different stakeholders relevant to Sinudsod are crucial to the preservation of tradition and food authenticity, they are usually limited through oral communication (Liba et al., 2017). The established labelling of Sinudsod's primary ingredients (sugar, coconut, and rice) as "traditional crops of oppression", proves their historical importance (Spanish colonization) in Naic's livelihood and in the authenticity of the product. Except from agricultural farmlands, the municipality's proximity to Manila Bay and Puerto de Cavite Port (galleon ships) potentially facilitated the entry of Indian mariners and immigrants (Seija, n.d.). This migration pattern promoted the exchange of Indian food knowledge and influence (fermented rice pancake served with toppings) in the indigenization and development process of Naic rice cakes specifically Sinudsod (Kirshenblatt Gimblet & Fernandez, 2003). Furthermore, the role of Sinudsod in representing the Immaculate Conception, the main patroness of the municipality emphasized the complex interaction of religious beliefs and perceived agricultural abundance which leads to the continuous practice of traditional festivals (Liba et al., 2017).

Statistical analysis of survey responses established moderate association of age and gender of the consumers to their positive perception of Sinudsod (ethnic and traditional). Positive perception of male respondents towards Sinudsod were affiliated with locally sourced ingredients while female respondents were linked with traditional preparation. This is aligned with the findings of previous study, emphasizing gender-based roles of men (farming and food sourcing) and women (food preparation) in traditional Philippine food systems (Oxfam International, 2019). In terms of age, perception of Generation Z (aged 18 to 27 years old) reflects indifference (neither agree nor disagree) with Sinudsod product. The recorded indifference can be associated with the diminishing interest of younger generation towards the traditional preparation of food specialty (i.e. Sinudsod) (Liba et al., 2017).

Responses also identified crucial aspects of heritage food specifically, legacy dimension (agrarian history as a feudal municipality during Spanish colonization, association of Sinudsod with Immaculate Concepcion or Feast of Naic, traditional preparation of Sinudsod, and consumption of rice delicacies, people dimension (local farmers, family, Spaniards), and place dimension (Naic and Barangay Makina). However, during the validation with food historian Ramos, he emphasized several challenges in the preservation of Sinudsod such as the limited sources of local ingredients, additional of new ingredients in the Sinudsod recipe, and deviation from traditional preparation techniques. He attributed these to developments such as the conversion of rice fields into subdivisions which reduced the lands for planting the original variety of rice used to produce Sinudsod. The advent of new kitchen tools that made cooking easier and the

influx of fancy products that were utilized as toppings also contributed to these challenges. The changes and limited resources of ingredients could have led to the restricted consumer perception towards Sinudsod as local food of Naic.

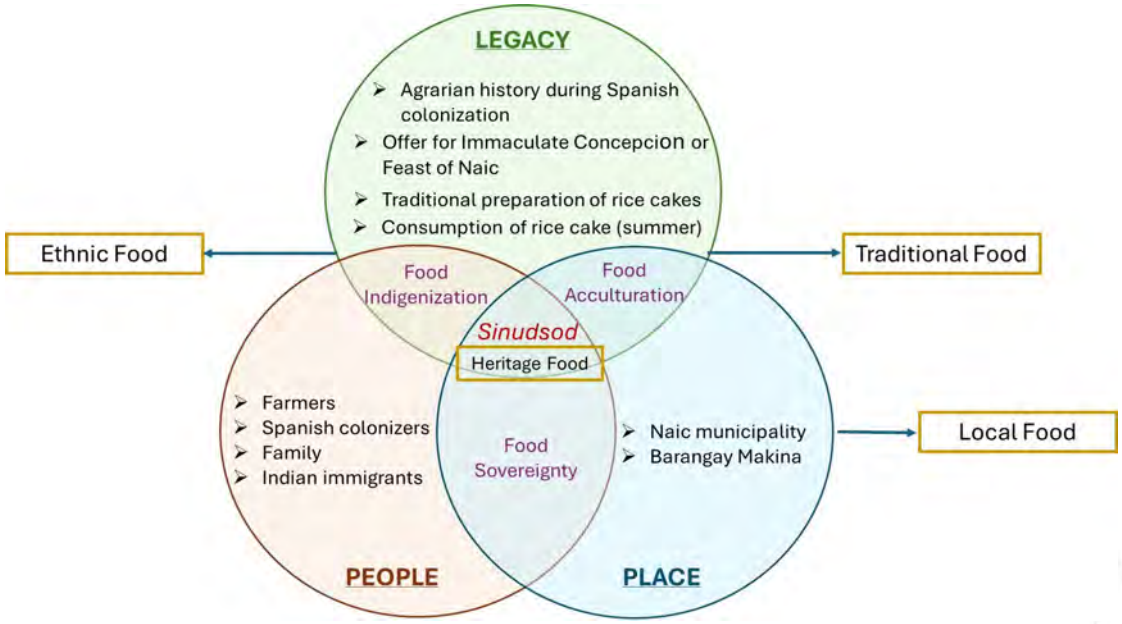
5.2 Academic and practical implications

The findings of the study identified critical criteria which can serve as foundation principles in the development of local food preservation programs. The integration of mixed-method and triangulation analysis provided inclusive research strategies emphasizing collaborative studies of academe, government, and food knowledge bearers to sustain heritage food products.

5.3 Limitations of this study for future research

Over-all, our conceptual model in profiling Philippine heritage food because of the study of Sinudsod as a reference aligns with the conceptual heritage food model established by Almansouri et al. (2021), which focuses on subjective dimensions (legacy, place, and people) and social constructs. They are also crucial factors in the preservation of perceived food authenticity. However, objective dimensions (i.e. sensory properties, packaging etc.) can be further explored.

Figure 2. Resulting conceptual model (based on Almansouri et al., 2021) of Sinudsod as heritage food (legacy, people, and place dimensions) based on the survey/interviews and validation with food historian expert,Ige Ramos.



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Theme: Business Performance Management

The impact of the first-year adoption of IFRS S1 and S2 on ESG reporting and financial performance: Comparison between casino and non-casino hotels (Paper#143)

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Abstract:

This study aims to evaluate the impact of IFRS S1 and S2 on ESG reporting and financial performance in the hospitality sector, focusing on casino versus non-casino hotels. By analyzing pre- and post-implementation data from 2023 and 2024, it assesses how new mandates influence sustainability practices and financial outcomes, revealing industry-specific impacts.

Keywords: IFRS S1/S2, Environmental, social, and governance, sustainability, firm performance

1. Introduction

The recent implementation of the International Financial Reporting Standards' Sustainability Disclosure Standards (IFRS S1 and S2) marks a pivotal shift in corporate sustainability reporting, introducing mandatory ESG (Environmental, Social, and Governance) disclosures effective January 1, 2024. These standards require global companies, including those in the hospitality sector, to systematically incorporate ESG metrics into their financial reporting (Kich, 2024; IFRS, 2025). Specifically, IFRS S1 targets sustainability-related financial disclosures, while IFRS S2 focuses on climate-related risks and opportunities.

The hospitality industry, with its extensive supply chains and notable environmental impacts, is at the forefront of sectors grappling with these new reporting demands (Elbelehy & Crispim, 2024; Jones et al., 2014). Given the industry's substantial contribution to global emissions and resource consumption, there is a significant academic and practical need to explore how these regulatory changes affect ESG practices and financial outcomes.

2. Literature Review

2.1. Background on IFRS S1 and S2

The International Sustainability Standards Board (ISSB) developed IFRS S1 and S2 which serve as essential standards for sustainability disclosure. These standards aim to enhance transparency and comparability in sustainability reporting by providing a standardized framework for disclosing sustainability-related information across four core content areas: governance, strategy, risk management, and metrics and targets (IFRS, 2025). Through IFRS S1, companies need to evaluate sustainability risks and opportunities specific to their industry while frequently utilizing Sustainability Accounting Standards Board (SASB) disclosure topics. IFRS S2 requires companies to disclose their climate risk assessments and opportunities because these elements influence their future business prospects. The hospitality sector, with its high energy consumption, labor intensity, and sensitivity to environmental and social issues, is especially vulnerable to the effects of these new reporting requirements (Jones et al., 2014). Adopting IFRS S1 and S2 compels firms in this sector to reassess their sustainability strategies, internal reporting systems, and stakeholder communication practices.

2.2. ESG Reporting and Financial Performance

Researchers have extensively examined the connection between Environmental, Social, and Governance (ESG) performance and financial performance but found inconsistent outcomes. Some research suggests that better ESG practices can lead to improved financial performance by reducing risks and enhancing reputation (Chen et al., 2023; Li et al., 2024). This is attributed to factors such as operational efficiency, risk management, and enhanced stakeholder trust. Others note that regulatory compliance costs, investor reactions, and industry-specific factors can lead to short-term financial strain. Industries that produce substantial environmental effects often experience stronger advantages from ESG investments because they face regulatory demands and consumer expectations. Drawing on Schuman's (1995) legitimacy theory, firms adopt ESG practices to maintain legitimacy and align with societal expectations, which can positively impact financial performance by enhancing stakeholder satisfaction and corporate reputation. However, under new regulatory mandates like IFRS S1 and S2, the drivers of ESG reporting may shift from voluntary to compliance-based, potentially altering their relationship with financial outcomes, particularly in the early phases of implementation.

2.3. Challenges in Casino vs. Non-Casino Hotels

Casino and non-casino hotels face distinct challenges in implementing IFRS S1 and S2, stemming from their unique operational models and stakeholder expectations. Casino hotels encounter several specific challenges due to their 24/7 operations (Wu & Chen, 2015). The continuous nature of casino activities leads to high energy consumption and associated emissions, making it more complex to measure and manage environmental impact. This constant operation also complicates the reporting of Scope 3 emissions, which include indirect emissions from supply chains and customer activities (Chan, 2021). Non-casino hotels, on the other hand, face their own set of challenges. Many non-casino hotels experience significant seasonal variations in

occupancy, making it difficult to implement consistent sustainability practices and invest in eco-friendly improvements (Lin et al., 2024). Non-casino hotel chains often manage a wide range of property types, from budget to luxury, complicating the standardization of ESG reporting across their portfolio. Moreover, with potentially lower profit margins compared to casino hotels, non-casino establishments may struggle to allocate sufficient resources for comprehensive ESG initiatives.

Furthermore, both types of hotels must navigate the financial implications of ESG initiatives, carefully weighing the upfront costs against long-term benefits and potential impacts on guest experience. Adapting to evolving ESG regulations and standards requires significant investment in technology, labor, and expertise for both casino and non-casino hotels.

3. Methodology

To evaluate the impact of IFRS S1 and S2 on ESG reporting and financial performance in the hotel industry, we employ a mixed-methods approach that integrates qualitative content analysis with quantitative panel regression.

3.1 Data Collection

Our sample consists of the top 20 global hotel chains, including both casino and non-casino hotel. ESG disclosure content is collected from publicly available sustainability reports published in 2023 (pre-implementation) and 2024 (post-implementation). ESG performance metrics are sourced from the LSEG (London Stock Exchange, formerly Refinitiv) database, while firm-level financial data are drawn from the WRDS COMPUSTAT database.

3.2 Study 1: Content Analysis of ESG Reports

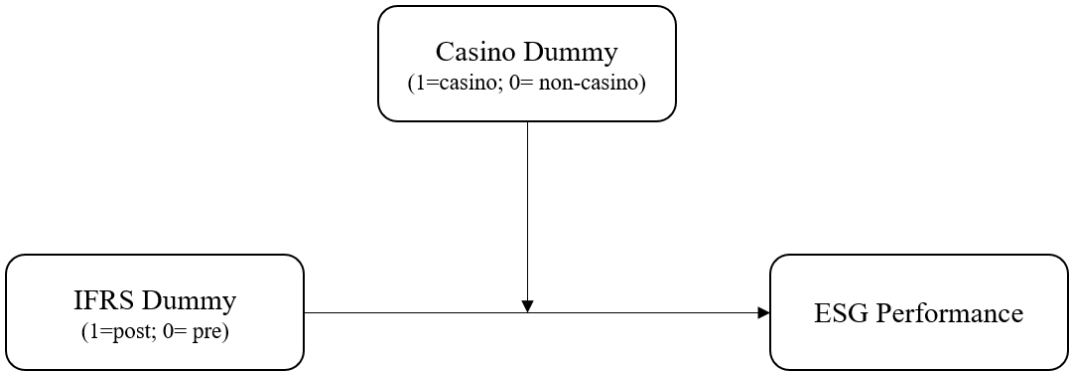
We conduct a comprehensive content analysis of ESG reports from the top 20 global hotel chains, equally divided between casino and non-casino hotels. The analysis covers reports from 2023 (pre-implementation) and 2024 (post-implementation) to capture changes in reporting practices.

3.3 Study 2: Quantitative Analysis

This study employs panel data regression models to estimate the effects of IFRS S1 and S2 on ESG performance and financial outcomes. The key explanatory variable is the IFRS Dummy, coded as 1 for the post-implementation period (2024) and 0 for the pre-implementation period (2023). We also include a Casino Dummy, coded as 1 for casino hotels and 0 for non-casino hotels. .

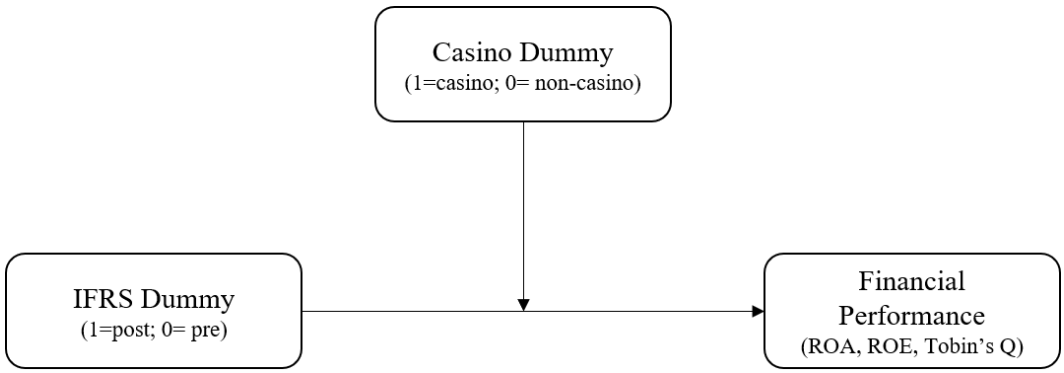
Model 1: ESG performanceit=α0+α1IFRS Dummyit+α2Casino Dummyi + α3(IFRS Dummyit × Casino Dummyi) + α4Control Variablesit +εit

Figure 1. Empirical Model 1 measuring ESG performance.



Model 2: Financial performanceit=α0+α1IFRS Dummyit+α2Casino Dummyi + α3(IFRS Dummyit × Casino Dummyi) + α4Control Variablesit +εit

Figure 2. Empirical Model 2 measuring financial performance return on assets (ROA), return on equity (ROE) and Tobin's Q.



4. Expected Results

From the results of Studies 1 and 2, we expect to observe a significant improvement in the quality and comprehensiveness of ESG disclosures among both casino and non-casino hotels following the adoption of IFRS S1 and S2. This improvement may be more pronounced in casino hotels due to their potentially higher baseline environmental impact. We also anticipate a slight short-term decline in financial performance indicators such as ROA and ROE, particularly in casino hotels, as a result of increased compliance and reporting costs. Conversely, we expect a potential increase in Tobin's Q, reflecting enhanced investor perception of long-term value creation through improved sustainability practices. Overall, casino hotels likely improve ESG quality but face higher costs; non-casino hotels show moderate changes.

5. Discussion and Implications

The findings from this study offer valuable insights into the impact of IFRS S1 and S2 on ESG reporting practices and financial performance in global hotel chains. These results provide guidance for hotel executives and regulatory bodies on effective implementation of the new standards to enhance transparency and sustainability in the industry. Understanding the financial implications of improved ESG reporting can inform strategic decisions regarding sustainability investments and reporting practices for hotel chains. For regulatory bodies, the study provides evidence on the effectiveness of these standards in promoting better ESG practices and financial performance.

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Maximizing revenue of online travel agency through hotel room sales using the concept of variable opaque product (Paper#088)

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Abstract:

This study explores the application of the Variable Opaque Product (VOP) model to maximize the revenue of online travel agencies (OTAs) through hotel room sales. The findings suggest that VOP can enhance OTA profitability by reducing inventory risks, attracting budget-conscious customers, and differentiating from traditional fixed-price strategies.

Keywords: Online travel agency, Variable opaque product, Hotel room, Revenue maximization, Mathematical model, Operations research

1. Introduction

The rapid expansion of online travel agencies (OTAs) has significantly transformed hotel room sales, with a substantial portion of reservations now occurring through these platforms. However, as competition intensifies among OTAs, and hotels increasingly implement direct booking incentives, traditional OTA revenue models face growing challenges. This study introduces the Variable Opaque Product (VOP) model as a solution to OTA profitability challenges. Unlike traditional opaque products (OP), where customers book hotels without knowing the specific property until after purchase, VOP allows customers to reduce the level of uncertainty by paying additional fees. This creates a structured pricing strategy that balances consumer preference for affordability and control, ultimately optimizing room sales while maintaining OTA revenue growth. This study examines whether the introduction of VOP services can increase sales and how the results vary depending on customers' demand sensitivity to price. By analyzing VOP implementation through a mathematical optimization framework, this study explores how OTAs can better manage inventory, reduce unsold room risks, and attract a broader customer base.

2. Literature Review

Prior research has extensively examined opaque product pricing in the travel and hospitality industries. The foundational study by Post & Spann (2012) analyzed how airlines leveraged blind booking services to maximize revenue from unsold inventory. Similarly, research by Mao et al. (2021) highlighted the advantages of dynamic hotel pricing through OP models, showing how price discrimination can help OTAs manage demand fluctuations. Consumer behavior studies (Chen & Yuan, 2016) further demonstrate that while uncertainty is a concern, the perception of discount benefits often outweighs hesitation, making opaque product models appealing to price-sensitive travelers. Ko & Song (2020) explored the implications of VOP for airline revenue management, showing that flexible pricing strategies enhance profitability. However, despite the growing body of research on OP, limited studies have focused on the practical application of VOP in hotel room sales. This study aims to bridge this gap by developing a structured pricing framework that integrates customer preference modeling with an optimized room allocation system.

3. Methodology

Figure 1. Room sales process.

Room sales in general	Room sales using the concept of Opaque Product	Room sales using the concept of Variable Opaque Product
1. Customer enters city and stay information. 2. OTA offers prices based on a) hotel name and b) room type. 3. The customer selects a hotel room and ends the reservation.	1. Customer enters city and stay information. 2. OTA offers prices based on a) hotel rating, b) hotel location, and c) hotel rating/location. 3. Customer selects hotel rating/location and ends the reservation. 4. OTA notifies reservation confirmation for a specific hotel in the corresponding rating/location.	1. Customer enters city and stay information. 2. OTA offers prices based on a) hotel rating, b) hotel location, and c) hotel rating/location. 3. Customer enters location information that is not preferred. 4. OTA offers new prices based on customer entered information c) hotel rating/location. 5. After a customer makes a reservation, OTA notifies reservation confirmation for a specific hotel in the corresponding rating/location.

This study employs a quantitative approach using mathematical optimization to develop an effective pricing and inventory allocation model for OTAs incorporating the Variable Opaque Product (VOP) concept. The research focuses on determining the optimal discount rates, inventory distribution strategies, and additional fee structures for customers opting to reduce uncertainty. To achieve this, the methodology is structured into three key phases: problem definition and modeling, mathematical optimization, and scenario-based simulations.

The first phase involves defining the problem and establishing key decision variables. The study considers a hotel room distribution system where an OTA offers a mix of standard bookings, opaque bookings, and VOP bookings. The primary decision variables include the proportion of hotel inventory allocated to each booking type, the discount rate for VOP rooms, and the pricing structure for reducing uncertainty. The model accounts for customer demand elasticity, which varies based on pricing and the level of uncertainty in booking.

The second phase involves constructing a mathematical optimization model to maximize OTA revenue while maintaining optimal room allocation efficiency. The objective function seeks to maximize total revenue by balancing regular bookings, discounted opaque bookings, and VOP selections. Constraints include hotel inventory limits, customer demand distribution, and competitive pricing considerations. The model incorporates price differentiation, allowing the OTA to charge higher fees for greater booking transparency while maintaining attractive discounts for more opaque offerings. The study also considers inventory risk, ensuring that the model minimizes the likelihood of unsold rooms while maintaining profit margins.

The third phase consists of scenario-based simulations to validate the proposed pricing strategy. The study tests different market conditions, such as varying levels of demand, customer willingness to pay for reduced uncertainty, and the impact of seasonal fluctuations. These simulations help determine the effectiveness of the VOP model in optimizing sales performance under different real-world conditions. The results of these simulations guide refinements to the pricing structure, ensuring that the proposed model remains adaptable to different OTA business environments.

4. Results

Figure 2. Sales before and after the introduction of VOP service.

	Sales	Price discount rate of VOP service	Price increase rate when excluding specific location
Room sales in general	₩566,059,000	-	-
Room sales using the concept of Variable Opaque Product	₩572,346,252	20%	5%

Figure 3. Sensitivity analysis.

The coefficient of demand shift in the price increase rate due to the exclusion of a specific location	Sales	Price discount rate of VOP service	Price increase rate when excluding specific location
1	₩575,043,470	22%	10%
2	₩573,954,692	22%	10%
3	₩573,102,164	21%	7%
4	₩572,640,997	20%	6%
5	₩572,346,252	20%	5%
6	₩572,151,357	19%	4%
7	₩571,992,167	19%	3%
8	₩571,894,206	19%	3%
9	₩571,796,246	19%	3%
10	₩571,715,213	18%	2%

The findings suggest that implementing VOP models can significantly improve OTA revenue streams through several key mechanisms. First, VOP contributes to reducing inventory risk by offering blind bookings at discounted rates, attracting price-sensitive customers who might not otherwise book at standard rates. Furthermore, it allows OTAs to dynamically adjust discount levels based on remaining inventory, ensuring optimal utilization of unsold rooms. Second, VOP enhances price differentiation by providing customers with options based on their risk tolerance. Those willing to accept higher uncertainty benefit from lower prices, while those preferring control over their bookings can opt for additional fees to select preferred hotels. This dual pricing approach increases overall consumer engagement, catering to both budget travelers and those valuing customization. Third, the mathematical pricing model optimizes sales efficiency by identifying the most effective discount thresholds for different market segments. By fine-tuning discount rates and fee structures, OTAs can balance profit margins while maximizing booking volumes, ultimately leading to improved financial performance and customer acquisition.

5. Discussion and Implications

The study's results underscore the effectiveness of VOP in addressing the primary challenges faced by OTAs. Introducing flexible uncertainty-based pricing not only diversifies revenue streams but also mitigates the risks of traditional fixed-pricing models. However, several factors must be considered for successful implementation. First, customer perception and trust play a crucial role. Transparency in VOP offerings is critical to avoid dissatisfaction, and clear communication of terms and benefits can enhance customer confidence in booking through OTAs. Second, competitive positioning must be considered. OTAs need to differentiate their VOP offerings

from traditional discount models used by competitors such as Booking.com and Expedia. Strategic marketing and personalized discounts can enhance adoption rates and customer loyalty. Third, regulatory considerations are important. In certain jurisdictions, pricing transparency laws may require OTAs to disclose additional information about VOP offerings, necessitating adjustments to business strategies. Finally, the adaptability of OTAs in dynamically adjusting their pricing structures will determine the long-term success of VOP implementation. The implications of this study are relevant for OTAs, hotels, and future researchers. For OTAs, implementing VOP can serve as a competitive advantage by offering a unique pricing mechanism that balances affordability and choice, increasing customer engagement and retention. The ability to flexibly price and allocate rooms based on demand will help OTAs mitigate revenue losses and optimize sales strategies. For hotels, partnering with OTAs that use VOP strategies can help optimize occupancy rates, reducing reliance on deep discounts and last-minute promotions. The structured approach to revenue management ensures that hotels benefit from increased room turnover while maintaining price integrity. For researchers, this study lays the groundwork for future investigations into price elasticity and consumer adaptation to variable uncertainty models in hotel bookings. Understanding how different consumer segments respond to VOP pricing can provide deeper insights into customer decision-making processes and market dynamics. This research demonstrates that the Variable Opaque Product (VOP) model presents a viable strategy for maximizing OTA revenues by leveraging controlled uncertainty in hotel room bookings. The combination of mathematical optimization and structured pricing strategies enhances both profitability and customer acquisition. By allowing consumers to trade off between cost savings and certainty, OTAs can expand their customer base while reducing risks associated with unsold inventory. Future studies should explore real-world implementations and consumer behavior experiments to refine VOP effectiveness further. Additionally, further research into dynamic pricing mechanisms tailored to different market conditions could provide valuable insights into optimizing VOP performance.

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Theme: VR Experience

The Multiple Roles of Virtual Communities in Taiwanese Women's Daily Lives: The Sociability and Usability of Social Media (Paper#086)

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Abstract:

This study explores how Taiwanese women use virtual communities to achieve self-empowerment and social connection. While they provide support and identity-building, challenges such as social comparison persist. Findings provide insights into platform design and policies that promote gender-equal digital environments.

Keywords: Online communities, Digital attachment, Self-identity, Role construction

1. Introduction

Social media has become essential in daily life. For Taiwanese women, virtual communities serve as platforms for both social interaction and spaces for self-expression, role-building, and emotional support (Ho, 2023). Statista (2024) projects over 6 billion social media users by 2027, with 89% of Taiwanese women using these platforms (70% in at least one virtual community). These communities cover diverse topics and extend offline interactions. This study examines how Taiwanese women use virtual communities for self-empowerment and social connection, focusing on identity formation.

2. Literature Review

2.1. Definition and functions of virtual communities

The term "virtual community" was originally defined by Rheingold (1993, p. 57) as "a group of people who engage in long-term interactions, share emotions, and exchange knowledge through the internet." In recent years, scholars have further emphasized that virtual communities are not merely spaces for information exchange, but also platforms for emotional support and identity construction (Williams, 2019). For women, virtual communities provide a relatively safe environment that enables them to transcend traditional social roles and explore diverse identities (Manago, 2015).

2.2. Women's interaction with social media

Research indicates significant gender differences in social media usage patterns. Women are inclined to use social media to express emotions and maintain relationships (Pew Research Center, 2021). In Taiwan, women are particularly active on platforms such as Facebook groups, LINE communities, and Dcard, which are arenas to share life experiences, seek advice, and build support networks (Ho, 2023).

2.3. Impact of virtual communities on women's identity formation

Virtual communities provide women with a sense of anonymity and security, enabling them to experiment with different roles and modes of expression in a low-risk environment (Zhao et al., 2008), thereby mitigating gender-based barriers to communication (Wang & Hao, 2022). However, studies also indicate that virtual communities may exacerbate social comparison and anxiety, particularly when platform content reinforces traditional gender roles (Fardouly et al., 2015).

3. Methodology

3.1. Participants

To better understand participants' emotions, this study conducted qualitative interviews via video conferencing. Urban-dwelling female participants aged 27-43 and engaged in anonymous LINE communities and public Facebook groups, with 8 reporting an average of 2.5 hours of use per day (Table 1). Researchers took participants' perspectives and focused on their hobbies and interests to explore interaction patterns and associated benefits within these communities.

Table 1. Interviewees' demographic information

Code	Age	Occupation	Types of communities participated in	Daily social media usage time (hours)
A	27	HR Assistant	LINE Anonymous Communities	3.5
B	27	Travel Agency Staff	LINE Anonymous Communities	3.0
C	33	Engineer	LINE Anonymous Communities Facebook Groups	2.5
D	40	Administrative Staff	Facebook Groups	1.5
E	35	Administrative Staff	LINE Anonymous Communities Facebook Groups	2.5
F	37	Outdoor Equipment Retail Associate	Facebook Groups	3.0
G	29	Floral Designer	LINE Anonymous Communities	3.0
H	43	Administrative Staff	Facebook Groups	4.0

3.2. Data collection and analysis

Participants were invited through purposive sampling and then expanded through snowball sampling. Eligibility criteria included: (1) daily social media usage exceeding one hour; (2) participation in at least one virtual community; and (3) willingness to share online interaction experiences. All participants were married working women with children. The average duration of each telephone interview was approximately 1 hour, with follow-up interviews conducted when necessary.

This study adopted Braun and Clarke's (2006) thematic analysis approach to analyze a large amount of data. Interview transcripts were coded and categorized to identify core themes and subthemes. To enhance the reliability and validity of the study, triangulation was used to cross-validate recurring concepts and statements from multiple participants and compare them with existing relevant literature.

4. Results

(1) Virtual communities as emotional support networks

Most participants stated that virtual communities provided a safe space to express their challenges and receive support. Interviewee B stated: "In our group, if someone is going through something that affects their life, they share it in the group... Everyone encourages each other and makes me feel less alone... Even if my family may not be supportive, I find motivation to move forward from strangers I've never met."

(2) Role construction and identity formation

Virtual communities allow women to experience different roles and expressions. Interviewee F explained: "In the hiking group, I take on the role of a professional advisor. This has boosted my confidence in my expertise and impacted my work performance and real-life confidence."

(3) Social comparison and anxiety

Despite the positive benefits of virtual communities, some participants noted that community content could trigger anxiety. Interviewee A shared: "When I see other people's posts about traveling abroad, sometimes I feel that my life is really dull."

(4) Virtual to real-life interactions

Many participants mentioned that interactions in virtual communities extend into real life, such as offline meetups or collaborative projects. Interviewee C recounted: "I met a group of friends in the community who loved cooking. We often attended one-day cooking classes together, and beyond that, we really became close friends, sharing our thoughts and feelings."

5. Discussion and Implications

5.1. Discussion

Preece (2001) emphasizes that the success of online communities depends on sociability and usability. These communities thrive by supporting meaning-making and identity negotiation (Preece & Maloney-Krichmar, 2003). While "virtual community" may hold varied meanings, this study found that it not only provides Taiwanese women with social tools but also serves as a space for identity construction and emotional support. These platforms provide a liberating environment to transcend traditional roles, explore diverse identities, and build meaningful relationships. However, they can also intensify social comparisons and anxieties, emphasizing the need to understand gender dynamics in digital spaces and avoid perpetuating gender-based communication barriers.

5.2. Academic and practical implications

This study used qualitative methods to explore how Taiwanese women construct identities and seek emotional support in virtual communities, highlighting gender differences in digital space interactions. Interviews revealed that sociability and usability determine the importance of virtual communities to these women. It reveals the dual nature of virtual communities: they promote emotional support, role construction, and social connections, but may also exacerbate social comparison and anxiety among users. This nuanced perspective provides a refined framework for future research.

The study offers actionable recommendations for social media designers, suggesting algorithm optimization to reduce content that reinforces traditional gender roles and adding support features such as anonymous boards and mental health resources. It raises awareness of women's unique virtual community experiences, encourages digital self-empowerment, and promotes a more gender-equitable digital landscape.

5.3. Limitations of this study and suggestions for future research

This study focused on urban women; future research could incorporate women in rural areas. Furthermore, age groups were not distinguished in this study, suggesting that intergenerational comparisons may be a valuable direction for future research. Finally, future research could integrate quantitative methods for further validation.

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Marketing Design and Operation for Metaverse Platform in Golf Industry (Paper#133)

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Abstract:

This study aims to design a discount marketing product that connects screen and field golf, considering the environment of Korean golf market. The marketing product offers discount coupons as incentives for customers' repeated purchases, and it intends to derive rational decision-making regarding the elements of the coupons by applying game-theory.

Keywords: Metaverse, Golf Industry, Loyalty Program, Game Theory, Optimization Model

1. Introduction

As international travel became impossible due to COVID-19, the Korean domestic golf industry rapidly grew between 2020 and 2022. (Youwon Golf Foundation, 2023). However, the sharp rise in golf fees due to increased demand led to growing consumer dissatisfaction, and domestic golf rounds decreased by about 2.86 million in 2023 (Korea Golf Business Association, 2023). Screen golf emerged as a complementary sector by lowering entry barriers such as time, cost, and accessibility, thereby attracting the younger generation (Ryu, 2015). While previous studies primarily analyzed consumer behavior by classifying golf consumers based on demographics or motivations, they failed to propose practical management strategies (Kim, 2001; Lee, 2010). To address this gap, this study develops a marketing product that links screen and field golf through loyalty-based coupons, enhancing mutual profitability by optimizing discounts, usage criteria, and cost-sharing using mathematical modeling and game theory. Accordingly, this study aims to increase participation in the domestic golf industry by designing a marketing product that integrates screen golf with field golf.

2. Literature Review

2.1. Loyalty Programs

Loyalty programs encourage repeated purchases, enhancing customer retention beyond traditional advertising strategies (Uncles et al., 2003). Originally introduced by American Airlines in 1981, such programs are now widely adopted in industries like aviation, hospitality, and so on. For instance, Korean Airlines operates a mileage program that allows customers to use their miles for seat upgrades, the delivery platform 'Baedal-Minjok' provides tier-based discounts based on monthly usage, and major Korean telecom companies effectively enhance profitability and market share by offering rewards based on subscribers' spending and tenure (Sharp and Sharp, 1997; Reichheld, Markey, and Hopton, 2000). Therefore, this study aims to design a loyalty program that offers field golf course discount coupons based on repeated use of screen golf facilities.

2.2. Game Theory

Game theory mathematically analyses decision-making to determine rational behaviours in competitive and cooperative situations (Kim, 2013). Repeated games identify a Nash equilibrium—where no player has an incentive to deviate—by allowing strategic decision-making based on prior interactions (Nash, 2024). Additionally, Stackelberg games model asymmetric decisions between a strategic leader and followers, enabling the leader to maximize outcomes by anticipating followers' responses (Başar & Olsder, 1998; Gibbons, 1992). In this study, both repeated and Stackelberg games are applied to model interactions between screen-golf venues and field golf courses, strategically determining coupon discounts, issuance criteria, and cost-sharing to maximize mutual profitability.

3. Methodology

3.1. Problem description

This study derived revenue functions for screen golf and field golf venues by utilizing the demand function for screen golf usage and the coupon response rate function. It then developed a mathematical model by establishing an objective function to maximize the revenues of both entities and constraints related to the burden of coupon issuance costs. Subsequently, a repeated game was conducted to find the Nash equilibrium where both parties negotiate over the coupon discount price and the rate at which the coupon issuance cost is borne. Additionally, a Stackelberg game was carried out to derive the decision-making process when the screen golf venue acts as the leader and the field golf course as the follower.

3.2. Repeated game and Stackelberg game

Screen golf and field golf venues negotiate to determine the required usage frequency for coupon issuance, the coupon discount price, and the cost-sharing ratio for coupon issuance. The first game is a repeated game conducted under competitive conditions, where both parties negotiate on an equal footing. If the two parties make different decisions resulting in a failure

to reach an agreement, a penalty is imposed by applying the opportunity cost incurred during the negotiation. The second game is a Stackelberg game, in which there is a leader and a follower, and each party derives decision-making outcomes once in the roles of leader and follower. The leader, being fully aware of the follower's strategies in response to its own, selects the strategy that maximizes its own revenue. For the game, the following assumptions are established: The coupon discount price can be chosen from 30,000 KRW, 45,000 KRW, or 60,000 KRW. The required usage frequency for coupon issuance can be chosen from 10, 12, or 14 times. The cost-sharing ratio for coupon issuance can be selected from 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, or 90%. Moreover, if the sum of the ratios borne by the two parties does not equal 100%, the negotiation is considered unsuccessful.

4. Results

Case 1 of the numerical example considers a required usage frequency of 10 times for coupon issuance. In Game 1, 14 equilibrium situations were derived. In Game 2, with the screen golf venue acting as the leader, the outcome was a 30,000 KRW discount coupon with a 10% cost-sharing burden. Similarly, in Game 3, with the field golf course as the leader, the result was also a 30,000 KRW discount coupon with a 10% cost-sharing burden.

Case 2 of the numerical example considers a required usage frequency of 12 times for coupon issuance. In Game 1, 18 equilibrium situations were derived. In Game 2, the outcome was a 30,000 KRW discount coupon with the screen golf venue bearing 10% of the cost and the field golf course bearing 90%. In Game 3, the result was a 45,000 KRW discount coupon with the screen golf venue bearing 90% of the cost and the field golf course bearing 10%.

Case 3 of the numerical example considers a required usage frequency of 14 times for coupon issuance. In Game 1, 21 equilibrium situations were derived. In Game 2, unlike Cases 1 and 2, the outcome was that the screen golf venue bore 30% of the cost for a 45,000 KRW discount coupon. In Game 3, the strategy shifted, with the field golf course bearing 10% for a 60,000 KRW discount coupon.

5. Discussion and Implications

5.1. Academic and practical implications

This study makes a significant academic contribution by providing strategic insights that enable each entity in interdependent business models, such as screen golf and field golf, to pursue long-term revenue growth through competition. Furthermore, it provides a practical framework that minimizes conflicts and supports rational decision-making in business environments with multiple stakeholders. This approach is not limited to the golf industry alone but can be utilized as a valuable tool by companies aiming to manage coopetition relationships and achieve optimal outcomes across various fields.

5.2. Limitations of this study and suggestions for future research

Since dynamic factors such as actual consumer behavior data and changes in market conditions were not incorporated, there may be limitations in generalizing the results. In other words, additional validation using real-world data is necessary to ensure its applicability in practical business environments.

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Theme: Sustainability & Regenerative

Strategic risks in destination governance: Navigating overtourism, crisis, livelihood and conservation in an ecologically critical area (Paper#106)

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Abstract:

Tourism governance in ecologically critical areas (ECAs) requires strategic planning to balance conservation efforts with the livelihoods of local communities. However, destinations often resort to reactive regulatory interventions, such as visitor caps, to mitigate environmental degradation. This study examines the media narratives about the ecological fragility and crisis-driven conservations on St Martin Island, Bangladesh – an ECA threatened by overtourism. A critical analysis of mainstream media news reports pertaining to travel restrictions on St Martin Island contributes to the scholarly discussions on tourism destination governance amid the crisis and underscores the necessity of integrated policy approaches that prioritise stakeholder engagement and ecological stewardship to ensure long-term sustainability.

Keywords: destination governance; strategic risk management; conservation; overtourism; visitor management; environmental stewardship

Introduction

Negotiating stakeholder engagements in tourism governance remains a critical challenge; failures in managing strategic risks associated with tourism governance may lead to a critical challenge of unregulated growth (Ashik, 2023; Rahman, Simmons & Ratna, 2022). This often results in overtourism, environmental degradation, and the implementation of crisis-driven conservation policies. St Martin Island, one of the most popular tourism destinations and the only coral island of Bangladesh located 9 km south of Cox's Bazar-Teknaf peninsula, is home to a community of 10,000 people (Siddique, 2024). However, travel to this island has been suspended for nine

months, effective from February 2025. "The ban, enforced by the Ministry of Environment, Forest, and Climate Change, aims to protect the island's fragile ecosystem amid growing environmental concerns" (Dhragia, 2025), which critically challenged the status quo and livelihood of the tourism-dependent community of this ECA. This study critically examines the media reports on tourism restrictions to explore how media narratives frame the governance failures, socio-economic disruptions, community resistance, crisis-driven conservation and tourism stakeholder responses following the regulatory decision of the travel ban on St Martin Island. The key findings reveal that past mismanagement led to an unregulated tourism boom, necessitating tourism restrictions. However, the abrupt policy shift has resulted in significant economic distress for the local community and tourism-dependent businesses. The study also identifies failure in managing strategic risks and highlights the importance of early interventions to prevent protected areas (PAs) from deteriorating into ECAs, emphasising the need for adaptive tourism governance.

Methodology

This study employs media discourse analysis (Fairclough, 2013; Van Dijk, 2011) to explore how news media frame regulatory interventions and stakeholder responses in managing tourism on St Martin Island. A comprehensive analysis of news articles published in mainstream media provides a comprehensive understanding of how government policy on managing tourism in an ECA was framed and presented in media discourse. The selection criteria, ensuring a balanced representation of media narratives, included i) relevance to St. Martin Island, focusing on articles discussing the travel restrictions, environmental conservation, and socio-economic impacts ii) diversity of perspectives, ensuring coverage from government authorities, tourism operators, local communities, and environmental activists iii) publication timeframe, covering articles published in 2024 and 2025, to capture both the policy announcement and its immediate consequences. A total of 27 news articles that meet the selection criteria were selected for an in-depth qualitative analysis; the cyclic act of the database search used Boolean search (i.e., the keywords 'St Martin Island Bangladesh' and 'tourism'; 'St Martin Island Bangladesh' and 'conservation'; St Martin Island Bangladesh' and 'visitor management') to identify and retrieve the news articles.

For an in-depth qualitative analysis, a thematic content analysis (Braun & Clarke, 2006; Faisal, 2024) primarily focused on how media discourse frames the government decision as either a necessary conservation measure or a failure in tourism governance. Moreover, the analysis covered news reports and narratives pertaining to economic losses, business closures, and livelihood concerns due to the travel ban. A critical discourse analysis (Wodak & Meyer, 2015) explored stakeholder conflicts of interest, power dynamics, and government interventions in managing tourism on St Martin Island.

Findings

Governance Failures

Strategic risk management in tourism should ideally incorporate preventive measures, such as stakeholder engagements in decision-making, inclusive policy, sustainable practices, regulatory frameworks and interventions for balanced growth, resilience building and responsible tourism (Faisal, 2024; Koh & Fakfare, 2020; Reyes, 2018; Trousdale, 1999). However, in many Global South contexts, including Bangladesh, interventions tend to be last-minute and abrupt, resulting in social and economic disruptions for local communities (Hoque, Faisal, & Rahman, 2022). The media narrative frames government intervention and regulatory enforcement that the decision to suspend tourism on St Matin Island for nine months and immediate capping of the visitor numbers for the following three months was not part of a pre-emptive sustainability plan but rather a reactive response to escalating environmental damage (Siddique, 2024; Shuvo, 2025). The reactive nature of this decision underscores a lack of anticipatory governance, where environmental policies should have been integrated into tourism planning at an earlier stage. Among others, a report published in The Business Standard emphasise how decades of unchecked tourism expansion resulted in severe ecological stress, ultimately prompting the government to introduce a tourism cap (UNB, 2025). Several media reports point to a lack of strategic planning in the early stages of tourism development on St. Martin Island, which allowed overtourism to spiral out of control.

The situation at St. Martin's Island reflects broader issues in emerging tourism economies, where short-term economic gains are prioritised over long-term sustainability. This aligns with the findings of Reyes (2018) from the case of Boracay, Philippines and the study of Koh & Fakfare (2020) highlighting the case of Maya Bay, Thailand, which faced similar crises due to failure in managing risks in tourism planning and development. These scenarios align with scholarly discussions on strategic risks in tourism governance, where failure to implement early interventions often leads to crisis-driven policy changes rather than sustainable, long-term management.

Socio-Economic Disruptions and Unintended Consequences

One of the most contested aspects of the capping visitor numbers is its impact on local businesses and livelihoods. Media coverage presents a divided narrative—while environmental advocates praise the initiative, local business owners express concern over revenue losses and the lack of a transition strategy for affected enterprises (Shuvo, 2025; UNB, 2025). This highlights a broader issue in tourism governance: the social costs of abrupt policy shifts. While environmental conservation is critical, failure to integrate local communities in decision-making often results in resistance, economic hardship, and policy backlash. Existing literature pertaining to destination management in Global South argues that effective destination governance requires participatory planning, where local businesses, community leaders, and policymakers co-design regulatory frameworks that balance conservation with economic viability (Hoque, Faisal, & Rahman, 2022; Hoque, Lovelock, & Carr, 2022; Rahman et al., 2022).

Environmental Education: A Missed Opportunity

The media narratives focus heavily on regulatory enforcement, but no discussion is found regarding environmental education as a long-term solution. Another critical theme absent in media discourse is the importance of early interventions to prevent a protected area (PA) from becoming an environmentally critical area (ECA). St. Martin's Island was previously a marine protected area (Siddique, 2024), but uncontrolled tourism led to environmental degradation and necessitated drastic restrictions. Media reports acknowledge the island's ecological vulnerability but do not extensively discuss how visitors' awareness and behaviours could contribute to conservation. This reveals a critical oversight in tourism governance: treating visitors as passive consumers rather than active stewards of the environment. Cook et al. (2023) and Albrecht et al. (2023) find that well-designed environmental education programs can significantly influence tourists' attitudes and behaviours toward conservation.

Media-Driven FOMO

A notable finding from media discourse is the commercialisation of the fear of missing out (FOMO). Some news articles reported that after the announcement of a ban, there was a sudden surge in tourist visits as people hurried to experience the island before the restrictions took effect. Certain tourism operators took advantage of this urgency by raising prices and prioritising high-paying customers. This phenomenon of FOMO raises a critical question about the role of media in shaping tourism demand and the unintended commercial benefits that some businesses gain from restrictive policies. The unequal distribution of tourism revenues resulting from last-minute price hikes disrupts the socio-economic balance of the destination, favouring larger tourism businesses while marginalising SMEs.

Concluding Remarks: Implications & Limitations

The media discourse on the travel ban on St Martin Island presents a multifaceted view of the challenges and considerations in tourism governance. This study reveals how tourism governance failures, socio-economic disruptions, and crisis-driven conservations have shaped the narrative around strategic risks and the fallout of travel ban on St. Martin Island. Environmental protection is a central theme in media narratives, but the socio-economic implications for local communities are also highlighted. While media discourse analysis provides valuable insights into public narratives and stakeholder perceptions, media reports may reflect journalistic bias or editorial agendas, influencing how the travel ban policy is presented. Despite these limitations, media discourse analysis remains an effective tool for understanding how tourism governance decisions are framed, contested, and interpreted in public discourse.

The findings of this study advance the scholarly discussion on strategic risk management in tourism by illustrating the consequences of reactive conservation policies. This study analysed only the news reports published in English and did not include government and industry reports, policy documents, or stakeholder interviews, which could provide additional perspectives. A notable gap exists in media reports and commentary around stakeholder engagements, environmental philosophy, socio-cultural contextualisation, and fostering a sense of ownership among visitors.

Conflicts of interest among tourism stakeholders and environmental fragility in an ECA such as St Martin Island resonate with the critical arguments in existing literature, which advocate strategic imperatives of environmental education to cultivate a sense of stewardship and conservation awareness among the tourism stakeholders (Cook et al., 2023; Albrecht et al., 2023). Future research could further explore i) how governance approaches and structures impact the community capitals of an ECA and ii) the challenges tourism stakeholders face in building the socio-economic resilience of the host community.

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Cross-cultural communication of tourism research (Paper#224)

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Abstract:

This study addresses cross-cultural communication of tourism research between English-as-native-language and English-as-foreign/second-language communities. A collaborative network analysis of 317 articles recently published in top English, Chinese, and Korean journals reveals cross-cultural communication of this corpus of knowledge across different language regions/countries. Findings from this research contribute to theoretical understandings of glocalization through contending factors such as academic mobilities, interdisciplinary trends, and bilateral relations at individual, community, and language-region levels. The study also sheds light on how glocalization manifests within English-as-native-language and English-as-foreign/second-language communities, and fosters collaborative environments that value diversity and inclusivity in academic tourism research and communication.

Keywords: Glocalization, cross-cultural communication, internationalization, localization, decolonization, English-as-native-language community, English-as-foreign/second-language community

1. Introduction

Science communication represents an interactive and ongoing process of information dissemination and knowledge exchange (Xiao et al., 2010), characterized by its cross-cultural, cross-linguistic, and cross-disciplinary nature. The widespread adoption of English as the predominant language for academic publishing, coupled with citation practices across languages, significantly enhances the dissemination of tourism knowledge beyond linguistic boundaries (Xiao, Xiao & Li, 2012). Furthermore, the ease of access to visiting scholarship opportunities, international research exchange programs, and the pursuit of graduate studies abroad has been facilitated by more accommodating immigration policies and border-crossing regulations. These developments substantially facilitate science communication on a global scale (Xiao et al., 2010).

2. Literature Review

In research communication, the production and dissemination of knowledge have evolved within the framework of glocalization. Often seen as the nexus of internationalization and localization of a field's study, glocalization has emerged across numerous disciplines (Pearce, 2014). In such a context, English serves as a lingua franca, while other languages actively participate, interact, and contribute to the formation of the international tourism studies communities.

Both English-as-native-language researchers and English-as-foreign/second-language academics engage in interaction and communication through shared journals and conferences. In the early stages of such communications, English-as-native-language researchers were often perceived as central figures in conferences or journals within their respective fields. However, as time progresses and fields evolve in maturity, the landscape of research communication has shifted. There has been a notable increase in the presence of English-as-foreign/second-language researchers who possess comprehensive training in paradigms, research methodologies, and significant research experience. In contemporary academic journals and conferences, English-as-native-language and English-as-foreign/second-language researchers collaborate interactively in the production and communication of tourism research.

3. Methodology

This study aims to explore the implications of English-as-native-language and English-as-foreign/second-language co-authors publishing tourism research in periodicals of different languages, this study draws on observations of journal publications from 2018 to 2022. The analysis focuses on five premier journals within their respective language communities: Annals of Tourism Research, Journal of Travel Research, and Tourism Management published in English, along with Tourism Tribune in Chinese and Journal of Tourism Sciences in Korean. By examining the collaboration networks among English-as-native-language and English-as-foreign/second-language authors publishing research in their preferred media (or language), this study seeks to explore whether co-authorships formed in the selected journals exhibit characteristics of tribes or circles, indicative of cross-cultural communication in tourism studies. Such inquiries contribute to the understanding of glocalization of the field, particularly in terms of research communication and knowledge development.

4. Results

Based on the above observations, glocalization is found operating through two main pathways. One involves local validation and application of global knowledge, and the other is manifested in the globalization of local knowledge.

Multiple factors at individual, community, and language-region levels contribute to glocalization. At the individual level, researcher mobilities and professional networks facilitate cross-cultural communications, thus promoting glocalization. At the community level, interdisciplinary trends and journal strategies are drivers of cross-cultural communications. At the language-region level, bilateral relations between two countries can facilitate cross-cultural communications.

5. Discussion and Implications

Glocalization underscores dynamic interactions between global and local perspectives, highlighting the importance of both adapting global knowledge to fit local needs and recognizing the global significance of locally generated insights. This approach not only fosters effective communication across cultures but also promotes a more inclusive and nuanced understanding of shared global challenges, issues and solutions.

This study holds significant theoretical and practical implications. Theoretically, the findings underscore how glocalization operates in tourism research through localized validation of global knowledge and globalization of local knowledge. This highlights the dynamic interaction between global and local contexts in shaping contemporary tourism research. It suggests that adapting global theories and methodologies to local settings enhances their applicability and validity, and thereby enriches the global discourse with diverse perspectives and insights.

Practically, this study also contributes to the practicing of tourism research. Implications include the enhancement of research quality through cross-cultural collaborations. By integrating insights from both native and non-native English speakers, researchers can produce findings that are not only academically rigorous but also relevant and applicable across different cultural contexts. Collaborations promote mutual learning and respect among researchers from diverse cultural backgrounds, fostering a collaborative environment where diverse perspectives are valued, leading to richer academic discussions and more inclusive outcomes.

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Examining the Business Case for Governance Bundles in Firms' Environmental and Social Practices (Paper#156)

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Abstract:

We examine the role of national and corporate governance (G) as an enabler in creating business cases for firms' environmental (E) and social (S) practices based on institutional and legitimacy theories. G's varying effects on the E(S)-firm performance relationship emphasize coordinated efforts at both the national and corporate levels.

Keywords: ESG, governance bundles, firm performance, tourism and hospitality firms, investors' perspective, consumer perspective

1. Introduction

The proposal for Environmental (E), Social (S), and Governance (G) (ESG) came from a collaborative effort between the United Nations (UN) and the financial industry (Pollman, 2024). While its importance has grown significantly over time, ESG has not been without controversy, facing challenges such as greenwashing accusations and political affiliations. Amidst these debates, we focus on G's role within ESG. The Who Cares Wins report explicitly states that G is a crucial component of ESG, providing legitimacy and structural support for firms' environmental and social practices.

Notably, ESG was, from the beginning, designed to attract investors rather than being purely ethically motivated. Given this investor-driven perspective, our study examines the role of corporate governance (CG)'s subdimensions (CGs) in creating business cases for firms' E(S) practices through the lens of legitimacy theory (Dowling & Pfeffer, 1975). Furthermore, ESG concerns vary across regions and industries, necessitating an institutional theory approach (North, 1990) to the national governance (NG) level. Therefore, we examine the moderating role of G at both the NG and CG levels, specifically their subdimensions (NGs and CGs), on E and S' separate impacts on firm performance (FP) to address a critical gap of examining multi-level G in the tourism and hospitality ESG literature.

This approach provides practical insights for firms by explaining how G bundles operationally influence E(S) strategies and how this influence translates into financial performance. Furthermore, our study examines FP with two different measures, Tobin's Q (TQ) and revenue (REV), each reflecting investors' and consumers' perspectives, respectively. By offering practical guidance for firms and countries with diverse G structures, we contribute to the ESG and strategic management literature, clarifying G's distinct role in enabling effective ES practices.

2. Literature Review

2.1. NGs' Moderating Role

We build on institutional theory to explain the external influence of NG on the E(S)-FP link. Specifically, we argue that NG structures set the institutional context influencing corporate ES practices' attractiveness to investors. We use the NGs provided by the London Stock Exchange Group (LSEG) data: business rights, corruption, democratic life, political effectiveness, political stability, rent dependency, and security scores.

We propose NGs' negative impact on the E(S)-FP relationship with FP measured by TQ. At low levels of NG (e.g., weak institutions, high corruption, or political instability), firms may engage in E(S) practices to mitigate risks and compensate for government failures in addressing social needs. In these environments, investors may reward firms with strong E(S) strategies to reduce exposure to governance-related risks. Firms may, therefore, increase their E(S) efforts to signal to investors that they are proactively mitigating risks stemming from a lack of government support or oversight and signaling legitimacy, which, in turn, could enhance market valuation. However, as NG improves and stabilizes, the effect of E(S) practices on FP may diminish as firms no longer need to compensate for institutional weaknesses. Investors might see E(S) engagement as an extensive measure that is not crucial to the firm, leading to the diminishing E(S) impact on FP. Moreover, in excessively stringent NG environments (e.g., highly bureaucratic states with extreme political stability), firms may face inefficiencies or regulatory overreach that hinder growth and reduce market valuation. In these cases, E(S) practices may become burdensome or costly, leading to diminishing or even negative returns on FP. This suggests that while NGs initially enhance the E(S)–FP relationship when they are weak, they become less effective—or even counterproductive—once strengthened.

When REV measures FP, we expect different effects of NGs due to differences in consumer and investor perspectives. Investors tend to focus on long-term potential, whereas REV reflects short-term consumer behavior. In countries with weaker NGs, consumer spending ability is constrained, reducing firms' financial gains from consumers. Thus, we expect a positive linear relationship between NGs and REV in countries with strong NGs (i.e., those with high democratic life, business rights, political stability, policy effectiveness, and security). Conversely, in countries with weak NGs (i.e., high corruption or political instability), NGs are likely to negatively affect the E(S)–FP relationship.

2.2. CGs' Moderating Role

Legitimacy theory explains that organizations must meet society's expectations and norms to maintain legitimacy. CGs can moderate the E(S)-FP relationship by ensuring that these practices are part of the firm's strategies, strengthening legitimacy and enhancing FP. LSEG's CGs are firms' management, shareholder care, and CSR scores.

We propose that management positively moderates the E(S)-TQ relationship. Investors will likely view effective management as a strong governance mechanism, signifying strong leadership and board effectiveness, thereby enhancing the legitimacy of firms' E(S) practices and improving FP. However, when REV measures FP, we expect the impact to be insignificant. This is because strong management does not necessarily influence consumers' purchasing decisions, thus providing no additional legitimacy on E(S) performance that leads to REV improvement.

Similarly, we anticipate a positive moderating effect of shareholder care on the E(S)-TQ link but an insignificant effect on E(S)-REV. When investors see their interests being well-managed, they may feel reassured and reward the firm's E(S) practices. For consumers, however, shareholder care may appear irrelevant to their own interests. This perception can lead to no improvement in the relationship between E(S) and REV.

Lastly, while CSR strategies may align well with the firm, they can represent a double burden: a redundant cost in resource allocation for sustainability practices that negatively impacts E(S)'s effect on FP or a potential synergy with E(S) efforts leading to improved FP. This duality can complicate how both investors and consumers perceive the firm's CSR strategies, as they may align with their values or be seen as an unnecessary expense. As such, we posit that the moderating effects are likely to be insignificant for both performance measures.

3. Methodology

Our study gathers data from the LSEG dataset, focusing on both firm-specific and national data. The analysis covers the years from 2002 to 2023, yielding a total of 1,971 observations after removing outliers. The industries analyzed include hotels, casinos, food and beverage, airlines, and cruises, comprising 271 firms from 39 different countries. Our two dependent variables measuring FP are TQ and REV. Our independent variables are environmental and social scores, with NGs and CGs serving as moderators. We also included leverage, REV (when the dependent variable is TQ), TQ (when the dependent variable is REV), and total assets as control variables.

Our research utilized panel analysis techniques. Based on the results of the Hausman test, we determined whether to employ a fixed-effects or random-effects model as our primary econometric method. In both models, we controlled year effects by incorporating year dummies.

4. Resultsa

The study's findings show almost identical results with the E and S scores as independent variables, examined separately. It shows that while NGs do not show significant impacts as moderators in the E(S)-TQ relationship, rent dependency shows a negative, and democratic life shows a positive effect on E(S)-REV. Additionally, business rights have a positive and significant impact on S-REV. As for CGs, shareholder care is the only one that has a positive moderating impact on E-TQ while for S-REV, management shows a negative moderating impact.

5. Discussion and Implications

The findings show mostly insignificant impacts of NGs on the relationship between E(S) -FP. This shows the need to further investigate the E(S)-FP relationship by country, as the varying effects per country can lead to insignificance overall. As for CGs, it shows that consumers' and investors' perspectives differ on firms' E(S) effect, with shareholders and management showing different results.

Our study highlights the importance of examining G at both national and firm levels and its complex influence on E(S) practices, particularly in enhancing their business case. By analyzing G and its subdimensions at both levels, we offer practical guidance for countries and firms with varying governance backgrounds to effectively translate E(S) practices into financial gains. Our study contributes to the ESG and strategic management literature by clarifying G's role and mechanisms in facilitating E(S) efforts to achieve financial gains.

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Theme: Food & Dining Behaviors

The Food Literacy Influence through Healthy Diet Practice on Sustainable Diet Practice (Paper#132)

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Abstract:

Dietary is one of the important topics to improve the sustainability problem. This study tried to find out how to improve the sustainable diet practice, that from the food literacy influence through the healthy diet practice by using on-line questionnaires. The result found the Taiwan resident had the phenomenon that healthy diet practice mediated the positive effects through the food literacy to sustainable diet practice. While government departments and organizations improve the citizen's food literacy and healthy diet practice, the sustainable diet practice can be improved to make the environment and sustainability better.

Keywords: Food Literacy, Healthy Diet Practice, Sustainable Diet Practice

1. Introduction

The global warming and climate changing are getting worse, the ESG (Environment, Social, Government) topics become seriously and needed people to pay attention. Since the United Nations in 2015 declared the SDGs (Sustainable Development Goals) with 17 goals and 169 targets (UNSC, 2015), the related organizations and specialists have directions to work on. Although it has almost 330 indicators, but the real measurements are ambiguous and need to improve (Hák et al., 2015). The one of most closed topics to human being is daily dietary, and how to combine the dietary actions with SDGs is the main issue.

Food is the essential for healthy growth and development in enhancing the quality of life (Vidgen & Gallegos, 2014), but food overconsumption is the main cause of environmental degradation in industrial countries (Tanner & Kast, 2003). Currently the frequently concerned content in dietary is healthy diet and the related content almost from the guideline of WHO (World Health Organization) (WHO, 2024). How to carry on the healthy diet and sustainable diet at the same time? Or is it possible to improve healthy diet then the sustainable diet also be improved in the end? Or if we try to enhance sustainable diet, the healthy diet will not be weakened? Even though people know the healthy dietary in daily life, they have very limited knowledge about animal welfare or environmental sustainability (Ronto et al., 2016) and the way they eat is unsustainable (Renwick & Smith, 2020).

Food literacy is the ability to plan and manage daily dietary, select and prepare food, then eat (Vidgen & Gallegos, 2014). At the beginning, food literacy had gained the importance in food and nutrition, and became a key part of healthy literacy in health promotion (Vidgen & Gallegos, 2014; Krause et al., 2016; 2018). Then it was discussed as a key determinant of sustainability of well-being (Palumbo, 2015). Soon it was combined with ecologic to food decision (Perry et al., 2017). Finally, it had the chance to derived to sustainable food literacy (Teng & Chih, 2022). Food literacy's broaden definitions have many possibilities to improve the dietary practices of healthy diet and sustainable diet.

This research tried to prove the relationships of food literacy, healthy diet practice and sustainable diet practice. At the same time, it could also observe the Taiwan resident's demographics if have significant differences with our variables or not. To find out more suggestions and actions to improve the ESG status, and if these match the SDGs, they will bring the new business opportunities (Pedersen, 2018).

2. Literature Review

2.1. Food Literacy

Most using food literacy to publish research papers are high-income countries with a relatively high-level dietary of their citizens (Thompson et al., 2021). That has no unified and fixed definition of food literacy caused from scholars have continuously added new categories. In Truman et al., paper (2017), there are 38 definitions until 2015. In Thompson et al., paper (2021), they summarized 51 definitions until 2019. The most cited definition is from Vidgen & Gallegos' paper (2014). They based on the Constructivist Grounded Theory to organized four constructs of food literacy abilities as plan and manage, select, prepare and eat, representing core dietary components as knowledge, skills, attitudes and behaviors. In Truman et al., (2017) reviewed paper, they summarized six constructs to form one of the most complete definition of the food literacy as skills/behaviors, food/health choices, knowledge, emotions, culture and food system. In Perry et al., scoping review paper (2017), they summarized another six constructs of food literacy as food skills, food and nutrition knowledge, self-efficacy, confidence, ecology and food choice. Afterwards, the development of the food literacy measure has flourished.

The early food literacy studies focused on the definition and content of nutrition and health; later they extended to the intervention of diet practice; recently, they try to have the relationship with sustainability (Vidgen & Gallegos, 2014; Krause et al., 2016; Palumbo, 2016). From many scoping reviewed studies, almost food literacy research papers showed the content and results concerning with healthy diet in early stage, and in the past decade, more and more papers try to modify the direction with environment and sustainability (Vidgen & Gallegos, 2014; Palumbo, 2016; Krause et al., 2016; Truman et al., 2017; Perry et al., 2017; Krause et al., 2017; Park et al., 2020; Thompson et al., 2021; Teng & Chih, 2022). From above studies, we could

find the food literacy outcoming the healthy diet practice and also the sustainable diet practice. Reference with Knowledge Attitude Practice theory and Theory Plan Behavior, the food literacy has the components of knowledge, attitude and plan to affect practice and behavior, then it could come out the hypothesis:

H1: The food literacy has a positive effect on the healthy diet practice.

H2: The food literacy has a positive effect on the sustainable diet practice.

2.2. Healthy Diet Practice and Sustainable Diet Practice

Some originally healthy food was merged with sustainable food, for example, that seasonal and local food are in healthy food field caused from fresh and also in sustainable food field caused from saving conservation and transportation. Another situation that processed food is unhealthy food by additive and also unsustainable food by resource consumption during manufacturing. However, is healthy diet equal to sustainable diet? Some healthy food has lower greenhouse gas emissions (GHGE) that is sustainable food, but some healthy food has higher GHGE that is not sustainable food. And most people didn't have enough knowledge to distinguish their differences (Macdiarmid, 2012). So, healthy food is not equal to sustainable food even though they have very similar treatment recently. Some sustainable diet studies want to keep healthy diet at the same time. For example, organic or green food is the food materials with lower pesticide during grown-up, it matches the healthy food and then ensures the environmental protection (Chang & Yen, 2011); Low-carbon food is based on the healthy point of view to reach the environment sustainability (Wang et al., 2013). According to above information, it could assume the hypothesis:

H3: The healthy diet practice has a positive effect on the sustainable diet practice.

Changing dietary patterns and food choices could reach the healthy diet and environmental diet at the same time (Macdiarmid, 2013). Although it is complexity for the definition of healthy diet and sustainable diet, the ability to make the decision changing, like food literacy, maybe could let the situation happened. It is also possible to carry on the food sustainability through nutrition food security by governance (Garnett, 2012), then it could get the hypothesis:

H4: The healthy diet practice mediates a positive effect between the food literacy influencing the sustainable diet practice.

3. Methodology

Figure 1. Research Flow Chart

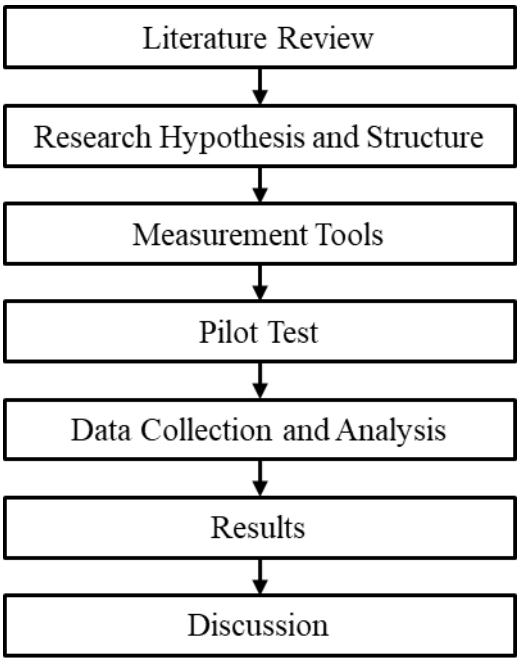
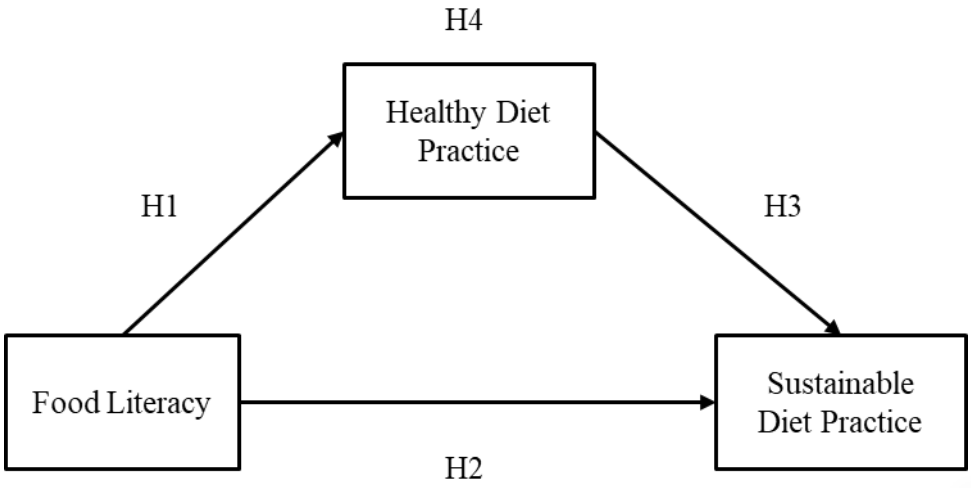


Figure 1 shows the research flow, after the literature reviewed and came out the hypothesis, then tried to forming the questionnaire measures with four experts. After pilot test to verify the measures, it was starting the data collecting and data analysis. According to hypothesis in literature review that defined the food literacy as independent variable, the sustainable diet practice as dependent variable and the healthy diet practice as mediation variable. Then drawing the research structure as figure 2.

Figure 2. Research Structure



3.1. Measurement

All the measures' items and their descriptions were all reviewed by author and director with four experts of highly related field background, and the translation work was referenced using google translation on line and reviewed by director.

Food Literacy (FL). The definition of food literacy here was having the food knowledge and skills with confidence and concerning about the health and sustainable ecology to make food decision. The measure's 14 items were based on the SFLQ (Short Food Literacy Questionnaire) of Krause et al. (2017), and increasingly selected some sustainable items from measure of Park et al. (2020); at last referenced of Luo et al. (2018) measure related to Taiwan society conditions. The measure was using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Healthy Diet Practice (HDP). The definition of healthy diet practice here was the daily diet implementation focusing on balanced nutrition, maintaining health and preventing disease. The measure's 9 items were based on the Taiwan national diet 12 indicators published by the Health Promotion Administration (HPA) of the Ministry of Health and Welfare (HPA, 2024), and also referenced the measure of diet behavior by HPA (Chen, 2015); at last modified by the expert article on the same government organization in 2018, "Healthy diet: 3 more, 3 less, 3 balanced to protect health". The measure was using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Sustainable Diet Practice (SDP). The definition of sustainable diet practice was the daily diet implementation focusing on organic and low-carbon, green ecology, and environmental sustainability. The measure's 9 items were based on the study of Wang et al. (2013), and referenced the studies of Chang & Yen (2011) and Tanner & Kast (2003). The measure was using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

3.2. Data collection

The demographic variables were decided as gender, age, education level, job style, monthly disposable income, family status and resident area. Data analysis software was using IBM SPSS (International Business Machines Statistical Program for Social Science) Ver. 22 and JASP (Jeffreys's Amazing Statistical Program, Version 0.19.1, 2024). The pilot test was carried on using intention method to distribute the on-line questionnaire to the graduated student of Department of Hospitality Management, Tunghai University, and their friends, that they may have relative higher dietary literacy. The replied copies were 220, and the effective copies were 207, the effective replied rate is 94.09%. The measures' reliability and exploratory factor analysis (EFA) was calculated (Table1). From table 1, the KMO (Kaiser-Meyer-Olkin) index numbers were all higher than 0.8, and Bartlett's test p value were significantly all lower than 0.001. Principal component analysis was used for factors with an eigenvalue above 1, and the factor loading of items were all higher than 0.5 excluding one item of sustainable diet practice. Since all the

others numbers were in specification, we decided to keep the item of sustainable diet practice. The cumulative explained variations were higher than 50%, and the values of Cronbach α were all more than 0.7. The measures of three variables were all acceptable.

Table 1.
Note: N = 207; FL = food literacy; HDP = healthy diet practice; SDP = sustainable diet practice.

Variable	Items	KMO	Bartlett's test			Cumulative explained variation	Factor loading	Cronbach α
			χ^2	df	p			
FL	14	0.864	1308	91	<0.001	60.05%	0.605~0.832	0.891
HDP	9	0.885	973	36	<0.001	67.55%	0.713~0.895	0.896
SDP	9	0.852	703	36	<0.001	59.37%	0.447~0.861	0.837

The data collection was using snowball method, and the on-line questionnaire was distributed by communication software. Since the pilot test questionnaires were the same, we combined all the samples. The total samples were 725. The measures' reliability, confirmatory factor analysis (CFA), Pearson coefficient correlation, discriminate analysis of demographics, and the structural equation model (SEM) of hypothesis were calculated.

4. Results

4.1. Profile of the respondents

Table 2 shows the profile of the questionnaire respondents. According to the above data, most respondents were female (70.2%), aged 30~64 (80.7%), and education level at college or university (62.9). The largest group in job style was office worker (43.9%). They mostly had monthly disposable incomes between $20,001~$60,000 NTD (63.6%) and family statuses were married with children (61.7%). The resident area was cities (57.9%).

Table 2.
Demographic Descriptive Statistics (N = 725)

	N(%)
1. Gender	
Male	216(29.8)
Female	509(70.2)
2. Age	
Under 19	22(3.0)
19~29	62(8.6)
30~49	336(46.4)
50~64	249(34.3)
64 above	56(7.7)
3. Education	
~High school	139(19.2)
College or University	456(62.9)
Graduate~	130(17.9)
4. Job style	
Military, civil servant, and teacher	90(12.4)
Office worker	318(43.9)
Shift system	22(3.0)
Freelance	118(16.3)
Student	40(5.5)
Housekeeper and retiree	137(18.9)
5. Monthly disposable income (NTD)	
Under ~$20,000	117(16.1)
$20,001~$40,000	266(36.7)
$40,001~$60,000	195(26.9)
$60,001~$80,000	70(9.7)
$80,001~Above	77(10.6)
6. Family statuse	
Single or living alone	76(10.5)
Unmarried or living with parents	104(14.3)
Married with no children	39(5.4)
Married with children	447(61.7)
Three generation or large family	59(8.1)
7. Resident area	
Cities	420(57.9)
Counties	303(41.8)
Outer islands or overseas	2(0.3)

Note: $1 USD is about $30 NTD (New Taiwan Dollar)

4.2 Confirmatory factor analysis

The research structure model fit was examined by CFA. Healthy diet practice and sustainable diet practice were combined as 2-factors model, and three variables were combined together as 1-factor model. The χ^2 value is as lower as good, and the 3-factors' χ^2 /df was 5.645, that higher than 2-factors' 6.009 and 1-factor's 7.838. 3-factors' CFI, TLI and GFI were all in acceptable level (ranging 0.7~0.9), RMSEA and SRMR were all lower than 0.08 in good level, and they were all better than 2-factors' and 1-factor's data. So, the 3-factors model was proved suitable for our hypothesis, especially healthy diet practice and sustainable diet practice were better to separate. About the factor loading, the food literacy measure had three items that were lower than 0.5 (ranging 0.426~0.734), the sustainable diet practice measure had one item that was lower and 0.5 (ranging 0.345~0.752), and the healthy diet practice measure item were all higher than 0.5 (ranging 0.560~0.760).

Table 3.
Model fit indices of CFA

Model	χ^2	df	p	CFI	TLI	GFI	RMSEA	SRMR
3 Factors	2602.194	461	<0.001	0.808	0.793	0.794	0.080	0.062
2 Factors	2782.188	463	<0.001	0.792	0.777	0.785	0.083	0.064
1 Factor	3636.614	464	<0.001	0.716	0.696	0.700	0.097	0.076

Note: N = 725; CFI = comparative fit index; TLI = Tucker Lewis index; GFI = goodness of fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual.

4.3 Hypothesis testing

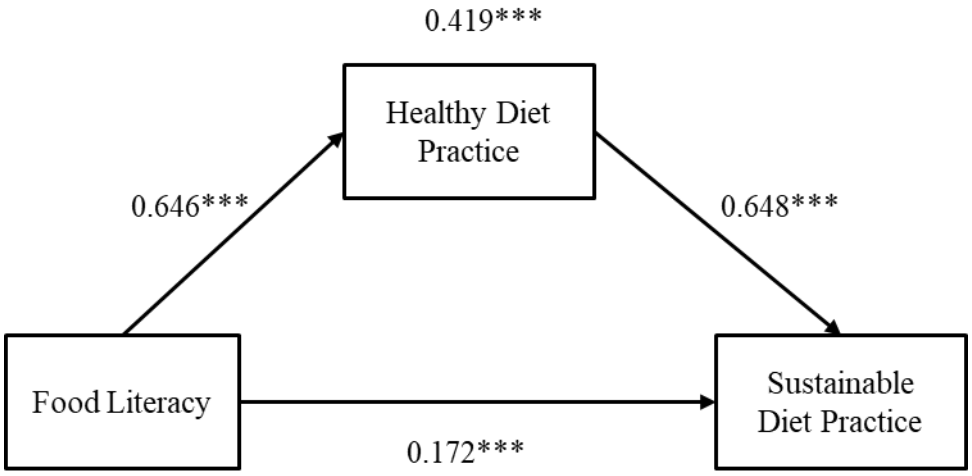
From JASP SEM calculation results, food literacy had the positive correlation to healthy diet practice (β = 0.646, $p < 0.001$, CI [0.578, 0.706]) and the H1 supported; food literacy had the positive correlation to sustainable diet practice (β= 0.172, $p < 0.001$, CI [0.102, 0.249]) and the H2 supported; healthy diet practice had the positive correlation to sustainable diet practice (β= 0.648, $p < 0.001$, CI [0.573, 0.710]) and the H3 supported. About the mediation, the path from food literacy through healthy diet practice to sustainable diet practice was positive effect (β= 0.419, $p < 0.001$, CI [0.362, 0.488]) and the H4 supported. Redraw the research structure as figure 3.

Table 4.
SEM data of research structure

Hypothesis	Estimate	SE	p	95% CI		Result
				Lower	Upper	
H1 FL→HDP	0.646	0.033	<0.001	0.578	0.706	Support
H2 FL→SDP	0.172	0.037	<0.001	0.102	0.249	Support
H3 HDP→SDP	0.648	0.034	<0.001	0.573	0.710	Support
Mediation						
H4 FL→HDP→SDP	0.419	0.030	<0.001	0.362	0.488	Support

Note: N = 725; SE = Standard error; CI = Confidence interval, bias-corrected and 1000 bootstrap samples.

Figure 3 Research structure paths result



5. Discussion and Implications

5.1. Discussion

This study is one of the first research to measure food literacy with both healthy diet practice and sustainable diet practice, and explores the mediation effect of healthy diet practice. The results showed food literacy had the strong and significant positive effects to healthy diet practice, and healthy diet practice also had the strong and significant positive effects to sustainable diet practice. The direct path from food literacy to sustainable diet practice was lowered but significant because the partially mediation and indirect path by healthy diet practice was strongly and significantly supported. Then the total effect of food literacy had positive effects to sustainable diet practice was still strong and significant. All the hypothesizes were successfully supported.

Food literacy will lead to sustainable diet practice to enhance ESG status or improve to reach SDGs, and it seems healthy diet practice will increase the phenomenon. Although many studies support or imply to combine healthy diet and sustainable diet (Chang & Yen, 2011; Wang et al., 2013; Cullen et al., 2015; Park et al., 2020; Teng & Chih, 2022), in this study's result that separated these two practices was better (Macdiarmid, 2012).

5.2. Academic and practical implications

From the result, the people with higher level of food literacy would have higher possibility to execute healthy diet practice and sustainable diet practice, and this matched most food literacy studies' descriptions (Vidgen & Gallegos, 2014; Palumbo, 2016; Krause et al., 2016; Truman et al., 2017; Perry et al., 2017; Krause et al., 2017; Park et al., 2020; Thompson et al., 2021; Teng & Chih, 2022). Although most people didn't know the detail definitions of healthy food and sustainable food (Macdiarmid, 2012), they were thinking these two kinds of food maybe had strong connection or even the same (Cullen et al., 2015; Kabasakal-Cetin et al., 2024), but actually refer this study's result that they are different (Macdiarmid, 2012). And then, it has more possibility with these three variables.

So, food literacy could influence the sustainable diet practice through healthy diet practice. Because Taiwan resident's food literacy and healthy dietary level were not so high (mean values all below 4 a little bit), government departments and related organization should try to promote the level of food literacy and healthy diet, then sustainable diet would be higher to improve the greenhouse gas emission situation. That was really excited to find a way to improve the environment and sustainability through daily dietary.

5.3. Limitations of this study and suggestions for future research

The healthy diet practice measure items were mostly come from Taiwan HPA suggestion of civil health dietary, it should be reviewed carefully to be used in other regions. The research results all come from Taiwan resident, it also should be discussed to applied in other regions. According to research data, the three measures still had the space to improve for Taiwan people. Specially to define more clear and suitable practical contents for healthy food and sustainable food for everyone to improve the climate change and health every day.

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Food Eating Videos and Tourism: A Digital Gateway to Culinary Exploration (Paper#109)

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Abstract:

This study examines the impact of online food-eating videos, particularly Mukbang, on tourism in Malaysia. Analysing content from Malaysian food influencers, it explores how sensory-rich presentations influence tourist motivations and destination branding. Findings reveal that engaging digital food content enhances culinary tourism interest, reinforcing Malaysia's appeal as a prime food destination.

Keywords: Mukbang, Culinary Tourism, Destination Branding, Food Influencers, Digital Marketing

1. Introduction

The rise of digital media has reshaped food tourism, with Mukbang videos becoming a powerful trend. Originally from South Korea, Mukbang now attracts millions of views globally, influencing food choices and travel decisions. In Malaysia, a country rich in culinary diversity, food influencers play a key role in promoting local cuisine. Research shows that digital food content influences over 60% of travellers' dining choices (UNWTO, 2022), yet little is known about its direct impact on tourism motivation and destination branding. Existing studies focus on social media marketing and food culture but lack insight into how Mukbang drives tourism interest. Addressing this gap, the objective of this study is to analyse the influence of Mukbang videos on Malaysia's culinary tourism, specifically examining the role of influencers in shaping destination branding and identifying the factors driving viewer engagement and travel motivation.

2. Literature Review

The literature on Mukbang, culinary tourism, digital marketing, and destination branding provides a foundation for understanding how food-eating videos influence tourism behaviour. This review critically evaluates key themes to establish a conceptual framework and develop research hypotheses.

2.1 Digital Food Media Consumption and Tourism Motivation

Frequency of exposure to digital food content significantly influences travel interest. Regular engagement with food-related videos enhances viewer familiarity and curiosity about featured destinations, motivating tourism decisions (Kim, Lee, & Kim, 2020). According to the UNWTO (2022), digital content influences over 60% of travellers' food-related decisions, indicating a robust connection between digital media consumption and tourism motivation.

H1: Viewing frequency of food-eating videos positively influences tourism motivation.

2.2 Influencer Credibility and Tourism Motivation

Influencer credibility significantly impacts audience trust, engagement, and decision-making. Influencers perceived as authentic and knowledgeable elevate the perceived value of food experiences, thus strengthening interest in culinary tourism destinations (Magno & Cassia, 2018). Credible influencers serve as effective ambassadors, making their content instrumental for destination branding.
H2: Influencer credibility positively influences tourism motivation.

2.3 Sensory Appeal and Tourism Motivation

Sensory marketing highlights the role of visual and auditory stimuli in enhancing consumer experiences (Seo & Yun, 2015; Krishna, 2020). Mukbang videos utilize high-definition visuals and detailed food descriptions, creating multi-sensory experiences that amplify emotional engagement and heighten viewers' desire for authentic culinary exploration.

H3: The sensory appeal of Mukbang videos positively influences tourism motivation.

2.4 Perceived Authenticity and Tourism Motivation

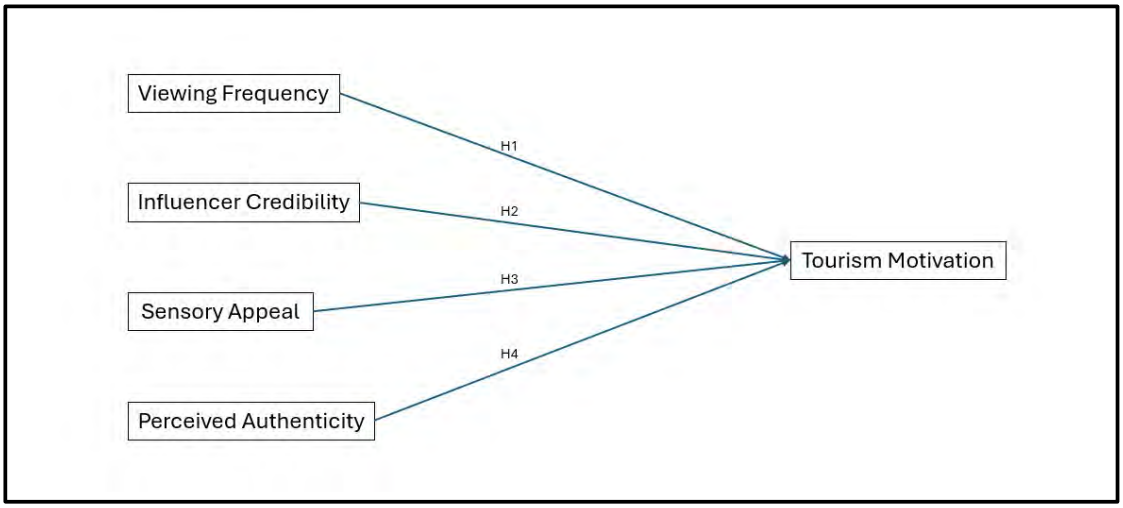
Authenticity plays a pivotal role in cultural branding and destination marketing (Cohen & Avieli, 2020). Mukbang videos that showcase genuine, unfiltered food experiences create a stronger emotional connection, reinforcing viewers' trust in the represented culinary culture (Deori, 2023). Travelers are more likely to visit destinations that offer real, culturally immersive food experiences (Batat, 2021).

H4: Perceived authenticity of food-eating videos positively influences tourism motivation.

2.5 Conceptual Framework

The conceptual framework integrates viewing frequency, influencer credibility, sensory appeal, and perceived authenticity as independent variables influencing tourism motivation. Regular viewing of food videos enhances travel interest (Kim, Lee, & Kim, 2020). Influencer credibility shapes audience trust and destination choices (Magno & Cassia, 2018). Sensory-rich content heightens viewers' desire for culinary exploration (Seo & Yun, 2015), while perceived authenticity positively affects travel intentions (Sims, 2009). Collectively, these factors determine culinary tourism motivation within Malaysia.

Figure 1. Conceptual Framework



3. Methodology

This study employs a quantitative research approach to examine the relationship between Mukbang videos and tourism interest in Malaysia. A survey-based method was used to gather measurable data on how viewers engage with food-eating videos and how this engagement influences their tourism motivation.

3.1 Research Design

A cross-sectional survey was conducted to collect data from individuals who regularly watch Mukbang and food-related digital content. The survey measured key factors such as viewing behaviour, influencer credibility, sensory appeal, perceived authenticity, and tourism interest in Malaysia.

3.2 Data Collection Method

A structured questionnaire, based on validated scales from previous studies, was used to examine the influence of Mukbang videos on tourism motivation. Data were collected through online surveys shared on social media and travel forums, using random sampling to reach both local and international Mukbang viewers. A minimum sample of 400 respondents was targeted for statistical reliability.

3.3 Measurement of Variables

The questionnaire utilized a 5-point Likert scale to measure key variables influencing tourism motivation through Mukbang videos. It assessed viewing frequency, influencer credibility, sensory appeal, and perceived authenticity, examining their impact on respondents' likelihood to travel for culinary experiences. These factors were designed to capture audience perceptions and engagement with food-eating content.

3.4 Analytical Methods

Descriptive statistics were used to summarize respondent characteristics, while Cronbach's Alpha assessed the reliability of measurement items. Pearson's correlation tested relationships between key variables, and multiple regression analysis examined how Mukbang engagement predicts tourism motivation. These analyses ensured the validity and strength of the study's findings.

4. Results

The survey collected responses from 400 participants, consisting of domestic (45%) and international (55%) viewers of Mukbang videos. The majority of respondents were aged 18–34 (65%), indicating that younger demographics are more engaged with food-eating content.

Table 1. Respondent Demographics

Variable	Frequency (n)	Percentage (%)
Gender (Male)	180	45%
Gender (Female)	220	55%
Age 18–24	160	40%
Age 25–34	100	25%
Age 35–44	80	20%
Age 45+	60	15%

Table 2: Reliability Analysis (Cronbach's Alpha)

Construct	Items	Cronbach's Alpha
Viewing Frequency	4	0.82
Influencer Credibility	5	0.88
Sensory Appeal	4	0.85
Perceived Authenticity	5	0.81
Tourism Motivation	4	0.87

Table 3: Correlation Matrix

Variable	1	2	3	4	5
1. Viewing Frequency	1.00				
2. Influencer Credibility	0.56**	1.00			
3. Sensory Appeal	0.48**	0.60**	1.00		
4. Authenticity	0.50**	0.58**	0.62**	1.00	
5. Tourism Motivation	0.63**	0.65**	0.59**	0.70**	1.00

Note: $p < 0.01$ indicates statistical significance.

Table 4: Regression Analysis Results

Predictor Variable	Beta Coefficient (β)	t-value	p-value	VIF
Viewing Frequency	0.32	4.98	<0.001	1.24
Influencer Credibility	0.28	4.12	<0.001	1.45
Sensory Appeal	0.22	3.87	<0.001	1.32
Perceived Authenticity	0.39	5.22	<0.001	1.18

Key Findings:

• Perceived authenticity ($\beta = 0.39$, $p < 0.001$) had the strongest impact on tourism motivation, indicating that viewers are more likely to visit Malaysia if they perceive the food content as culturally authentic.

• Viewing frequency ($\beta = 0.32$, $p < 0.001$) was the second most significant factor, showing that regular exposure to Mukbang videos increases travel interest.

• Influencer credibility ($\beta = 0.28$, $p < 0.001$) and sensory appeal ($\beta = 0.22$, $p < 0.001$) also had positive and significant effects on tourism motivation.

5. Discussion and Implications

The findings highlight authenticity as a crucial factor driving tourism interest, emphasizing that genuine and culturally representative food content is particularly effective. Additionally, regular exposure to Mukbang significantly enhances viewers' travel intentions, confirming its value in destination marketing strategies. Influencer credibility and sensory appeal further amplify audience engagement, suggesting that digital food content is highly beneficial for promoting Malaysia's culinary tourism.

5.1 Comparison with Previous Studies

This study aligns with previous research on digital media's impact on tourism behaviour, confirming that Mukbang videos enhance travel motivation through visual appeal and authenticity (Kim et al., 2020; Choe & Kim, 2018). Unlike Seo & Hyun (2022), who suggested Mukbang may deter health-conscious travellers, our findings show that cultural authenticity and credible influencers strengthen destination branding. Additionally, this study builds on Wong and Lai (2021) by highlighting the crucial role of influencer credibility in driving tourism interest, emphasizing the value of strategic collaborations between tourism boards and digital food creators.

5.2 Academic Implications

This study expands digital tourism theory by showing how Mukbang engagement influences tourism interest. It highlights authenticity as a key factor in destination branding (Cohen & Avieli, 2021) and reinforces the role of sensory appeal in stimulating curiosity about food tourism.

5.3 Practical Implications

The findings highlight Mukbang videos as a powerful tool for tourism marketing, suggesting that Malaysian tourism boards can leverage influencers to attract food tourists. Collaborating with credible food influencers and creating authentic, sensory-rich content can enhance Malaysia's culinary image and increase travel interest.

5.4 Limitations

This study is limited by its cross-sectional design, self-reported data, and focus on Malaysia, restricting generalizability.

5.5 Future Research Directions

Future studies should explore long-term effects, experimental methods, cross-cultural comparisons, and sustainability concerns in Mukbang tourism.

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Fixed or Percentage-Based? A Field Experiment Study of Restaurant Tipping in Taiwan (Paper#009)

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Abstract:

This study examines the relationship between satisfaction and tipping behavior in the Taiwanese food and beverage industry. It analyzes four types of tipping methods to gain an in-depth understanding of the Taiwan tipping benchmarks. The results show that higher satisfaction correlates with a consumer's tipping intentions, especially with fixed tip options. These findings offer insights for developing tipping systems and business strategies.

Keywords: Tipping, Satisfaction, Consumers' tipping intentions

1. Introduction

The tipping culture has developed into a stable system under long-standing social norms in Europe and the United States. However, as Taiwan lacks similar regulations, its citizens generally do not possess the awareness or habit of tipping (Hsiao et al., 2018). Consequently, when tipping culture was introduced to Taiwan, many restaurants replaced tipping with service charges or increased menu prices to ease the risks of relying on tips to pay employee wages (Lynn, 2016). As service charges increase the perceived cost of dining, individuals sensitive to price generally oppose mandatory fees (Lynn, 2016; Lynn, 2018) and show preferences for voluntary tipping systems.

Labor shortages in the food and beverage industry have become increasingly severe in recent years. To attract and retain skilled service staff, restaurant operators have adopted tipping systems as a form of performance-based rewards (Lynn, 2018). Tipping represents a relatively flexible economic behavior where consumers evaluate their overall dining experience through interactions with the physical environment, service quality, and restaurant staff and independently decide the amount of tips to give (Lin & Mattila, 2010; Lynn, 2006). Among the

key factors influencing tipping behavior are satisfaction with ambiance, food, and service (Wang, 2010). In addition, tipping systems can effectively increase the income of restaurant staff (Chung & Heung, 2007) and motivate employees to provide higher-quality service (Lynn, 2018). Restaurant operators can utilize the motivational aspects of tipping systems as an effective tool for managing staff performance without needing constant direct supervision (Fisher, 2009). Taiwanese restaurant operators are gradually promoting these systems.

This study examines the impact of consumers' satisfaction on their intentions and the extent of tipping while introducing tipping systems into Taiwanese dining habits. Accordingly, the study proposes the following research questions:

1. Which tipping system aligns better with the dining habits of Taiwanese consumers and subsequently enhances their tipping intentions?
2. Does the satisfaction derived from dining experiences influence consumers' intentions and extent of tipping?

This research explores how consumers' dining satisfaction under different tipping mechanisms affects their tipping intentions through scenario-based experiments. The experimental results aim to serve as a reference for restaurant operators in improving customer satisfaction and optimizing tipping systems. Ultimately, this could help address the issues of low wages and labor shortages among restaurant staff.

2. Literature Review

2.1. Tipping current situation

Tipping behavior is highly prevalent in countries that value achievement and materialism (Chung & Heung, 2007) and is regarded as a social norm in the United States (Lin, 2014). Some consumers prefer fixed tips, while others adopt percentage-based tips (Lynn, 2006). Today, the tipping system in restaurants is primarily determined based on a percentage of the bill (Fisher, 2009).

Since tipping is not a traditional custom in Taiwanese culture, it draws relatively little attention in Taiwan (Lin, 2014), and consumers generally do not have the habit of tipping voluntarily (Hsiao et al., 2018). However, influenced by Western culture, some restaurants in Taiwan have started implementing a mandatory 10% service charge on bills (Dewald, 2011). While some restaurants enforce a percentage-based mandatory service fee, others exclude service charges from the bill and allow consumers to tip voluntarily (Lin, 2014). Nonetheless, in most cases, service fees are incorporated into the restaurant's revenue rather than allocated to service staff. As a result, even in restaurants that impose a 10% mandatory service charge, service personnel still expect to receive additional tips, which remain a significant source of income for them (Dewald, 2011).

2.2. Consumer satisfaction

The dining experience, restaurant ambiance, and service satisfaction are highly interrelated (Lynn & Graves, 1996). Consumer satisfaction is the overall evaluation of a consumer's purchase and consumption experience with a product or service (Andaleeb & Conway, 2006; Gagić et al., 2013). According to Andaleeb & Conway (2006), overall satisfaction is composed of satisfaction from each service encounter. Studies by Han and Hyun (2017) and Alhelalat et al. (2017) indicate that the dining environment, food pricing, service quality, and food quality indirectly influence consumer satisfaction. Furthermore, the responsiveness of frontline service staff significantly impacts consumer satisfaction (Andaleeb & Conway, 2006). Satisfaction significantly influences customer loyalty, restaurant profitability, repurchase intentions, and word-of-mouth promotion (Heung & Gu, 2012). Therefore, ensuring consumers are satisfied with their dining experiences gives restaurants a competitive edge and supports their survival and development (Iglesias & Guillén, 2004). Modern consumers seek delicious food and value high-quality service and enjoyable dining experiences (Heung & Gu, 2012). They are more willing to spend time and money in pleasant service environments (Alhelalat et al., 2017).

2.3. Consumers' tipping intentions

Tipping behavior is influenced by local customs and cultural values (Chung & Heung, 2007) and may vary depending on factors such as country, subculture, industry, and service processes (Hsiao et al., 2018). According to Lynn (2006), factors influencing consumers' intentions to tip include bill amount, payment method, party size, service quality, the friendliness of service staff, the gender of both staff and consumers, consumers' frequency of patronage, and even ethnicity. Research by Teng et al. (2009) indicates that service quality is closely related to the tipping amount, as tipping is often intended to reward employees. When consumers receive excellent service, they tend to tip more (Lynn & McCall, 2000; Wu, 2004). In other words, higher consumer satisfaction leads to a greater intention to tip.

2.4. Research hypotheses development

Alhelalat et al. (2017) stated that the dining environment, service quality, and food quality significantly influence customer satisfaction. Tipping behavior may also be affected by factors such as service quality and food quality (Dewald, 2017; Lynn, 2013; Wang, 2010). Most consumers believe tipping incentivizes restaurants to provide better service (Lynn, 2016). Consequently, restaurant customers often reward better service with higher tips (Lynn & Graves, 1996) to ensure continued quality service in the future (Lynn & Brewster, 2020; Teng et al., 2009). Lynn (2013) observed that service quality has a more pronounced impact on tipping behavior among Asians. The tipping amount tends to vary with the quality of service, increasing as service quality improves (Dewald, 2011; Dewald, 2017). Alhelalat et al. (2017) further highlighted that the behavior of service staff and their interactions with customers influence consumer satisfaction. Implementing tipping systems can also enhance customer satisfaction, as consumers perceive tipping as a motivator for improved service quality. As a result, tipping systems raise

consumer expectations of superior service (Lynn, 2018). Previous studies have found that consumers report higher dining satisfaction at restaurants with tipping systems than those without tips or mandatory service charges. Additionally, restaurants with tipping systems receive higher service ratings from consumers than those that impose service charges (Lynn, 2018).

H1. Consumer satisfaction is correlated with tipping behavior.

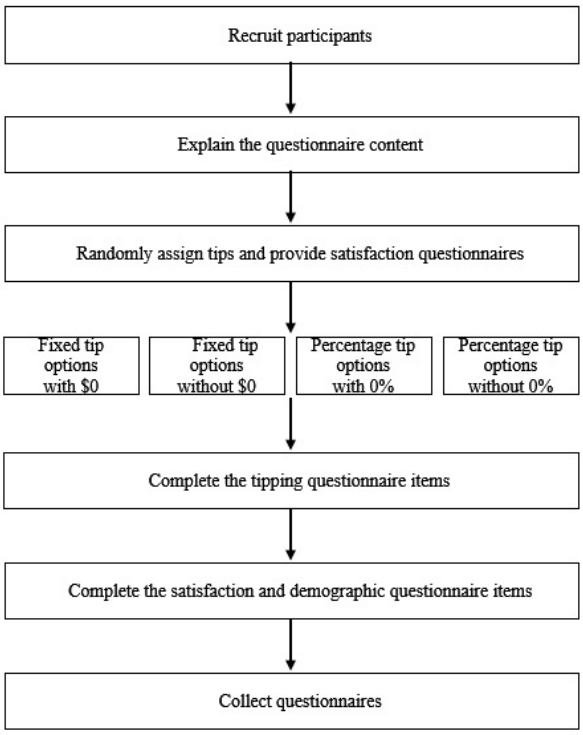
Tipping behavior is not solely influenced by dining satisfaction. Regardless of satisfaction with food, ambiance, or service, consumers may still tip based on their economic circumstances and consumption habits (Chung & Heung, 2007). Mandatory tipping systems require consumers to pay tips regardless of their intention, altering the behavior of those reluctant to tip while having minimal impact on consumers who are already inclined to tip (Lynn & Brewster, 2020). Asian consumers exhibit less variation in tipping behavior than White Americans, suggesting that Asians are less aligned with the norm of paying percentage-based tips (Lynn, 2013). Additionally, consumers generally find whole-number amounts more convenient than non-rounded amounts. When required to pay, they are more likely to choose whole numbers. Consequently, rounding tipping amounts to whole numbers may increase consumers' intention to tip (Alexander et al., 2021).

H2. The intention to pay fixed tips is higher than the intention to pay percentage-based tips.

3. Methodology

3.1. Measurement

Figure 1. The experimental procedure chart.



The study sampled consumers at Hechino Bistro. Consumers were given a tipping questionnaire (divided into four randomized types) and a satisfaction questionnaire after dining. Consumers were informed that no service fee was charged, and they rated it based on their dining experience and indicated their preferred tip amount, as shown in Figure 1.

The construct of consumers' tipping intentions was controlled through experimental scenarios, which were divided into four types of questionnaires: including 'Fixed tip options with $0', 'Fixed tip options without $0', 'Percentage tip options with 0%', and 'Percentage tip options without 0%', as shown in Table 1.

Table 1. Consumer's tipping intentions measurement items.

Construct	Measurement items
Fixed tip options with $0	$0, $100, $200, $300, and $500
Fixed tip options without $0	$100, $200, $300, and $500
Percentage tip options with 0%	0%, 5%, 10%, and 15%
Percentage tip options without 0%	5%, 10%, and 15%

3.2. Data collection and sample profile

This study developed four types of questionnaires by manipulating different tipping scenario variables to measure participants' dining satisfaction and their consumers' tipping intentions. The official survey was conducted at the Hechino Bistro in January 2022, with 649 questionnaires distributed and 340 valid responses collected, resulting in a response rate of a 92.45%.

Wang (2010) suggested that factors such as meal satisfaction, restaurant ambiance, service satisfaction, server gender, consumer gender, number of diners, weekly dining frequency, and dining time can influence the amount of tipping. Therefore, to understand the demographic structure of the participants, statistical analysis was performed on variables such as dining time, gender, age, dining frequency, visit purpose, and other related factors to assess consumer characteristics, as shown in Table 2.

Table 2. Sample profiles. (n=340)

Characteristics	Category	Frequency (n)	Percentage (%)
Gender	Male	88	25.9
	Female	252	74.1
Age	Under 20	13	3.8
	21-30	136	40.0
	31-40	100	29.4

Characteristics	Category	Frequency (n)	Percentage (%)
	41-50	49	14.4
	51-60	33	9.7
	Above 60	9	2.6
Occupation	Student	34	10.0
	Military, Government, and Education personnel	27	7.9
	Service Industry	102	30.0
	Manufacturing	70	20.6
	Freelance	53	15.6
	Others	54	15.9
Dining time	Lunch	174	51.2
	Dinner	166	48.8
Number of visits to the restaurant	First time	216	63.5
	2-4 times	97	28.5
	5-7 times	13	3.8
	Over 8 times	7	2.1
	Been here, forgot the number of times	7	2.1
Purpose of dining	Casual dining	113	33.2
	Couple's date	19	5.6
	Birthday/Anniversary celebration	25	7.4
	Family gathering	88	25.9
	Friends gathering	85	25.0
	Business meeting	9	2.6
	School club meeting	1	0.3
How did you hear about our restaurant?	News report	5	1.4
	Referral from friends and family	163	44.8
	Print advertisement	15	4.1
	Walked by	82	22.5
	Instagram page advertisement	36	9.9
	Facebook page advertisement	20	5.5
	Influencer blog	43	11.8
Would you be willing to recommend our restaurant to friends and family?	Yes	334	98.2
	No	6	1.8

Note: The store uses this method to determine the count. If it exceeds the sample size, participants may have learned about the restaurant from multiple sources.

These variables show the average score and standard deviation for the construct of satisfaction based on Alhelalat et al.(2017): Meal taste(4.41, 0.596); Meal portion and price(4.29, 0.634); Ambiance(4.45, 0.610); Staff professionalism(4.48, 0.582); and Staff attitude and etiquette(4.51, 0.572). All items were measured using a five-point Likert scale ranging from '1' strongly disagree to '5' strongly agree.

Table 3. Satisfaction variables' reliability. (α > 0.7)

Measurement items	Cronbach's α
Satisfaction	0.895
Meal Taste	
Meal Portion and Price	
Ambiance	
Staff Professionalism	
Staff Attitude and Etiquette	

4. Results

This study used SPSS statistical software (ver. 25) to perform descriptive statistical analysis, reliability analysis, t-tests, and one-way ANOVA to examine the effects of different tipping options (including or excluding $0 and 0%), as well as fixed tips, percentage-based tips, and satisfaction.

4.1. Pearson correlation analysis

Through correlation analysis, this study examined whether there were significant differences between satisfaction and tipping behavior under different conditions. The results indicated that in the scenario of 'Fixed tip options with $0', the correlation between satisfaction and whether or not a tip was given was the most significant. No significant differences were found in the other conditions, except for the scenario of 'Fixed tip options without $0', which showed a negative correlation, as shown in Table 4.

Table 4. The correlation analysis between Satisfaction and the likelihood of Tipping.

			The decision to leave a tip
Satisfaction	Fixed tip options with $0	Pearson correlation	.354**
		Significance (two-tailed)	.001
	Fixed tip options without $0	Pearson correlation	-.097
		Significance (two-tailed)	.378
	Percentage tip options with 0%	Pearson correlation	.114
		Significance (two-tailed)	.300
	Percentage tip options without 0%	Pearson correlation	.153
		Significance (two-tailed)	.163

Note: ** indicates significance at the 0.01 level.

Correlation analysis was conducted to test whether the degree of tipping varied significantly with satisfaction under different conditions. The results indicated that in the scenario of of 'Fixed tip options with $0', satisfaction exhibited the strongest positive correlation with tipping behavior, with a correlation coefficient of 0.319. The second strongest correlation was observed with the scenario of 'Percentage tip options without 0%', with a correlation coefficient of 0.227. The scenarios of 'Percentage tip options with 0%' and 'Fixed tip options without $0' had correlation coefficients of 0.178 and 0.130, respectively, with no significant differences observed, as shown in Table 5.

Table 5. The correlation analysis between Satisfaction and Tipping Behavior.

			The decision to leave a tip
Satisfaction	Fixed tip options with $0	Pearson correlation	0.319**
		Significance (two-tailed)	0.003
	Fixed tip options without $0	Pearson correlation	0.130
		Significance (two-tailed)	0.237
	Percentage tip options with 0%	Pearson correlation	0.178
		Significance (two-tailed)	0.104
	Percentage tip options without 0%	Pearson correlation	0.227*
		Significance (two-tailed)	0.037

Note: ** indicates significance at the 0.01 level; * indicates significance at the 0.05 level.

The analysis results show that, in the scenario of 'Fixed tip options with $0', the presence of a tip and the tipping amount exhibited the strongest correlation with satisfaction. In the scenario of 'Percentage tip options without 0%', although satisfaction was not significantly correlated with the decision to leave a tip, higher satisfaction levels were associated with a greater intention to provide a higher tip amount.

4.2. Descriptive statistical analysis

This study employed descriptive statistical analysis to examine the tipping frequency under different scenarios, as shown in Table 6. The results indicated that, in the scenario of 'Fixed tip options without $0', the highest proportion of consumers (67.1%) the highest proportion of consumers (67.1%) left a tip. In scenarios of 'Fixed tip options with $0', 'Percentage tip options with 0%', and 'Percentage tip options without 0%', the proportion of consumers that give a tip was lower, with only 50.6% of consumers tipping in the latter case. In both fixed and percentage-based tip scenarios, the proportion of consumers who left higher tips was greater when a $0 or 0% option was available than when such an option was absent.

Table 6. Distribution of Tipping Frequency.

	Characteristics	Category	Frequency (n)	Percentage (%)
Fixed tip options with $0	Whether a tip is given	Yes	36	42.4
		No	49	57.6
	Amount of the tip	0	29	34.1
		$100	23	27.1
		$200	13	15.3
		$300	0	0
		$500	0	0
		No response	20	23.5
	Proportion of the tip	$100	23	63.89
		$200	13	36.11
Fixed tip options without $0	Whether a tip is given	Yes	28	32.9
		No	57	67.1
	Amount of the tip	$100	23	27.1
		$200	5	5.9
		$300	0	0
		$500	0	0
		No response	57	67.1

	Characteristics	Category	Frequency (n)	Percentage (%)
	Proportion of the tip	$100	23	82.14
		$200	5	17.86
Percentage tip options with 0%	Whether a tip is given	Yes	39	45.9
		No	46	54.1
	Amount of the tip	0%	46	54.1
		5%	23	27.1
		10%	15	17.6
		15%	1	1.2
		No response	0	0
	Proportion of the tip	5%	23	58.98
		10%	15	38.46
		15%	1	2.56
Percentage tip options without 0%	Whether a tip is given	Yes	42	49.4
		No	43	50.6
	Amount of the tip	5%	31	36.5
		10%	11	12.9
		15%	0	0
		No response	43	50.6
	Proportion of the tip	5%	31	73.8
		10%	11	26.2

As observed above, the correlation analysis and frequency analysis reveal some discrepancies. The scenario of 'Fixed tip options with $0' exhibited the strongest correlation with whether a tip was given. However, in terms of tipping frequency, the scenario of 'Percentage tip options without 0%' had the highest proportion of consumers leaving a tip, indicating a clear difference between the two scenarios. Regarding the degree of tipping, the scenario of 'Fixed tip options with $0' showed the strongest correlation and the highest proportion of consumers leaving a tip. While the scenario of 'Percentage tip options without 0%' ranked second in correlation strength, in terms of tipping frequency, the scenario of 'Percentage tip options with 0%' had a higher proportion of consumers leaving larger tip amounts.

5. Discussion and Conclusion

5.1. Discussion

The analysis results of this study show that, in the scenario of voluntary fixed tips and mandatory percentage-based tips, consumer satisfaction had a significantly positive effect on the tip amount paid. In contrast to the voluntary fixed tip scenario, the scenario with mandatory fixed tips showed a higher proportion of consumers giving higher tip amounts. Furthermore, in the voluntary fixed tip scenario, the correlation between satisfaction and the consumers' tipping intentions was positively significant, which aligns with the findings of Wu (2004).

5.2. Practical contribution

Higher satisfaction comes with higher consumer tipping intentions and amounts in voluntary fixed tips. For restaurants adopting a fixed tip mechanism, enhancing consumer satisfaction could increase their intention to pay tips, generating additional income. This study also found that first-time visitors were more willing to give higher tips than repeat customers in the fixed tip scenario. Since first-timers are less familiar with the restaurant environment and menu, they interact more frequently with service staff. This kind of interaction directly influences their satisfaction and tipping behavior.

Therefore, restaurant operators should focus on the first-timers, providing introductions to the environment and menu, enhancing interaction, and offering timely service to boost their satisfaction and leave a good impression. Furthermore, customers visiting for celebrations, such as birthdays or anniversaries, are more likely to pay higher tips. Operators could offer assistance with celebrations or additional complimentary services to create an intense festive atmosphere, enhancing customer satisfaction and their intention to tip.

5.3.Limitations of this study and suggestions for future studies

This study's subjects were consumers of Taiwanese restaurants. Future research should adopt the same methodology to explore the differences in tipping behavior across various dining models, such as cafes, hotpot restaurants, and brunch establishments. Cross-comparing tipping behavior among restaurant customers will provide a deeper understanding of customer needs, which can help develop tipping systems more accurately.

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Theme: AI in Service Adaption

Factors of Utilizing Artificial Intelligence to Drive Innovation in Macao's Tourism Industry: A Push-Pull Theory Perspective (Paper #013)

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Abstract:

This qualitative research examines the factors of artificial intelligence (AI) development in Macao's tourism industry through the push-pull theory. The study identifies how these dynamics foster innovation and smart technology development in tourism. The findings reveal that internal push factors, such as enhanced efficiency, service quality, customer experience, are driven. On the other hand, external influences like market demand, tourist expectations, industry trends, policy support, and technological maturity act as pull factors that stimulate innovation.

Keywords: Artificial intelligence, push-pull theory, tourism, innovation, Macao

1. Introduction

With the widespread application of artificial intelligence (AI) across industries, the tourism sector is increasingly leveraging smart technologies to reduce labor costs, enhance operational efficiency, and improve service quality (Ruiz-Alba & Martín-Peña, 2020). As an internationally renowned tourist city, Macao has embraced AI to deliver innovative solutions, such as automated information services on its history, cultural heritage, attractions, entertainment, shopping, hotels, and travel logistics (Un, 2024). However, the internal and external factors driving the adoption of AI in Macao's tourism industry remain underexplored in existing literature. This study aims to investigate the factors influencing the adoption and development of AI in Macao's tourism industry through the lens of the push-pull theory. Specifically, it examines how potential internal (push) factors, such as industry demands for innovation and operational improvements, and potential external (pull) factors, such as market opportunities, technological advancements, and policy support, contribute to AI integration. By filtering these factors, the research provides strategic insights to guide the sustainable growth of Macao's tourism sector and strengthen its competitiveness in the global digital tourism arena.

2. Literature Review

2.1. Function of AI and tourism industry

In recent years, AI has seen extensive application in service industries, such as hospitality and tourism, contributing to a paradigm shift in operational practices and customer engagement. These technologies streamline processes, improve service delivery, and enable businesses to adapt to changing consumer preferences. First, AI behavioral tracking tools can help anticipate the betting patterns of casino patrons (Auer & Griffiths, 2022), and it can facilitate the creation of new games and personalized recommendations. Second, AI technology enables instant customer support through chatbots, which assists travelers with inquiries regarding their destinations (Kim & Duhachek, 2020). Third, AI is pivotal in data analysis and it offers networked information processing and consumer customization through intelligent and predictive support (Bulchand-Gidumal et al., 2024). Overall, the integration of AI in enhancing service experiences, optimizing operational management, and improving safety injects significant momentum into the tourism industry's development, and it fosters innovation and transformation within the sector.

2.2 Factors Driving the Use of AI in Tourism Industry

Previous studies have found the use of AI in the tourism industry is driven by inner factors, such as the need to enhance customer experience and improve operational efficiency, while the external factors include technological advancements, changes in the external environment, and support from policies and regulations in the regions (Solakis et al., 2024; Doborjeh et al., 2022). Given Macao's unique environment, there is currently limited literature on this topic. However, research in this area is significant as Macao's tourism industry exhibits several key differences compared to other cities and countries: it is dominated by the gambling industry, which serves as its main economic pillar; it showcases a rich cultural fusion with a distinctive historical background and architectural style; and it primarily attracts short-distance travelers, with most visitors coming from Mainland China. This study holds geographic value by prompting the specific factors influencing the use of AI in Macao's tourism sector.

2.3 Push-pull theory

The push-pull theory was originally used to explain human migration phenomena (Lee, 1966), emphasizing the internal and external factors that influence people's migration (Mazzarol & Soutar, 2002). This theory is also applicable in tourism research, and it is used to understand the motivations behind tourists' destination choices (Duong et al., 2023). In this study, we emphasize the use of AI in Macao's tourism industry involves both push and pull essential factors. The push factors represent the internal demands for progress felt within the industry, while the pull factors refer to the attractions brought about by external environments. Based on this theory, we hope it will guide us in identifying the relevant factors specific to Macao.

3. Methodology

3.1 Data collection and analysis

We employed a case study methodology. The case study approach was operationalized through semi-structured interviews. Macao was selected as the focal case study due to its status as a significant global tourism hub, which makes it highly representative of the industry's dynamics and highlights the substantial demand for tourism to support economic stability. Guided by the push-pull theory, we crafted interview questions to ensure their relevance and appropriateness. Our target participants were categorized into three groups: industry practitioners who develop and utilize AI in the tourism sector, university hospitality and tourism courses instructors, and current students and graduates from hospitality and tourism programs. While participants were not required to be Macao residents, they needed to possess relevant experience to contribute meaningfully to the research. To recruit participants, we employed purposive sampling and snowball sampling techniques. Some participants preferred in-person interviews, while others tended to have online or phone interviews. After securing consent for voluntary participation, we successfully conducted interviews with 10 participants in either Cantonese or Putonghua. The recorded interviews were transcribed using specialized software, and the accuracy of these transcriptions was verified. Detailed information about the participants is presented in Table 1. We applied thematic analysis to organize and interpret the data, followed by coding informed by the push-pull theory to identify the relevant push and pull factors.

3.2. Profile of the participants

ID	Gender	Role	Interview Mode	Background
1	M	Industry expert	Phone	Working in a company providing AI services to local organizations
2	M	Industry expert	Online	Manager in a learning and development related department of the hospitality and tourism sector
3	M	Industry expert	Phone	AI-driven marketing and customer service solutions provider
4	M	Industry expert	Online	Manager in a casino
5	M	Industry expert	Online	Core member of the computer organization
		Instructor		Instructor in a continuing education center
6	M	Instructor	In person	Hospitality and tourism program professor in a university
7	M	Instructor	Phone	Hospitality and tourism program professor in a university
8	M	Instructor	Phone	Hospitality and tourism program professor in a university
9	M	Student	Phone	Graduate from a hospitality and tourism program
10	F	Student	Online	Graduate from a hospitality and tourism program

In the following section, we identified a total of two main themes (push and pull) and eight sub-themes (four push and four pull). The push factors refer to the internal demand and technological innovations that drive change as companies perceive the need for transformation. The pull factors are related to external influences and opportunities that attract companies to adapt and innovate.

4. Results

Push Factors

1. Enhancing Efficiency and Service Volume

The interview results highlight the significant impact of AI on improving efficiency and service quality in the tourism industry, particularly in optimizing business processes. Participant 7 noted that AI can assist industry practitioners in better managing data and enhancing operational efficiency. The application of AI in itinerary planning and customer data analysis allows practitioners to meet customer needs more precisely. Participant 5 mentioned that AI can automate repetitive tasks, such as data formatting and text generation, thereby saving time and improving work efficiency. This automation enables practitioners to focus more on creative work, ultimately enhancing the overall quality of service. Participant 3 added that AI can quickly generate high-quality advertisements and promotional materials, reducing production costs while enhancing content appeal and dissemination. This capability helps tourism enterprises promote Macao's tourism resources more effectively, and it can attract greater attention and interest.

2. Enhancing Customer Experience

AI technology significantly improves tourist satisfaction and experience quality by providing round-the-clock customer service and personalized recommendations. Participant 5 emphasized that AI technology can facilitate 24/7 customer service through chatbots and digital avatars, and it helps tourists quickly obtain the information they need, thus enhancing customer satisfaction. Furthermore, participant 1 pointed out that AI can offer personalized itinerary planning and travel suggestions through intelligent recommendation systems even before tourists arrive in Macao, which aids them in better understanding the region's tourism resources.

3. Innovating Tourism Products and Services

The application of AI has enabled the creation of new products such as virtual tourism experiences and smart tour guides, providing tourists with richer and more interactive travel options. Participant 3 mentioned that AI can be used to generate virtual tourism experiences, including virtual tours, augmented reality (AR), and virtual reality (VR) applications, offering tourists entirely new ways to explore. At the same time, participant 2 noted that AI can develop smart tourism applications, such as intelligent guides and booking systems, which enhance convenience and interactivity for visitors.

4. Enhancing Industry Competitiveness

By accurately analyzing market trends and customer needs, AI helps tourism enterprises formulate more effective marketing strategies, thereby strengthening their competitive advantage in a fiercely competitive market. Participant 7 believes AI can assist tourism businesses in better analyzing market trends and customer demands, which can enable them to develop more precise marketing strategies that enhance competitiveness. Participant 1 further added AI technology can be utilized for multilingual translation and content generation, helping tourism businesses better serve international visitors and increasing Macao's appeal as a global tourist destination.

AI Application

Overall, in application, ChatGPT and tools like MidJourney and AI-driven AR/VR systems are transforming the tourism and hospitality sectors. ChatGPT and chatbots provide 24/7 customer support, offering quick responses, personalized recommendations, and multilingual capabilities to enhance convenience and customer satisfaction. MidJourney enables the design of innovative tourism products, such as visually captivating digital content and promotional materials, enhancing the overall appeal of destinations. AR/VR technologies create immersive virtual tourism experiences, enabling visitors to explore destinations interactively. These tools improve efficiency, reduce operational costs, support creative product development, and strengthen industry competitiveness, allowing businesses to deliver unique, personalized experiences while optimizing operations and staying ahead in a rapidly evolving market.

Pull Factors

5. Market Demand and Tourist Expectations

Modern travelers have increasingly high expectations for their travel experiences, which, combined with various market demands, has driven the increased use of AI in tourism, with the expectation of receiving more intelligent services. Participant 5 stated AI technology can meet these demands by providing more convenient and efficient solutions. Also, participant 3 mentioned as tourists' expectations for travel experiences continue to rise, AI can help tourism enterprises better satisfy these needs by offering richer tourism products and services.

6. Industry Trends and Competitive Pressure

As the global tourism industry rapidly adopts AI technology, Macao risks falling behind in market competition if it does not keep pace with this trend. Participant 3 pointed out that the widespread adoption of this technology makes maintaining competitiveness essential. Simultaneously, participant 1 noted the application of AI technology is becoming increasingly prevalent worldwide, and Macao's tourism industry needs to adopt AI technologies to enhance its competitiveness and attract more visitors.

7. Policy Support and Resource Investment

Supportive policies and resource investment are crucial for the application of AI technology. Participant 3 believes government and relevant institutions' support for AI technology can provide a favorable policy environment and resource backing for the application of AI in Macao's tourism sector. Participant 7 added that the government can encourage tourism enterprises to adopt AI technology through policy guidance and financial support, thus promoting innovative development in the tourism industry.

8. Technology Maturity and Availability

With the continuous development and maturation of AI technology, its increasing usability has made its application in the tourism industry more feasible and efficient, reducing implementation costs for businesses. Participant 1 pointed out that these technological advancements provide enterprises with more opportunities. Participant 5 also noted that the ease of use and growing prevalence of AI tools make it easier for tourism businesses to adopt these technologies, thereby enhancing service quality and efficiency.

AI Application

Overall, in application, AI tools like ChatGPT, and smart gaming tables collect and analyze customer preferences, offering tailored recommendations and improving service efficiency. Smart gaming tables enhance customer engagement ethically by personalizing experiences based on player preferences and behavior, ensuring fairness and transparency in their operations. Customizable chatbots and tools streamline operations, while AI-generated content creation and data analysis help businesses quickly adapt to market demands. By leveraging these technologies and skills, tourism and hospitality companies can deliver personalized services, optimize processes, and maintain a competitive edge in an evolving global market.

5. Discussion and Implications

5.1. Discussion

The application of AI technology in Macao's tourism industry is driven by internal demands and external market dynamics. By enhancing efficiency and service quality, improving customer experiences, innovating tourism products and services, and boosting industry competitiveness, AI technology can bring significant innovation and development to Macao's tourism sector. Furthermore, factors such as market demand and tourist expectations, industry trends and competitive pressures, policy support and resource investment, as well as the maturity and availability of technology, continuously encourage Macao's tourism industry to actively adopt AI technology to enhance its competitiveness in the global tourism market. Previous research has highlighted factors such as improving efficiency and service quality, and enhancing customer experience (Knani et al., 2022; Solakis et al., 2024), as well as market demand and tourist expectations (Solakis et al., 2024). However, there has been less emphasis in prior studies on detailed discussions regarding innovating tourism products and services, and policy support and resource investment. The findings of this study provide comprehensive and profound

insights into the application of AI in the tourism industry. Firstly, it emphasizes the importance of a holistic perspective, indicating that the motivations for adopting AI in tourism arise not only from technological advantages and market demands but also from policy support and industry competition. This suggests that in research and practice, we must consider multiple aspects to fully understand the driving forces behind AI's application in the tourism sector. Secondly, the significant potential of AI in innovating tourism products and services is highlighted. AI can not only enhance efficiency and service quality but also offer innovative applications such as virtual tourism experiences and smart tour guides, providing tourists with entirely new ways to explore. This opens new avenues for future development in the tourism industry, allowing businesses to leverage AI technology to create more innovative products and services that cater to the increasingly diverse needs of travelers. Finally, the importance of policy support and resource investment for the application of AI is underscored. This indicates that governments and relevant institutions should increase their support for AI technology, promoting digital transformation and innovative development in the tourism sector through policy guidance and financial assistance. Only by doing so can the tourism industry maintain a leading position in a competitive market while providing tourists with higher quality and more intelligent travel experiences.

5.2. Academic and practical implications

Firstly, from an academic perspective, the research extends the application of the push-pull theory in the tourism industry, emphasizing the impact of both internal and external factors on AI adoption. By analyzing Macao's unique market environment, the study provides a foundation for future research in related fields and encourages scholars to explore AI applications in other regions and industries. Secondly, from a practical standpoint, tourism enterprises should recognize the diversity and practicality of AI technology to better meet the needs of modern travelers. By implementing AI-driven solutions, businesses can optimize operational processes, enhance customer service quality, and create innovative tourism products, thereby strengthening their market competitiveness. Policymakers should also consider providing a more supportive environment to promote the widespread application of AI technology in the tourism sector, thus driving sustainable economic development in Macao. In summary, the research findings not only provide a strategic framework for the digital transformation of Macao's tourism industry but also offer insights for further academic research, fostering a connection between academia and practice.

5.3. Limitations of this study and suggestions for future research

This study has several limitations, particularly regarding the diversity and scope of the sample. Future research should encompass multiple cities that have applied AI to drive the development of the tourism industry, in order to identify different factors and provide references for the development of neighboring regions. Furthermore, there is a lack of perspectives from small travel agencies or independent tourism practitioners, as well as from related industries such as dining, transportation, and shopping. These groups also play a significant role in Macao's

tourism sector, and their AI applications and demands may not have been thoroughly explored; the push and pull factors associated with them might differ from those of larger enterprises. Lastly, this research primarily relies on interview data and lacks quantitative data (such as market research data and user satisfaction surveys) to support its conclusions. Quantitative data could help provide a more accurate assessment of the practical application effects and market demands of AI technology in Macao's tourism industry.

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Gen-AI-Powered MarTech Education in Hospitality: A USR-Driven Collaborative and Regulated Learning Model for Digital Marketing Innovation (Paper#142)

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Abstract:

This study developed a cross-disciplinary course on Digital Marketing and Marketing Technology Applications in Hospitality, integrating Gen-AI-Powered strategies and USR-Driven Collaborative Learning to address digital transformation needs in local hotels. Using ADDIE and IPECC models, students engaged in real-world projects applying SEO, analytics, and automation tools. Findings from PLS-SEM revealed Self-Regulated MarTech Learning and Gen-AI Innovative in MarTech significantly enhanced MartTech Knowledge Outcome Satisfaction and Ads Conversion Rate, supporting sustainable, co-created, and industry-linked learning outcomes in higher education.

Keywords: MarTech, Gen-AI-Powered, University Social Responsibility (USR), Self-Regulated MarTech Learning, Gen-AI Innovative In MarTech, Ads Conversion Rate

1. Introduction

This instructional research project builds upon prior student feedback and the application of intelligent technologies observed during off-campus internships. It has been noted that, beyond operational IT system expertise, most international hotel chains rely heavily on digital marketing through their global brand websites. However, gaps in localized promotion often require local hotel teams to independently manage online advertising through social media and other digital channels. A particularly pressing issue is the shortage of digital marketing professionals with a background in hotel management, especially within local hotel brands, including both independent and domestic chains. To address this, the course leverages digital technologies to enhance student knowledge and skills in service of local industry needs. It integrates the concept of University Social Responsibility (USR) into collaborative learning environments that connect academia and industry through Social-Regulated MarTech Learning. This foundation supports

the future integration of teaching initiatives aligned with MarTech × USR × SDGs, cultivating the collaborative competencies of students, instructors, and industry partners. This teaching research project also explores literature on students' innovative adoption behaviors of MarTech in the context of digital transformation. Two research gaps are identified and addressed:

1. To address the lack of data-driven project experience in hospitality education, this course integrates real-world marketing cases from local hotels into field-based collaborative teaching.

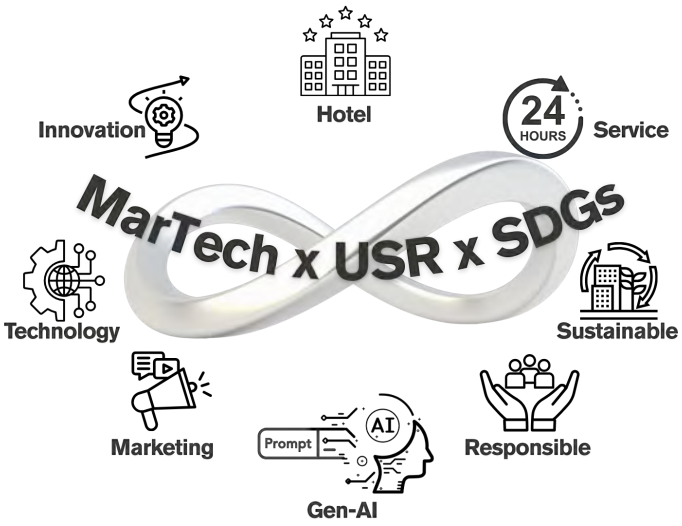
2. To enhance understanding of Gen-AI's innovation impact, the course invites international hotel marketers as co-teachers to co-develop a USR-based learning model with real industry value.

Moreover, through joint project-based learning with local hotel operators, we will analyze strategies for digital marketing implementation, the application of MarTech tools, and adaptable collaboration models for diverse operational contexts. To address these gaps, this study pursues two core objectives:

1. To explore how students and hotel partners adopt and innovate with MarTech tools during the execution of digital marketing strategies.

2. To develop and validate learning outcomes by evaluating students' MarTech knowledge satisfaction and practical effectiveness, offering a performance-based alternative to traditional assessment.

Figure 1-1. Integrating Gen-AI MarTech, USR, and SDGs in Hospitality



2. Literature Review

This study proposes a Gen-AI-Powered and USR-Driven Collaborative Learning framework for marketing technology education, incorporating six core constructs: Ads Conversion Rate, MartTech Knowledge Outcome Satisfaction, Gen-AI Innovative In/With MarTech, Self-Regulated MarTech

Learning, Social-Regulated MarTech Learning, and MarTech Mindfulness. Drawing from theories in social cognitive learning(Bandura, 1986), knowledge adoption(Ma & Agarwal, 2007), and innovation diffusion(Rahrovani & Pinsonneault, 2020), this study addresses gaps in assessing digital transformation pedagogy(Dholakia et al., 2004; Setia, Setia, et al., 2013), especially in hospitality education contexts involving AI-enhanced, co-created, and practice-based learning strategies.

2.1. Ads Conversion Rate

This study evaluates the effectiveness of digital marketing activities using practical, data-driven indicators, including website analytics, social media metrics, email tracking, and survey responses. These tools provide actionable feedback for continuous improvement and enable a more accurate understanding of customer preferences, surpassing the limitations of self-reported intention measures commonly used in social sciences(Dholakia et al., 2004). To assess Ads Conversion Rate and overall project effectiveness, this research prioritizes real marketing traffic and behavioral data, aligning with prior studies that utilize system usage logs and interaction frequencies as key performance indicators(Koh et al., 2007). The Ads Conversion Rate serves as the primary metric for evaluating student project outcomes in applied MarTech contexts.

2.2. Gen-AI-Powered MarTech Knowledge Outcome Satisfaction

According to Setia, Venkatesh, et al. (2013), knowledge and technology solutions play a critical role in supporting industry members with strategic planning and business model adaptation, enhancing both technical capabilities and market responsiveness. For students in this teaching research project, having sufficient knowledge enables effective decision-making within constrained budgets and resources. Students' MartTech Knowledge Outcome Satisfaction their satisfaction with the digital marketing knowledge and MarTech tools delivered in class along with their applied behaviors (e.g., the effectiveness of marketing strategies co-developed with local hotel partners), are influenced by the instructional quality provided by both faculty and industry mentors(Chou & Hsu, 2016). Challenges and suggestions raised during Social-Regulated MarTech Learning can foster safer and more effective collaborative learning environments. The MarTech expertise students gain empowers to offer practical solutions to local hospitality businesses. Furthermore, satisfaction with knowledge and technical training positively impacts adoption behaviors (Ma & Agarwal, 2007), influencing whether learners internalize, outsource, or actively apply these tools (Chiou, 2004). When members of the hospitality knowledge community are satisfied with the shared knowledge and tools, they tend to participate more proactively in knowledge exchange and collaboration critical factors in driving innovation and industry-level application (Zhao et al., 2012).

2.3. Gen-AI Innovative In/With MarTech

Gen-AI Innovative in MartTech and Gen-AI Innovative With MartTech reflect two distinct forms of MarTech innovation. As (Rahrovani & Pinsonneault, 2020)highlight, innovation at the outcome level carries greater risk than process-based innovation, particularly in hospitality settings where new systems and tools may significantly disrupt established operations, Kundu et al. (2022) says similar to business process reengineering. This study employs Social-Regulated MarTech Learning to guide students and local hotel partners in small-scale MarTech innovations. These include leveraging existing digital tools for advertising campaigns and applying marketing automation to optimize workflows. Such participatory learning enables gradual engagement with innovation, starting from manageable MarTech experimentation toward meaningful outcomes. While some hotel operators remain cautious about digital transformation, the collaborative structure of this course allows for a low-risk environment to test new ideas, assess potential benefits, and uncover hidden value. Students' creative use of MarTech tools can lead to unexpected yet effective marketing solutions, helping the industry move beyond traditional practices and embrace data-driven innovation.

2.4. Self-Regulated MarTech Learning

Self-regulated learning, grounded in social cognitive theory, involves individuals consciously acquiring, enhancing, and adjusting their technical and professional skills to achieve personal goals(Bandura, 1986; Pinder, 2014). This study applies to the concept to explore whether students can achieve Self-Regulated MarTech Learning while collaborating with local hotel operators on digital marketing projects. In such collaborative settings, students often confront gaps in their MarTech knowledge or skills. To address this, they engage in self-learning, external consultation, and reflective practices to bridge those gaps transforming outsourced technical insights into internalized skills(Wan et al., 2012). Students with strong self-regulation tend to set project specific learning goals aligned with hotel partner needs. They utilize varied learning strategies study, collaboration, or outsourced learning to acquire digital marketing tool competencies. These students actively engage in discussions, offer solutions, and respond constructively to feedback. When challenges arise, they apply self-assessment benchmarks to determine whether expert advice or adjustments are needed to enhance their learning outcomes and project quality.

2.5. Social-Regulated MarTech Learning

Through project-based collaboration with hotel operators and digital marketing experts, students engage in Social-Regulated MarTech Learning, which fosters joint knowledge construction and cognitive restructuring. This approach deepens their understanding of industry practices and enhances their ability to apply prior experience and knowledge to real-world challenges (Lim et al., 1997). During these collaborations, students explore domain-specific knowledge, seek guidance from expert mentors, and come to appreciate the relevance of digital marketing for both industry and future careers. This cooperative process encourages students to self-regulate

their learning behaviors and actively engage in peer and mentor interactions to improve their competencies(Hsu et al., 2015). Executing real-world digital marketing projects enhances the transfer of knowledge and skills more effectively than traditional classroom teaching. Such industry-integrated instruction reinforces group-based learning, allowing students to learn from MarTech experts and local hotel practitioners accelerating their mastery of digital tools and marketing technologies through socially driven mechanisms(Wan et al., 2012).

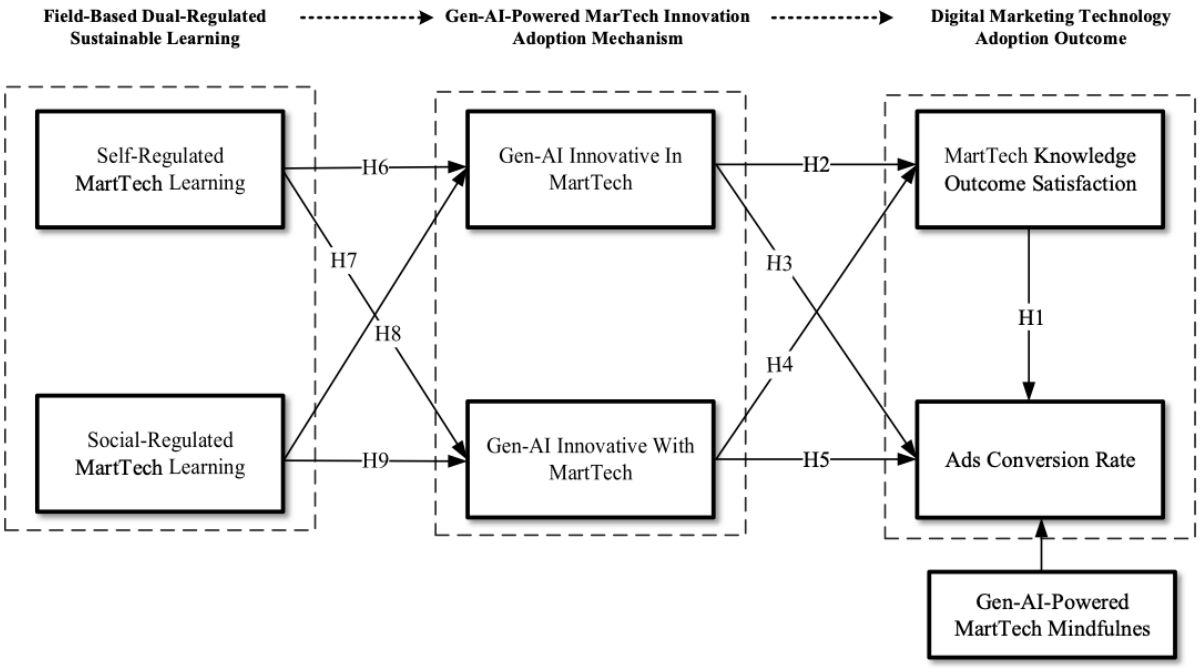
2.6. Gen-AI-Powered MarTech Mindfulness

In this study, MarTech Mindfulness is conceptualized as a second-order construct representing students' cognitive responsiveness and behavioral engagement with marketing technology tools in digital marketing projects(Thatcher et al., 2018). This construct consists of four first-order dimensions: alertness to distinction, referring to students' ability to identify differences and hidden features across MarTech tools; awareness of multiple perspectives, reflecting their capacity to analyze problems from diverse viewpoints and formulate strategic solutions; openness to novelty, indicating curiosity-driven exploration of new tools and methods; and orientation to technology trends, denoting students' skill in selecting appropriate MarTech applications based on industry contexts and anticipating their value (Dernbecher & Beck, 2017; Pflügner et al., 2021). This second-order model offers insight into how students apply MarTech mindfully to address challenges in the hospitality industry's digital transformation(Li et al., 2021; Stankov & Filimonau, 2021), enhancing both learning outcomes and the execution of innovative marketing projects.

3. Methodology

This Gen-AI-Powered and USR-Driven Collaborative study had aimed to enhance students' professional competencies in hospitality digital marketing and MarTech application. Through student surveys and expert interviews, the study analyzed key challenges and differentiating factors within the industry's digital transformation, thereby strengthening students' strategic thinking and employability. The research had involved the practical integration of marketing technology tools into a university's smart hotel digital marketing data platform, which had incorporated functions such as online advertising, keyword optimization, traffic analytics, SEO, and marketing automation. Students' project performance following course completion had been used to evaluate learning effectiveness. A theoretical model, titled "Field-Based Dual-Regulated Sustainable Learning MarTech Innovation Mechanism Digital Marketing Technology Outcome", had been developed and empirically validated. Students had been clustered based on five constructs: MartTech Knowledge Outcome Satisfaction, Gen-AI Innovative In/With MartTech, Self-Regulated MarTech Learning, Social-Regulated MarTech Learning, and MartTech Mindfulness. By utilizing a USR-driven academic-industry collaboration model, the research team had worked with global hospitality digital marketing experts to iteratively refine the model and ensure alignment with real-world needs. The study aimed to examine how students' MarTech Mindfulness and innovation adoption behaviors had influenced their learning outcomes and project Ads Conversion Rate. The proposed research framework had been illustrated in Figure 3-1.

Figure 3-1. Proposed research model



3.1. Research Hypothesis

Learners who perceive their MarTech knowledge as relevant and practical are more likely to demonstrate higher levels of engagement and implementation ability, especially in resource-constrained environments(Chou & Hsu, 2016; Setia, Setia, et al., 2013). When learners are able to effectively apply their acquired skills in USR-Driven Collaborative settings particularly with local hospitality partners their satisfaction with the learning experience tends to further increase. Such satisfaction not only reflects positive affective learning outcomes but also has the potential to influence performance-based outcomes, such as the effectiveness of digital marketing implementation. Therefore, this study proposes the following hypothesis:

Hypothesis 1: Learners' MartTech Knowledge Outcome Satisfaction will positively influence the Ads Conversion Rate in USR-Driven Collaborative digital marketing projects with local hospitality partners.

The Gen-AI Innovative In MartTech process has played a central role in promoting learners' active engagement throughout their educational journey. Through hands-on practice, iterative testing, and collaboration with local hospitality stakeholders, learners have been able to move beyond being passive tool users to become active participants in strategic thinking and process innovation. As Rahrovani and Pinsonneault (2020) emphasized, innovation is not only a prerequisite for generating outcomes but also a mechanism for continuous learning and reflection. By engaging in innovative-driven tasks, learners gain deeper insight into the strategic logic and values of digital marketing and become more confident in applying their knowledge in real-world contexts. This immersive, action-based process further reinforces their satisfaction with the knowledge acquired. Therefore, the following hypothesis is proposed:

Hypothesis 2: Learners' Gen-AI Innovative In MartTech process will positively influence their MartTech Knowledge Outcome Satisfaction in USR-Driven Collaborative digital marketing projects with local hospitality stakeholders.

The success of USR-Driven Collaborative digital marketing projects has often relied on the integration of innovative thinking and emerging technologies. When learners actively engage in the Gen-AI Innovative In MartTech process, they are empowered to continuously adjust advertising strategies, enhance campaign precision, and optimize project performance. According to Koh et al. (2007), assessing the effectiveness of digital marketing through behavioral indicators such as click-through rates and conversion rates provides a more objective and accurate reflection of learners' practical capabilities. In this study, the curriculum design incorporated both simulated and real-world project operations to foster learners' engagement with Gen-AI-Powered innovation. This process-oriented learning model encouraged strategic experimentation, improved targeting, and allowed learners to align their output with the concrete needs of local hospitality stakeholders. Hence, the following hypothesis is proposed:

Hypothesis 3: Learners' Gen-AI Innovative In MartTech process will positively influence the Ads Conversion Rate in USR-Driven Collaborative digital marketing projects with local hospitality stakeholders.

When learners generate tangible Gen-AI Innovative With MartTech outcomes such as introducing novel advertising tools, automating workflows, or producing differentiated marketing content they are more likely to evaluate the course content and knowledge positively. These outcomes serve as concrete evidence of learners' ability to translate theoretical understanding into actionable deliverables. Setia, Setia, et al. (2013) emphasized that when the application of knowledge and technology results in observable and valuable outcomes, users tend to recognize and internalize its relevance. In the hospitality context, such innovation outcomes not only indicate learners' competence but also enhance their confidence and motivation through feedback and validation from local stakeholders. Thus, the following hypothesis is proposed:

Hypothesis 4: Learners' Gen-AI Innovative With MartTech outcomes will positively influence their MartTech Knowledge Outcome Satisfaction in USR-Driven Collaborative digital marketing projects with local hospitality partners.

There is a strong connection between Gen-AI Innovative With MartTech outcomes and the measurable performance of digital marketing projects. When learners apply innovative thinking and technological tools to produce outcomes such as improved ad click-through rates, more efficient budget allocation, or more accurate audience targeting, these results are directly reflected in project performance indicators. These innovation outcomes not only demonstrate the practical effectiveness of learning but also shape the perceived value and feasibility of USR-Driven Collaborative projects from the perspective of industry partners. As Rahrovani and

Pinsonneault (2020) emphasized, although innovation involves certain risks, successful implementation can significantly enhance the strategic and operational value of a project. Therefore, innovation outcomes are considered critical to the success of Gen-AI-Powered project execution. Given the context, the research hypothesizes the following:

Hypothesis 5: Learners' Gen-AI Innovative With MartTech outcomes will positively influence the Ads Conversion Rate in USR-Driven Collaborative digital marketing projects with local hospitality partners.

Learners' ability to engage in Self-Regulated MartTech Learning reflects their capacity to set personal goals, identify knowledge gaps, and actively seek resources and strategies to close those gaps. According to Social Cognitive Theory (Bandura, 1986), self-regulated learners consistently monitor their learning process and adjust behaviors to improve performance. These traits are essential when navigating dynamic, technology-mediated learning environments such as digital marketing platforms. In the context of this study, learners with strong self-regulation abilities did not rely solely on instructor guidance. Instead, they engaged in proactive learning strategies such as self-study, practical experimentation, and industry mentoring to master tools aligned with the needs of local hospitality stakeholders. As a result, they had been better equipped to participate in the Gen-AI Innovative In MartTech process, including tool selection, campaign design, and data-driven decision-making. Accordingly, the following hypothesis is proposed:

Hypothesis 6: Learners' Self-Regulated MartTech Learning will positively influence their Gen-AI Innovative In MartTech process in USR-Driven Collaborative digital marketing projects with local hospitality stakeholders.

In addition to influencing the innovation process, Self-Regulated MartTech Learning contributes to the production of tangible outcomes. Learners who self-monitor progress and independently solve problems are more likely to deliver effective Gen-AI Innovative With MartTech outputs such as automated advertising flows, customized targeting, and personalized content. Wan et al. (2012) found that self-directed learners are not discouraged by technical barriers but actively seek out strategies to internalize new technologies as personal competencies. In this study's project-based setting, learners with strong self-regulation demonstrated the ability to apply digital tools creatively and strategically, generating innovation outcomes valued by hospitality industry partners. Based on this rationale, the following hypothesis is presented:

Hypothesis 7: Learners' Self-Regulated MartTech Learning will positively influence their Gen-AI Innovative With MartTech outcomes in USR-Driven Collaborative digital marketing projects with local hospitality partners.

While self-regulation supports individual growth, Social-Regulated MartTech Learning fosters learning through collaboration and feedback from others. In this study, social regulation was observed in interactions between students, mentors, and hospitality stakeholders. Through collaborative problem-solving, co-design workshops, and industry-aligned mentorship, learners had greater exposure to real-world MartTech applications. Lim et al. (1997) emphasized that co-learning environments stimulate reflection, reinforce accountability, and encourage innovation behaviors. In USR-Driven Collaborative projects, this co-regulated setting helped learners apply tools and frameworks more confidently in the Gen-AI Innovative In MartTech process. Therefore, the following hypothesis is proposed:

Hypothesis 8: Learners' Social-Regulated MartTech Learning will positively influence their Gen-AI Innovative In MartTech process in USR-Driven Collaborative digital marketing projects with local hospitality partners.

In addition to shaping the innovation process, Social-Regulated MartTech Learning plays a vital role in the development of innovative outcomes. This study's collaborative setting where learners worked with local hospitality professionals provided authentic challenges that triggered creativity and the production of Gen-AI solutions tailored to specific business contexts. Hsu et al. (2015) found that field-based learning enhances technical problem-solving and contextual sensitivity, often leading to better project outcomes than traditional classroom instruction. Learners who actively collaborated with industry partners were observed to produce outputs such as customized advertising campaigns, platform automation plans, and audience-specific strategies. In line with these insights, the following hypothesis is advanced:

Hypothesis 9: Learners' Social-Regulated MartTech Learning will positively influence their Gen-AI Innovative With MartTech outcomes in USR-Driven Collaborative digital marketing projects with local hospitality stakeholders.

MartTech Mindfulness refers to learners' cognitive alertness, openness, and sensitivity to technological possibilities. As defined by Thatcher et al. (2018), high mindfulness in digital contexts fosters a readiness to recognize, adopt, and creatively apply technological innovations. In contrast, learners with low mindfulness may resist new tools, default to traditional methods, and overlook emerging opportunities. In this study, learners with higher levels of MartTech Mindfulness were more open to experimentation, better at adjusting strategies, and more confident in applying MarTech solutions. These traits had a clear effect on both MartTech Knowledge Outcome Satisfaction and Ads Conversion Rate, which are essential indicators of both personal learning success and industry collaboration outcomes. Given this theoretical framework, the following hypothesis is proposed:

Hypothesis 10: Learners' MartTech Mindfulness (High/Low) will significantly influence differences in MartTech Knowledge Outcome Satisfaction and Ads Conversion Rate in USR-Driven Collaborative digital marketing projects with local hospitality stakeholders.

3.2. Data Collection

This research focused on digital marketing projects conducted in collaboration with local hotels within field-based internship settings. It integrated Gen-AI-Powered digital marketing tools and automated marketing services, such as Power Automate. These tools, combined with data science concepts taught throughout the program, helped students build modular applications for marketing automation including real-time sentiment analysis for satisfaction feedback, automated message delivery, and chatbot-based advertising content. All applications were developed in alignment with strategic planning frameworks rooted in MarTech application and were designed to assist local hotels in revising their service design processes following the implementation of digital marketing and MarTech solutions. The instructional materials used in this research were co-developed by faculty and industry experts to ensure practical relevance and alignment with real-world hospitality operations. Data were collected through project-based learning conducted as part of a USR-Driven Collaborative learning model that promoted tri-sector co-creation by integrating MarTech × USR × SDGs. Students participated in knowledge-sharing sessions with experts from both the IT industry and local hospitality operators. Throughout the course, Microsoft Teams was used as the digital workspace for managing instructional content, project documentation, communication, and field-based coordination.

Participants were undergraduate students from the Department of Hotel Management. Data was obtained from students enrolled in a university-based hospitality technology and service innovation curriculum. Students operated digital marketing tools and automated MarTech solutions in the university's internship hotel environment. Under the mentorship of hospitality industry professionals, students engaged in co-teaching collaboration with the digital marketing team of a partnering five-star hotel in Taiwan. Throughout the implementation process, various data were gathered, including student-developed project artifacts, communication records, system logs, and feedback from industry mentors. These data served as the basis for evaluating students' application of Gen-AI-Powered marketing technologies and the effectiveness of USR-Driven collaborative learning in promoting digital innovation and sustainable service design.

4. Results

4.1. Profile of the respondents

This study applied the Instructional System Design (ISD) framework and followed the ADDIE model Analysis, Design, Development, Implementation, and Evaluation to construct a Gen-AI-Powered digital marketing and MarTech application curriculum tailored for hospitality education. The course design was further aligned with the five core processes of project management (IPECC: Initiation, Planning, Execution, Control, and Closure), forming a structured, process-oriented instructional model. The resulting curriculum emphasized both theoretical foundations and field-based practices, including classroom lectures, co-teaching with industry mentors, hands-on advertising implementation, and strategic marketing proposal presentations. To ensure relevance and authenticity, local hotel operators and international brand marketing managers were directly involved throughout the course implementation. Data were collected from 41 undergraduate students from the Department of Hotel Management and the School of

Hospitality who were enrolled in a university-level Gen-AI-Powered hospitality digital marketing course. These students participated in digital marketing internships at the university's smart internship hotel, allowing the integration of academic learning with real-world applications. Participants were divided into two groups: G1 (Experimental Group, n = 13), consisting of students receiving full instructional interventions from the Gen-AI-Powered course; and G2 (Control Group, n = 28), consisting of students engaged in routine digital marketing operations during their on-campus internships without the structured course integration. The study examined learners' performance across five dimensions: learning outcomes, Gen-AI Innovative In MartTech process, Gen-AI Innovative With MartTech outcomes, Self-Regulated MartTech Learning behaviors, and MartTech Mindfulness as a personal trait. Data were collected using a structured questionnaire administered at the end of the course, and included measures of student performance, innovation engagement, tool usage, and satisfaction with MartTech knowledge application. This instructional and research model offers empirical insights into how USR-Driven Collaborative learning fosters digital marketing innovation, strengthens applied learning outcomes, and contributes to the sustainable transformation of hospitality education in alignment with the SDGs.

4.2. Results of analysis

The findings of this study revealed complex relationships among learners' innovation engagement, self- and socially regulated learning behaviors, knowledge satisfaction, and project performance within the context of a USR-Driven Collaborative hospitality digital marketing course. Of the ten hypotheses proposed, six were supported, while four were not. Please refer to Figure 4-1 and Table 4-1 for the structural model and hypothesis testing results.

First, learners' MartTech Knowledge Outcome Satisfaction did not significantly predict project performance, as measured by Ads Conversion Rate (H1: β = -0.65, t = 1.311n.s.). This indicates that although learners may feel satisfied with the knowledge acquired, such satisfaction alone may not directly translate into measurable performance outcomes. Similarly, Gen-AI Innovative In MartTech did not significantly influence performance (H3: β = 0.260, t = 0.914n.s..), nor did Gen-AI Innovative With MartTech (H5: β = 0.211, t = 0.681n.s.). These findings suggest that beginner-level learners, despite engaging with innovative processes and tools, may require more time and experience to convert learning into campaign effectiveness. In contrast, strong support was found for the relationship between innovation participation and perceived learning satisfaction. Both the Gen-AI Innovative In MartTech process (H2: β = 0.526, t = 2.879, $p < .01$) and Gen-AI Innovative With MartTech outcomes (H4: β = 0.422, t = 2.246, $p < .05$) had significant positive effects on learners' MartTech Knowledge Outcome Satisfaction. These results affirm the theory that innovation engagement not only fosters deeper conceptual understanding but also enhances learners' affective learning outcomes(Rahrovani & Pinsonneault, 2020; Setia, Setia, et al., 2013). In terms of learning behaviors, Self-Regulated MartTech Learning was a strong predictor of both innovation process participation (H6: β = 0.619, t = 3.264, $p < .001$) and innovation outcome generation (H7: β = 0.485, t = 1.97, $p < .05$). These findings align with

Bandura (1986), social cognitive theory, which suggests that self-directed learners are more likely to engage deeply, solve problems independently, and ultimately demonstrate stronger competence in applying digital tools. On the other hand, Social-Regulated MartTech Learning despite being a key component of the USR model did not significantly influence either the innovation process (H8: β = 0.222, t = 0.989 n.s.) or innovation outcomes (H9: β = 0.301, t = 1.219 n.s.). A possible explanation is that novice learners may lack the contextual awareness or confidence needed to transform collaborative interactions into actionable innovations. This highlights the need for enhanced scaffolding and structured reflection mechanisms in collaborative learning environments, particularly when integrating community partners into field-based education. Finally, the moderating role of MartTech Mindfulness was examined (H10), using group assignment (G1 = 1, G2 = 0) as a proxy for mindfulness differentiation. The results showed that MartTech Mindfulness had no significant moderating effect on either MartTech Knowledge Outcome Satisfaction (β = 2.14 n.s.) or Ads Conversion Rate (β = 0.393n.s.). Although prior research Thatcher et al. (2018), suggests that high mindfulness enhances learners' digital sensitivity and adaptive learning, the short duration of instruction and limited tool exposure in this course likely constrained the realization of this potential. Future instructional designs should consider longer-term engagement, higher tool immersion, and subgroup analyses to better explore the conditional effects of mindfulness traits on learning outcomes.

In summary, the results provide partial support for the proposed Gen-AI-Powered, USR-Driven Collaborative learning framework. They emphasize the critical role of self-regulated learning and innovation participation in fostering meaningful learning experiences, while also identifying key areas such as collaborative scaffolding and trait-based adaptation that require further instructional refinement.

Figure 4-1. Model of MarTech Adoption and Learning Outcomes

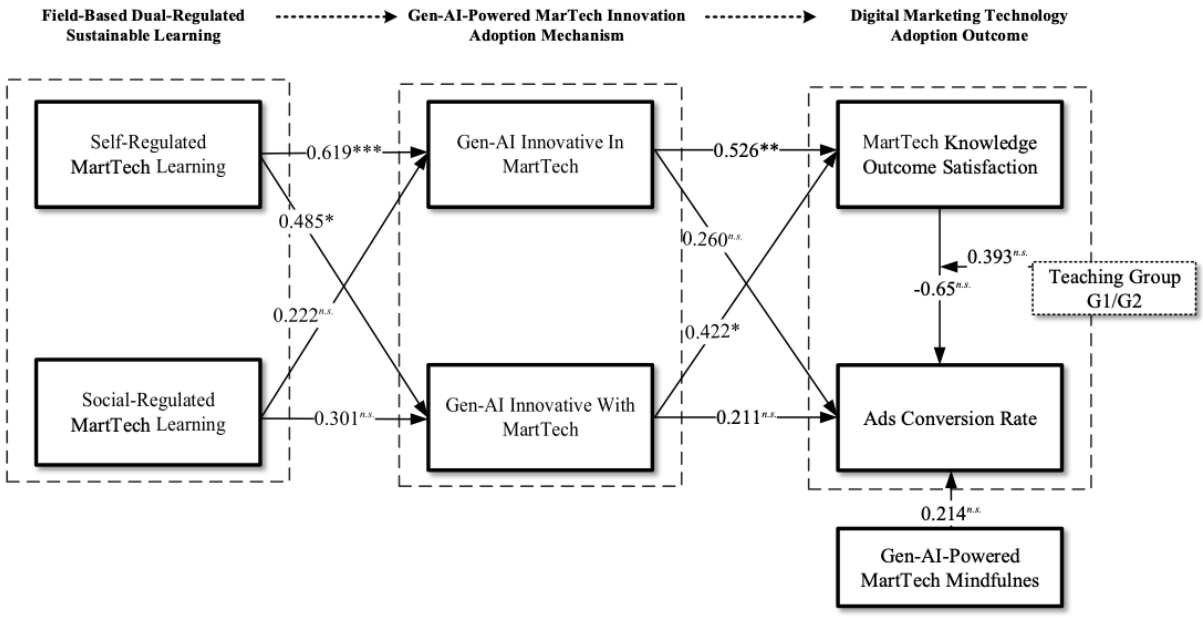


Table 4-1. Summary of Hypothesis Testing and Path Analysis Results

	Hypothesis	β-Value	t-value	Result
H1	*MartTech Knowledge Outcome Satisfaction → Ads Conversion Rate*	*-0.65$^{n.s.}$*	*1.311*	*Non- Support*
H2	Gen-AI Innovative In MartTech → MartTech Knowledge Outcome Satisfaction	0.526	2.879	Support
H3	*Gen-AI Innovative In MartTech → Ads Conversion Rate*	*0.260$^{n.s.}$*	*0.914*	*Non- Support*
H4	Gen-AI Innovative With MartTech → MartTech Knowledge Outcome Satisfaction	0.422*	2.246	Support
H5	*Gen-AI Innovative With MartTech → Ads Conversion Rate*	*0.211$^{n.s.}$*	*0.681*	*Non- Support*
H6	Self-Regulated MartTech Learning → Gen-AI Innovative In MartTech	*0.619**	3.264	Support
H7	Self-Regulated MartTech Learning → Gen-AI Innovative With MartTech	*0.485**	1.97	Support
H8	*Social-Regulated MartTech Learning → Gen-AI Innovative In MartTech*	*0.222$^{n.s.}$*	*0.989*	*Non- Support*
H9	*Social-Regulated MartTech Learning → Gen-AI Innovative With MartTech*	*0.301$^{n.s.}$*	*1.219*	*Non- Support*

*Note: "n.s." indicates non-significant; * $p < 0.05$

5. Discussion and Implications

5.1. Discussion

The findings of this research provide key insights into the effectiveness of a Gen-AI-Powered MarTech Education model implemented through a USR-Driven Collaborative Learning framework in hospitality education. The significant positive influence of both Gen-AI Innovative In MartTech and Gen-AI Innovative With MartTech on MartTech Knowledge Outcome Satisfaction supports the pedagogical proposition that experiential, innovation-based learning deepens learners' engagement and perception of knowledge value. This echoes the theoretical claims of Rahrovani and Pinsonneault (2020) and Setia, Setia, et al. (2013), who emphasized the reciprocal relationship between action-oriented learning and satisfaction with technological competencies. Furthermore, the significant effects of Self-Regulated MartTech Learning on both innovation processes and outcomes reaffirm Bandura (1986), Social Cognitive Theory, underscoring the critical role of learners' autonomous behaviors such as goal-setting, self-monitoring, and proactive problem solving in navigating dynamic, tool-rich digital environments. These findings reinforce the need to cultivate digital learning autonomy and lifelong learning mindsets in hospitality education, especially when training students for data-driven, AI-integrated marketing roles. In contrast, the non-significant effects of Social-Regulated MartTech Learning suggest that USR field-based collaboration alone is not sufficient to foster innovation unless accompanied by structured guidance and reflective scaffolding. While the USR-Driven model emphasizes social responsibility and community engagement, early-stage learners may lack the conceptual maturity to

internalize insights from field interactions. This highlights the importance of building learners' reflective capacity and providing deliberate mentoring throughout the co-learning process.

Additionally, MartTech Mindfulness, though theoretically promising, did not exhibit a significant moderating effect on either knowledge satisfaction or project performance. This may be attributed to the short instructional duration, low tool familiarity, and the novice status of most participants. The result invites further inquiry into how digital awareness, openness to innovation, and adaptive attitudes interact with instructional design variables to influence measurable learning outcomes.

5.2. Academic and practical implications

Academically, this study contributes to the emerging literature on AI-integrated, project-based learning models in hospitality MarTech education, particularly within the framework of USR-Driven Collaborative Learning. By operationalizing constructs such as Self-Regulated and Social-Regulated MartTech Learning, Gen-AI Innovation, and MartTech Mindfulness, the research offers an empirically grounded framework for understanding how learners engage with AI-powered marketing technologies in real-world hospitality settings. It also validates the use of a dual-regulated learning model, combining both individual agency and social interaction as key dimensions of digital skill formation. Practically, this study delivers a referable curriculum development model that integrates the ADDIE instructional design model, the IPECC project management framework, and SDG-aligned USR co-creation. The structured integration of instructional planning, tool-based practice, and field collaboration fosters not only learners' MarTech competencies but also supports the digital transformation of local hospitality businesses through collaborative knowledge transfer. This alignment with both educational and industry objectives enhances the mutual value of academia-industry partnerships. For implementation, the following instructional strategies are recommended:

- Extend the instructional timeline to allow for deeper experimentation and iteration of Gen-AI tools.
- Enhance field-based mentoring and guided reflection, particularly for novice learners, to support learning internalization.
- Conduct subgroup analysis based on learner traits such as mindfulness levels or prior digital tool exposure, to design more personalized learning interventions.
- Investigate long-term outcomes, including how MarTech competencies influence students' career development and the innovation capacity of partner organizations.

5.3. Limitations of this study and suggestions for future research

While the study presents valuable findings, several limitations must be acknowledged. First, the sample size (n = 41) was relatively small and drawn from a single institutional context, which may limit the generalizability of the results. Second, the duration of the course and the level of student tool proficiency were limited, potentially constraining the development of deeper innovation capabilities and the manifestation of traits like mindfulness. Third, the operationalization

of MartTech Mindfulness relied on group assignment (G1 vs. G2) as a proxy measure, which may not fully capture the nuance of individual digital awareness and attitude.
Future research may address these limitations by:

- Expanding the sample across multiple institutions and cultural contexts.
- Conducting longitudinal studies to track the sustained impact of Gen-AI MarTech education on learners' performance and professional readiness.
- Utilizing more granular psychometric tools to assess mindfulness, motivation, and digital adaptability.
- Exploring comparative designs that test the effectiveness of different levels of field integration and co-teaching intensity within the USR model.

In conclusion, this study provides a foundation for further exploration of Gen-AI-Powered, USR-Driven learning models and their role in shaping next-generation MarTech talent in the hospitality industry.

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Theme: Destination Development

Uncovering Hidden Gems: A Study on Unconventional Attractions in Singapore (Paper#017)

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Abstract:

Alongside the shift toward unique and authentic tourist experiences, the interest in lesser-known attractions has grown correspondingly. This study set out to explore the appeal of unconventional tourist spots in Singapore. Through a series of interviews and content analysis, the research has identified the profiles and motivations of tourists who are drawn to such alternative sites. The findings have also provided suggestions on how to enhance the visibility and appeal of unconventional attractions.

Keywords: Unconventional attractions, Hidden gems, Visit motivations

1. Introduction

1.1. *Conventional and unconventional tourist attractions*

Tourism relies heavily on attractions to shape travelers' itineraries and influence their perceptions of a destination (Camilleri, 2018; Richards, 2002). Whether they are iconic landmarks or hidden gems, attractions are regarded as an important weapon for any destination (Nahar et al., 2015).

Tourist attractions can be broadly segregated into conventional and unconventional types. The conventional ones are widely recognized spots that are frequently visited (Ram et al., 2016).

They consist of natural features (e.g., mountains and beaches), man-made landmarks (such as places of worship and historical sites), purpose-built structures (theme parks, museums, etc.) as well as special events (including sport events and art festivals) (Benckendorff & Zehere, 2013).

Unconventional attractions, on the other hand, offer unique and lesser-known experiences that are not proactively managed by the government (Lim & Bouchon, 2017). Examples of unconventional attractions comprise graffiti sites, rural communities and transportation (Xu et al., 2021).

Unconventional attractions could play an equally instrumental role even though they may not be commonly visited by the masses (Weidenfeld, 2010). As a result of the shift in tourists seeking more authentic experiences, UNWTO (2019) and the WTTC (2024) have urged destinations to develop lesser-known areas. Although the global initiatives to promote unconventional sites cannot be directly traced back to UNWTO's guidelines, several countries have commenced their efforts to showcase their unconventional attractions (Suhendra, 2023; Wortley, 2023).

1.2. Unconventional attractions in Singapore

Tourism is a critical pillar of Singapore's economy, contributing four percent to its GDP (Singapore Tourism Board [STB], 2024). As a destination, Singapore is known for offering a myriad of attractions, ranging from cuisines and shopping experiences to landmarks and cultural scenes (Abdullah et al., 2023). As seen on STB's website, the local unconventional attractions are labelled as hidden gems that are off the beaten track; some examples are mature housing estates, historic playgrounds and wet markets.

1.3. Research objective

Despite the considerable inventory of unconventional attractions that is listed by STB, there is inadequate information about which are the favorites sites, as well as the profiles, motivations and purchase process of visitors who appreciate these places. Thus, the objective of this study is to address all these gaps.

The significance of the research outcome is the potential to address a challenge that Singapore's tourism industry faces, i.e., the criticism of being perceived as a 'boring' and lackluster destination (McKercher & Koh, 2017). The use of unconventional tourist attractions to entice tourist can help diversify Singapore's tourism landscape and enhance its positioning as a vibrant and culturally plentiful destination (Lee, 2023).

2. Literature Review

2.1. Definitions and classifications of unconventional attractions

Generally speaking, unconventional attractions are lesser-known areas that serve as a source of peripheral recreation for tourists (Condevaux et al., 2016; Lin et al., 2020). These attractions often cater to locals and tend to lack tourist-oriented amenities such as visitor centers (Zong & Tsaur, 2023). They are also not heavily publicized. Thus, potential visitors mainly access digital platforms to rely on content that is created by other travelers (Dewayani et al., 2023).

While it is easy to identify the element of "catering to locals" (through the absence of visitor centers), the definition of non-heavy publicity is not well defined in literature. Hence, this study adopted a certain parameter: if an attraction is featured in only one of these three main sources (namely, STB, Klook – an online travel company, and TripAdvisor), it is regarded as not being promoted robustly. Using these broad criteria, the listed unconventional attractions in Singapore can be sorted into the seven key segments that were used by Rezaee et al. (2021), as shown in Table 1 below.

Table 1. Local unconventional attractions.

Segments (Rezaee et al., 2021)	**Examples**
Residence	SkyVille @ Dawson, Pipit Road.
Art and theatre	Grey Projects, Mohamed Ali Lane murals.
Entertainment and sports	ATC Fishing Village, Singapore Water Park.
Restaurants and fast food	Chong Pang Food Centre, Beach Road Prawn Noodle House.
Green areas	Bollywood Veggies, Jurong Frog Farm.
Religious attractions	Sree Ramar Temple, Masjid Muhajirin mosque.
Historical and cultural sites	Tiong Bahru Wet Market, NUS Baba House.

2.2. Profiles of visitors to unconventional attractions

Visitor profiling, based on demographic and psychographic factors, is useful for understanding tourists' intentions, attitudes, and behaviors when choosing attractions (Ozdemir et al., 2012; Pasaco-González et al., 2023).

2.2.1. Demographics

In general, tourists who visit unconventional attractions possess diverse demographic characteristics (Stoeckl et al., 2006). However, it was found that older, affluent females are inclined to visit historical and cultural sites while the younger crowd of students are attracted by arts and theatre (Urry & Larsen, 2011).

2.2.2. Psychographics

As for psychographics (beliefs, values, attitudes, and opinions), tourists are largely open to new experiences (Sharron & Abraham, 2015). Tourists who seek cultural enrichment, historical insights, and educational opportunities may be more drawn to the unconventional segment of residence (Lehto et al., 2012); those who enjoy tranquility and outdoor activities would gravitate towards green areas (Marafa et al., 2022).

2.3. Motivations to visit unconventional attractions

The desire to visit attractions is propelled by different push and pull factors. Push factors refer to tourists' socio-psychological aspects that shape their decisions to visit an attraction, while pull factors are the attributes of an attraction that draw tourists (Nikjoo & Ketabi, 2015).

The push factors for visitors to explore unconventional attractions can stem from their wanting to seek authentic, new experiences (Coşkun, 2021; Fitzgerald, 2024). In contrast, the common pull factor of hidden gems is that these places allow visitors to immerse in lesser-known snippets of local culture to develop meaningful connections to the destination (Asadi & Daryaei, 2011).

2.4 Purchase Process

In this study, the common purchase process framework was adopted (Figure 1). The first step of needs recognition is steered by motivation in the form of push or pull factors (Stankevich, 2017).

Figure 1. Purchase process (Kerin & Hartley, 2022)

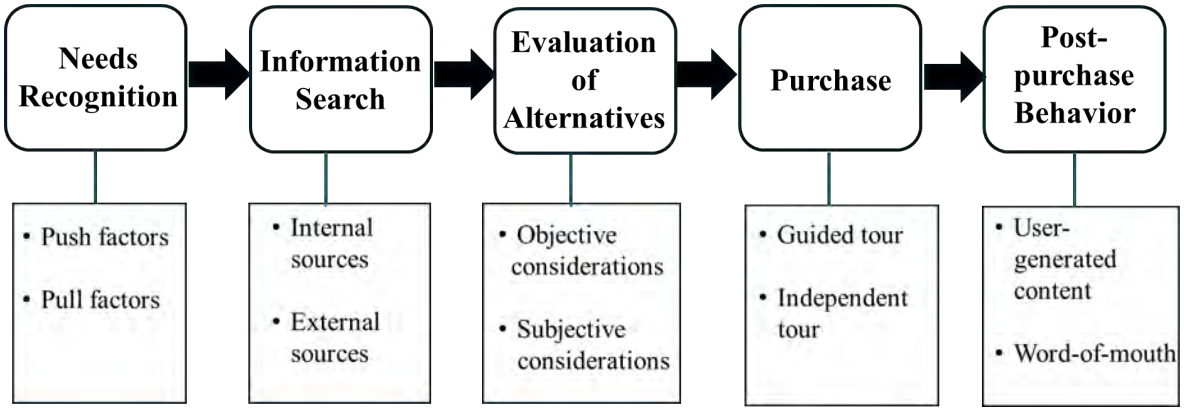


Once the needs are identified, individuals seek information from internal and external sources. Internally, they draw from personal experiences and knowledge; externally, they turn to friends and family (who have visited the places) or various digital platforms (Guediche et al., 2016). Due to the lack of governmental publicity on unconventional attractions, visitors mainly access digital platforms to rely on visually captivating content that was created by fellow travellers (Dewayani et al., 2023).

The third stage of alternatives evaluation involves both objective and subjective considerations. Objective considerations are inherent in the attractions themselves, such as the acknowledged unique features of places and events. Subjective considerations, on the other hand, are influenced by tourists' personal preferences, desires, needs or circumstances that shape their choices (Ermawati & Prihandono, 2018; Lee et al., 2017).

At the actual purchase stage, tourists have the option to join guided tours or explore at their own pace (Camilleri, 2017). In the final post-purchase phase, tourists who have visited unconventional attractions may share their experiences and recommend through electronic word-of-mouth (WOM) (Rasoolimanesh et al., 2021). After incorporating these elaborations, the earlier Figure 1 is reproduced as Figure 2 below.

Figure 2. Elaborated purchase process



3. Methodology

For this study, qualitative research methods of interview and content analysis were used to determine the favorite unconventional attractions in Singapore, as well as visitors' profiles and motivations. The methods were chosen for their ability to explore the richness of the human psyche that quantitative research methods may not capture as effectively.

3.1. Interviews

Interviews with three sample units took place from April till May 2024.

3.1.1. Interviews with research team's acquaintances

The first group of interviewees were the research team's acquaintances. Recruitment for this group targeted acquaintances who met the criteria of possessing English proficiency, and were not residents or workers in Singapore. There was no exclusion criteria related to nationality, gender, age, or the length of previous visit(s) here. Due to the interviewees' different overseas locations, the interviews were conducted online, each lasting about 30 minutes. The sample size of 20 was considered adequate for a qualitative topic as the priority is quality of responses over quantity (Boddy, 2016).

3.1.2. Interviews with independent tourists

The second group of interviewees consisted of tourists who were in Singapore, either for a stay or a transit. These individuals were randomly selected using the same criteria (i.e., English

language speakers, non-residents/worker in Singapore, regardless of their nationality, gender, age, or length of stay). The face-to-face, 15-minute-long interviews were conducted at Changi Airport and Marina Bay Sands (a tourist attraction). The sample size of 40 was sufficiently representative for a qualitative street interview mode (Mason, 2010).

3.1.3. Interviews with tour agency staff

The third and final group of interviewees consisted of eight tour guides from a local agency that organizes both conventional and unconventional inbound tours. The agency was approached by the research team for this project. Interviews were conducted at their office, each lasting 20 minutes, to gain industry insights on unconventional attractions.

3.1.4. Survey instrument

Two separate interview guides (for acquaintances/tourists and tour guides) were used. All the interviewees were shown examples of unconventional attractions in Appendix A.

3.2. Content Analysis

To supplement the interview method, a content analysis of online reviews was carried out to understand the demographic and psychographic profiles of tourists who had visited the unconventional attractions. The reviews were sourced from TripAdvisor which has become a valuable platform for word-of-mouth among travelers (Yoo et al., 2016).

Based on the definition of unconventional attractions in section 2.1, 164 spots (with a resultant 981 reviews) were identified between 1 January 2019 and 31 March 2024. The reviews were grouped into the seven segments that were also listed earlier, namely: residence, art and theatre, entertainment and sports, restaurants and fast food, green areas, natural attractions, religious attractions, historical and cultural sites.

The tourists' demographics, including nationality, generational cohort and gender, were inferred from their profile information. Their psychographic characteristics, such as visit motivations and experience evaluations (including star ratings), were derived from the content of their reviews.

4. Results

4.1. Interviews with acquaintances and tourists

The 20 acquaintances and 41 tourists were from various regions (Europe, Oceania, Southeast Asia, East Asia, South Asia) and generational cohorts (Baby Boomers II, Generation X, Millennials, and Generation Z). Among them, 47 had visited Singapore and the remaining 14 had not. The following sections will outline the findings that have been organized according to the three different profiles.

4.1.1. Those who had visited Singapore and the unconventional attractions

Eight tourists (T01-T08) and one acquaintance (A01) had visited the unconventional attractions during their visit here. They generally learned about the places through friends, family, and online platforms. The hidden gems that they visited were far fewer than the conventional ones. Table 2 below summarizes their visited places and reasons for their visits.

Table 2. Unconventional attractions visited.

Codes	Unconventional Attractions	Verbalised Reasons for Visits
T01	Haji Lane, Tiong Bahru	• Foodie
T02	Arab Street	• Wanted to look at the street art
T03	Chomp Chomp Food Centre	• A diverse range of new culinary experiences
T04 & T05	Pinnacle at the Duxton, Joo Chiat	• Attracted by the street and architecture designs
T06	Bukit Timah Nature Reserve	• Local colleagues gave a guided tour
T07 & T08	Newton Circus	• Desire to experience Singapore's food culture
A01	East Coast Park	• Nature enthusiast

It appears that a cultural mix of architecture and food is a big draw. The precinct of Joo Chiat was specifically mentioned for its aesthetic, unique designs. As for food, T03 seemed delighted that Chomp Chomp Food Centre offers a lot of new items including stingray; he claimed that "he loves it".

After reviewing Appendix A that listed examples of unconventional attractions, the nine interviewees selected their top choices, which were primarily nature and food-related (Table 3). Nature, especially in modern Singapore, appeared particularly appealing. As articulated by T03, "I like going to more calm holidays … Singapore is very… fast-paced."

Table 3. Top two choices of potential unconventional attractions to visit

Segments	Unconventional Attractions	Verbalised Reasons for Choices
Restaurants and fast food	Chong Pang Food Centre	• Interested in trying a variety of foods
Green areas	Pandan Reservoir	• Radiates tranquility
	Labrador Nature Reserve	• Enjoys outdoor activities

4.1.2. Those who had visited Singapore but not the unconventional attractions

The second group of interviewees comprised 32 tourists (T09 - T40) and six acquaintances (A02 - A07) who had been to Singapore but did not explore the unconventional attractions. After being shown Appendix A, the top two preferred segments of these 38 interviewees were (still) food as well as arts and theatre (Table 4).

Table 4. Top two choices of potential unconventional attractions to visit.

Segments	Unconventional Attractions	Verbalized Reasons for Choices
Restaurants and fast food	Tai Chong Kok	• Looks more localized • Different from what they usually try
	Beach Road Prawn Noodle House	• Likes noodles • Enjoys local restaurants
	Chong Pang Food Centre	• Wants to try local cuisine • Affordable with diverse choices
Art and theatre	Grey Projects	• Appreciates handicrafts
	Objectifs Centre for Photography & Filming	• Finds the name intriguing • Loves movie and filmmaking
	Singapore Conference Hall	• Enjoys musicals and plays

Europeans showed a strong interest in local confectionery shops, but older Millennials from Oceania and Southeast Asia preferred visiting well-known restaurants. As for arts and theatre, many Europeans were keen to experience the different culture through events and performances, while the Southeast Asians were attracted simply by their love for art.

4.1.3. Tourists and acquaintances who had not yet visited Singapore

This third group of interviewees consisted of one in-transit tourist (T41) and 13 acquaintances (A08-A20) who had not visited Singapore. Since this group had never set foot in Singapore, their selections were based primarily on visual impressions.

For the unconventional attractions in Appendix A, the segments of arts and theatre, as well as residence, gathered more interest (Table 5). Interviewees from Oceania valued the interactive elements at performance sites, while those from Southeast Asia and South Asia were drawn by the grand appearance of residential buildings.

Table 5. Top two choices of potential unconventional attractions to visit.

Segments	Unconventional Attractions	Verbalized Reasons for Choices
Art and theatre	Grey Projects	• Likes interactive activities
	Objectifs Centre for Photography & Filming	• Love photography and filmmaking
	Singapore Conference Hall	• Fond of watching live shows
Residence	Wessex	• Looks homely with classic architecture • Seems quiet and away from everything
	Pipit Road	• Have not encountered this kind of structure
	SkyVille@Dawson	• Different from those in home country

4.1.4. How tourists discovered attractions in general

All three groups usually learned about unconventional attractions through external sources such as friends, family, and online platforms (e.g., TikTok, Instagram, YouTube). Younger generations mainly used social media, supplemented by Google Maps and ChatGPT, etc. Despite the prevalent influence of technology, interviewees still perceived word-of-mouth recommendations to be more authentic and trustworthy over online reviews.

4.1.5. Tourists' behavior after visiting attractions in general

Interviewees from different generational cohorts seemed to exhibit similar behaviors after their trips. They would document their travels and actively share their experiences with others via social media accounts and messaging applications.

4.2. Interviews with tour agency staff

There was a total of eight tour guides-interviewees (TG01 to TG08).

4.2.1. Inclusion of unconventional attractions in tour packages

The guides were similarly provided with Appendix A to gauge their interest in incorporating the unconventional attractions into their tour packages. The guides expressed keenness to include residential areas as these places are freely accessible, well-located, and offer insights into Singapore's housing development.

The guides also agreed on the value of showcasing local food, heritage, and racial harmony through restaurants, fast food spots and cultural sites, as these resonate with tourists. Green spaces were considered important too because they reflect Singapore's commitment to sustainability, which appeals to visitors. However, traditional attractions in the art and theatre segment were still preferred for their grandeur, and Singapore was seen as lacking a competitive edge in sports tourism, with other destinations being more popular for athletic experiences.

Overall, the tour guides acknowledged a shift toward unconventional attractions, particularly among younger, independent travelers from Western countries. These tourists are increasingly interested in exploring local neighborhoods, hawker centers, and authentic cultural experiences.

4.2.2. Challenges of marketing unconventional attractions

The tour guides highlighted the limited marketing efforts on unconventional attractions by STB. In addition, they acknowledged that accessibility is another challenge: some hidden gems are less accessible and require more travel time.

They emphasized that the human factor (i.e., the hospitality of the locals) plays a part too. TG01 narrated a negative encounter when he brought tourists to an unconventional spot (NUS Baba House) but they were chased away by the nearby residents. That experience has deterred him from bringing tourists to that place again.

4.3. Content Analysis

The composition of the 981 reviews (coded as CA001 to CA981) is shown in Table 6 below.

Table 6. Online reviews.

Segments	Number of attractions reviewed	Total number of reviews	Average ratings (out of 5)
Residence	3	41	4.40
Art and theatre	5	13	4.36
Entertainment and sports	45	351	3.94
Restaurants and fast food	13	136	4.50
Green areas	23	176	4.38
Religious attractions	11	31	4.35
Historical and cultural sites	25	233	4.36

Residence

The reviews indicated that Millennial couples from Oceania were the largest group of visitors to residential attractions. These venues were praised for their architecture, views and affordable (or even free) admission.

"This is a must-visit place in Singapore … an all-round view of the city" [CA003]

Art and theatre

The reviewers were predominantly Generation X solo travelers from Europe. The favorable comments pointed out the well-maintained, multi-disciplinary arts centers, and the wide range of artistic offerings.

Entertainment and sports

This segment has the largest number of entries (351 for 45 attractions). The reviews of shopping malls were less frequently penned by Europeans who seemed to prefer sports venues. The comments on employee service and facility safety at these venues were mostly positive.

Restaurants and fast food

This segment has the highest average score of 4.50, with most reviewers being Millennial and Gen X couples and friends from Europe, Oceania, and North America. European visitors praised the "amazing" and "spectacular" views, while those from Oceania and North America focused more on service quality, highlighting the staff's efficiency, knowledge, and friendliness.

Green areas

Visitors to the green areas included couples, families, and solo travelers from various regions. They were drawn to different activities, depending on their generational cohorts. Baby Boomers II preferred hiking and trekking, while younger Millennials and Gen X were enticed by on-site facilities like food courts, biking trails, and playgrounds. The parks were appreciated for their peaceful atmosphere, offering a retreat from Singapore's urban landscape.

"The spot is a perfect getaway from the chaos in Singapore…" [CA638]

Religious attractions

Religious attractions appealed to visitors from various regions. Southeast Asians, East Asians, and South Asians favored temples and churches, describing them as "heavenly" and "rejuvenating". On the other hand, Europeans and North Americans preferred cemeteries, claiming that the visits had helped them better understand Singapore's history and gain a new perspective on the island-state.

Historical and cultural sites

This segment was predominantly visited by Millennials from Europe and North America. The visitors appeared to like museums for the informative and interesting exhibits. The North Americans who constituted a large group of visitors to the Air Force Museum, found it to be an insightful place that had broadened their knowledge on aircrafts, weapons and military history.

"Nice outdoor displays and write-ups on very unique planes … Some are really mind- blowing" [CA929]

5. Discussion and Implications

5.1. Discussion

5.1. Popularity of unconventional attractions (among interviewees)

As mentioned in Section 1.3, there are no research papers on the popularity of Singapore's unconventional attractions, thus far. Hence, there is no direct comparison between this study's findings and the outcomes of past research on this topic.

In this study, using the interview data, unconventional attractions are grouped into two categories: those that had been visited and those that hold potential interest. The overall result for the seven segments is summarized in Table 7 below.

Table 7. Popularity of unconventional attractions.

Segments	Actually Visited	Potentially Interested In
Residence	√√√	√√√
Art and theatre		√√√
Entertainment and sports		√
Restaurants and fast food	√√√	√√
Green areas		√
Religious attractions		
Historical and cultural sites	√√	√√

Legend: √√√ (Very popular), √√ (Popular), √ (Somewhat popular)

Residence

The residence segment is the most popular, largely due to Singapore's modern architecture. Actual visitors appreciated the low or no admission fee, enhancing the experience. Potential visitors were attracted by the unique architecture not seen in their home countries. This high interest reflects Singapore's efforts to create functional, eco-friendly, and aesthetically pleasing housing (Tan et al., 2021; Urban Redevelopment Authority, 2023).

Restaurants and fast food

The food segment is the next most popular, with visitors praising the variety of affordable options at hawker centers, a UNESCO cultural heritage (UNESCO, 2024). Even those who had not been to Singapore were eager to try the food. Local restaurants were also favored for their ambiance and excellent service.

Historical and cultural sites; Art and theatre

The next most popular segments are historical and cultural sites, followed by art and theatre. While historical sites can provide insights into Singapore's history, potential tourists were also drawn to art and theatre due to the facades of performance venues and the opportunities to engage with local culture through the shows.

Green areas

This segment is only somewhat popular, with interviewees (both visitors and non-visitors) seeing Singapore as an urban destination rather than a natural one. The lower interest in outdoor activities might also be influenced by the uncomfortable tropical climate. These views contrasted with tour guides' observations that the interest in green areas has been steadily increasing.

Entertainment and sports; Religious attractions

These remaining two segments are relatively less popular among visitors, with tour guides remarking that Singapore lacks distinctive competitiveness, as other countries offer more authentic and impressive alternatives.

In summary, this study found that the most popular unconventional attractions are related to residence and food. Additionally, the findings suggested that the less popular segments among actual visitors could still attract potential tourists, highlighting the potential for developing Singapore's unconventional attractions.

5.2. Motivations to visit unconventional attractions (among interviewees)

The motivations to visit unconventional attractions were found to be similar across actual and potential tourists. Thus, the findings from the two groups have been summarized in Table 8 below.

Table 8. Push and pull factors for visiting unconventional attractions.

Segments	Push Factors	Pull Factors
Residence	• Relaxation • Desire for serene environments	• Unique local experiences not found in home country • Architectural and aesthetic appeal • Budget-friendly
Art and theatre	• Cultural enrichment • Artistic exploration • Interactivity	• Sophisticated facade • Wide range of artistic offerings
Entertainment and sports	• Personal interest • Interactivity • Novelty-seeking	• Service excellence • Safety • Value-for-money • Variety • Local immersive activities • Uncommon urban experiences • Family-friendliness

Segments	Push Factors	Pull Factors
Restaurants and fast food	• Culinary exploration	• Service and ambience • Variety • Authenticity
Green areas	• Nature discovery • Novelty-seeking • Relaxation	• Picturesque qualities • Peacefulness • Range of facilities and activities
Religious attractions	• Historical exploration • Knowledge-seeking	• Tranquil and rejuvenating environment • Accessibility
Historical and cultural sites		• Cultural insights • Traditional facade

There is also no prior research that has specifically addressed the motivations for visiting unconventional attractions. This has again resulted in a non-comparison between this study's outcome with existing literature.

5.2.1. Push Factors

Desire for zen-ness and relaxation

The main push factor for visits to residences and green areas is the desire for a zen environment and relaxation. This applies to both actual and potential tourists. This push factor is aligned with what Kastenholz et al. (2020) had stated: quieter environments do provide a serene contrast that appeals to tourists seeking respite from urban life.

Personal interests

The push factors for actual and potential tourists to visit more culture-related segments (e.g., art and theatre, historical and cultural sites) are due to personal interests. Many interviewees indicated that they are seeking knowledge and experiences to learn more about the culture, history, and unique aspects of Singapore through unconventional attractions.

Interactivity

While some interviewees looked for tranquility, there were others who were more interested in active involvement. For example, the interviewees who gravitated towards the segments of art and theatre as well as entertainment and sports, appreciated the element of interactivity.

5.2.2. Pull factors

Service excellence, safety, and variety

One dominant pull factor that draws both actual and potential tourists to unconventional attractions is a combination of service, safety, and variety. For tourists who had visited places

in the segments of entertainment and sports, as well as restaurants and fast food, they shared that Singapore's reputation for high-quality service and secure environments allowed them to enjoy a range of activities without concerns, thereby enhancing the overall satisfaction.

Physical façade and education

A frequently mentioned pull factor is the visually appealing facade of art and historical buildings that reflect local artistic heritage. Beyond exteriors, unconventional attractions like historical sites and residences offer a blend of education and enjoyment to enhance the travel experience. As noted on STB's website (2024), areas like Katong and Joo Chiat, with their colorful historical shophouses, provide unique cultural encounters.

Tranquility

As mentioned earlier, tranquility is a push factor. It is a pull factor too. It appears that green areas and religious attractions offer tourists that undisturbed environment to connect with nature and relax. Interviewees added that the accessibility of parks, gardens, temples and churches had helped to increase the attractiveness of these places.

5.3. Profiles of (actual and potential) visitors to unconventional attractions (based on interviews and online reviews)

Some segments of unconventional attractions appeal to tourists from a mix of regions and age groups. Hence, this section will only focus on the distinctive visitor characteristics for the attractions (Table 9).

Table 9. Visitor characteristics for unconventional attractions.

Segments	Demographic Characteristics		Psychographic Characteristics
	Dominant regions	Dominant Generational Cohort	
Residence	Oceania (actual)	Millennials	• Architecture and culture enthusiasts
	Europe & Southeast Asia (potential)	Generation Z	
Art and theatre	Europe (actual and potential)	Generation X	• Artistic enrichment seekers • Curious intellectuals
Entertainment and sports	Europe & Southeast Asia (potential)	No distinct cohort	• Interactive and novel experience seekers • Fitness and sports enthusiasts
Restaurants and fast food	All regions (actual and potential)	Millennials and Generation X	• Food explorers • Culinary appreciators

Segments	Demographic Characteristics		Psychographic Characteristics
	Dominant regions	Dominant Generational Cohort	
Restaurants and fast food	All regions (actual and potential)	Millennials and Generation X	• Food explorers • Culinary appreciators
Green areas	No distinct region	Baby Boomers 11, Millennials and Generation X (actual & potential)	• Nature enthusiasts • Tranquility and outdoor relaxation seekers
Religious attractions	Europe, North America and Southeast Asia	Millennials and Generation X (actual) Generation Z (potential)	• Spirituality and history seekers • Knowledge inquirers
Historical and cultural sites	Europe & North America (actual)	Millennials	• History buffs • Cultural heritage fans • Knowledge inquirers

5.3.1. Demographics

This study shows that actual visitors to residential areas tended to be slightly older tourists from Oceania. However, younger potential tourists from Europe and Southeast Asia also found these places appealing.

In the art and theatre segment, older European tourists were the most attracted, supporting existing literature that older tourists with more disposable income and leisure time seek culturally rich experiences (Lawrie et al., 2019; Patterson, 2006).

Besides the art and theatre segment, older European and North American visitors were drawn to religious and historical sites too. This is again consistent with previous research (Craik, 1997). However, Urry and Larsen (2011) noted that these attractions can also appeal to younger tourists. Similarly, this study has found that Generation Z might be interested in art, theatre as well as religious and historical sites.

In summary, while older generations predominantly visited the unconventional attractions, there is increasing interest from younger generations. This aligns with previous findings that visitors to hidden gems do span a wide age range (Stoeckl et al., 2006).

5.3.2. Psychographics

This research has shown that actual and potential tourists interested in residences are typically architectural and cultural enthusiasts. This resonated with findings by Lehto et al. (2012) that visitors to these sites typically seek cultural enrichment, historical insights, and educational opportunities.

This study also found that tourists were motivated by intellectual curiosity for cultural enrichment and artistic engagement. This supported the literature (Martenson, 2018; Rebuya et al., 2020; Sharron & Abraham, 2015) that novelty, adventurousness and the need for personal enrichment do influence the search for immersion in arts and culture.

As for the tourists to the green areas, they naturally prioritized nature and outdoor activities. This is consistent with past research that tourists value tranquility and outdoor experiences (Marafa et al., 2022).

Overall, this study has established through interviews and content analysis that tourists are moving to explore unconventional options that provide snippets into Singapore's culture and heritage. This reflects a shift toward authentic experiences over traditional activities (Chandralal & Valenzuela, 2013; Matoga & Pawłowska, 2016).

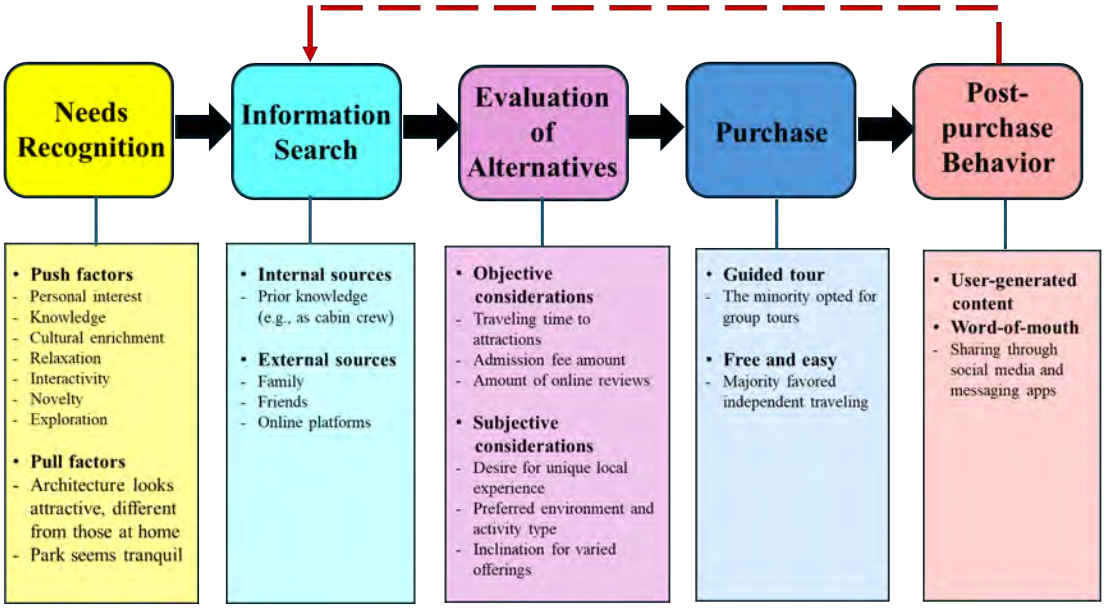
5.4. Marketing channels in information search

The findings revealed that interviewees, regardless of regions or generational cohorts, heavily relied on social media platforms and search engines when selecting attractions. They largely used TikTok, Instagram and YouTube, favoring visual and engaging content that is easy to consume and share. This trend aligns with the growing popularity of short-form videos and visual storytelling that offer authentic travel insights (Fang et al., 2023).

5.5. Purchase Process

The purchase process framework that was shown earlier in section 2.4. is re-visited here to illustrate how the findings integrate into the theoretical model (Figure 3). It can be seen that with regard to visits to unconventional attractions, tourists' needs recognition was principally driven by push factors such as personal interest and seeking of knowledge. During the information search stage, most interviewees depended on external sources, mainly word-of-mouth from friends and family, which is a contrast to the findings by Reimer and Benkensten (2016) that online reviews are more influential than traditional recommendations.

Figure 3. Populated purchase process framework



In the evaluation of alternatives stage, the findings indicated that subjective considerations significantly influenced the decision-making to visit unconventional attractions. While Dai et al. (2016) suggested that objective considerations are more important, this study has shown that interviewees placed more importance on their personal preferences instead of being concerned about travel time and admission fees (Kato, 2021).

During the purchase stage, most interviewees preferred independent tours for their freedom and flexibility. This trend was confirmed by the tour guides who noted that tourists seeking unconventional attractions often requested customized packages.

After their visits, tourists often shared photos, videos, and opinions on social media and messaging apps. This creates user-generated content that goes on to influence other traveler's information searches, as shown by the red dotted line in Figure 3.

5.6. Academic and practical implications

This research outcome has filled a few gaps in the existing knowledge base, namely, the favorite unconventional attractions in Singapore as well as the profiles, motivations and purchase process of these (actual and potential) visitors.

For practical implications, STB's regional offices can use the findings to market more effectively to different demographic groups. For example, despite Singapore's high costs, it can still offer many enriching, free experiences that appeal to budget-conscious travelers (Lock, 2023; Seah & Jong, 2023).

In addition, since most of the interviewees mentioned that they knew about unconventional attractions through social media, the use of key opinion leaders can help to promote the lesser-known areas. Afterall, the effectiveness of technological tools, like QR code and mobile applications, has been established (Leung et al., 2022; Ong et al., 2022).

5.7. Limitations of this study and suggestions for future research

The first limitation was the lack of prior research papers that have examined unconventional attractions in Singapore. While this knowledge gap has motivated this research, it also means that this study's findings has limited existing references.

The second limitation was the unequal representation of geographical regions and generational cohorts in the sample, as the interviewees were either the research team's personal contacts or strangers who were willing to participate in the study. This could have led to skewed findings on only certain demographics (mainly Europeans and Generation Z). Thus, future research can aim for a more balanced sample, demographically.

This study found that tourists enjoy experiencing local lifestyles. As many unconventional attractions are located in neighborhoods, another future research may be to explore locals' views on tourism entering their communities and their perceived role in promoting Singapore's tourism offering.

6. Concluding Remark

As the competition in regional and global tourism intensifies, identifying the unique appeal of unconventional attractions is crucial. The offering of more authentic and enriching experiences can serve to counter perceptions of Singapore as a "boring" destination. Hidden gems can help Singapore stand out, attract diverse tourists, and enhance its tourism sector.

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Appendix A: Images of Unconventional Attractions

Image sources: various websites

Residence



Wessex Estate



Pipit Road



SkyVille @ Dawson

Arts and theatre



Grey Projects



Objectifs Centre for Photography & Filmmaking



Singapore Conference Hall

Entertainment and sports



Woodlands Swimming Complex



Prawning at ATC Fishing Village



Wakeboarding at Singapore Water Park

Restaurants and fast food



Tai Chong Kok



Beach Road Prawn Noodle House



Chong Pang Food Centre

Green areas



Pandan Reservoir



Labrador Nature Reserve



Bollywood Veggies

Religious attractions



Church of the Nativity of the Blessed Virgin Mary



Masjid Muhajirin mosque



Sree Ramar Temple (Dravidian)

Historical and cultural sites



Gillman Barracks Art Galleries



Children's Museum Singapore



NUS Baba House

Exploring Determinants of Thai Tourists' Behavioral Intention to Travel to Green Destinations in the EEC Region (Paper#126)

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Abstract:

Understanding the drivers of behavioral intention to travel to green destinations is crucial for both researchers and practitioners. This study aimed to explore Thai tourists' behavioral intention to travel to green destinations in the EEC region, by identifying key influencing factors. Findings revealed that attitude and perceived green image significantly influenced behavioral intention. Although new ecological paradigm had no significant effect on intention, it influenced tourist attitudes and demonstrated an indirect effect on behavioral intention.

Keywords: Behavioral intention, pro-environmental behavior, green destination, sustainable tourism, new ecological paradigm, green image

1. Introduction

Tourism plays a crucial role in the economic development of many countries, helps generate income for local communities, and promotes the improvement of infrastructure. Furthermore, tourism can enhance the conservation of natural resources and the preservation of local culture by raising awareness and garnering support from tourists (Tourism Authority of Thailand, 2023). However, despite its numerous benefits, tourism can also negatively impact the environment. Unsustainable tourism may critically damage ecosystems and natural resources by generating excessive waste, overusing resources, and causing air and water pollution (Nonthachot, 2018). Additionally, it also contributes to environmental degradation through irresponsible tourist behavior and unregulated activities. Consequently, there is a growing global shift toward environmentally responsible practices in tourism that emphasize sustainability, which include community involvement, social responsibility, and preservation of cultures. It also promotes the participation of all sectors in driving eco-friendly tourism alongside sustainable tourism development (Ministry of Tourism and Sports, 2017).

In recent years, sustainable tourism has become a key paradigm in contemporary tourism research and industry practice. Stakeholders have started to acknowledge their shared responsibility in promoting responsible travel behavior that reduces ecological impact and increases community welfare (UNWTO, 2022). In the context of Thailand, sustainable tourism principles have been integrated into national tourism policies. While the government strategically focuses on wellness and affluent tourism, particularly within the Eastern Economic Corridor (EEC), which includes Chonburi, Rayong and Chachoengsao provinces, further greater focuses on the importance of sustainability in tourism planning and development. Understanding tourist behavior is key for designing effective policies and strategies that support sustainable tourism (Tourism Authority of Thailand, 2023). While existing studies have provided valuable insights, this study specifically investigates the influence of key factors; attitude, perceived green image, and new ecological paradigm (NEP), on tourists' behavioral intention to travel to green destinations.

Prior research has examined these relationships, and confirmed the significant role of environment, disposition, and green perceptions as drivers of environmentally responsible travel actions. Therefore, this study aims to explore tourist behavioral intentions to travel to green destinations in the EEC region of Thailand, with particular focus on sustainability. The results will offer critical insights for related stakeholders, supporting the development of effective sustainable tourism strategies and policies. Ultimately, this will ensure that tourism development in the region remains sustainable and benefits local communities in the long term.

2. Literature Review

2.1. Behavioral Intention to Travel (BIT)

According to Ajzen (1991), BIT is an individual's readiness and likelihood to perform travel-related activities, which is determined by attitudes, perceptions, and external factors. Behavioral intention represents an intention to visit a related destination, act in sustainable tourism, or partake in eco-friendly travel actions within the tourism ecosystem (Han & Kim, 2010). A variety of environmental, social, and psychological elements affect how tourists intend to behave. Many factors, including a favorable perception of the destination, prior travel experiences, and a strong emotional bond with the location, all have a beneficial impact on intention (Kim & Chen, 2016). According to Wen et al. (2020), travelers' plans may also be hampered by perceived hazards, travel restrictions, and international emergencies e.g. pandemics and economic downturns. Sustainability-related factors which includes perceived green image (PGI), also significantly influence tourists' intention to engage in pro-environmental travel behaviors (Choi et al., 2023). Importantly, sustainable tourism behaviors are largely driven by the interplay of attitudes with NEP. Since NEP predicts pro-environmental attitudes, tourism experiences can function as a repetition mechanism that strengthens individuals' ecological worldviews in the long term. As tourism organizations seek to promote responsible travel, tracking and capitalizing on this connection can nurture more sustainable choices from travelers and help to serve worldwide sustainability-based objectives.

2.2. Attitude Toward Sustainable Tourism (ATS)

Attitude, which is a psychological aspect describing how people evaluate an object, behavior, or idea, is the primary indicator of pro-environmental behaviors of tourists with a notion of sustainable tourism (Ajzen, 1991). More specifically, tourists' perceptions of an environmentally friendly attitude focus on their evaluation of eco-friendly practices (Jiang & Gao, 2019). Prior empirical studies indicate that individuals with a positive attitude towards sustainability tend to adopt pro-environmental travel behavior (Pinthong et al., 2024), such as making eco-friendly travel choices, staying in green-certified accommodation, participating in nature-based tourism activities, and reducing carbon footprint during travel (Han et al., 2018). Such attitudes influenced by different factors like individual value, ecological awareness, and peer image are a prerequisite for building sustainable tourism intentions (Luo & Lam, 2020).

Previous studies replicate the finding that attitudes affect sustainable travel intentions. Tourists with a high pro-sustainability attitude or eco-friendly perceptions are more likely to book green accommodation, and exhibit eco-design or ethical tourism behaviors like avoiding carbon transportation and participating in regional sustainability activities (Han & Kim, 2010; Chen & Tung, 2014; Kim et al., 2019). Based on these findings, creating positive perceptions of sustainability with specific measurements; such as awareness campaigns, eco-certification programs, and sustainability education initiatives, is a major driver of many tourists engaging in a sense of sustainable travel.

Hypothesis 1 (H1): ATS has a positive effect on BIT.

2.3 Perceived Green Image (PGI)

Perceived green image is defined as the evaluation of tourists on a destination or business's environmental sustainability and eco-friendly efforts (Choi et al., 2023). This view is influenced by the tangible evidence of sustainability through renewable energy uptake, waste reduction schemes, and conservation investment (Lee et al., 2020). Travelers who place value on sustainability, specifically on environmental context, in their travels generally tend to choose eco-friendly destinations, and a perceived positive green image leads to favorable perceptions towards tourists in green hotel services (Wu et al., 2021). Furthermore, places that have built up a credible green identity tend to benefit from increased consumer trust, improved visitor satisfaction, and a greater tendency for return visits (Song et al., 2022). PGI also contributes to the development of tourists' sustainable behavior at a collective level. Eco-minded tourists tend to support eco-certified accommodations, low-impact travel experiences, and donations to community sustainability programs (Lee & Jan, 2019; Wu et al., 2021). Empirical studies also support the importance of PGI as a construct that can mediate affective and cognitive relationships between tourists and destinations (Lee & Jeong, 2018). The well communicated commitment on sustainability fosters emotional trust, place attachment, and advocacy for sustainable practices (Song et al., 2022; Wu et al., 2021; Jan, 2019).

Hypothesis 2 (H2): PGI has a positive effect on BIT.

2.4 New Ecological Paradigm (NEP)

The New Ecological Paradigm (NEP) is a theory that classifies people's environmental views and perspectives when it comes to the relationship of humans with nature (Dunlap et al., 2000). In the tourism context, NEP affects tourist pro-environmental behavior like making responsible travel decisions and participating in conservation activities (Kiatkawsin & Han, 2017). Such tourists with a strong NEP orientation include those who are more likely to be aware of the environmental sustainability impacts of tourism on areas they visit and demonstrate sustainable practices such as selecting eco-friendly accommodations, reducing waste, and supporting local sustainability initiatives (Han et al., 2019). NEP significantly predicts tourists' attitudes toward sustainable travel, with higher NEP scores linked to stronger pro-environmental behavior (Chen & Tung, 2014; Hultman et al., 2015). It not only shapes ecological worldviews but is also reinforced through sustainable tourism experiences, forming a bidirectional relationship. Nature-based tourism has been shown to strengthen environmental attitudes, especially among ecotourists with strong NEP orientations (Dawson, 2015). This illustrates the importance of integrating environmental awareness and emotional engagement into tourism design to foster long-term sustainable attitudes.

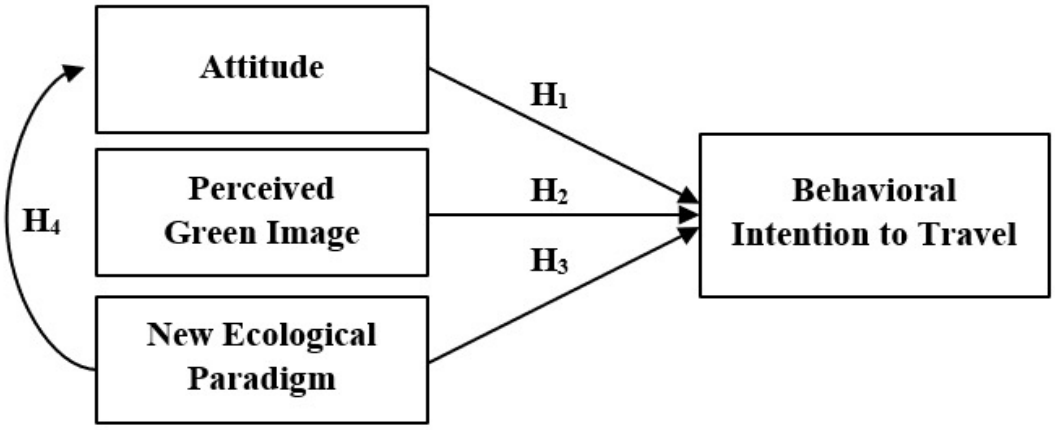
Previous empirical research has established a positive effect of NEP on intentions to travel in a pro-ecological way (Nowacki, et al., 2021). Wang et al. (2018) also showed that tourists scoring high on NEP are more likely to exhibit environmental-stewardship-encouraging tourism behaviors, including, but not limited to, waste reduction, resource conservation, and supporting local sustainability programs. Similarly, Choi et al. (2023) found NEP to be a very important predictor of tourists' intention to engage in ecotourism and low-impact tourism-related activities. These results indicate that environmental worldviews inform the underlying norms through which tourists make decisions, underscoring the need to facilitate and continue to promote leading principles of the ecological view into tourism education and marketing.

Hypothesis 3 (H3): NEP has a positive effect on BIT.
Hypothesis 4 (H4): NEP has a positive effect on ATS.

2.5 Conceptualization

Based on prior research, attitude, perceived green image, and NEP are key determinants shaping behavioral intentions toward sustainable travel. These factors play a crucial role in guiding tourists toward environmentally responsible travel choices. This study proposes the following hypotheses and research conceptual framework.

Figure 1. Research Conceptual Framework



3. Methodology

3.1. Measurement

This quantitative research employed a self-administered questionnaire as a research tool for collecting data from the participants. The measurements for the study constructs were taken from previous research and various authors that have been consistently validated across different contexts. The construct measures of ATS, NEP, and BIT were adopted from Nowacki et al. (2021), while PGI was adopted from Lee & Jeong (2018). All measurements were modified to fit the context of the green destination. Prior data collection, the quality of the questionnaire was measured through validity and reliability tests. The content validity of items was evaluated by three experts. The result of the item-objective congruence (IOC) indexes revealed that all items were higher than the cut off value of 0.60. Nevertheless, some questions were modified as experts' suggestions. After the modification, the questionnaire was distributed to 30 respondents as tryout samples. The result of Cronbach's alpha coefficient of all items was 0.940, which is higher than the threshold value of 0.600 suggested by Hair et al. (2018). Therefore, this research tool was considered appropriate for data collection. For this study, the calculation of sample size suggested 385 samples using Cochran (1977) due to the unknown population.

3.2. Data collection

This study aims to examine the behavioral intention to travel of Thai tourists toward green destinations in Chonburi province. A convenience sampling method was employed to collect data at tourist attractions in Chonburi province between September and October 2024. To comply with the research ethical practices, the study's nature and background were explained to the participants, and the consent form will be made known to participants. The participants were also informed that the data will be kept confidentially as well as their right to withdraw from this study. The questionnaires utilized in this study were based on the 5-point Likert scale which allowed an easy understanding and interpretation of the level of the answers. A total of 405 responses were received, however, during the data screening process, 389 responses were obtained which was considered as sufficient for the suggested sample size in this study, and proceeded for further analysis.

4. Results

The descriptive statistics were used for analyzing respondent profiles, which displayed in table 1. The total number of respondents was 389, mostly female (47.30%) and were in the millennials aged between 28 – 43 years (42.90%). Majority of the respondents held a bachelor's degree (62.70%), and earned 30,001 – 40,000 THB per month (31.40%). The travel frequency 1– 2 times a year displayed a major part of most respondents (74.80%), while spent 2 – 3 days per trip (59.10%).

Table 1. Profile of the respondents

Gender			**Education**		
Male	152	39.1	*Below bachelor's degree*	84	21.6
Female	184	47.3	*Bachelor's degree*	244	62.7
LGBTQIA+	53	13.6	*Above bachelor's degree*	61	15.7
Age			**Period of stay**		
18 – 27 yrs.	82	21.1	*1 day*	114	29.3
28 – 43 yrs.	167	42.9	*2 – 3 days*	230	59.1
44 – 59 yrs.	107	27.5	*4 – 5 days*	27	6.9
Above 59 yrs.	33	8.5	*More than 5 days*	18	4.6
Income (monthly)			**Frequency of travel**		
Below 10,000 THB	29	7.5	*1 – 2 times*	291	74.8
10,001 – 20,000 THB	46	11.8	*3 – 4 times*	74	19.0
20,001 – 30, 000 THB	87	22.4	*More than 5 times*	24	6.2
30,001 – 40,000 THB	122	31.4			
40,001 – 50,000 THB	65	16.7			
Above 50,000 THB	40	10.3			

4.2. Results of regression analysis

The multiple linear regression analysis was employed to test hypothesis 1 – 3 while hypothesis 4 was tested by a simple linear regression analysis. The Durbin-Watson statistic test was used to detect autocorrelation of the residuals of a model. The values between 1.5 and 2.5 are considered acceptable, with a value closer to 2 suggesting the best model fit. Table 2 shows the results to predict influencing factors, including attitude, perceived green image, and new ecological paradigm, on behavioral intention to travel. The results showed statistical significance

(R2 = .473, Adjusted R2 = .469, Sig value < .05), indicating that 47.3% of the variance in behavioral intention to travel was explained by a combination of two independent variables; attitude and perceived green image. The statistic value of Durbin-Watson is acceptable (1.804). In order of importance, attitude toward sustainable tourism (β = .368, Sig. value < .05) positively influenced behavioral intention to travel, followed by perceived green image (β = .336, Sig. value < .05). While a new ecological paradigm (β = -.088, Sig. value = 0.150) had no effect on behavioral intention to travel. Thus, H1 and H2 were supported, while H3 was rejected.

Table 2. Results of multiple regression analysis for the influencing factors on behavioral intention to travel

Independent Variables	B	β	t	P Value
Constant	.793		3.842	000*
Attitude toward sustainable tourism	.368	.358	6.724	.000*
Perceived green image	.336	.346	6.664	.000*
New ecological paradigm	.088	.067	1.441	.150

R = 0.688, R Square = 0.473, Adjusted R Square = 0.469, F = 115.385, P* < 0.05

Table 3 displays the result of simple regression analysis to examine the influence of the new ecological paradigm dimension on attitude toward sustainable tourism. The result showed a statistical significance (R2 = .330, Adjusted R2 = .329, Sig value < .05), indicating that the variance of attitude toward sustainable tourism was explained at 33.0%. The statistic value of Durbin-Watson is acceptable (1.959). It also indicates a new ecological paradigm (β = -.163, Sig. value < .05) influenced attitude. Therefore, H4 was supported.

Table 3: Results of simple regression analysis for the influence of new ecological paradigm dimension on attitude toward sustainable tourism

Independent Variables	B	β	t	P Value
Constant	1.306		6.146	.000*
New ecological paradigm	.730	.575	13.815	.000*

R = 0.575, R Square = 0.330, Adjusted R Square = 0.329, F = 190.864, P* < 0.05

5. Discussion and Implications

5.1. Discussion

The primary objective of this study was to distinguish the factors influencing Thai tourists' behavioral intention to travel to green destinations in the EEC region. Despite the growing attention to sustainable tourism practices by scholars and practitioners, there remains a need to enhance the comprehension of key motivating factors among Thai tourists in this specific context. This study introduces three factors, including ATS, PGI, and NEP that could exert both

direct and indirect effects on BIT. The findings reveal that ATS and PGI positively influence BIT (H1 & H2), while NEP was not found to have a direct significant effect on BIT. Instead, ATS was affected by NEP (H4). This highlights a fresh perspective on the factor influencing behavioral intention to travel in the context of green destinations based on the pro-environmental travelling behavior.

Thai tourists' BIT appraisal was notably influenced by ATS and PGI according to H1 and H2. This underscores that both tourists' sustainable attitudes and their perceptions of a destination green image are key drivers to travel intentions to green destinations. First, these findings suggest that the tourists' behavioral intentions were significantly shaped by their considerate and positive attitude toward sustainable tourism. Similar to Jiang & Gao (2019), ATS plays a significant role in intentions to sustainable travel. Furthermore, Kim et al. (2019) indicated that travelers with pro-sustainability dispositions demonstrated greater intentions towards voluntourism and ethical wildlife tourism, lending further corroboration to the assertion that attitude is a primary driver in sustainable tourism.

Secondly, BIT was significantly influenced by PGI (H2). The role of destination image, particularly when perceived as eco-friendly, is important in tourist's decision making of destination choices. The results are consistent with studies conducted by Song et al. (2022), Wu et al. (2021) and Jan (2019), given that PGI as a construct that can mediate affective and cognitive relationships between tourists and destinations. Tourists tend to travel to destinations they perceive as eco-friendly. Consequently, it is suggested that developing a destination image with ecological or green positioning may significantly enhance BIT. However, NEP had a non-significant effect on BIT (H3), demonstrating that ecological perspectives alone may not stimulate tourists' intention to travel. This is probably described by considering the demographic profile of the respondents, particularly the nationality. The respondents were solely Thai, and their characteristics, attitudes, and values could have influenced the observed outcomes. Demographic variables underscore their importance in interpreting the results, as tourists with different nationalities and cultural backgrounds may vary in their levels of environmental empathy, thereby affecting the responses. However, the study revealed a particular interesting result, as ATS was influenced by NEP (H4), proving that tourists with pro-environmental values, as measured using NEP scale, positively enhance sustainable attitudes, which subsequently affect their intention to travel. This continues to prove the bidirectional relationship between NEP and attitude, evidenced by Hulman et al. (2015) and Dawson (2015), who found that individuals with strong NEP orientations are more likely to develop positive attitudes toward sustainability, especially when exposed to nature-based tourism. Their results reveal that individuals with more eco-centric concerns tend to exhibit sustainable travel behaviors.

Despite the predominance of female tourists within the sample of this study, the gender distribution remains relatively balanced across other demographics. The largest proportion of respondents aged 28 to 43 years is, in fact, a period of stabilization and peak earning potential

in a number of professions. Notably, a wide range of income levels was noted among respondents, with a substantial number earning 30,001 and 40,000 THB. The data suggest that the respondents predominantly come from the middle-income class, which is likely to be reflected in their travel behaviors and preferences. Furthermore, there appears to be a relationship between educational attainment and income levels, since those with higher degrees generally earn more money, potentially making them secure enough financially to travel. Additionally, the majority of respondents expressed a preference for short-duration trips, typically lasting 2 to 3 days. This pattern implies that financial constraints, work obligations, and the physical distance of travel are some of the variables that frequently limit travel. In particular, the provinces of Chachoengsao, Chonburi, and Rayong are part of the Eastern Economic Corridor (EEC) region, which is located in eastern Thailand and in close proximity to Bangkok. Consequently, travelers' choices of destinations and length of stay are likely to be greatly influenced by the comparatively short transit distances.

5.2. Academic and practical implications

5.2.1 Theoretical implications

This research findings contribute to the tourism literature by clarifying the key factors influencing BIT with the connection of sustainable tourism and travel behavior. This study affirms that attitude toward sustainable tourism (ATS) and perceived green image (PGI) are significant determinants in the formation of sustainable behavioral intention to travel. Thus, it reinforces existing theoretical frameworks on behavior study such as Theory of Planned Behavior (TPB), within the context of Thailand sustainable tourism. In addition, new ecological paradigm (NEP) indirectly effects on BIT through ATS, indicate a more layered understanding of behavioral mechanisms. This proves the importance of distinguishing between value-based influences and direct attitudinal drivers in sustainably research. Moreover, this research specifically provides a deeper understanding of domestic behavioral model toward green destinations in Thailand's Eastern Economic Corridor (EEC), providing valuable insights of psychological constructs can manifest within the specific socioeconomic group. Consequently, this study creates opportunities for comparative studies between regions with different levels of suitability settings.

5.2.2 Practical implications

This research offers important insights for destination authorities and policy makers, can utilize the findings to promote sustainable tourism, particularly in the EEC and emerging destination. Firstly, the vital role of perceived green image (PGI) influencing travel intentions suggests that relevant stakeholders must develop strategies aimed at cultivating compelling and visible green image. This is not only implementing green or sustainable practices but also the effective communication that can increase these perceptions among targeted tourist groups. Secondly, reinforcing tourists' pro-environmental attitudes, along with simultaneously promoting the green image of the destination, is a necessity. Stakeholders should integrate sustainability aspects into tourist experience journey to ultimately foster tourists' cognitive and affective orientation

with sustainable values. Lastly, EEC is encouraged to incorporate sustainable tourism development into its strategic plans, such as investing in green infrastructure and eco-friendly transports, to promote environmental protection and drive positive economic impacts to the region. This initiative ensures that sustainable tourism supports the country's long-term resilience and inclusive growth.

5.3. Limitations of this study and suggestions for future research

The primary limitation of our work lies in the population, as the study focused exclusively on Thai tourists visiting green destinations, therefore, generalizing the findings should be approached with caution. To enhance the generalizability and applicability of the proposed theoretical framework, future studies should consider examining a broader and more diverse sample, including international tourists. Furthermore, while this study concentrated on understanding tourists' sustainable behavioral intention to travel based on a limited set of determinants, future studies could delve more comprehensively into the broader domains of pro-environmental behavior, including travel intentions, green purchase intentions, and environmentally responsible daily activities. Utilizing the Theory of Reasoned Action (TRA) as an initial framework, researchers can extend on the model by investigating the influence of additional determinants on tourist behaviors across a green destination setting.

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The Influence of Social Learning on Young People's Intentions to Visit Sustainable Tourism Destinations: The Mediating Role of Smart Tourism Technologies (Paper#157)

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Abstract:

Social learning plays a crucial role in influencing tourists' decisions to engage in sustainable tourism activities. In the digital age, young generations increasingly rely on social media, influencer content, and digital platforms to shape their travel preferences. This study explored the connection between social learning and the intention to visit sustainable tourism destinations among the younger generation, with a focus on the mediating role of smart tourism technologies (STTs). Using a quantitative approach, the research sample consisted of young people in Indonesia who had taken a trip and utilized smart tourism technologies within the past 12 months. The results indicate that social learning influences the intention to visit sustainable tourism destinations among the younger generation, with smart tourism technologies acting as a mediator in this relationship. This study highlights the significant role digital tools play in transforming social learning into sustainable tourism practices. It contributes to the academic discussion by positioning STTs as a link between social learning and the intention to visit sustainable tourism destinations.

Keywords: Intention to visit, Smart tourism technologies (STTs), Social learning, Social norms, Sustainable tourism, Tourism behavior



Theme: Human Resource in hospitality

Developing and Validating a Career Mobility Checklist: The Case of Lodging Industry Employees (Paper#031)

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Abstract

As the concept of mobility is becoming influential in organizational performance assessments, this study develops a comprehensive career mobility checklist for applications in the lodging industry. The newly developed career mobility checklist is evaluated for its predictive validity by using four criterion variables. This study conducts an extensive review of literature, expert interviews, and a national survey of lodging employees. The developed career mobility checklist is found to exhibit strong predictive validity, promising opportunities to enrich management theories and practices.

Keywords: Career, Mobility, Organizational loyalty, Job satisfaction

1. Introduction

The concept of mobility is emerging as an important criterion for evaluating the performance of various organizations. Social mobility, for example, is often viewed as an indicator of the society's economic as well as social health (Jenkins et al., 2017; World Economic Forum, 2020). In the United States, two influential university ranking organizations, the Carnegie Foundation, and the U.S. News and World Report, also began to adopt students' social mobility recently as a critical performance dimension in ranking colleges and universities. Studies have shown that increases in social mobility could contribute positively to the growth of national gross domestic product (GDP) (Jenkins et al., 2017) and individual well-being alike (Stumpf & Tymon, 2012).

Application of the mobility concept in industry, especially of hospitality, is limited. From the standpoint of employees, the nature of their jobs and career is inherently dynamic. Until they acquire the last position prior to their planned retirement, workers generally seek a job or position within or outside the current organization that can not only fulfill their current financial needs but also serve as a steppingstone for more desirable future employability (Abbott, 2003; Forrier et al., 2009). Therefore, employees' career mobility perspective embedded in the current job and organization may become a critical implicit or explicit aspect affecting their job-related perceptions and behaviors (Arthur et al., 2005; Gubler et al., 2014).

One barrier to the industrial or organizational usage of the mobility concept is the lack of a reliable measurement tool. Although organizational researchers attempted to conceptualize mobility in terms like organizational career mobility (Vardi, 1980), protean career (Hall, 1996), or boundaryless career (Arthur & Rousseau, 1996), these descriptive efforts failed to provide a practical measurement tool of career mobility for use in organizational research and management. The hospitality field shares the same research gap to a greater extent, despite the recent career studies addressing mobility trajectories and career patterns (Tolkach & Tung, 2019) and career adaptability and perceived career mobility (Rasheed et al., 2017). A reliable career mobility checklist measurement will be an essential tool for hospitality organizations to provide accurate data to inform decisions about employee development and career progression strategies. It will enable benchmarking against industry standards, highlight areas for improvement, and drive initiatives to improve career mobility. Furthermore, understanding career mobility from the employee's perspective can significantly improve engagement and job satisfaction, as employees who see a clear path to advancement are more likely to be motivated and committed.

The purpose of this study, therefore, is to address this research gap by developing a comprehensive checklist for measuring organizational performance on career mobility in the eyes of lodging employees. This study also substantiates the usefulness of the career mobility checklist by assessing its predictive ability in the lodging industry for a set of widely studied organizational research variables such as occupational pride, job satisfaction, organizational loyalty, and employee well-being. By doing so, this study attempts to contribute to hospitality, especially lodging, organization research and management practices geared to employees' career success and well-being.

2. Literature Review

The concept of career mobility has gained significant attention in recent years as organizations strive to enhance employee satisfaction, retention, and overall well-being. Career mobility refers to workers' occupational histories describing the structure of careers over time (Abbott, 2003), a pattern of job changes throughout one's work life (Hegedus & Hartman, 1992), or a transition from one job to another (Forrier et al., 2009). Career mobility may occur within the same organization, as traditionally viewed, or across different organizations, as more recently conceptualized (Arthur et al., 2005). As career mobility contributes to the employee's employability,

career success, and well-being through capacity and experience building, career mobility within organizations should be viewed as an investment toward workforce development and retention (Malos & Campion, 1995). Hence, understanding career mobility from the perspective of employees is crucial for justifying such organizational investment, not to mention achieving organizational success in talent acquisition and retention. This study explores the multifaceted nature of career mobility and its impact on occupational pride, job satisfaction, organizational loyalty, and well-being.

2.1. Occupational pride

Occupational pride is a significant outcome of positive perceptions of career mobility. It originates from an overall evaluation of organizational and occupational performances and identifies with the organization or occupation as authentic job pride (Magee, 2015). Essentially, occupational pride refers to one's pride in the work one does and, to a large extent, the organization one is affiliated with. A stagnant or immobile career stuck in a company can be damaging to one's pride, causing potential disengagement and turnover (Tracy & Robins, 2007). Thus, positive perceptions of career mobility offered by an organization tend to elevate employees' pride in their job and organization.

H1: Career mobility has a positive relationship with occupational pride.

2.2. Job satisfaction

Another important outcome of positive career mobility perceptions in an organization is employee satisfaction with their job performed in the organization. Job satisfaction, therefore, refers to one's positive assessment of the various dimensions inherent in the workplace, including the affective, motivational, cognitive, behavioral, and psychosomatic dimensions (Pereira et al., 2019). Career mobility and job satisfaction share similar relationships with occupational pride (Kraemer & Gouthier, 2014), industry loyalty (Stroh & Reilly, 1997), and perceptions of social mobility (Stumpf & Tymon, 2012). This study employs job satisfaction as another criterion for a predictive relationship with career mobility.

H2: Career mobility has a positive relationship with job satisfaction.

2.3. Organizational loyalty

The presence of career mobility opportunities in an organization tends to retain employees within the organization. Organizational loyalty in this study refers to an employee's intention to stay with their current organization, contributing to lower turnover rates and workforce development costs (Stroh & Reilly, 1997). The three-component model of organizational commitment provides three different reasons why an employee might choose to stay with a company (Meyer & Allen, 1991). One is the employee's affective commitment to the company, which is the most desirable form of commitment, that allows an employee to identify strongly

with the organization's values. Another is the employee's continuance commitment that is formed based on the perceived costs of leaving the organization. The other is the normative commitment that arises from a sense of moral obligation. Organizational loyalty can be measured positively by asking whether the employee intends to stay with the company or negatively by asking whether one intends to quit or switch the current employer.

H3: Career mobility has a positive relationship with organizational loyalty.

2.4. Well-being

The ways to measure well-being depend on context and space (VanderWeele et al., 2020). At least three approaches to measuring well-being are available (Kahneman, 2003). A hedonic approach focuses on whether one feels happy or experiences pleasure in life; an evaluative approach attempts to capture one's overall satisfaction with life; and a eudaimonic approach gauges whether one has attained a state of self-actualization fulfilling a sense of purpose in one's life. A general agreement is that well-being is a global measure of one's satisfaction or feeling about the overall outcome of life, and it encompasses a broad spectrum of life trajectories that may require a multidimensional measurement approach. As an important source of individual well-being, one's career and mobility are expected to contribute to or undermine one's well-being and related perceptions.

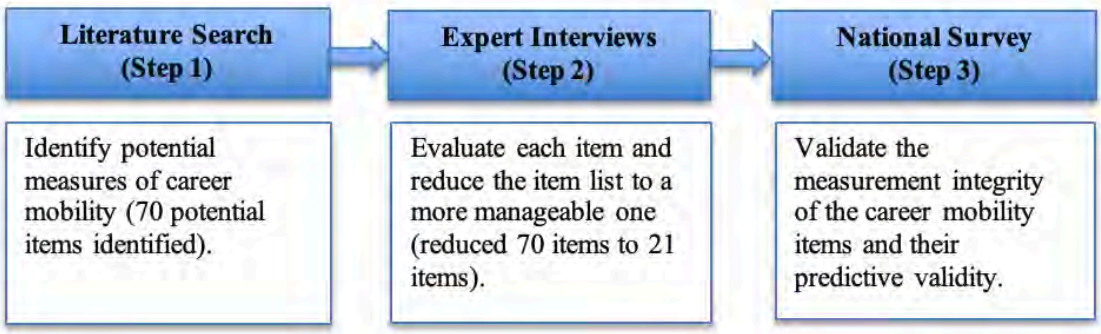
H4: Career mobility has a positive relationship with well-being.

3. Methodology

3.1. Study design

This study employed three steps to accomplish the study goals, as depicted in Figure 1. First, we conducted an extensive literature review on the topics published over the past 50 years to identify potential factors influencing career mobility. This review resulted in a comprehensive list of 70 non-overlapping career mobility factors. To reduce this list to a manageable size by eliminating redundant and less critical items, we conducted expert interviews with eight (of the 16 contacted) prolific researchers recruited from around the world. The experts rated each of the 70 items by using Lawshe's (1975) approach to content validity in the application of a 3-point scale, followed by a brief online interview with us. This phase of qualitative research yielded a concise list of 21 career mobility factors, which were scored as either 'important' or 'extremely important.' The third step involved an electronic survey of 470 lodging industry employees in the United States, conducted in collaboration with Qualtrics for sampling and data collection. These current lodging employees evaluated the performance of their company on each of the 21 items and provided their opinions as to the four criterion constructs.

Figure 1. Study Design Summary



Qualtrics' national consumer panel was the sampling frame. A within-panel random sampling approach ensured the screening out of non-lodging employees and secured a minimum sample size of 385, based on Qualtrics' sample size calculation, to achieve fair representation of all lodging employees in the United States. The self-administered electronic survey included 21 career mobility items, the four criterion constructs measured with multiple items, and a few demographic questions.

3.2. Measurement

The main independent variable, career mobility, consisted of the 21 items we developed from the literature review and expert interviews. The respondents evaluated their current lodging company's performance on each of these 21 items using a 5-point scale, ranging from 'poor (1)' to 'excellent (5).' Occupational pride was measured using four items on a 5-point Likert scale, adapted from Magee (2015) and Yeung & Shen (2019). Job satisfaction followed Gattiker and Larwood's (1988) three-item measurement approach on a 5-point scale ranging from 'very unsatisfied (1)' to 'very satisfied (5).' Organizational loyalty, one's intention to stay with the current company, was measured with four items on a 5-point Likert scale (Costen & Salazar, 2011; Kraemer & Gouthier, 2014). Finally, the measurement of employees' well-being followed the recently recommended approach of subjective psychological well-being (VanderWeele et al., 2020), and it was operationalized into three summary items on a 5-point Likert scale.

3.3. Data analysis

Data analysis relied on the variance-based partial least square structural equation modeling (PLS-SEM) approach with SmartPLS v. 4.1.0.9, based on several reasons recommended by Hair et al. (2019) and Hair et al. (2022). Among others, the analyses were concerned with testing the prediction perspective of career mobility. The model also included the career mobility construct specified as formatively measured with the 21 items because these items were conceptually not interchangeable in measuring career mobility (Diamantopoulos, et al., 2008; Hanafiah, 2020). As the 21 career mobility items assessed a variety of corporate performances to ultimately enhance employee career mobility, they could be combined into a career mobility index using a formative item modelling approach. The other four endogenous constructs were modeled using their reflectively measured items, as these constructs measured trait-like behavioral aspects.

4. Results

4.1. Expert interviews

The eight experts consisted of five males and three females. Five of the eight were affiliated with colleges or universities, while three were employed by non-profit organizations or research centers. Two were from Australia, one from Belgium, two from the United Kingdom, and three from the United States. The other eight experts we initially contacted but who declined to participate included seven from the United States and one from France, with four affiliated with higher education institutions and four with private or non-profit organizations. These expert interviews resulted in the 21 career mobility items (see Table 2) that were usable in the subsequent national survey of lodging employees.

4.2. Survey of lodging employees

The 470 lodging industry employee sample consisted of 255 males (54.3%) and 211 females (44.9%). The majority of them reported their age as in their 20s or 30s (59.0%), with 33.4 percent reporting high school or less for their highest education level. Nearly 54 percent were Caucasian, followed by 27.4 percent African Americans and 10 percent Hispanics. The number of respondents reporting their job position ranged from 36 (7.7%) for self-employed to 144 (30.6%) for managerial positions. A predominant number of them (64.5%) had been leading their career only in the lodging industry. More than 71 percent of the respondents worked for a 4-star or 5-star hotel, and nearly 54 percent worked for a chain hotel. Table 1 summarizes the sample characteristics.

Table 1. Survey sample characteristics.

	Sample (n=470)	
	n	Percent
Gender		
Male	255	54.3
Female	211	44.9
Age		
< 30	124	26.4
30-39	153	32.6
40-49	113	24.0
50-59	64	13.6
60 or older	16	3.4
Education		
Less than high school	8	1.7
High school diploma	149	31.7
Associate degree	108	23.0

	Sample (n=470)	
	n	Percent
Bachelor's degree	121	25.7
Master's degree	73	15.5
Doctoral degree or equivalent	5	1.1
Ethnic background		
Caucasian	253	53.8
African American	129	27.4
Hispanic	47	10.0
Asian	21	4.5
Native American	9	1.9
Multi-racial	7	1.5
Current position		
Executive	58	12.3
Managerial	144	30.6
Office staff	115	24.5
Service attendant or entry-level	116	24.7
Self-employed	36	7.7
Employment history		
Lodging only	303	64.5
Mixed	167	35.5
Star rating worked		
1-star	2	0.4
2-star	8	1.7
3-star	82	17.4
4-star	206	43.8
5-star	129	27.4
Hotel type		
Chain	252	53.6
Independent	200	42.6

Note: The sum of each variable category may not equal the total due response options with low frequencies.

4.3. Career mobility measurement

The 21 career mobility measurement items appear in Table 2, along with their outer weights and loadings. As they were modeled as formative indicators for reasons discussed earlier, we ensured construct validity and reliability by examining three aspects: (a) convergent validity, (b) indicator collinearity, and (c) relevance of indicator weights (Cheah, et al., 2018; Chin, 1998; Hair et al., 2022). First, convergent validity refers to the degree to which the formative construct correlates with an alternatively measured reflective variable of the same concept. For this redundancy analysis (Chin, 1998), we measured overall perceived career mobility with four items (e.g., "Since I joined the hotel/lodging industry for the first time, my occupational status has grown significantly."). These four items were reliable with loadings = .79 - .85, α = .83, composite reliability = .89, and average variance extracted (AVE) = .66. The redundancy analysis results appear in Table 2, which indicated R2 higher than the recommended minimum of .50 (Hair et al., 2022).

Second, collinearity among the 21 items of career mobility was not a critical concern because the variance inflation factor (VIF) was all below the recommended criterion of 5.0 (Hair et al., 2022). The highest VIF value was 2.48.

Third, examining the outer weights, t-test results, and confidence intervals from the bootstrap (10,000 subsamples, α = .05) procedure indicated that many of their relative contributions to measuring career mobility were small to statistical insignificance. Given the large number of formatively modeled items, such results were realistic. Nonetheless, the significant and substantive loading sizes pointed to each indicator's meaningful absolute contribution to career mobility consistently across the two studies (see Table 2). Moreover, given the empirical nature of these measurements, whose performance could vary across organizations and industries, retaining all items was a sensible choice for the sake of comprehensiveness and future research (Hair et al., 2022).

Table 2. Measurement results of career mobility.

	Sample (n=470)	
Career Mobility Measures	Outer Weights	Outer Loadings
1. Starting salary level	0.19	0.76
2. Salary raise over time	0.03	0.72
3. Promotion opportunities within the company	0.18	0.76
4. Job rotation and job modification opportunities	0.12	0.75
5. Performance review and feedback	0.01	0.70
6. Training for upskilling and professional development	0.10	0.78
7. Mentoring, coaching, and supervisor support	0.02	0.72
8. Leadership development opportunities	0.04	0.71
9. Empowerment	0.15	0.77
10. Benefit package (pension, insurance, healthcare, etc.)	0.09	0.70

Career Mobility Measures	Sample (n=470) Outer Weights	Outer Loadings
11. Paid performance incentives (leave, vacation, etc.)	-0.05	0.64
12. Flexible working options (e.g., working if office or from home)	0.06	0.70
13. Company image and reputation	0.08	0.68
14. Organizational culture	-0.07	0.67
15. Employee performance recognition	0.07	0.73
16. Respect for diversity, equity, and inclusion	0.15	0.66
17. Fairness and transparency in policies and decisions	0.02	0.66
18. Job security	0.04	0.63
19. Professional networking opportunities	0.09	0.71
20. Overall industry image and reputation	0.01	0.62
21. Salary competitiveness compared to other industries	0.03	0.69
Redundancy analysis results	.75 (t = 31.79)	
R^2	.56	

4.4. Measurement of the criterion variables

The results of the measurement model for the four criterion constructs appear in Table 3. The measures exhibited consistently significant, substantial factor loadings for all construct measures, confirming the convergent validity of each construct (Hair et al., 2022). The internal consistency α and composite reliability were all high, and the AVE was higher than the suggested minimum of .5 for all constructs, providing additional evidence for each construct's convergent validity. The constructs were all successfully discriminated from each other as the heterotrait-monotrait (HTMT) ratio of correlations was all below the suggested maximum of .90 (Henseler et al., 2015). In addition, the squared inter-construct correlations were smaller than any AVE value in both studies, thereby satisfying the Fornell-Lacker criterion for discriminant validity (Fornell & Larcker, 1981). Thus, the convergent and discriminant validity of the constructs was established, providing a suitable measurement model for assessing the predictive relationships between career mobility and the four criterion constructs.

Table 3. Measurement of the criterion constructs.

Constructs and Measures	Sample (n = 470) Outer Loadings[a]	Reliability & Validity
Occupational Pride		
I am proud to be part of the hotel/lodging industry	.84	.85[b]
I am proud to tell others that I work for the hotel/lodging industry.	.85	.90[c]
I am proud to identify myself with the hotel/lodging industry.	.82	.70[d]
I am proud if others associate me with the hotel/lodging industry.	.83	
Job Satisfaction (How satisfied are you with…)		
What you do in your current position in your company.	.84	.80
Your current position and role in your company.	.86	.88
The responsibilities you fulfill in your professional position.	.84	.72
Organizational Loyalty		
I intend to stay with my current company for as long as possible.	.80	.80
It will be highly unlikely for me to leave my current company in the near future.	.80	.87
I intend to continue developing my career within my current company.	.80	.63
My current company is ideal for my long-term career plan.	.78	
Well-being		
I am satisfied with the quality of my life.	.88	.85
I am satisfied with myself.	.86	.91
I feel that I am living a meaningful and fulfilling life.	.89	.77

Note: [a] All loadings are statistically significant ($p < .01$); [b] Cronbach's alpha, [c] composite reliability, [d] average variance extracted (AVE)

4.5. Predictive validity of career mobility

Table 4 summarizes the results of PLS-SEM regression analyses, where the career mobility construct serves as the exogenous index variable (i.e., formative) and the four criterion variables are the endogenous latent constructs (i.e., reflective). All path coefficients appeared statistically significant ($p < .01$), supporting all proposed hypotheses (H1 to H4) and the amount of variance in each criterion construct that was explained by the career mobility index was also significant ($p < .01$) and substantial with a minimum of 39 percent (occupational pride). These results empirically substantiated the predictive validity of the newly developed career mobility checklist in this study.

Table 4 Path coefficients from career mobility to the criterion constructs.

Criterion	Path coefficient		R^2		Hypothesis Testing
	Estimate	Standard error	Estimate	Standard error	
Occupational pride	.61*	.03	.39*	.05	H1 supported
Job satisfaction	.68*	.04	.47*	.04	H2 supported
Organizational loyalty	.69*	.03	.47*	.04	H3 supported
Well-being	.74*	.02	.55*	.03	H4 supported

*$p < .01$

5. Discussion and Implications

5.1. Discussion

The purpose of this study was to address a pressing research need by developing a comprehensive measurement tool of career mobility, which will aid in future organizational research and workforce management practices in the hospitality industry. To that end, we conducted extensive literature reviews and identified 70 potential career mobility measures. These measures were evaluated by eight experts worldwide for their assessment of the importance of each measure for inclusion in career mobility assessments. As a result, we finalized a parsimonious checklist of 21 career mobility measures. The 21-item career mobility checklist was then administered to a random sample of 470 current lodging employees to obtain empirical data on career mobility and its potential consequences.

The 21-item career mobility checklist can serve as a practical tool for workforce management in the lodging industry and beyond. The checklist passed through rigorous evaluations in various past management studies and expert reviews in this study. It contains a broad spectrum of organizational performance dimensions, allowing a thorough assessment of how a company supports its employees for professional and career development over time. As this study demonstrated, the checklist can be a useful dashboard for companies and industries. If administered regularly over time, it can provide valuable insights into the trajectory of organizational performance in terms of employee support, as viewed from the employee perspective.

The career mobility checklist exhibits strong predictive validity by supporting all proposed hypotheses. The four criterion variables are widely researched variables in the management field, not to mention the hospitality discipline. The checklist explained 39 percent of the variance in occupational pride, 47 percent in both job satisfaction and organizational loyalty, and 55 percent in employees' perceptions of psychological well-being. These results highlight the importance of career mobility in influencing employees' pride in their jobs, job satisfaction,

intention to stay with the company, and overall life satisfaction. Notably, the substantive shared variance with well-being perceptions suggests that dynamic aspects of one's career are indeed important to one's overall well-being.

5.2. Academic and practical implications

The career mobility checklist developed in this study can benefit both future research and industry practices. Management research, including that of hospitality, has not provided a conceptual and methodologically sound tool to measure career mobility. It may not be a job that workers seek, but it may be a job that serves to elevate their future careers and overall well-being. Thus, this new career mobility checklist offers a useful framework for measuring the dynamic aspects of a career, providing new opportunities to enrich management theories of organizational commitment, turnover, well-being, and other related concepts. Future research on workforce development and retention should incorporate career mobility as an important input or moderating variable in various employee decisions relevant to organizational policy and the development of employee support programs.

The career mobility checklist can be useful for effective workforce management. Human resources executives and employment managers should consider implementing this tool to collect employee feedback on organizational performance toward developing and retaining talents. The lodging industry, and the hospitality industry in general, suffers chronic labor shortages, and the recent pandemic exacerbated this problem significantly. It seems apparent that workers consider not only the job itself but also the upward mobility it can offer when they form occupational pride, organizational satisfaction, and loyalty intention. Therefore, the checklist offers a practical opportunity to measure and incorporate the aspect of employee career mobility into various organizational policy decisions.

The career mobility checklist can also be used to help other hospitality industries. Although it was developed with lodging employees, minimal modifications may allow other hospitality and travel organizations to benefit from what the checklist can gather, that is, rich information as to how the organization performs on supporting employee career development and mobility. When the checklist is implemented across multiple organizations, managers can also obtain valuable benchmarking information. In this sense, the industry-wide implementation of the career mobility checklist appears to be an interesting next step in this line of research.

5.3. Limitations of this study and suggestions for future research

Future research can build on the limitations of this study. For example, the career mobility checklist was developed with lodging employees, but replications of this study in other industry employees will offer desirable opportunities to cross-validate this tool before it is implemented. Another avenue for future research is to address the motivational aspect of career

mobility. It is conceivable that some workers are more motivated to develop their career and that such motivation may moderate their decision to choose an organization for their career. Thus, workers' motivation for each of the career mobility checklist items can be examined as part of future mobility studies. Ultimately, further research should be devoted to developing comprehensive theories of career mobility. Our review of the relevant literature indicates that most previous research on career mobility has been grounded in descriptive purposes rather than cultivating or applying powerful theories. Basic research or empirical studies that showcase the creative applications of existing theories to explain the role of career mobility would contribute meaningfully to the much-needed research on career mobility in general and in the hospitality field in particular.

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Are hospitality employees able to perform green service innovative behaviour? Their adaptability and technology readiness (Paper#065)

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Abstract:

In today's technology-, innovation-, and sustainability-directed hospitality environment, organisations require adaptable and technologically proficient frontline employees to meet related challenges effectively. Building on demands-abilities fit theory, the present study aims to examine the impacts of hotel service employees' adaptability and technology readiness (TR) on their green service innovative behaviour (GSIB) and the moderating effects of organisational learning culture (OLC) on the relationships between adaptability, TR and GSIB. The findings from 647 respondents indicate the positive effects of adaptability and TR on GSIB. However, the moderating effect of OLC was not substantiated.

Keywords: Adaptability, Technology Readiness, Green Service Innovative Behaviour, Organisational Learning Culture, Sustainability

1. Introduction

In the times of emphasising technology, innovation and sustainability, the hospitality industry has been facing two main challenges in recent years. First, the increasing demand of green hospitality during and following the global pandemic (Hospitality Technology, 2022); Second, overwhelming technology development and its widespread and extensive use in hotels. In response to the megatrend, apart from actively adopting green technologies and artificial intelligence (AI) to promote environmental sustainability (e.g., optimising energy efficiency, waste reduction) (Chui et al., 2022) and green service innovative behaviour (GSIB), hospitality leaders have strived to extensively integrate smart technologies in their routine operations and service delivery, such as using app platforms to communicate with guests on the service arrangements

(Jaffer, 2021), automated robotic kitchen and service robot to perform routine functions in hotels (e.g. check-in and check-out functions) (Ma et al., 2022). On the one hand, the active use of technology can refine and optimise work practices, products and services for effective operations and management, but on the other hand, the technology- and sustainability-initiated changes require hotel frontline employees to adapt to and apply them in routine operations to meet customers' expectations for green and innovative hospitality from their company. Considering that adaptive performance can drive an organisation to respond to externally initiated changes (Shoss et al., 2012) and that frontline staff are central to guests' satisfaction and perceived service quality (Sony & Mekoth, 2016), arguably, hospitality organisations demand adaptable and technologically ready frontline employees to engage in GSIBs to appropriately address the challenges. However, do hotel frontline employees have the abilities (adaptability and technology readiness) to implement the work changes, use smart devices or technologies and demonstrate GSIB in highly dynamic work settings? As organisational culture establishes value and belief, defines thinking pattern, and shapes behaviours of employees (Yeşiltaş et al., 2022), plausibly, a culture that encourages employees' continuous learning, such as smart /green technologies, innovation, may enhance employees' abilities to perform desirable behaviours. Building on demands-abilities fit of person-environment fit theory (Edwards, 1996), this study suggests that the match between the technology-, innovation-, and sustainability-directed hospitality environment and employees' adaptability and technology readiness (TR) can result in GSIBs. The current study aims to examine how frontline service employees' adaptability and TR affect their GSIB and the moderating effect of organisational learning culture (OLC) on the relationships.

2. Literature Review

2.1. Adaptabiltiy

Adaptability is defined as an employee's ability to adapt to changing situations in the workplace (Pulakos et al., 2000), reflecting one's personal flexibility (Van der Heijde & Van der Heijden, 2006). Considering the interactive service context facing service employees, Sony and Mekoth (2016) proposed seven dimensions of adaptability, including interpersonal, service-offering, organisation, political, social, physical and group to help service staff respond to different needs of customers.

2.2. Technology readiness

Technology readiness (TR) reflects one's tendency to accept and use new technologies to accomplish goals at work or at home (Parasuraman, 2000). The multi-faceted construct captures four personality traits: optimism, innovativeness, discomfort and insecurity (Parasuraman, 2000), to reflect how prepared individuals are for learning and embracing technologies at their workplace (Kim & Han, 2022).

2.3. Adaptability, TR and GSIB

Service employees in hospitality must adapt to various host-guest interactions to meet organisational and customer expectations, highlighting the importance of flexibility (Prentice & King, 2013) and adaptability. Additionally, the widespread use of technology in routine operations, including human-machine interactions for guest services and operational tasks (Zhang et al., 2020), indicates that hotel companies require employees to possess TR. Hence, in the technology-, innovation-, and sustainability-directed hospitality context, this study suggests that employees' adaptability and TR are the important abilities demanded by hospitality organisations leading to GSIB. Research indicates that OLC makes employees feel the support from their managers (Škerlavaj et al., 2007) and encourage continuous learning and improvement of knowledge, skills and the ability to cope with a changing environment (Lin et al., 2021). Based on this premise, this study also explores whether OLC moderates the relationships between adaptability, TR and GSIB.

3. Methodology

3.1. Research design and sampling approach

This is a cross-sectional study and adopted quantitative approach to explore the relationships among frontline service employees' adaptability, TR and GSIB. Hence, a purposive, criterion sampling approach was used to select full time hotel staff who were employed in a service role involving contact with customers. An invitation email outlining the purpose and significance of the study, as well as assuring confidentiality, was sent to hotel general managers for their participation. Upon receiving consent, the survey was conducted with the assistance of human resources department.

3.2. Data collection

A self-administered questionnaire framed in the hospitality context was constructed in Chinese and English versions. All measurement items were measured using a 7-point Likert-type scale ranging from 1(strongly disagree) to 7 (strongly agree). Hotel frontline service staff were invited to complete the questionnaire (paper or electronic format). Finally, 647 valid responses from 14 three to five stars hotels in Hong Kong were collected for further statistical analysis using PLS-SEM.

4. Results

4.1. Profile of the respondents

Among the respondents, male and female employees accounted for 45.3% and 54.7% respectively. The respondents were mostly young with 58.3% of them aged between 18 and 35 years. They in general were formally educated to a high school level or above, with 257 (40.0%) and 330 (51.4%) of the respondents have completed secondary/high school level and college/university/ postgraduate level education respectively. The respondents mainly worked in three main

operational departments: front office (25.0%), housekeeping (25.7%), and food and beverage (45.1%). Regarding employment in the current hotel, 5 years or fewer, 6-10 years, and 11 years or above accounted for 51.5%, 22.7% and 25.8% respectively.

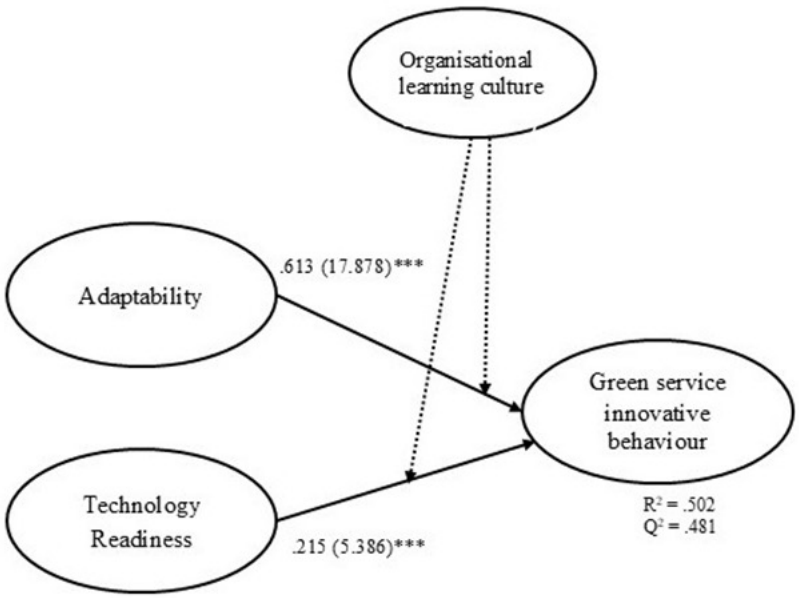
4.2. Results of path analysis

Table 1 presents the results of path analysis. The path co-efficient between adaptability and GSIB (β = 0.613, t = 17.878), and between TR and GSIB (β = 0.215, t = 5.386) evidenced the direct positive effects of adaptability and TR on GSIB. However, the moderating effects of OLC on Adaptability-GSIB and TR-GSIB relationships were insignificant. As shown in Figure 1, the R-squared value (0.502) reveals the moderate in-sample predictive power of adaptability and TR in this PLS model. For the out-of-sample predictive power, the Q-squared value (0.481) was greater than zero, demonstrating the substantial predictive relevance of the PLS model.

Table 1. Path coefficients

Parameter	Estimate	*t*-values
Adaptability → GSIB	0.613	17.878***
TR → GSIB	0.215	5.386***
OLC x Adaptability → GSIB	0.013	0.352
OLC x TR → GSIB	-0.008	0.247

Figure 1. Stuctural model and path coefficients (t-values)



5. Discussion and Implications

5.1. Discussion

The results revealed that frontline service staff generally possess certain levels of adaptability and TR to support them in performing GSIB in routine operations. The positive relationship between adaptability and GSIB aligns with Xie et al. (2020) that adaptable service employees can exercise their ability such as flexibilities in multiple job aspects, including service offering, team interaction and collaboration, as well as organisation, and manage changes of work practices, policies and procedures to respond to the demand of green hospitality setting. Additionally, the findings indicate the positive attitude, such as readiness in this study, of service employees for using technology enabled equipment and devices within their work settings. The positive relationship between TR and GSIB conforms to Kulkarni et al. (2024) that technologically ready frontline service employees are relatively optimistic and innovative facing the widespread use of technology and AI in hospitality settings, thereby motivating them to engage in GSIB. However, the insignificant moderating effects of OLC on adaptability-GSIB and TR-GSIB relationships suggest two implications. First, a learning culture in hospitality organisations may not provide adequate support or effectively motivate employees to pursue further learning for performance improvement or enhancement. Second, frontline service employees in highly interactive and demanding work settings need to adapt to work changes and acquire new skills, which may lead to exhaustion and stress. Consequently, they may be less inclined to actively pursue improving or enhancing their job skills and knowledge, even when their company offers resources or support for continued learning.

5.2. Academic and practical implications

Academically, the positive relationships among adaptability, TR and GSIB has demonstrated that adaptability and TR are fundamental abilities frontline service employees should possess to meet the requirements of hospitality organisations. Hence, this study echoed the demands-abilities fit framework of Edwards (1996) that adaptability and TR are the abilities that fit the demands of the technology-, innovation-, and sustainability-directed hospitality context nowadays, leading to desirable organisational outcomes, such as GSIB. Practically, hospitality organisations operating in a highly complex and dynamic environment with increasing customer demands should foster and promote OLC specifically focusing on innovativeness and green hospitality, as benchmarks for modern hospitality service quality. Given that frontline service staff use their adaptability and TR to perform GSIB that supports their company in meeting the evolving trends in hospitality, it is imperative for hospitality leaders to meticulously design and implement OLC in ways that employees are receptive to, thereby enhancing their adaptability, TR and GSIB.

5.3. Limitations of this study and suggestions for future research

The cross-sectional design of this study represents the specific research phenomenon, implying that the findings may be different if the data were collected at another time. The causal relationship proposed in this study should be inferred with caution. The quantitative approach adopted in this study implies that future research can use qualitative methods, such as semi-structured interviews, to scrutinise the underlying mechanisms, such as how specific dimension of adaptability and TR influences employees' GSIB.

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Theme: Adapting to Changes in Tourism & Hospitality

A phenomenographic inquiry on the managerial challenges of foundation and local government unit (LGU)-led cultural festivals (Paper#015)

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Abstract:

Festivals are vital to invigorating local economies and fostering social transformation. Despite abundant literature on festival management, research focusing on the unique challenges festival managers face is scarce. This investigation spotlights the hurdles experienced by Filipino festival managers in both private and local government contexts. Through phenomenography and semi-structured interviews with eleven (n=11) managers representing six key festivals, a robust Taxonomy of Filipino Festival Managers' Challenges is developed, significantly enriching our comprehension of this essential area.

Keywords: festival managers, festival management, challenges, phenomenography, Philippine festivals

1. Introduction

Festivals serve as powerful catalysts in tourism, significantly boosting local economies and supporting host communities (Tolle, 2014). For instance, the Outside Lands music and arts festival generated a remarkable $29.63 million in 2019, making it the highest-grossing festival worldwide (Götting, 2022). Festivals account for 40% of global tourism, creating about 33 million jobs and projecting an increase of $22.7 billion by 2023 (Roeloffs, 2023). Alongside these economic gains, they offer social benefits (Yozukmas et al., 2020), making them vital to tourism strategies internationally (Perry et al., 2019). Recognized as essential within global society (Davies, 2020), there is a growing call for improved strategies to ensure the success of their implementation (Cho et al., 2019).

The success of festive events hinges on effective management practices (Frisby & Getz, 1989). Manners et al. (2012) and Kinnunen and Haahti (2015) support this in their studies of music and cultural festivals, respectively, while a consensus among festival managers (Van Niekerk, 2016) reinforces it. Conversely, managerial incompetence is a key factor behind the failures of many festive events, as evidenced by the scholarly works of Getz (2002), Carlsen et al. (2010), and Parent and Séguin (2007), a reality that contemporary studies continue to affirm, illustrating the link between poor management and festival failures (Chang, 2020; Yoo et al., 2020).

Undoubtedly, effective festival management relies on skilled managers; however, research into these key players is limited. Previous studies have primarily focused on information-sharing (Getz, 1998), collaboration (Getz et al., 2006), budgeting (Knardal & Bjørnenak, 2020), and sustainability (Luonila & Kinnunen, 2020). This study asserts that comprehending the challenges encountered by festival managers is essential for improving event outcomes, particularly in the Philippines, where festivals serve as key economic and social drivers for numerous communities (Mesana et al., 2021). To that end, this paper examines the challenges encountered by Filipino managers in foundation-led and local government festivals through a phenomenographic lens. The insights garnered are vital for shaping support programs to improve managerial effectiveness and event success, thus contributing substantially to festival management's theoretical and practical aspects.

2. Literature Review

2.1 Festival management

Kaehler and Grundei (2019) define management as a guiding force in organizational operations related to markets, production, and resources, addressing human and non-human issues through strategic and operational directives to achieve objectives. Like any other organizational unit, festivals require innovative and relevant management approaches for success (Carlsen et al., 2010). However, due to festival events' unique and amorphous nature, Yeoman et al. (2012) argue that no single management model is universally applicable. Festival visitors' growing and fluctuating service demands (Morgan, 2008) further complicate management, presenting unique challenges (Getz et al., 2010). These factors have led to increased scrutiny of festival management over the years (Mair & Weber, 2016). In fact, systematic reviews indicate that management is a prominent area of focus in festival and event studies (Laing, 2018).Arguably, management remains the crux of any festival's event despite various contexts. However, despite the increasing growth of festival tourism events in Asia (Weber & Ali-Knight, 2012), empirical inquiries on festival management in Asian countries remain a research imperative.

2.2 Festival managers and related studies

Tourism managers are vital to a destination's success (Wöber & Gretzel, 2000). They play a key role in ensuring destinations are well-managed and appealing to visitors (Booms & Bitner, 1979). However, despite their importance, few empirical studies have explored ways to enhance their

effectiveness. Research has touched on critical aspects such as the adoption of decision support systems (Wöber & Gretzel, 2000), the benefits of networking and collaboration, perspectives on low-cost carriers (Castillo-Manzano et al., 2011), innovativeness (Dwyer et al., 2009), and the use of geographic information systems (Wei, 2011).

Unsurprisingly, this gap in the literature is evident among festival managers, despite the extensive examination of festival management. In fact, only the studies by Knardal and Bjørnenak (2020) on festival budget utilization, Hede and Rentschler (2013) on mentoring future festival managers, and the work by Mehmetoglu and Eliingsen (2005) on festival management philosophy, among few others, have successfully highlighted these overlooked festival stakeholders. Considering the difficulties of managing a festival, it should be imperative to understand festival managers and their challenges in handling these huge socio-economic events; hence, this naturalistic inquiry via phenomenographic design should be imperative.

3. Methodology

3.1 Research design

This study used phenomenography to reveal variations in experiences, moving beyond the similarities emphasized by phenomenology. Sjöström and Dahlgren (2002) explain this method as a way to capture how individuals uniquely perceive their world. Ryan (2000, p.122) asserts that phenomenography effectively illustrates tourist experiences and their learning structures.

3.2 Subjects and Study Site

This study involved eleven purposively selected Filipino festival managers (n=11). The sample size follows Åkerlind's and Trigwell's recommendations and uses purposive sampling to enhance rigor and trustworthiness (Campbell et al., 2020). Participants met specific inclusion criteria such as being a Filipino citizen of legal age, having been a festival manager of the same festival for more than three consecutive years, and being conversant in both English and Filipino, as well as their local language.

The participants consisted mostly of Roman Catholics (90.9%) and males (72.7%). All were aged 45-66, and more than half were single (60%) and college graduates in unrelated fields (100%). Over half were employed by government agencies (54.5%) in permanent positions (63.6%) while earning over 50,000 PhP monthly (100%). Notably, all had managed festive events for over three years without formal training (81.8%). Festival managers were recruited from the selected top festival celebrations in the Philippines (Figure 1) namely: Panagbenga Festival (Baguio City), Pahiyas Festival (Lucban, Quezon Province), Dinagyang Festival (Iloilo City), Sinulog Festival (Cebu City), Kadayawan Festival (Davao City), and Kaamulan Festival (Malaybalay City, Bukidnon) (Figure 1).

3.3 Data collection and ethical considerations

Data for this qualitative study was collected using a two-part instrument: a Robotfoto demographic questionnaire (Baniqued et al., 2020) for baseline participant information, followed by semi-structured interviews with an aide memoir to capture unique perspectives (Adeoye–Olatunde & Olenik, 2021). Probing techniques enriched the data (Robinson, 2023). While face-to-face interviews were preferred, virtual formats were also used to produce high-quality insights (Peasgood et al., 2023). Emic and etic perspectives were considered, and an interpreter was provided. Ethical approval was obtained from the Philippine Social Science Council (Protocol: CB-24-22) before data collection. Participants gave written consent prior to interviews, which were recorded for transcription with their permission.

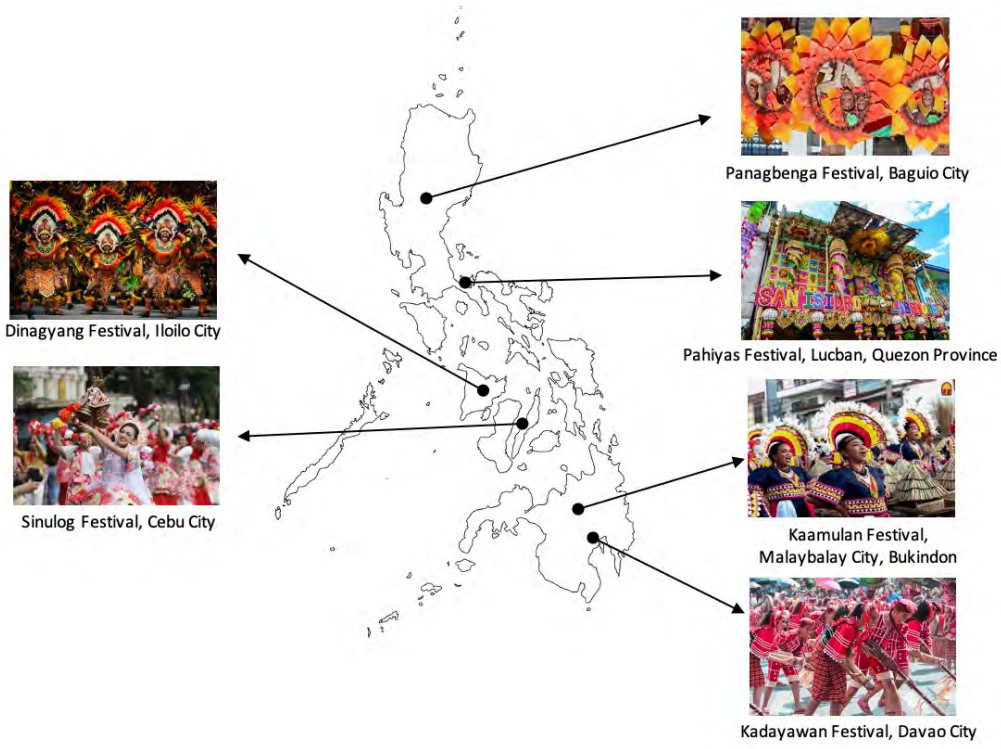
3.4. Data analysis

Transcribed interviews underwent phenomenographic data analysis (PDA) as outlined by Han and Ellis (2019):

1. Familiarization: Identifying meaningful units from transcripts.
2. Reduction: Finding patterns among these units.
3. Classification: Categorizing units based on analysis.
4. Labeling: Formulating themes highlighting challenges for Filipino festival managers.

Figure 2 Select top festivals in the Philippines

During the analysis, reflexivity was observed, which enhanced the study's rigor and trustworthiness, aided by the critical-friend technique with external experts providing feedback (Peddle, 2021; Stolle & Frambaugh-Kritzer, 2022).



4. Results

This microtheorizing (Reeves et al., 2008) paper sought to typify the various challenges encountered by Filipino managers of private-led and LGU-led festivals. Via PDA, this study emerged the Taxonomy of Filipino festival managers' challenges (Table 1), vividly depicting the distinct and varying difficulties encountered by managers of private and public government-led festivals. Notably, these difficulties were characterized by the action undertaken by the manager to address them (strategies), the benefit they acquired in successfully taking on the predicament (consequence), and the managerial function that came into light in doing so (redefined role).

Table 1. Taxonomy of Filipino festival managers' challenges.

Foundation-led festivals			
State of difficulty	**Strategies**	**Consequences**	**Redefined roles**
Operational difficulty -Budget -Compensation -Manpower	Lobbying	Sense of affirmation	Festival managers as politicians
Logistical difficulty -Traffic -Crowd control	Partnering	Sense of community	Festival managers as collaborators
Managerial difficulty -Implementation of activities -Criticisms	Engaging	Sense of ownership	Festival managers as equalizers
Transitional difficulty -Turn-over	Learning	Sense of openness	Festival managers as learners
LGU-led festivals			
Liaisonal difficulty -Conflict between major and minor stakeholders	Balancing	Sense of harmony	Festival managers as moderators
Promotional difficulty -loss of interest among younger generation -low participation of locals	Deviating	Sense of pliancy	Festival managers as avant-gardes
Preservational difficulty -loss of cultural identity -cultural appropriation	Educating	Sense of maturity	Festivals managers cultural vanguards

4.1 Foundation-led festivals

4.1.1 Operational difficulty

This inquiry shows that festival managers face internal challenges, especially with budgets, staffing, and compensation. Despite support from financiers and volunteers, organizing the event is difficult: "Every year, we are tight due to limited budget and manpower.". Managers criticize uncompetitive compensation, saying: "I hope they consider if our pay is sufficient; I don't want to hold grudges.". In response, they lobbied for increased budgets and appropriate compensation: "I was honest about needing a larger budget as the festival grows; fortunately, they responded well."

Wholly, the transitional difficulty refers to festival managers' predicament in ensuring a smooth transition and program continuity during management turnover, by learning mindfully and objectively from the past, thereby easing the difficulty with a sense of openness.

4.1.2 Logistical difficulty

The festival managers face challenges with traffic and crowd control: "I always consider how to alleviate congestion and manage crowds effectively." Participants recognize that addressing these issues requires collaboration with external organizations due to limited manpower, stating: "We seek help from local government, private organizations, and schools to manage traffic and crowds. We cannot do it alone." The community's active volunteerism fosters a fulfilling sense of community among festival managers, expressed as: "It is the festival of the people and for the people. We work together to make it work."

On the whole, the logistical difficulty refers to the strain experienced by festival managers brought about by the event's crowd and traffic management issues, which prompted them to collaborate with various stakeholders, thereby addressing the state of difficulty with a sense of collectivity through community partnership.

4.1.3 Managerial difficulty

The festival managers faced operational and logistical issues, complicating the implementation of activities. As one manager stated, "It's challenging to ensure everything runs smoothly during the festival peak season." They also dealt with criticism from residents and tourists before, during, and after the celebration. "The big challenge would be the many comments and criticisms, which we cannot control." To tackle these challenges, managers participate in all preparations, ensuring local needs are met and tasks are delegated with trust.

The managerial difficulty refers to festival managers' tension as they deal with the event's seamless execution vis-à-vis effective management of criticisms through proactive involvement with the process, thus making the difficulty more manageable via a sense of ownership.

4.1.4 Transitional difficulty

The festival managers expressed frustration over challenges in transitioning from the previous management. They encountered a lack of proper endorsement, stating: "I took my seat as festival head without endorsed documents or a guiding plan." They are also concerned about adequately preparing the next festival manager and asked, "Who will take over? Are they ready for this responsibility? How can we prepare them?" Participants embraced the challenge and were eager to learn, saying, "We must continue learning. How can we perform well if we only rely on what we know?"

Transitional difficulty refers to festival managers' predicament in ensuring a smooth transition and program continuity during management turnover by learning mindfully and objectively from the past, thereby easing the difficulty with a sense of openness.

4.2 LGU-led festivals

4.2.1 Liaisonal difficulty

The study shows that festival managers of LGU festivals face unique challenges compared to foundation-run ones. A key issue is stakeholder conflict due to primary stakeholders (local governments, sponsors, businesses) prioritizing economic benefits, while secondary stakeholders (locals, tourists, Indigenous communities) focus on socio-cultural aspects. "Private sponsors and politicians often have agendas linked to their contributions, but some locals oppose using festivals for political and marketing purposes." The LGU-led festival managers balance conflicts through dialogue and moderation of various agendas without compromising the festival's value, stating: "We need to mediate these prominent voices and make rational decisions." The successful alignment of stakeholders creates a harmonious festival ecosystem: "Everyone should enjoy the festival. No one should feel ignored."

Overall, the liaisonal difficulty refers to festival managers' plight to bring light, direction, and clarity to the seemingly differing and opposing views and sentiments between the event's major and minor stakeholders, thus making the difficulty manageable via a more dialogic approach.

4.2.2 Promotional difficulty

LGU-led festival managers face major challenges from declining interest among younger generations and locals. Young people find the festival unappealing, resulting in school participation mandates: "It is difficult to engage them in our events, which is why we decided to make it mandatory for schools to participate." Annoyed by traffic and crowds, locals prefer to stay home or vacation elsewhere. "The locals would just watch the festival from the live telecast or go on vacation since the festival is declared as a holiday." The LGU-led festival managers address challenges by creating unique offerings to attract their target audience, as stated: "Every year we think about new additions or changes to the festiva." This approach highlights the need for flexibility, as expressed: "As the head of a large event, you must constantly adapt. Each year requires a new version of yourself."

By and large, the promotional difficulty refers to festival managers' pressure to make the event more afloat and appealing to the younger generation and locals whose interest in and passion for the festival is declining by opening up new pathways for innovations, thus ensuring that difficulties are managed well with reasonable and flexible measures.

4.2.3 Preservational difficulty

Most festivals in this study were cultural events; however, LGU-led managers faced challenges regarding cultural identity and appropriation of festival elements. Participants expressed concern over the declining authenticity, stating, "I am sad and afraid that we are losing the essence of our celebration, our culture." Furthermore, aspects like practices, dance, music, and attire were appropriated for spectacle, leading to discontent among Indigenous people who feel their culture is misrepresented.

Banking on experience, LGU-led festival managers counter these challenges through education: "We conduct information campaigns in schools and on social media. We ensure guidelines prevent cultural misrepresentation." This challenge underscores their role as cultural warriors, as expressed: "We should turn the festival into a platform for promoting, preserving, and celebrating culture."

In sum, preservational difficulty refers to festival managers' tension to prevent the event from suffering any possible distortion, baseless alteration, and disrespect through information dissemination and continuing education of the event's stakeholders, thereby minimizing the magnitude of the difficulty with heightened consciousness across sectors.

5. Discussion and Implications

5.1. Discussion

5.1.1 Foundation led-festivals

5.1.1.1 Operational difficulty

This study identifies budget, compensation, and workforce issues as key challenges for foundation-led festival managers. Knardal and Bjørnenak (2020) note that budget difficulties are widespread among global festivals, requiring innovative management (Knardal & Pettersen, 2015; Smith et al., 2010). Additionally, workforce concerns persist (Swartjes & Berkers, 2023), with salary increases frequently requested by festival workers (Andersson & Getz, 2007; Heitmann & Roberts, 2007; Dashper, 2013), particularly in government-hosted events (Cho et al., 2019), contrasting with this paper's findings.

Like politicians, festival managers navigate these internal challenges through lobbying, a crucial strategy for addressing demands (Avner, 2016) and expected in political environments (Di Gioacchino & Profeta, 2014). This highlights the need for enhanced lobbying skills among current

and aspiring festival managers. Successfully tackling these challenges can affirm the value of festival leaders, aligning with self-affirmation theory, which suggests that group identity is reinforced through recognition (Lee Cunningham et al., 2021). Being valued is a vital human need that, when satisfied, promotes empowerment (Randel et al., 2018).

5.1.1.2 Logistical difficulty

The findings also show that traffic and crowd control are critical challenges for festival managers, consistent with earlier findings by Lin et al. (2021), Bagiran and Kurgun (2016), and Kanaujiya and Tiwari (2002). To address these issues, managers partnered with various agencies, fortifying stakeholder relationships (Adongo & Kim, 2018) and proved essential for meeting festival goals (Yaghmour & Scott, 2009). This teamwork fostered a strong community among festival participants (Van Winkle & Woosnam, 2014) and provided reassurance to festival leaders (Hassanli et al., 2021).

5.1.1.3 Managerial difficulty

This investigation revealed that effective implementation of activities and handling criticisms remain significant challenges for foundation-led festival managers, a sentiment echoed in studies by Biaett (2014) and Jarman (2021). Festival managers, acting as equalizers (Karhu & Ritala, 2018), tackle these obstacles by engaging in event implementation and complaint management, ultimately contributing to festival success (Iso-Aho, 2015). Moreover, adept management of critics can lead to positive organizational change (Kykyri et al., 2007). Addressing these challenges fosters a deep sense of ownership among festival managers, aligning with the enduring involvement theory (Laurent & Kapferer, 1985, as cited by Beckman et al., 2020), which posits that greater involvement enhances enjoyment. Consequently, this insight urges festival organizers to emphasize professional development in managerial and conflict management skills for both current and future festivals.

5.1.1.4 Transitional difficulty

Festival managers experienced a significant strain during transitions, reflecting the challenges of taking on new managerial roles, especially for unprepared candidates (Plakhotnik, 2017). This transition is akin to a "liminal space" as described by Van Gennep (1960), where incoming managers move from their prior careers to new responsibilities. Debus et al. (2019) highlighted that such transitions can be a "double-edged sword," urging festival foundations to establish strong support systems for both outgoing and incoming managers. It is essential for outgoing leaders to facilitate smooth transitions by transferring critical documents and practices to successors to mitigate challenges.Despite these constraints, managers adopted a learner disposition, embodying a "growth mindset" that encourages the belief in developing one's abilities (Yeager & Dweck, 2020; Ng, 2018). This openness fosters creativity and divergent thinking (McCrae & Greenberg, 2014), both vital for effective festival management.

5.1.2 LGU-led festivals

5.1.2.1 Liaisonal difficulty

The LGU-led festival managers face challenges related to the typical conflicts among festival stakeholders, which commonly arise during celebrations (Getz et al., 2006; Van Niekerk & Getz, 2016; Adongo & Kim, 2018). Festival stakeholders' diverse views align with stakeholder theory (Donaldson & Preston, 1995), which posits that all stakeholders, internal or external, have power that influences success or may cause conflict.

Festival heads of LGU-sponsored events address stakeholder conflicts by acting as moderators and implementing balancing mechanisms. This aligns with research on music festival management (Simon et al., 2017), which underlined managers' roles in facing challenges. As a result, festival managers achieve harmony in overcoming difficulties. This mirrors the concept of social harmony, valued in Asian societies, where organizational members remain attuned to one another, reducing conflict (Chen et al., 2016).

5.1.2.2 Promotional difficulty

Government-funded festivals face challenges due to diminished interest and low participation from the younger generation and locals. This decline may stem from the festivals' lack of appeal to these groups (Lopez-Bonilla et al., 2010). Additionally, the observed decrease in community involvement in festivals remains a significant and ambiguous issue (Rogers & Anastasiadou, 2011; Dodds et al., 2022).

Many festival managers face promotional challenges (Dodds et al., 2022), but LGU-led managers in this study acted as innovators, employing unique strategies to enhance interest and participation. This approach, observed in qualitative studies on Philippine festivals, likely fostered loyalty and enjoyment among attendees (Mesana et al., 2021; Mesana & De Guzman, 2022). Given its importance for sustainability, this finding emphasizes the need to nurture festival managers' creativity (Black, 2016). Engaging participants cultivates adaptability for those studied, suggesting the festival head's capacity to balance firmness with the demands of their role (Verdú-Jover et al., 2008; Brito et al., 2020).

5.1.2.3 Preservational difficulty

Festival managers from local government units (LGUs) unanimously reported concerns about the loss of cultural identity and appropriation of their festivals. This issue aligns with findings from studies by Elias-Varotsis (2006), Jaeger and Mykletun (2013), and Finkel and Platt (2020). Festivals serve as vital platforms for celebrating and promoting the host community's identity (Zhang et al., 2019), highlighting the urgent need to protect their cultural essence (Chang et al., 2017).

Notably, festival managers appointed by the LGU as cultural front liners effectively addressed these challenges by implementing educational initiatives. This finding supports various studies that highlight the essential role of education in protecting cultural identity (Altugan, 2015; Milner IV, 2010). Overcoming these challenges allowed LGU-led festival managers to achieve a sense of maturity, which aligns with the work of Sheldon and Kasser (2001), indicating that personal strivings foster psychosocial maturity. Interestingly, a study also found that maturity predicts different forms of happiness (Fossas, 2019).

5.2. Academic and practical implications

Despite some studies examining antecedents related to festival managers (Luonila & Kinnunen, 2020; Li et al., 2024; Knardal & Bjørnenak, 2020), research on the challenges they face in event management remains limited. This qualitative study aims to fill that gap by pioneering the use of phenomenography in festival management literature and providing insights into two festival types in the Philippines: foundation and LGU-led festivals.

This research offers a novel perspective from an Asian context, addressing the predominance of Western viewpoints in festival literature (Mensah et al., 2023; Srivastava et al., 2022; Fletcher & Bostock, 2022). Ultimately, the findings present a clearer understanding of the challenges faced by Filipino festival managers, potentially inspiring future research on managers across diverse festival types, countries, and genders.

This study highlights key challenges faced by festival managers, offering practical implications for both foundation-led and LGU-led festivals.

Foundation-led festivals

1. The operational difficulty prompts festival organizers to enhance their networks for future sponsorships, potentially resulting in more competitive compensation packages and increased manpower.
2. The logistical difficulty calls for developing stronger and sustainable partnerships with government and private organizations locally and abroad.
3. The managerial difficulty tells festival managers to be more on the ground and be open in handling criticisms. This finding also implores the foundation to provide their current and future festival managers with training on crisis management.
4. The transitional difficulty urges foundations to create standardized endorsement processes for onboarding and supporting future festival managers.

LGU-led festivals

1. The challenge of managing conflicting agendas among stakeholders while maintaining neutrality and acting in their best interest in the liaisonal difficulty requires festival managers to develop their moderating skills further. This could be achieved through formal and informal mentoring, training programs, or pursuing advanced studies.

2. The predicament of stimulating interest and involvement among uninterested festival stakeholders in the promotional difficulty requires the managers to be creative and innovative and stay updated on current promotional trends in festivals.

3. The plight of declining cultural identity and increasing cultural appropriations in preservational difficulty enjoins the local and national government's educational, social, and cultural offices to safeguard the cultural aspects of these heritage celebrations proactively.

Overall, the authors of this investigation advocate for the professionalization of festival management by offering certification programs, relevant training, and, ideally, specialized bachelor's and graduate courses or degree programs.

5.3. Limitations of this study and suggestions for future research

While promising, the findings of this phenomenographic inquiry come with limitations and recommendations. The qualitative approach used encourages further research using various qualitative methods to deepen the understanding of Filipino festival managers' experiences. Additionally, quantitative studies can offer generalizable insights.Focusing on the six major festivals in the Philippines, this study urges future researchers to investigate similar phenomena among managers of smaller festivals. Exploring managerial challenges across different festival types—such as film, music, arts, and food—could provide more targeted support.

Finally, an empirical study on the challenges faced by other stakeholders in festival management, including government officials, private sponsors, and volunteers, would enrich our understanding of the complexities involved in organizing these events.

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Graduate Program Review Initiatives for Systems Monitoring (GPRISM): A proposed quality-focused framework for hospitality education (Paper#171)

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Abstract:

An effective hospitality management master's curriculum is crucial for reliable, sustainable, quality-assured graduate education. The first phase of this study seeks to establish baseline data for assessing the effectiveness of the proposed Hotel, Restaurant, and Institution Management Graduate Educational Programs (HRIM-GEPs) while providing a framework for evaluating a master's program in hospitality management at a leading university in the Philippines. The systems approach theory was used as the foundation for curriculum monitoring, drawing insights from graduate hospitality management education perspectives, internal and external assessments, and benchmarking. Through a series of consultation interviews and focus group discussions (FGDs), the three proposed tracks for the master's curriculum revealed both advantages and disadvantages regarding implementation, market appeal, and administrative needs. The proposed GPRISM framework remains innovative and relevant in tackling issues such as job mismatches, the disconnect between industry and academia, and graduates pursuing careers outside the hospitality and tourism sectors.

Keywords: Hospitality program enhancement, benchmarking, systems monitoring, internal assessment, external assessment, GPRISM



Theme: Advancing Leadership and Training

Crafting Inspiring Hospitality Leadership Stories: Utilizing Immediate and Delayed Feedback in the Evaluation of a Hospitality Leadership Program (Paper #018)

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Abstract:

This study is part of longitudinal research that collected and analyzed the feedback of 78 second-year hotel management and culinary arts students on their participation in a hospitality leadership program. Immediate feedback was collected using an online survey, while delayed feedback was gathered from reflections. Immediate feedback revealed positive reactions to the delivery of the program. The survey revealed that high-performing teams, resilience, and behavioral drivers were perceived to be the least effective topics. However, in the thematic analysis of reflections, participants articulated that high-performing teams, resilience, and behavioral drivers were the most effective and applicable. The delayed feedback both validated and invalidated the immediate feedback. This paper reiterates the value of collecting feedback and evaluating leadership programs in multiple periods to yield a more evidence-based evaluation of the program's impact. In-depth interviews, focus groups, and inter-rater analysis and observations will be employed in the subsequent phases of the study.

Keywords: Inspiring Hospitality Leadership, Immediate and delayed feedback, Reflection, Program evaluation

1. Introduction

Leadership development programs are being increasingly integrated into hospitality higher education curricula globally, aiming to equip students with the necessary skills and competencies to navigate complex challenges in the rapidly changing hospitality workplaces and environments. Dusit Thani College in Bangkok, Thailand, designed a leadership development program that is responsive and purposive. With the implementation of the revised curriculum in 2022 for DTC's international programs comes the pioneering approach to delivering a leadership program for hospitality students. Instead of offering a three-credit course on leadership in the senior year, the leadership program was spread throughout the four-year program. Called Inspiring Hospitality Leadership (IHL), the leadership program is divided into four modules: 1) leading the self, 2) leading others, 3) leading in dynamic organizations, and 4) leading into the future. Each of the IHL modules is five days in duration, with all modules taking place at the beginning of

the student's academic year. The learning content of each year is aligned to the level of courses in that academic year and integrated into the instruction and assessment during their theoretical, practical, and work placement assessments. This has been done to ensure that learners build the practices and self-awareness skills needed for the focus of that year with the learning integrated into their practical work and can effectively implement the skills before moving to higher-level skills. It aims to build strong, passionate leaders who work in, manage, empower, and inspire a diverse, high-performance workforce who offer great service at all levels.

This paper is a follow-up to the preliminary study (Crafting Inspiring Hospitality Stories: A Preliminary Study of IHL 1) conducted in the last academic year 2022-2023. It is part of a longitudinal study that collects and highlights the feedback and reflections of the second-year hotel management and culinary arts students on their participation and completion of the second leadership module, Leading Others (IHL 2). IHL 2 covers topics on high-performing teams, behavioral drivers, motivation, team resilience, trust, conflict management, and handling difficult conversations. This paper presents and analyzes the students' immediate and delayed feedback on their participation in the second module of the Inspiring Hospitality Leadership program.

It aims to progressively evaluate the effectiveness of the delivery of IHL 2 immediately after the module completion in the areas of usefulness, content, activities, clarity of instruction, presentation, and visual aids and analyze students' reflections after one semester of completing IHL 2. Reyes et al. (2019) summarized and reviewed the state of leadership development for students in higher education. They concluded that while the sampled leadership programs work, there is a need to address the issue of effective evaluation and assess the implementation of the most effective strategies to elevate student performance outcomes. They reiterated that the design, delivery, and evaluation of leadership programs in higher education institutions (HEIs) are the areas that need to be further explored and investigated. The same research highlighted that the effectiveness of a training program depends on the timing of evaluation (Phillips, 2012). Evaluation conducted immediately after the program can only gather participants' satisfaction or engagement while delaying the evaluation demonstrates a more evidence-based approach. Delayed evaluation or evaluation at multiple periods reveals how much knowledge is retained and transferred. In this ongoing study, immediate feedback was collected immediately after completing the one-week leadership program and the delayed feedback was collected after a semester. The immediate feedback evaluated the delivery of the module while the delayed feedback collected the students' reflections on their learning and application of IHL 2 key topics.

The overall evaluation of the IHL program will gauge student engagement, satisfaction, and leadership development growth. It will also provide insights into the programs' perceived value and impacts. This preliminary study presents the outcomes from the immediate and delayed feedback, pertaining to the participants' reactions, learning, and behavior.

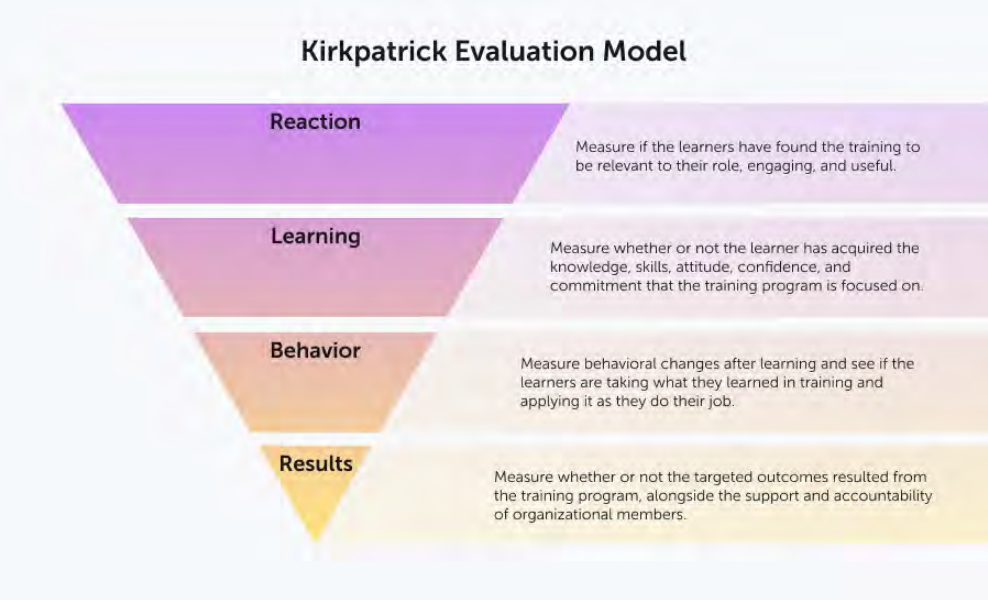
2. Literature Review

2.1. Evaluation of Leadership Programs

The Kirkpatrick model, also known as Kirkpatrick's Four Levels of Training Evaluation, is a key tool for evaluating the efficacy of training within an organization. This model is the most widely used training evaluation framework. It consists of four levels of outcomes: reaction, learning, behavior, and results (see Figure 1). It can be used to evaluate either formal or informal learning and can be used with any style of training. The Kirkpatrick Model has been widely used since Donald Kirkpatrick first published the model in the 1950s and has been revised and updated three times since its introduction. In 2016, it was updated into what is called the New World Kirkpatrick Model, which emphasized how important it is to make training relevant to people's everyday jobs.

Andreev (2023) describes the four levels of evaluation. Level 1 is learner-focused and measures the learners' satisfaction, engagement, and the relevance or usefulness of the training. Reaction level is generally measured through a survey that is administered immediately after the training has been delivered. Level 2 focuses on the acquired knowledge, skills, attitude, confidence, and commitment of the participants, which can be measured formally or informally. Level 3 measures the true impact of the training. The results demonstrate whether the training applies to specific workplaces. The most effective period for evaluating level 3 is three to six months after completing the training. Other evaluation tools like interviews, participant observations, and other methods should follow this up. Evaluation of this level should include the degree of change in behavior and the consistency of application of the skills. Level 4 focuses on results – whether the outcomes resulted from the training. This can be measured by setting specific indicators. Reyes et al. (2019) noted that level 4 is more industry or workplace-aligned and is challenging to assess in an educational context.

Figure 1. Kirkpatrick Evaluation Model



2.2. IHL Preliminary Evaluation

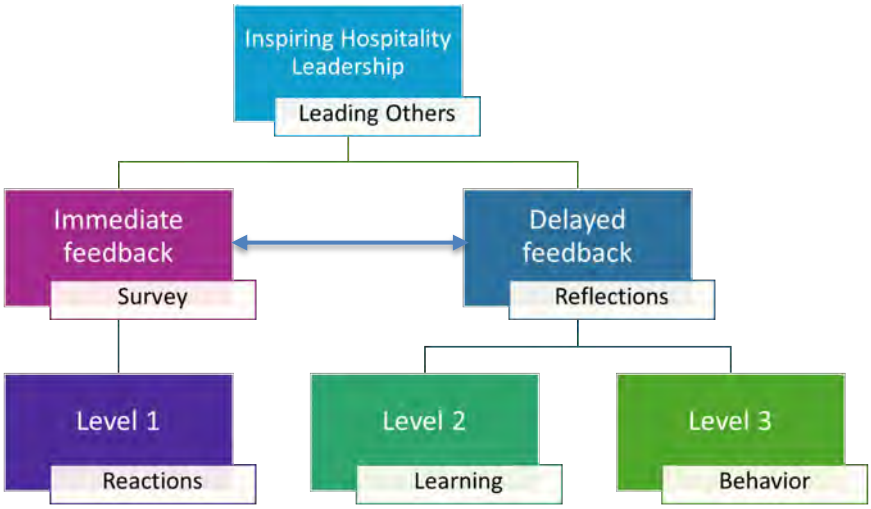
The previous evaluation of IHL 1 collected, analyzed and presented data that were collected a semester after the completion of the first leadership module. The preliminary results suggested the robust potential of IHL in progressively training hospitality students to craft their inspiring leadership stories throughout their four-year academic program in DTC and equip them with formal leadership skills. Moreover, the objectives and content of IHL are parallel to the needs and recommendations put forward by previous studies regarding strengthening leadership development programs for students. Internally, this preliminary study allowed for the review and improvement of the delivery and evaluation of the succeeding modules. It also contributed to the literature and narrowed the existing gap in terms of designing and evaluating leadership programs for students. The preliminary findings also prompted progressive and consistent monitoring and evaluation of the IHL program among different batches of participants from their first year up to the fourth year when they integrated their four-year leadership story in their capstone project.

From the analysis of the participants' reflection papers on the first module, the specific themes drawn from their stories were significant learning or discovery, challenges, applications, and self-improvement plans. Under the first theme, learning and leadership styles, self-awareness, leadership potential, interpersonal skills, and reflection were discussed. The challenges experienced by the participants in their first semester as hospitality students were working with a team, communication, and application of lessons or theories learned from IHL 1. Furthermore, the application of learning was identified as being open to others' opinions, building self-confidence, dealing with peers effectively, dealing with customers in work-integrated learning classes, and being resilient, reflective, and mindful. Finally, the reflections indicated a commitment to more active participation, taking a leadership role, better communication, mindfulness, managing emotions, and thinking outside the box.

2.3. Conceptual Framework

Anchored on Kirkpatrick's Evaluation Model, IHL 2 was evaluated by gathering immediate and delayed feedback. Immediate feedback was collected on the last day of the leadership week, through an online survey yielding the participants' reactions (Level 1) toward their participation in Leading Others. Subsequently, delayed feedback was collected four months after the delivery of the leadership program. Reflections of students were thematically analyzed to determine the preliminary results in the areas of Learning (Level 2) and Behavior (Level 3). Immediate and delayed feedback from the participants was analyzed and compared to form part of the preliminary evaluation of the second IHL module, Leading Others. While some literature discussed that Levels 1 and 2 are categorized under immediate feedback, level 2 or learning outcomes were included as part of the delayed feedback, as shown in Figure 2.

Figure 2. Conceptual Framework

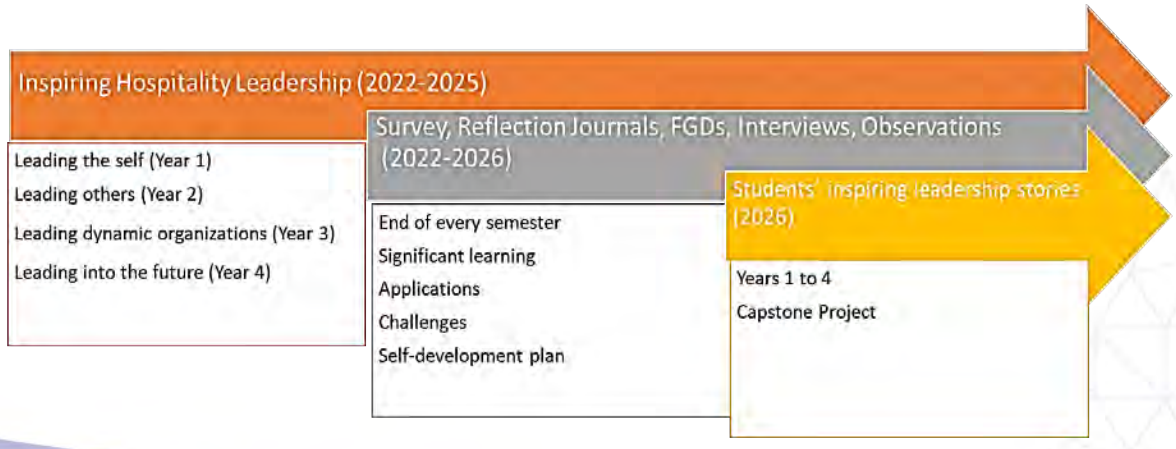


3. Methodology

The study employs a longitudinal case study design among 78 participants who belong to the first batch of IHL students. In a longitudinal study, researchers repeatedly examine the same individuals to detect any changes that might occur over a period. It involves repeated observations and data collection. Posner (2009) recommended that this research design be used to observe changes and improvements among the participants. The study will run from 2022 to 2026, covering the participants' stories one semester after completion of each of the four IHL modules. Qualitative data are being collected by employing focus group discussions, interviews, observations, and yearly assessments through reflection journals.

Figure 3 shows the data collection timetable for the longitudinal study. For this follow-up study, data were gathered from the survey of 78 purposively selected students and reflection papers from 63 participants. The online survey was administered immediately after the completion of the second module, while the written reflections were collected after one semester (four months). Descriptive statistics and thematic analysis were used in data analysis.

Figure 3. Data Collection Timetable of the Longitudinal Study



4. Results

Immediate Feedback (Level 1: Reactions)

The following figures and tables present the data collected from the respondents immediately after the five-day leadership program. Figure 3 summarizes the average ratings for all the criteria under each topic. Overall, the delivery of module 2 was rated moderately effective (3.12 out of 5). Presentations obtained the highest rating, while content registered the lowest. The overall effectiveness per topic is shown in Figure 4. Difficult conversation, motivation, and conflict management are in the top three, while resilience, high-performing teams, and behavioral drivers are in the bottom three. In terms of participation, more than half of the respondents rated their participation from high to very high (see Figure 5). Moreover, conflict, trust, difficult conversations, and motivation were identified as the most useful topics, as shown in Table 1.

Figure 4. Respondents' Rating of Effectiveness per Criteria

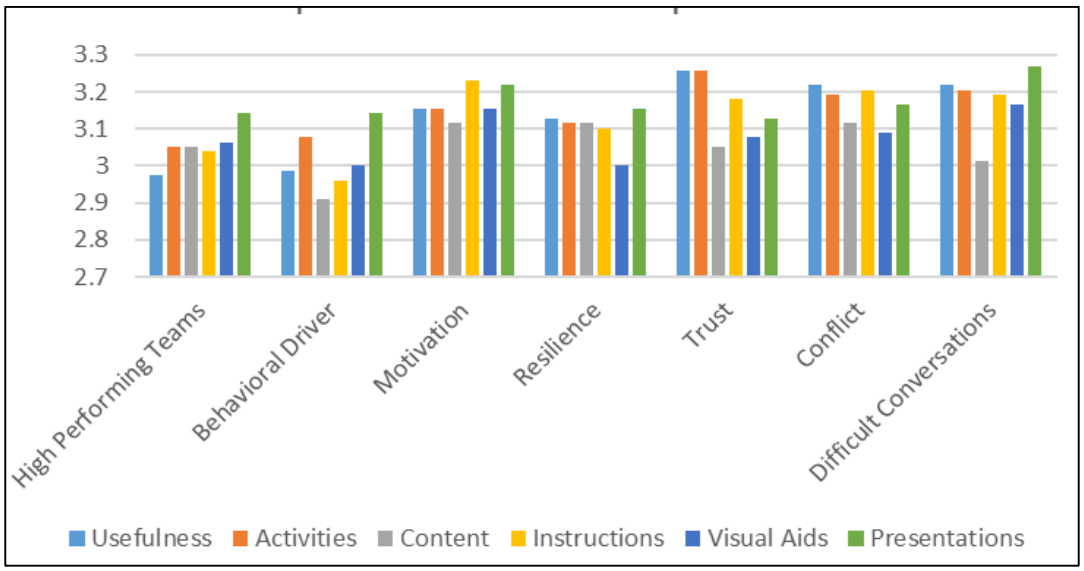


Figure 5. Respondents' Overall Rating of Effectiveness per Topic

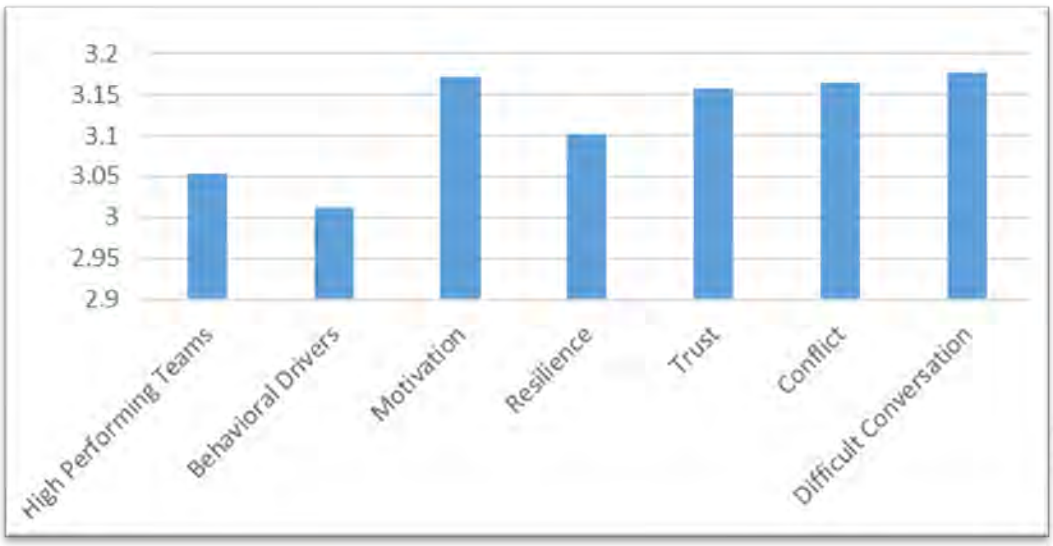


Figure 6. Respondents' Participation

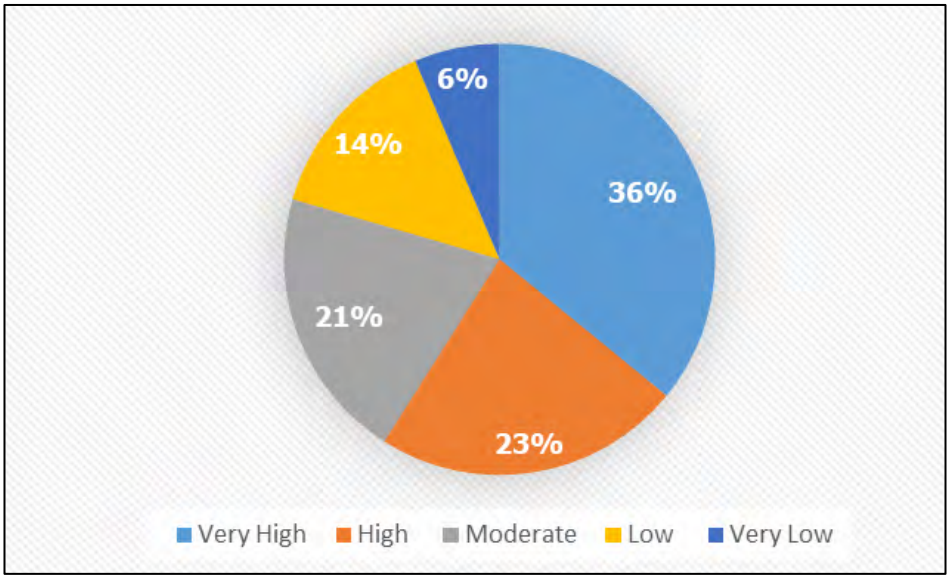


Table 1. Rating on the usefulness of topics

Topics	Mean	Rank
High Performing Teams	2.97	6
Behavioral Drivers	2.98	5
Motivation	3.15	3
Team Resilience	3.12	4
Conflict	3.25	1
Trust	3.21	2
Difficult Conversations	3.21	2

Delayed Feedback (Levels 2 and 3: Learning and Behavior)

The following tables present the data gathered from the reflections of 63 out of 78 participants (80.77%). These reflections were collected after one semester or four months after the completion of IHL 2. Coded according to topics, the topics that were mostly recalled and discussed under the learning and behavior outcome were high-performing teams, resilience, and behavioral drivers while motivation and difficult conversations were the least discussed. Table 2 highlights the topic recalled as indicated in the participants' reflection papers.

Table 2. Topics recalled and discussed in the reflections.

Topics	Frequency	Percentage	Rank
High Performing Teams	29	31.52	1
Behavioral Drivers	14	15.22	3
Motivation	4	4.35	7
Team Resilience	16	17.39	2
Conflict	9	9.78	5
Trust	13	14.13	4
Difficult Conversations	7	7.61	6

Table 3 summarizes the participants' reflections analyzed by topic and categorized according to Kirkpatrick's evaluation outcomes under levels 2 and 3: learning and behavior. Participant quotes supporting the outcomes are presented in Table 4.

Table 3. Summary of learning and behavior outcomes from the reflections.

Topics	Learning	Behavior
High Performing Teams	o Understanding diversity o Becoming a better person in a team setting o Working with a bigger team o Becoming a better leader and team member	o Take more responsibilities and leadership roles o Speak up when no one leads the team o Delegate work to the team (better division of labor) o Give and receive more feedback from peers o Listen actively
	o Opinion of each member matters	o Prioritize tasks more efficiently o Be open to working with new teammates o Became a more reliable and credible team member o Show up for myself and my team o Voice out more opinions

		o Use HPT radar to keep track of personal and team progress
Behavioral Drivers	o Self-discovery of strengths and weaknesses o Dealing with the behavior of others o Refine leadership style o Lead under different circumstances with different people o Every member has strengths and there is no one best team member o Link between behavioral drivers and other leadership skills	o Prove and demonstrate leadership strengths to be trusted and accepted by members o Experiment with more leadership styles through open communication, collaboration, and adaptability
Motivation	o How to motivate team members to perform better	o More active participation in class (note taking, asking questions, coming to class prepared)
Team Resilience	o Striking a balance between academic and personal life o Appreciate that hurdles make me a better student	o Being more patient and calmer o Work/step/think out of comfort zone o Implement strategies for team resilience o Have more patience and ask for help o Manage emotions in leading and working with teams

		o Became more mindful, think and reflect first before doing o Enjoy and not be too hard on myself
Conflict	o How to approach inevitable problems working with a team	o Compromise with team members; comfort peers and solve problems instead of arguing o Use sandwich technique in giving feedback o Deal with anger o Act calmly and rationally in a high-pressure situation
		o Manage ego o Apologize and forgive o Understand and control things that irritate me
Trust	o Reinforce a culture of trust	o Divide and delegate work and believe that the other members can also do it
Difficult Conversations	o Navigating difficult conversations	o Engage in actual conversation with peers and teachers during difficult situations o Initiate and guide conversations o Communicate without offending others

Table 4. Participant quotes supporting learning and behavior outcomes.

Topics	Participant Quotes
High Performing Teams	"I realized that there is no right or wrong answer during discussion among the team, and it is better if there are more suggestions for the task given." (P3)
	"I also learned that I wasn't the best of all... everyone has brilliant ideas... the IHL session guided us on how to implement and execute properly..." (P21)
	"I embraced the practice of showing up not only for myself but also for my peers, on a daily basis." (P27)
	"...I even started using the high-performing team radar to keep track of my progress and that of the team." (P49)
Behavioral Drivers	"I experimented with incorporating more open communication and adaptability into my leadership style." (P11)
	"Use Belbin team roles in action during the supervisory class..." (P37)
	"...being a shaper, I need to change some of my attitude, care more...talk to them nicely and make them feel comfortable when they talk to me." (P50)
	"...I am a people pleaser which makes it difficult to say no at times... I would like to try saying nor without feeling any guilt... I want to listen more... take more feedback... and get over my fear of rejection." (P49)
Motivation	"IHL 2 week taught me a lot... how to motivate your team members to do better which I believe is the most important thing...because we have many group work." (P5)
	"The learnings from IHL helps me... the focus on motivation inspires me to lead the team." (P11)

Team Resilience	"Striking a balance between academic responsibilities and personal life is crucial for (my) overall well-being." (P1) "This semester, I tried to be more resilient against the challenges that...try to appreciate that hurdle makes me a better version of myself..." (P5)
	"...how to approach problems that are inevitable when working with a team...make sure that workflow smoothly although there can be bumps along the way..." (P7) "I learned how to deal with anger." (P13)
Conflict	"I speak up more if I can't handle the workload. I asked them to collaborate more." (P41) "A good leader doesn't have an inflated ego... know how to apologize and forgive..." (P61)
Trust	"I start believing and trusting my team more while making sure that everyone is during their task and not sit there hoping that others will do it for them." (P7) "I will trust the team more and try to be reliable and credible so I could be trusted by my teammates." (P22)
Difficult Conversations	"It allows me to communicate without offending other person." (P41) "...I decided to find the middle ground... try the hamburger (sandwich) feedback technique..." (P52)
Others	"IHL 2... help me deal with many situations that we could not avoid... how I react in situations link back to the information we learn during the IHL week." (P5) "IHL 2 sessions were a game-changer for me. This made a huge difference in how I work with people... I realized I like working in teams... when things get tough, the IHL tips actually worked..." (P9)

	"IHL 2 actually helps me as a guideline for discovering what kinds of strengths and weaknesses I have as a leader in the team and how to elevate myself to become a better leader and follower... the lessons learned need more practice in order for me to master them." (P4)
	"In the next semester, I will be leading the junior in a supervision course... I could use IHL to lead the junior and treat them based on their personality and their learning style." (P35)

5. Discussion and Implications

5.1. Discussion

The feedback collected immediately after the delivery of IHL 2 are outcomes that are categorized as reactions, according to Kirkpatrick's Model of Program Evaluation. According to Hughes et al. (as cited in Reyes et al., 2019), gauging the participants' reactions determines the motivation and interest of the trainee in participating in training. With an overall rating of moderately effective, this corresponds with previous research that trainees generally have positive reactions to training programs. However, it is also significant to note that not all participants have a highly positive reaction to the delivery of IHL 2, specifically regarding the effectiveness and usefulness of the sessions about high-performing teams, behavioral drivers, and resilience. Learning outcomes gathered after four months, on the other hand, revealed that the most applicable topics were those three topics that were rated the lowest during the collection of immediate feedback. Table 5 shows the comparison of the rankings between immediate and delayed feedback. The reflections collected after four months measured the different learning categories: affective, cognitive, and skills based. The reflections of the participants highlighted all three, which are congruent to the Dusit hospitality principle of catering and nurturing the 3H – head (cognitive), heart (affective), and hand (skills). This is also true for the third level of evaluation in Kirkpatrick's model, transfer or behavior change. IHL 2 participants are able to reflect on how they can apply their learnings. Their stories of application focused mainly on their experiences in working in teams, specifically in their restaurant operations and management classes. The reflections also linked and mentioned key findings from the previous study of Loreto and Lloyd (2023), particularly recognizing the value of active listening, asking questions, giving and receiving feedback, managing emotions, and reflective practice. Similar to the first study, gaining more confidence and thinking out of the box are still dominant themes in the participants' reflections.

Apart from categorizing the stories by topic, the reflections also revealed other themes including stepping up and improving communication skills and change of attitude. IHL is also viewed as a guideline or a roadmap for improvement, equipping the participants with practical strategies on how to discover their strengths and weaknesses as individuals and as a team. The participants' reflections also established the link and relevance of each topic in the bigger picture of leadership. This implies that the participants' experiences in restaurant operations and management, as second-year hospitality students, enable them to have a better appreciation and more opportunities to apply the leadership concepts they learned. There is also a collective interest in applying what they learned from IHL when they lead their juniors in the supervisory course to be offered in the succeeding semester.

Table 5. Immediate and delayed feedback on the usefulness and effectiveness of topics.

Topics	Immediate Rank (Usefulness)	Immediate Rank (Effectiveness)	Delayed Rank (Reflection)
High Performing Teams	6	6	1
Behavioral Drivers	5	7	3
Motivation	3	2	7
Team Resilience	4	5	2
Conflict	1	3	5
Trust	2	4	4
Difficult Conversations	2	1	6

5.2. Academic and practical implications

Results of the preliminary evaluation underpin the robust potential of IHL in progressively training hospitality students to become future leaders of the industry who are well-equipped to navigate the uncertain and continually evolving world of hospitality and lead hospitality organizations in more humanistic and innovative ways. IHL 2 is strongly applied in the areas of high-performing teams, behavioral drivers, and resilience. Employing mixed methods generates more substantial findings that can be used for the improvement of the remaining modules and of the IHL program as a whole. The content of each session should be revisited to make it more relevant to the learner's needs and interests. The curriculum should further integrate more opportunities and activities to reinforce motivation, conflict management, and navigating difficult conversations.

Evaluating leadership programs in multiple periods can better reveal how much knowledge is retained and applied. Doing so also yields a more evidence-based evaluation of the program's impact. In this study, the delayed feedback validates and, at the same time, invalidates the results of the immediate feedback. The initial reactions of the participants are not always

consistent with their practical experiences earned after a significant period when they are given opportunities to apply and reflect on what they learned. This ongoing study supports the claim of Phillips (2012) that the timing of evaluation is a crucial factor in determining the effectiveness of a training program.

The design, delivery, and evaluation of the leadership program should be reviewed and made vertically aligned with the curricular design of the hospitality programs for both culinary and hotel management. This should be integrated both at the program and classroom levels. Specifically, the initial findings prompt the review of the supervisory course to evaluate alignment to IHL and the opportunities for the application of leadership skills in teaching and learning activities.

5.3. Limitations of this study and suggestions for future research

The study is limited to self-reported ratings and reflections of the participants. Conducting focus groups and in-depth interviews and collecting evaluations from instructors and other observers will substantiate the findings of the study. Collection and analysis of feedback over multiple periods from other participants like facilitators, instructors, and industry supervisors are also recommended for further studies. The preliminary results are also obtained from a single program from one hospitality institution and cannot be used to generalize conclusions to other settings. Upon the continuation and completion of this study, after the delivery of the four modules, a more generalized leadership model for hospitality institutions could be proposed, and best or effective practices could be identified.

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Critical Success Factors Affecting Hospitality and Tourism Management Students' Learning Efficacy From Project-based Learning (Paper#208)

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Abstract:

The primary goal of this study is to identify critical success factors affecting HTM students' learning efficacy from problem-based learning. Drawing on the insights solicited from six focus-group interviews with 23 hospitality and tourism management students from a public university in Hong Kong, a total of six critical success factors were identified. The findings of this exploratory study do not only contribute some new knowledge to the realm of research about hospitality and tourism education but also provide some clues for hospitality and tourism educators for making their PBL become more learner centric.

Keywords: Project-based learning; critical success factors; learning efficacy; course design; hospitality education; tourism education.

1. Introduction

Project-based learning (PBL) has been extensively used in hospitality and tourism education since this instructional method has proven to be capable of effectively engaging learners in knowledge construction through having them tackle real-world challenges and develop real-world products (Krajcik & Shin, 2014). While many hospitality scholars (e.g., Griffin, 2021) advocate the continuing use and increase in PBL application across the curriculum, scholarly attention towards the identification of critical success factors affecting students' learning efficacy from PBL remains scarce at the moment of this writing.

As demonstrated in prior studies like Moya and Camacho (2021) as well as König, Karrenbauer and Breitner (2023), the identification of critical success factors for certain pedagogies and learning modes from learners' standpoint is a vital pathway for instructors to optimize students' learning experience and efficacy. To provide hospitality and tourism educators with actionable clues for making their PBL become more learner-centric, this qualitative study synthesizes the opinions and advice on PBL shared by 23 hospitality and tourism management (HTM) students. To be specific, the twofold objectives of this study are: (1) To identify critical success factors affecting HTM students' learning efficacy from PBL; and (2) To provide hospitality and tourism educators with recommendations for optimizing their PBL design.

2. Literature review

2.1. What is project-based learning and why it matters?

PBL refers to an inquiry-based instructional method that engages learners in knowledge construction via searching or designing solutions, having them accomplish authentic projects as well as communicating and debating ideas with others (Krajcik & Shin, 2014; Maros, Korenkova, Fila, Levicky, & Schoberova, 2023). Different from other traditional modes of learning like lectures and seminars, PBL can better prepare students to be future-ready working professionals via simulating professional situations and cultivating future-oriented abilities (Zhang & Ma, 2023).

PBL has long been recognized as an effective pedagogy as it can provide students with opportunities to participate in real problem-solving and knowledge construction in authentic professional contexts (Guo, Saab, Post, & Admiraal, 2020). Zhang and Ma (2023) echo that PBL can motivate students to continuously explore in the process of problem-solving, thus promoting the development of higher order-thinking, problem-solving, collaboration and inter-personal communication skills. Considering that PBL is known as a constructivist approach that can help students form knowledge system through the completion of multiple learning tasks, PBL has been frequently applied in hospitality curriculum as practical experience is crucial for nurturing hospitality professionals (Hou, Lai, & Wu, 2023).

2.2. Past research on PBL

Prior studies on PBL largely focus on three issues. The examination of "whether and how PBL can enhance students' learning efficacy" is the most researched topic, and most studies presented positive findings. For instance, Karpudewan, Ponniah and Zain (2016) explored and proved the efficacy of PBL approach in improving secondary school students' energy literacy. Specifically, students exposed to the PBL-based course outperformed students taught with traditional courses in terms energy-related knowledge, attitudes and behaviors.

Parrado-Martinez and Sanchez-Andujar (2020) tested and found that cooperative work in PBL promoted secondary school students' critical thinking, writing and collaboration skills. In Biazus and Mahtari's (2022) quasi-experimental study utilized PBL and direct instructional learning models, the researchers also found that PBL model has a significant impact on the enhancement of creative thinking skills of secondary school students. Since PBL provides students with a sense of connection to the course material and peers, Almulla's (2020) study shows teachers who are capable of using the PBL approach can foster a higher level of students' learning engagement. Hou et al. (2023) illustrated and demonstrated how virtual reality-aided project-based pedagogy can effectively equip students with essential green building knowledge associated with different stages of a building lifecycle.

While most studies empirically proved the efficacy of PBL on students' learning, contrasting results were reported in some studies. Gratchev and Jeng (2018) explored if the combination of traditional teaching methods and PBL activities improved students' learning experience throughout their study period, and the achievements by two groups were very similar. Zhang and Ma's (2023) meta-analysis study reported that PBL did impose strong influence on students' interest in learning and moderate influence on students' learning attitudes. Based upon their analysis on 66 PBL-based experimental research papers, the researchers found PBL has the most significant effects on students' creative thinking skills and computational thinking skills.

Apart from examining the efficacy of PBL, some recent studies (e.g., Warr & West, 2020) illustrate how they integrate PBL into teaching and learning in order to upskill students' competencies and share the challenges they encountered during the design period. Pan, Seow, Shankararaman and Koh (2021a) discussed the essence, benefits and challenges of establishing academic-industry partnership through PBL. The authors concluded the study by proposing a framework for partnership management in PBL with four key features: (1) value proposition; (2) depth of collaboration; (3) knowledge creation; and (4) exchange and continuous feedback.

The role perspectives of PBL in a collaborative learning environment has attracted some scholarly attention in recent years. Pan, Seow, Shankararaman and Koh's (2021b) case study highlights that role ambiguity and role conflict could occur in PBL courses, and the happening of these phenomena might negatively influence students' learning efficacy. Based on their case study conducted with a Singaporean institution, teachers shall play the roles of designer, champion, facilitator and manager in a PBL course to ensure that learning is effective. On the other hand, students should play the roles of a self-directed learner and a warrior when completing their projects. Although much scholarly effort has been paid to enhance theoretical knowledge and understanding about PBL in education, it is surprising that the set of critical success factors affecting HTM students' learning efficacy from PBL remains unclear.

3. Methodology

3.1. Data collection

To identify all critical success factors for PBL from HTM students' standpoint, all final-year students – who are pursuing a bachelor's or master's degree in hotel, tourism or event management from a public university in Hong Kong – were invited as research subjects of this study. A purposive sampling method was used, and final-year students were recruited because they are going to complete all course projects and thereby being able to share rich/extensive information with the investigator.

A total of 23 students accepted the invitation sent by the investigator. Six focus-group interviews (with three to five people in each group) were arranged and conducted during October 2024 - February 2025 under the investigator's moderation. Semi-structured interview mode was used, and open-ended questions were asked during the interviews. In each interview, the following

three questions - q#1: please recall and describe the most satisfying PBL experience throughout your study; q#2: what constitutes the best PBL experience; q#3: which factor/s instructors should be noticed when they apply PBL approach – and other probing questions were asked to the interviewees.

3.2. Data analysis

All conversations were recorded after seeking participants' informed consent. One student assistant transcribed all conversation verbatims, and member checks (i.e., forwarding the transcripts to interviewees for verifying the accuracy of the transcription) were conducted. Following Kolbe and Burnett (1991), two coders (including the student assistant and the investigator) independently and jointly analyzed all transcripts in order to minimize personal bias. The transcripts were firstly read and re-read many times in order to familiarize them with the content/insights by interviewees. Afterwards, thematic analysis was applied to identify recurring themes across the interviews. This method distills key insights and patterns that emerge from the interview content, facilitating a broader understanding of shared opinions and experiences among participants.

4. Results and discussions

A total of six critical success factors were identified after analyzing and synthesizing the qualitative data shared by 23 interviewees.

4.1. Realism of the project topic

Nearly two-third (n = 15; 65.2%) of the recruited interviewees mentioned that their perceived learning gain was higher when the project topic is to address a real-world (but not hypothetical) problem. This result is in line with the notion shared by Wijnia and colleagues (2024) in their recent studies about effects of PBL on students' motivation.

Interviewee #13 (a male master student majoring in hotel management) claimed that using a real-life problem shared by a real business would spark their interest and motivation in completing the work, because their recommendations are likely to generate real impact to the corresponding business or even the society. Three interviewees (#7, #9 and #10; all are female bachelor students majoring in tourism management) echoed that they learned a lot from a course project pertinent to optimizing service design for the visually impaired. As that project was proposed by a non-government organization based on the authentic opinions shared by travelers with visual impairment, adding that the lecturer quoted many real-world evidences to prove the needs of the disabled have often been overlooked, those three interviewees acknowledged the high realism and meaningfulness of the project topic. They thus dedicated more effort to complete all tasks and consequently learned a lot after completing the project.

4.2. Alignment with the knowledge and skills learned with the project design

Ten interviewees mentioned that the level of alignment between the knowledge and skills learned with the project is another decision factor affecting their extent of learning efficacy from PBL. According to the quote shared by two interviewees (#2 and #4; all are female bachelor students majoring in hotel management), they did not enjoy and learn nothing from one course project as the content they learned from lectures and seminars was irrelevant and unhelpful for her to complete the corresponding project. Interviewee #21 (a male master student majoring in hotel management) illustrated that he once questioned his ability when he could not link and apply any knowledge learned from other sessions in the same subject in addressing the challenges at hand. Two interviewees (i.e., 5 and #22) shared similar thoughts during their focus-group interviews. The presence of this evidence supports Zhao, Zhoa and Li's (2023) proposition of conducting alignment analysis between instruction activities and assessment activities before the semester starts.

4.3. Clarity of project instruction

Since the project guideline plays a vital role in guiding students to complete the assigned tasks, eight interviewees mentioned that the clarity of instructions presented in the guideline is another factor that instructors should pay attention to. Interviewees #4 and #15 (all are female bachelor students majoring in hotel management) noted that the to-do tasks in the project must be clearly outlined as the unnecessary ambiguity might discount students' motivation and even result into conflict with instructors. According to interviewee #4, she failed to learn from and concentrate on a particular course project because the instructor kept changing the project instructions. Interviewee #15 echoed that her team was frustrated with the project grade because that instructor gave a higher weighing on certain section (e.g., recommendations but not analysis) albeit it was not mentioned in the project guideline.

In accordance with the assertion presented in Loyens and colleagues' (2023) recent work, many interviewees stressed that students are equivalent to algorithms or robots who can only "produce the right product when right instructions are given" (Interviewee #7; a female master student majoring in hotel management). If instructors would like to leverage PBL to upskill students, they have to assure the project instruction clearly outlines all to-do tasks and specific requirements (e.g., formatting) in order to avoid unnecessary confusion.

4.4. Fairness in team formation and conflict resolutions

The question of whether instructors should allow students to form their own teams or not has been extensively discussed in the academia for several decades, but no consensus has been reached (Lee, Huh, & Reigeluth, 2015). In this study, over two-thirds of interviewees preferred forming their own teams, but they were not resistant to the ideas of letting instructors to form the team or random assignment.

One interesting finding deserves special mentioning. In this study, eight interviewees declared that they understood the idea of instructor-led team formation could provide them with opportunities to learn from others under a more diversified learning environment. But still, those eight interviewees noted that some flexibility in team formation should be given under certain circumstances. According to Interviewee #21 (a male master student majoring in tourism management), instructors shall interfere during the project period when any member/s in the group did not make contribution. Two interviewees including #19 (a female master student majoring in event management) supplemented that members' motivation and learning efficacy would be drastically discounted when certain member/s made no contribution. This situation was even worse when other members aired their complaint to instructors, and instructors replied by asking the team to resolve it by themselves. When they were advised to design solutions for such conflict, five interviewees stressed that the mentioning of problem-solving in general and conflict resolutions in particular as an evaluation criteria can be considered. This notion is coherent with what Wijnia et al.'s (2024) idea of combining project- and problem-based learning in a single project.

4.5. Clarity of assessment methods and criteria

Although all recruited interviewees trusted that their instructors impartially and professionally evaluated their submissions, all highlighted the significance of sharing clear assessment methods and criteria with learners.

As mentioned by Interviewees #8 and #10 (all are female bachelor students majoring in tourism management), they advanced their learning efficacy from one course project after knowing the judging panel includes academics and practitioners. They elaborated by explaining that clear mentioning of assessors, methods and criteria enabled and offer them better opportunities to personalize the works according to targeted audiences' preferences. If assessors are industry practitioners, more trade (rather than academic) journals should be reviewed and less academic jargons should be presented. Interviewee #13 (a male master student majoring in hotel management) shared similar idea during in his focus-group interview. In his entrepreneurship class, his team got higher learning gains because their instructor notified and reminded them to tailor-make their presentation for investors who would only give them five minutes to present five slides. After acknowledging the rules, their team retained highly essential content and rehearsed frequently. Throughout the process, their team learned a lot about how to make a concise (rather than lengthy) presentation from the judges' standpoint.

4.6. Provision of feedback

Nine interviewees mentioned that the provision of high-quality feedback is one thing many good instructors did to help students to improve their future work. According to Interviewee #23 (a master student majoring in event management), she received extra learning gains after reviewing the evaluation report prepared by the instructor of her junior-year marketing subject.

Several interviewees also noted that the suggestions and areas for improvements are invaluable elements of PBL because they assisted learners in acknowledging what they should avoid doing in future work as well as how to optimize their upcoming works when similar situations happen. Since providing students with constructive guidance and feedback is decisive in determining students' learning efficacy from PBL (Pan, Shankararaman, Koh, & Gan, 2021), instructors shall not overlook this when they design their PBL.

5. Conclusions

Drawing on the insights solicited from focus-group interviews with 23 HTM students from a public university in Hong Kong, this study successfully identified six critical success factors – namely (1) Realism of the project topic; (2) Alignment with the knowledge and skills learned with the project design; (3) Clarity of project instruction; (4) Fairness in team formation and conflict resolutions; (5) Clarity of assessment methods and criteria; and (6) Provision of feedback - which are decisive in affecting students' learning efficacy from PBL.

Being one of the first studies in this kind, the findings of this exploratory study are expected to contribute some new knowledge to the realm of research about hospitality and tourism education, pedagogy design and application as well as students' learning experience enhancement. The results of this study are also expected to provide some clues for hospitality and tourism educators to make their PBL become more learner centric.

Although this study made some contributions, readers are advised to generalize the findings with cautious as this study has some limitations. First, all participants of this exploratory study were recruited from one public university in Hong Kong. The opinions reflected by the participants of this study may not be applicable to HTM students from other countries or regions. Researchers are recommended to replicate this study by expanding the size and diversity of students. The examination of weighing on those identified factors from students' standpoints, and whether some critical success factors are exceptionally important to certain subjects' PBL is another interesting topic that deserves further investigation.

Acknowledgement

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Theme: Climate Changes & Crisis

A Crisis Response Framework to Respond to Long-term Anthropogenic Climate Change Crisis (Paper #028)

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Abstract:

This paper outlines a crisis response model for identifying the stages of anthropogenic climate change thus providing tourism stakeholder with the opportunity to prepare and respond to changes that will occur in coming decades.

Keywords: Climate change, crisis framework, complexity theory, crisis

1.Introduction

Anthropogenic climate change is a global scale crisis level event that will continue for many decades (IPCC, 2023). Ripple et al., (2024, p. 1) describes the climate change crisis as "an irreversible climate disaster (where) … much of the very fabric of life on Earth is imperilled". However, the response to this crisis has been slow compared to past crisis events. For example, the COVID-19 crisis resulted in restrictions that led to a 74% decline in 2020 global tourism flows compared to 2019 (UNWTO, 2021). Compared to COVID-19 the current anthropogenic climate change crisis event will continue for an indeterminate time with no apparent end point and be characterised by multiple rapidly changing and overlapping disruptions. Anticipated impacts include reduced biodiversity, higher global temperatures, flooding of many coastal areas and extreme weather events. When the climate crisis reaches its culmination point, the post-crisis new normal world will be significantly different from that of the pre-crisis normal. It is this reality that the global tourism industry must deal with in coming decades. This paper outlines a crisis response model for identifying the stages of anthropogenic climate change thus providing tourism stakeholder with the opportunity to prepare and respond to changes that will occur in coming decades.

2. Literature Review

The anthropogenic climate change crisis event can be classed as a complex long-term crisis event that "… will continue for decades if not centuries, and will generate multiple interlinked smaller crisis events, many of which can be forecast well in advance, while others may be unexpected" (Prideaux, 2024). Anthropogenic climate change also exhibits the characteristics

of a wicked problem that is global in extent (Perry, 2015), has known causes (IPCC, 2023), is complex in nature, has science-based solutions for dealing with the causes (IPCC, 2023), will impact over a range of scales including time, geographic factors and severity, and is a crisis without an apparent end point. The situation is further complicated by uncertainty over the level at which global temperatures will plateau and when this will occur, creating additional problems for the development, implementation, ongoing governance and enforcement of strategies directed towards mitigation, adaptation and resilience building.

Faulkner (2001) recognised the need to prepare for crisis events and plan for post-event recovery and tested. He tested his tourism disaster management framework using a single flood event (Faulkner & Vikulov, 2001). Faulkner's (2001) framework postulated that crisis events have a six-phase lifecycle from initial recognition of a crisis event to its final resolution. This model is not fit for purposed on a global scale to deal with long-term climate change.

A key feature of how climate change impacts on global systems are feedback loops described as processes that can either amplify or diminish Green House Gas emissions and may affect the global economy, ecosystem and society. Many feedback loops are interconnected and when their tipping points are reached, a domino-like effect of a cascading chain of reactions will occur until the chain reaction is completed. Climate tipping points are critical threshold that if crossed will lead to significant, accelerating and often irreversible change in the global climate system (Lenton et al., 2019). The domino like effect of cascading feedback loops was highlighted by Wunderling et al., (2021) who postulated that rising sea water temperatures generate increased melting of the Greenland and Antarctic ice sheets leading to slowing of the Atlantic Meridional Overturning Circulation (AMOC) followed by drying and dieback of the Amazon rainforest and faster than anticipated sea level rise. More recently, Ditlevsen & Ditlevsen (2023) predicted the AMOC tipping point would occur by mid-century (2025–2095 is a 95% confidence range) leading to a significant temperature declines in western Europe with cascading impacts on agricultural production, ecosystems and tourism.

3. Methodology

This paper draws on complexity theory (Scott, Baggio & Cooper, 2008) to identify factors that will influence future responses to the climate change crisis. The characteristics of complexity that can be identified and applied in the climate crisis event include: nondeterminism (anticipation of future behaviour is impossible even when all the elements of the event are known); operation of positive and negative feedback loops that may affect how the crisis event evolves; distributed nature of the crisis where aspects of the crisis cannot be accurately localised because of overlaps and knowledge gaps; decomposability where the crisis cannot be understood by decomposing it into it component parts; emergence and self-organisation where the crisis will evolve to a new self-organisational level and; self-similarity where the extent of the crisis looks similar at different scales. The EN-ROADS (n. d.) simulator illustrates aspects of complexity.

4. Results

4.1 Proposed climate change crisis framework

Unlike the single flood event that Faulkner & Vikulov (2001) used to test the tourism disaster management framework, anthropogenic climate change is a complex ongoing crisis event that does not have an identifiable end point, has blurry lines of separation between stages and numerous climate related crisis events running in parallel. To repurpose the crisis sequence identified by Faulkner (2001) into a framework suitable for climate change crisis research and practice, a modified sequence of four stages is proposed. The proposed Climate change crisis response framework recognises that the climate crisis is complex, its causes and likely impacts are well understood, the suggested stages (with the exception of the final stage) may overlap or run in parallel, and that it is not currently possible to determine a crisis end-point.

Stage 1, Identification describes the causes of the climate crisis event. The scientific literature and IPCC reports are important information sources informing on the causes and likely future impacts of the crisis event.

Stage 2, Preparation describes the development of a broad range of GHG emission reduction strategies based on mitigation, adaptation and resilience to deal with the crisis event.

Stage 3, Response describes the implementation and ongoing modification of strategies developed in stage two. Transition to net zero is an example of a strategy developed in the preparation stage and implemented and modified in the response stage. The response stage will continue for a long undetermined period.

Stage 4, Post-crisis new normal will emerge at the conclusion of the climate crisis event. The post-crisis altered world will be substantially different from the pre-crisis world that existed at the beginning of Stage One. Global temperatures will be much higher, sea levels will be higher, and all global ecosystems will have undergone significant change (Ripple, et al., 2024).

5. Conclusion and Implications

The idea of the tourism gaze permeates much of the tourism industry's construction and marketing of tourist experiences. Climate change will radically alter many of the contemporary sites that the gaze now celebrates. Climate change should be treated as an ongoing global-scale crisis event that will continue to generate fundamental economic and social upheavals that will change the way tourism is organised, experienced and operates through to the end of the 21st century and beyond. Application of the framework will assist tourism industry stakeholders to deal with the complex crisis events that will emerge in coming decades.

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Exposure to Indoor Air Pollution While Dining: A Case Study of Indoor Air Quality Assessment at an Upscale Tabletop Korean BBQ Restaurant in the U.S. (Paper#192)

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Abstract:

Driven by the rising popularity of Korean culture, Korean tabletop BBQ restaurants are rapidly growing in the U.S. Given that cooking produces harmful indoor air pollution, this study conducted an IAQ field test at an upscale restaurant using a reliable instrument. The toxic pollution levels exceeded those of New Delhi, India.

Keywords: Indoor Air Quality, Particulate Matter, Indoor Air Pollution, Health and Well-being

1. Introduction

Singh et al. (2021) argue that exposure to air pollution and its effects on health and well-being is highest while traveling compared to other activities. While traveling, dining out at a local restaurant is essential part of travel experience away from home. Driven by increasing interest in K-pop culture and Korean cuisine, Korean BBQ restaurants are experiencing significant growth in the U.S. in recent years. The unique feature of the Korean BBQ is Do-It-Yourself (DIY) tabletop cooking. A variety of raw or marinated meats are cooked right on the grill on the table by guests themselves. However, cooking meats is a source of indoor air pollution. Chang et al. (2021) examined harmful particulate matter pollution (PM2.5 & PM10) in an open-kitchen upscale restaurant in the U.S. that serves pasta and steaks. They monitored toxic PM2.5 mass concentrations ranging from a minimum of 166.5 $\mu g/m^3$ to a maximum of 631.6 $\mu g/m^3$ while WHO considers 15 $\mu g/m^3$ or lower acceptable (WHO, 2021). For a comparison, those extreme levels can be found in an urban city of India. IQAir reports that the city of Baddi, in southwestern Himachal Pradesh, recorded a January monthly PM2.5 average of 165 $\mu g/m^3$ (IQAir, 2024). Due to savory and smoky aroma, the customers of the restaurant were unaware that the environment in which they were dining was similar to the streets of Baddi. According to Chang et al. (2021), harmful PM pollution was emitted from cooking fumes in the open-kitchen facility and subsequently traveled into the dining area. Since cooking is performed on the

tabletop in a Korean BBQ restaurant, it is highly likely that unhealthy air pollution is generated. Is PM pollution present in the Korean tabletop BBQ restaurant? The purpose of the current study was to investigate the indoor air quality (IAQ) of the dining room in an upscale tabletop Korean BBQ restaurant as a case study.

2. Literature Review

Research shows that cooking emits particulate matter (PM) pollution. PM is a mixture of solid particles or liquid aerosols that can be found in the air (EPA, 2018). Among different sizes of PM, from PM10 to PM2.5, the WHO considers 15 µg/m3 or less of PM2.5 to be an acceptable threshold for a 24-hour period (WHO, 2021). Moreover, cooking produces ultra fine particles (PM 1.0) less than 1 micron in size (Si et al., 2023). PM 1.0 is considered to be more hazardous than PM2.5 due to its extremely small size, which enables to penetrate lung tissue and get into the bloodstream. What is more concerning is that unlike PM2.5, PM1.0 is not regulated, and monitoring technology for PM1.0 is limited. Recently, Si et al. (2023) exhibited PM 1.0 concentrations in commercial kitchen. They demonstrated that charcoal grill restaurant kitchen produced an average of 300.76 µg/m3 of PM 1.0, followed by fried chicken restaurant kitchen (194.62 µg/m3) and by electric grill restaurant kitchen (95.49 µg/m3). They also observed that the PM1.0 concentrations in the kitchens showed double peaks from 11:00 AM to 1:00 PM and from 5:00 PM to 7:00 PM, respectively, which was the time for lunch and dinner, thus indicating that cooking was the primary source of PM1.0. They emphasized that PM pollution generated by cooking should not be ignored because cooking fumes were significantly higher than those from incense burning and cigarettes.

3. Methodology

3.1. Field Test Site

An upscale Korean BBQ restaurant, which opened in January 2025 in the southeastern U.S., was selected for an indoor air quality (IAQ) assessment. Each table is equipped with a state-of-the-art electric grilling station, a rarity in the U.S. Additionally, unlike other Korean BBQ restaurants, this establishment features a downdraft smoke exhaust system that draws smoke from the tabletop grill down through a pipe in the floor, effectively venting it outside. Although more expensive to install than traditional upward exhaust systems, this design prevents smoke from lingering in the space, ensuring that customers' clothes and hair remain odor-free.

Table 1. Fiest Test Restaurant Information

Facility Type	Tabletop Korean BBQ
Type of Operations	Independent
Style	Full service
Food Type	Grilled meats
Meal Serving	Dinner
Seating Capacity	150
Daily covers on average	120 weekdays 160 weekends
Building space (Sq. ft.)	5,500
Dining space (Sq. ft.)	3,500
Dining layout	Open space
Ceiling Height (ft.)	9
Grill Heat Source	Electricity
Smoke Exhaust	Downdraft

3.2. Indoor Air Quality (IAQ) Instrument

The IAQ instrument used in this study was the AirGradient ONE (Model I-9PSL), which measures PM1.0, PM2.5, CO_2, TVOCs, NO_{x9}, temperature, and humidity. This monitor utilizes internationally recognized air quality sensor modules that have been tested and calibrated to ensure accuracy. The instrument was set to collect air samples at one-minute intervals. Several academic research studies have used this instrument for IAQ assessments (Chatzidiakou et al., 2023).

3.3. IAQ Field Test Administration

The IAQ field test was conducted over three separate visits, each covering a different meal period: early evening, evening, and late evening. The instrument was placed on the bar at the far end of the restaurant.

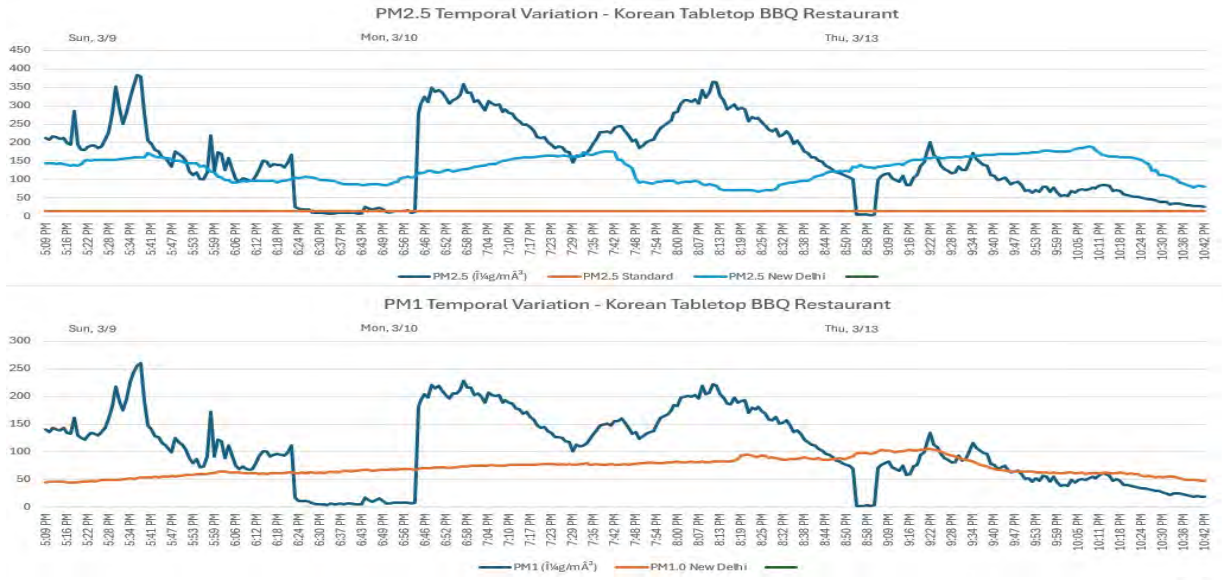
Table 2. IAQ Field Test Information

Date	Time	Duration (Min)	Start	Finish	# of Air Samples Collected
3/8/2025	Early Evening	70	5:09 PM	6:22 PM	71
3/10/2025	Evening	120	6:44 PM	8:52 PM	121
3/13/2025	Late Evening	90	9:06 AM	10:42 PM	94

4. Results

PM2.5 data is measured in micrograms per cubic meter (μg/m³) and visualized in relation to the World Health Organization (WHO) 24-hour PM2.5 air quality guideline. Since there is no established standard for PM1.0, PM2.5 has also been used as a benchmark. As shown in Figure 1, both PM2.5 and PM1 concentrations are at relatively high levels early in the evening, suggesting grilling activity began early evening on Saturday. Sudden drops occurred when the IAQ instrument was brought outside as the assessment was completed on Saturday around 6:30 PM. On Monday, 03/10/2025, between 6:30 PM and 9:30 PM, both PM2.5 and PM1 show multiple fluctuations with several peaks. This corresponds to periods of high customer activity and frequent use of tabletop grills. The concentrations remain elevated, indicating continuous emissions from grilling. On the third visit on Thursday, 03/13/25, both PM2.5 and PM1 levels gradually decrease, suggesting reduced grilling activity as the restaurant moves toward closing. The PM2.5 levels frequently exceed the WHO guideline and standard thresholds, indicating a potential concern for indoor air quality. For a comparison, both PM2.5 and PM1 of the New Delhi reference were charted along with the concentrations of the sampled restaurant. During peak dining hours, they significantly exceeded those levels of New Delhi. The New Delhi's reference data corresponding to the date and the time of the field tests were obtained from OpenAQ (OpenAQ, 2025), which is a nonprofit organization providing universal access to air quality data around the world.

Figure 1. Korean BBQ Restaurant's PM2.5 & PM1.0 Temporal Variation Trends vs. Those of New Delhi in India



As shown in Figure 2, the box plot represents the distribution of PM2.5 and PM1.0 levels recorded during three field tests. Given that 15 μg/m³ is considered a healthy threshold for PM2.5, the data indicates severe pollution in the dining area of the sampled upscale Korean BBQ restaurant. During the busy dinner hours (6:30–9:00 PM), the median PM2.5 level was approximately 200 μg/m³, with whiskers ranging from about 75 to 370 μg/m³. In the late evening, closer to closing hours, PM2.5 levels were significantly lower than during the earlier dinner period. PM1.0 showed a comparable distribution. This analysis suggests that both PM2.5 and PM1.0 concentrations peak during busy dinner hours and decrease significantly as the night progresses.

Figure 2. PM2.5 & PM1.0 Levels Distribution

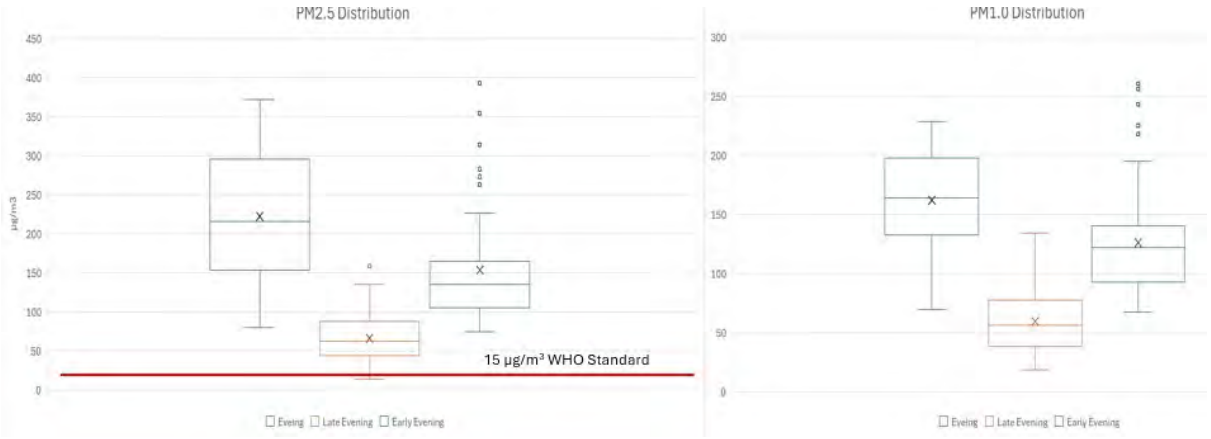


Table 3. The Results of PM2.5 & PM1.0 Descriptive Statistics & ANOVA

PM	Meal Period	N	Mean	SD	Minimum	Maximum	WHO Standard	New Delhi (Mean & SD)
PM2.5 μg/m³	Early Evening	71	153.58	76.01	74.43	397.83	15.00	132.92 (26.03)
	Evening	125	222.22	78.36	80.08	371.69		119.93 (33.78)
	Late Evening	94	66.50	32.70	13.79	158.79		152.31 (28.32)
	Total	290	154.94	94.24	13.79	397.83		129.52 (33.44)

ANOVA

PM2.5

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1301184.479	2	650592.240	147.570	<.001
Within Groups	1265299.867	287	4408.710		
Total	2566484.346	289			

PM1.0 µg/m3	Early Evening	71	126.00	44.85	67.17	260.50	N/A	54.58 (6.46)
	Evening	125	161.80	39.64	69.33	228.33		80.23 (6.21)
	Late Evening	94	59.32	26.86	18.00	134.17		71.69 (18.52)
	Total	290	119.82	57.93	18.00	260.50		71.01 (15.09)

ANOVA

PM10

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1522151.808	2	761075.904	195.015	<.001
Within Groups	1120061.222	287	3902.652		
Total	2642213.029	289			

To investigate statistically significant differences of PM2.5 & PM1.0 concentrations among the three periods, a one-way ANOVA was conducted to compare the means of the PM2.5 & PM1.0 concentrations. As shown in Table 3, the results revealed significant differences in both PM2.5 and PM1.0 means among the three periods; early evening, evening, and late evening.

5. Discussion and Implications

While the sampled upscale Korean BBQ restaurant equipped with electric grills and a downdraft ventilation system, which was designed to manage indoor air pollution emissions and discharge smoke, the results show that grilling meats on the table from the early dining hours is likely to lead to significant increases in PM pollution, which may pose acute or long-term respiratory health risks not only to frequent customers but also to staff members. When compared to the toxic PM pollution levels in New Delhi, those at the tabletop Korean BBQ restaurant appeared to be more harmful, particularly during prime dinner hours from 6:30 PM to 9:00 PM. It was evident that no one was aware of the unhealthy PM pollution they were exposed to while enjoying meals with friends and family or working actively in the dining room of the restaurant. To protect the health and well-being of customers and employees, there is an urgent need for IAQ awareness and assessment and for further mitigation strategies. Enhancing ventilation or exploring additional air purification methods could help maintain PM levels closer to or below the New Delhi reference, improving overall indoor air quality.

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Theme: Organisational Behavior and Performance

Too Mindful to Be Bored: The Moderating Role of Work Meaningfulness in the Mediated Pathway to Work Withdrawal Behavior (Paper#034)

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Abstract:

Mindfulness can be considered as a mental state of being aware and open to ongoing events and experiences (Brown & Ryan, 2003), and has gained increasing attention from practitioners across various industries. Within the contemporary hospitality sector, several hotel brands have integrated mindfulness practices into their operational frameworks. On the one hand, a high level of state mindfulness can promote employees' emotional acceptance and reduce negative emotional reactions to external stimuli (Zhang et al., 2022). On the other hand, the dynamic effects of state mindfulness on employees' emotion regulation ability are related to job satisfaction and task performance (Forjan et al., 2020). This paper builds on the conservation of resources theory to elucidate the positive role of state mindfulness as a key psychological resource in reducing boredom experience and work withdrawal behaviors of hospitality frontline employees. Furthermore, we innovatively introduce work meaningfulness into the investigation of state mindfulness, revealing that the reverse effect of state mindfulness on boredom might be more salient among employees who perceive low work meaningfulness. Data from hotel employees across 10-workday experience sampling (ESM), and the results of multilevel analysis support the theoretical model. The findings reveal that at the within-individual level, mindfulness, as a key psychological resource, can continuously generate new resources to alleviate the resource loss, thus reducing boredom and withdrawal behaviors. Work meaningfulness functions as a boundary condition that alters the relationship between state mindfulness and boredom

experience. Previous literature mainly focused on considering mindfulness as a stable trait to examine its impact on hospitality frontline employees' outcomes (e.g., Wang et al., 2021; Yu et al., 2023), research on the effects of dynamic fluctuations of mindfulness on employees' emotional experiences and work behaviors is still scarce. This research integrates the conservation of resources theory and conceptualizes mindfulness as a mental state that varies over time to explore its influence on hospitality frontline employee state boredom experience and work withdrawal behavior. Organizational leaders are suggested to implement mindfulness-based interventions or training programs to improve employee job satisfaction and productivity (Pang & Ruch, 2019; Kersemaekers et al., 2018).

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Board Characteristics and Hotel Sustainability: Evidence from Indonesia (Paper#037)

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Abstract:

The hotel industry consumes plenty of energy, so sustainability initiatives have become urgent. This research aims to investigate the influence of board characteristics on the disclosure of Indonesian hotel companies' sustainability reports (SR) in 2021-2023 by using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method. Board characteristics, measured by gender diversity, education, and size, have proven to increase the comprehensiveness of SR. However, SR disclosure has not significantly affected the hotel's financial performance.

Keywords: Sustainability Report, Disclosure, Board, Characteristics, Hotel, Performance

Work Engagement or Work Withdrawal? Exploring Work Passion among Hotel Employees (Paper#071)

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Abstract:

As the competition in the international hotel industry becomes increasingly globalized, owners continuously seek new ways to grow. However, the work environment in the hotel industry, characterized by long working hours, excessive job demands, lack of training, work-family conflict stress, and high employee turnover, significantly affects employees' job performance. this study aims to understand the impact of Work Passion (Harmonious Passion / Obsessive Passion) on the Work Engagement/Work Withdrawal of five-star hotel employees. This study utilized a survey method, distributing questionnaires to employees of five-star tourist hotels, and collected 300 valid responses (75%). According to the analysis results, Harmonious Passion positively affects employees' Work Engagement and negatively affects Work Withdrawal, while Obsessive Passion simultaneously positively affects both Work Engagement and Work Withdrawal. Finally, based on the research findings, this study proposes managerial implications, providing references for talent selection in the hotel industry, and offers suggestions and discussions for future research.

Keywords: Work Passion, Harmonious Passion , Obsessive Passion, Work Engagement, Work Withdraw

1. Introduction

Competition in the international hospitality industry has become increasingly globalized, prompting hotel owners to continuously seek new avenues for growth (Yu, Byun & Lee, 2014; Prakash, Sharma, Singh & Vijayvargy, 2023). However, the hotel industry's working environment is often

characterized by persistent issues such as long working hours, excessive job demands, insufficient training, work-family conflict, and high employee turnover. Employee performance has long been a focal point of interest for both academia and industry; yet previous studies have predominantly emphasized positive work behaviors (Akram, Lei, Haider & Hussain, 2020). Nevertheless, workplace behaviors encompass not only positive dimensions but negative aspects as well. By focusing exclusively on positive behaviors, the comprehensive nature of employee behavior cannot be fully captured. Consequently, numerous scholars in organizational behavior have started investigating the negative aspects of employee behaviors (Akram et al., 2020).

Work Engagement refers to an individual's physical, emotional, and cognitive investment in their work role (Kahn, 1990). Albrecht (2013) highlighted that higher Work Engagement significantly enhances employee performance. Bakker and Schaufeli (2008) further noted that highly engaged employees spontaneously exhibit proactive behaviors and positive interpersonal interactions. Additionally, research has demonstrated that Work Engagement is an important predictor of individual performance (Christian, Garza & Slaughter, 2011) and significantly influences customer satisfaction and job performance (Rich, Lepine & Crawford, 2010). Thus, Work Engagement has increasingly garnered attention in research. However, in workplaces, alongside highly engaged employees, there exist employees exhibiting withdrawal behaviors. Hanisch and Hulin (1990) defined Work Withdrawal as actions taken by dissatisfied employees to reduce the time spent on specific tasks, including behaviors such as tardiness, absenteeism, prolonged breaks, feigning illness, and eventual turnover (Berry, Lelchook & Clark, 2010). Although previous hospitality literature has begun examining antecedents of Work Engagement (e.g., Dai, Altinay, Zhuang & Chen, 2021; Rabiul, Karatepe, Karim & Panha, 2023; Shi, Gordon & Adler, 2022), research on antecedents of Work Withdrawal remains relatively scarce. Al-Shamaileh, Abuhjeeleh, Shamout, and Harazneh (2022) emphasized the urgent need for more attention to employee withdrawal behaviors, highlighting the necessity of exploring antecedents of Work Withdrawal (Abubakar, Namin, Harazneh, Arasli & Tunç, 2017; Yin, Ji & Ni, 2023).

The hotel industry is widely recognized as a people-oriented sector, requiring employees to provide not only tangible products but also intangible services (Putra & Cho, 2019). Employees must deliver high-quality face-to-face interactive services to guests (Putra, Cho & Liu, 2017; Teng & Barrows, 2009). Being an effective service provider necessitates passion and enthusiasm, along with the capability to calmly handle unexpected situations, consider customers' perspectives, and provide optimal solutions. Vallerand, Blanchard, Mageau, Koestner, Ratelle, Léonard, Gagné, and Marsolais (2003) argued that passion not only motivates individuals but also enhances their sense of happiness and self-worth, thereby enriching their life's meaning. Mariya (2021) suggested that individuals feel passionate about activities they find meaningful and enjoyable. Employees driven by intrinsic passion can focus on goals wholeheartedly without external supervision. Chang (2001) and Day (2004) characterized Work Passion as an emotional state capable of generating energy, determination, commitment, and enthusiasm, potentially serving as an organizational competitive advantage. Employees exhibiting high Work Passion often demonstrate significant interest and drive toward their tasks.

Work passion is further categorized into Harmonious Passion and Obsessive Passion. Harmonious Passion, driven by intrinsic motivation, is positively associated with psychological well-being (Ryan & Deci, 2000). In contrast, Obsessive Passion arises from social pressures or external expectations, potentially leading to stress and negative psychological outcomes (Mageau & Vallerand, 2007). These two forms of passion differ primarily in how activities are internalized into an individual's core self or identity (Schlenker, 1985). Work Passion also involves strong behavioral tendencies and intentions that positively enhance behaviors. Hurley (2007) demonstrated that Work Passion directly influences an individual's engagement in innovative value-creating behaviors, as well as their perceptions and judgments about work tasks. Leadership styles also indirectly influence employee performance. Calabrese (2000) found that perceived unfair management practices can elicit negative emotions, potentially resulting in detrimental cognitive responses and behaviors among employees, adversely impacting organizational groups (Robbins, 2001). Based on this discussion, this study aims to explore whether Work Passion significantly influences Work Engagement and withdrawal behaviors.

Academically, this research addresses existing literature gaps concerning Work Passion and employee performance. Practically, the findings provide valuable insights for the management practices of five-star international tourist hotels.

2. Literature Review

Relationship between Work Passion (Harmonious Passion /Obsessive Passion), Work Engagement, and Work Withdrawal

Islam, Khatoon, Cheema, and Ashraf (2003) defined passion as employees' positive inclination toward activities they deeply enjoy, emphasizing its importance in motivating individuals to willingly invest time and effort. Based on Self-Determination Theory (SDT), Vallerand et al. (2003, 2010) proposed a dualistic model of passion, distinguishing between Harmonious Passion and Obsessive Passion. Harmonious Passion emerges from autonomous internalization, enabling individuals to engage in work voluntarily without external pressures, integrating seamlessly with other aspects of their lives (Vallerand et al., 2003). Conversely, Obsessive Passion is driven by social pressure or external expectations, causing difficulty in disengaging from work activities and potentially leading to psychological stress and anxiety (Mageau & Vallerand, 2007).

Work passion is considered a critical factor influencing employees' perceptions of job resources and demands (Lavigne, Forest, Fernet & Crevier–Braud, 2014). Highly engaged employees typically demonstrate vigor, dedication, and absorption, proactively facing workplace challenges (Paek, Schuckert, Kim & Lee, 2015). According to the Job Demands-Resources (JD-R) model, job resources and demands significantly influence Work Engagement (Karatepe, Beirami, Bouzari & Safavi, 2014). Employees with high Harmonious Passion generally exhibit a strong interest in their work, deriving fulfillment and satisfaction from their tasks (Astakhova & Porter, 2015). In

contrast, employees experiencing excessive pressure or negative emotions may display Work Withdrawal behaviors as coping mechanisms to alleviate negative workplace experiences.

Empirical evidence shows that Obsessive Passion is positively related to negative emotions during work and after work, potentially causing psychological distress when individuals fail to disengage from tasks (Mageau, Vallerand, Rousseau, Ratelle & Provencher, 2005; Vallerand et al., 2003). Although harmoniously passionate employees typically maintain balanced lives by effectively managing their engagement in activities (Stenseng, 2008), those with Obsessive Passion may become overly dependent on work, potentially resulting in burnout and negatively affecting mental health and performance (Briki, 2017).

Research Hypotheses

Based on the discussion above, this study proposes the following hypotheses:
H1a: Harmonious Passion positively influences Work Engagement.
H1b: Harmonious Passion negatively influences Work Withdrawal.
H2a: Obsessive Passion positively influences Work Engagement.
H2b: Obsessive Passion positively influences Work Withdrawal.

3. Methodology

3.1 Sampling Method and Sample Size Evaluation

The survey respondents consisted of employees from five-star international hotels located in major cities across Taiwan, including Taipei (and New Taipei), Hsinchu, Taichung, Nantou, Tainan, and Kaohsiung. Questionnaires were distributed via coordination with hotel human resources or professional development departments, with assistance from hotel managers and supervisors. The sampling method employed was judgmental or purposive sampling. According to Patton (1990), this sampling technique enables researchers to deliberately select the most representative sample population that aligns with their research objectives.

Regarding the sample size, Tinsley and Tinsley (1987) recommend 5 to 10 respondents per questionnaire item. They further noted that this ratio could be slightly relaxed when the sample size approaches 300, thus making 300 valid responses adequate. Hair, Anderson, Tatham, and Black (1998) suggested a sample size between 5 to 20 times the number of questionnaire items. Given that the questionnaire comprised 37 items, the ideal sample size ranged from 185 to 740 respondents. Considering potential invalid responses, 400 questionnaires were officially distributed to ensure sufficient valid returns.

3.2 Research Variables and Measurement Instruments

3.2.1 Work Passion

The measurement for harmonious and Obsessive Passion was based on the dualistic model of passion proposed by Vallerand et al. (2003). The Passion Scale developed by Vallerand and colleagues (2003) and subsequently refined by Vallerand and Houlfort (2003) was adapted for this study by replacing the term "activity" with "work" to effectively measure employees' passion toward their jobs. The scale consists of 14 items divided equally into two dimensions: Harmonious Passion (7 items) and Obsessive Passion (7 items). Responses were rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

3.2.2 Work Engagement

Work Engagement was assessed using the Utrecht Work Engagement Scale (UWES) developed by Schaufeli et al. (2006), comprising three engagement dimensions: vigor, dedication, and absorption. The original 17-item scale was adapted to meet the study's specific requirements, resulting in a 7-item measurement instrument. Responses were also collected using a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

3.2.3 Work Withdrawal

Work Withdrawal behaviors were measured using the scale developed by Hanisch and Hulin (1990). This scale includes 6 items, evaluated through a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

4. Results

4.1 Descriptive Statistical Analysis of Sample

This study employed a questionnaire survey method, collecting data from five-star international tourist hotels located in major Taiwanese cities, including Taipei (and New Taipei), Hsinchu, Taichung, Nantou, Tainan, and Kaohsiung. A total of 400 questionnaires were distributed (200 physical copies and 200 online). After excluding 100 invalid responses, the study obtained 300 valid questionnaires, resulting in an effective response rate of 75%. The distribution process involved communicating with hotel representatives and department personnel to secure participation, after which these contacts facilitated the distribution and collection of completed questionnaires or online questionnaire links.

Regarding the gender distribution of respondents, females accounted for the majority with 208 respondents (69.3%), while males accounted for 92 respondents (30.7%), with no respondents identifying as other genders.

In terms of employment status, the majority were full-time employees (275 respondents, 91.7%), followed by part-time employees (25 respondents, 8.3%), and no interns participated.

Regarding the age distribution, there were no respondents aged below 18 years; 99 respondents (33%) were aged between 19 and 24 years, 100 respondents (33.3%) between 25 and 34 years, 53 respondents (17.7%) between 35 and 44 years, 39 respondents (13%) between 45 and 54 years, and 9 respondents (3%) aged 55 years and above.

Concerning education levels, no respondents had an education level below elementary school; 3 respondents (1%) had completed junior high school, 48 respondents (16%) had completed high school or vocational school, 214 respondents (71.3%) had a university or college degree, and 35 respondents (11.7%) had postgraduate degrees.

4.2 Reliability Analysis

Cronbach's α coefficient was utilized to evaluate the reliability of the measurement instruments in this study. Cronbach's α values range from 0.00 (no reliability) to 1.0 (perfect reliability), with higher values indicating greater internal consistency and reliability (Vogt & Johnson, 2015). Hair, Anderson, Tatham, and Black (1998) suggest a Cronbach's α value above 0.7 is acceptable. The Cronbach's α values obtained were as follows: Harmonious Passion (0.93), Obsessive Passion (0.94), Work Engagement (0.94), and Work Withdrawal (0.96), indicating high reliability.

4.3 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis is a measurement model specifically used to examine the relationships between observed measures or indicators (such as test items, scores, or observed behavioral ratings) and underlying latent variables or factors. It is an advanced form of Structural Equation Modeling (SEM), serving as a preliminary step or foundational framework for subsequent integrative SEM analysis (Brown & Moore, 2012). The constructs and variables extracted through reliability analyses were further assessed for convergent and discriminant validity using AMOS statistical software.

The research model comprised 37 items covering Work Passion, Work Engagement, Work Withdrawal, benevolent leadership, and authoritarian leadership. The model fit indices met the recommended thresholds (χ^2 = 1429.231, df = 614, χ^2/df ratio = 2.33, RMSEA = 0.06, NFI = 0.90, CFI = 0.92, GFI = 0.85). The standardized factor loadings for all indicators within the six latent constructs (Harmonious Passion , Obsessive Passion, Work Engagement, Work Withdrawal, benevolent leadership, and authoritarian leadership) were statistically significant ($p < 0.05$) and exceeded 0.5, demonstrating robust convergent validity within each construct.

4.4 Regression Analysis

The regression analysis results indicated that Harmonious Passion had a significant positive effect on Work Engagement ($\beta = 0.82$, $p < 0.001$), thus supporting hypothesis 1a.

For hypothesis 1b, the regression results revealed that Harmonious Passion negatively influenced Work Withdrawal behavior ($\beta = -0.57$, $p < 0.001$) when controlling for gender, age, position, and tenure in the hospitality industry, thereby supporting hypothesis 1b.

Additionally, Obsessive Passion demonstrated a significant positive influence on Work Engagement behavior ($\beta = 0.14$, $p < 0.01$), thus confirming hypothesis 2a.

Finally, regression results for hypothesis 2b indicated a significant positive impact of Obsessive Passion on Work Withdrawal behavior ($\beta = 0.18$, $p < 0.01$), confirming hypothesis 2b.

5. Conclusion & Suggestions

Theoretical Implications and Practical Recommendations
Theoretical Implications

Harmonious Passion and Work Engagement
This study found that employees exhibiting higher levels of Harmonious Passion also demonstrated higher levels of Work Engagement. According to Vallerand et al. (2003), Harmonious Passion originates from autonomous internalization, motivating employees to engage proactively due to genuine love and enthusiasm toward their work, thus enhancing engagement behaviors and reducing Work Withdrawal. These findings align with previous research.

Harmonious Passion and Work Withdrawal:
The results indicate that employees with higher Harmonious Passion exhibit lower levels of Work Withdrawal behaviors. Forest, Mageau, Sarrazin, and Morin (2011) argued that Harmonious Passion generates positive emotional experiences and satisfaction, enabling employees to manage stress more effectively, thereby decreasing Work Withdrawal tendencies.

Obsessive Passion and Work Engagement:
The results of this study revealed that Obsessive Passion positively influences employees' Work Engagement. However, this type of passion largely arises from external pressure and a motivation to avoid failure (Lavigne, Forest, & Crevier-Braud, 2012). Consequently, employees with Obsessive Passion devote themselves intensely to their work to prevent negative outcomes, thus temporarily enhancing engagement.

Obsessive Passion and Work Withdrawal:
Conversely, Obsessive Passion may also lead to excessive involvement and difficulties in disengaging from work. Prolonged intense investment can result in psychological exhaustion, prompting employees eventually to withdraw from work as a coping mechanism to restore energy (Vallerand et al., 2010). These findings also resonate with prior studies.

Practical Recommendations

Enhancing Harmonious Passion to Reduce Work Withdrawal

Hotel industry managers should cultivate employees' Harmonious Passion by creating a supportive and positive working environment and providing appropriate training and career development opportunities. Encouraging employees to pursue intrinsic motivation and autonomy in their tasks and goal setting can enhance their overall passion, engagement, and ultimately, their work performance.

Addressing the Dual Effects of Obsessive Passion through Strategic Management

Although Obsessive Passion can temporarily enhance employees' engagement, its long-term effects under stressful conditions can result in burnout. Therefore, hotel managers should offer flexible work arrangements and psychological support resources to help employees manage work-related stress effectively and maintain psychological well-being.

Research Limitations and Future Research Directions

Since the current study's sample was limited to employees from five-star hotels in Taiwan, some organizations showed reluctance to participate due to concerns regarding confidentiality, impacting the response rate. Additionally, questionnaire distribution via mail, email, or face-to-face methods posed certain limitations, potentially affecting data completeness and accuracy. Future researchers are advised to establish early collaborations with relevant institutions to ensure smooth questionnaire distribution. Moreover, subsequent studies could expand to an international context, comparing the influence of different cultural factors on Work Passion, engagement, and withdrawal behaviors.

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Theme: Market Dynamics

Active Allies or Peak-Season Predators?: Decoding STR's Real Impact on Hotel Revenues (Paper#063)

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Abstract:

This study questions the standard view that short-term rentals (STRs) automatically disrupt hotels. Instead, it presents a subtler approach: active STRs often complement hotels, while passive STRs substitute them. Analyzing time (pre- vs. post-pandemic), type (active vs. passive), and location (high vs. low STR presence), it proposes a competition theory of disruptive innovation. Crucially, the findings reveal a major shift in competition after the pandemic, offering deeper and timely insight into how STRs can either complement or supplant traditional hotels.

Keywords: short-term rental (STR); hotel; disruptive innovation; substitute and complement; competition theory

1. Introduction

The sharing economy has transformed how individuals exchange surplus goods and services, especially in lodging, where short-term rentals (STRs) have gained prominence. Advances in technology and reduced transaction costs have driven this shift, enabling suppliers to list properties with ease. Airbnb, with over six million listings worldwide, exemplifies how platform-based services can redefine accommodations (Bresciani et al., 2021; Dogru et al., 2020a; 2020b). Prior studies also indicate Airbnb's potential to challenge or even outshine traditional hotels (Dogru et al., 2019; Guttentag and Smith, 2017). Although many scholars concur that STRs can harm the conventional hotel sector, relying on conventional theories such as disruptive innovation (Bower and Christensen, 1995; Christensen, 1997) alone is insufficient. STRs undoubtedly bring innovation, but their impact varies by type, location, and other factors. Treating STRs merely as substitutes or complements is overly simplistic. Consequently, this study introduces a refined competition theory of disruptive innovation, elucidating how STRs and hotels interact in more complex ways.

Contradictory empirical findings underscore why deeper investigation is required. While some researchers highlight STRs' negative influence on hotel revenues, others find neutral or even positive effects. Methodological biases may explain these inconsistencies. Research has centered on major tourist hubs, limiting broader applicability. Data sources like Airbnb, AirDNA and Smith Travel Research often favor chain hotels, overlooking smaller properties. Moreover, few studies address the fluid supply of STRs or their seasonality, potentially skewing estimates of STRs' true market effects. This research, therefore, zeroes in on STRs' influence on hotel earnings, advancing an innovative framework that integrates disruptiveness with nuanced definitions of substitutes and complements. Using comprehensive Texas Comptroller data, which tracks revenues from both hotels and STRs statewide, the study tackles past limitations. It factors in STR seasonality and the diversity of market conditions, illuminating how geographic variance and operational practices shape outcomes. The study's main goal is to propose and empirically test a robust competition theory of disruptive innovation, emphasizing that STRs' effects on hotels are neither universally detrimental nor uniformly benign. By examining active and passive STRs, market size, and pandemic-era shifts, this work provides a fuller picture of the competitive landscape. Ultimately, this approach delivers a richer understanding of the evolving relationship between hotels and STRs in today's dynamic lodging market.

2. Literature Review

2.1. Short-term rentals' disruptive innovation

Since its 2008 launch, Airbnb has revolutionized lodging by making it easier for private individuals to rent out properties to travelers (Blal et al., 2018). Often cited as a prime example of disruptive innovation, Airbnb exemplifies how newcomers with lower initial performance can evolve to challenge traditional market leaders (Bower and Christensen, 1995; Christensen, 1997). In theory, disruptive solutions gain a foothold by offering advantages like lower prices or greater convenience and can progressively extend their reach until they become serious contenders in mainstream markets. With Airbnb, the simplicity of posting a spare room or entire home online directly confronted established hospitality models. Previously, travelers were largely restricted to hotels or motels, many of which lack the flexibility to shut down operations on a whim. By contrast, Airbnb hosts can leave or rejoin the market on short notice, an agility largely absent from traditional hotels. While disruptive innovation theory clarifies why Airbnb's entry drew so much attention, it does not fully illuminate the ongoing competitive dance between hotels and short-term rentals (STRs). Many early studies portrayed STRs as pure "substitutes" for hotels, eventually upending the legacy hotel sector (Blal, Singal, and Templin, 2018; Bresciani et al., 2021; Dogru et al., 2020a; 2020b; Zervas et al., 2017). Yet some skepticism about that narrative arises when one recalls precedents like Craigslist, which also allowed subleases and short-term rentals years before Airbnb but did not severely disrupt hotels.

Consequently, the traditional view that STRs universally replace hotels has become inadequate. The concepts of "substitution" and "complementarity" have long been used to describe relationships in economics, but these simplified binaries may overlook the more complex

interplay between hotels and different types of STRs. Recognizing this gap, the present study expands on substitution and complementarity to devise a refined "competition theory of disruptive innovation." The aim is to reveal how STRs interact with hotels in more intricate ways than the standard notion of a one-way replacement effect. Within the sharing economy, hotels and STRs can experience multiple competitive phases. Our conceptual model identifies three main stages: introduction, settlement, and disruption. First, in the introduction stage, novel services like Airbnb gain market entry. If hotel revenues remain stable despite increasing STR listings, hotels and STRs appear "independent." In the earliest phase, the presence of a few STR units does not necessarily harm hotels. Moreover, early studies only considered the possibility that STRs might reduce hotel revenue, neglecting the symmetrical issue: do more hotels affect how many STRs operate, or how much revenue STRs generate? Building on this, we subdivide the introduction stage further. "Mutual independence" suggests each side operates without affecting the other; the nascent STR service has little clout, and hotels likewise neither help nor hinder STR growth. As STRs expand, they could achieve a "cooperating independent" status—STR revenue rising alongside an increasing number of hotels—implying that both continue to coexist without eroding each other's market shares significantly. However, a new entrant could also struggle against a well-established sector, becoming "competing independent" instead: STR revenues might fall whenever hotels proliferate, revealing that the established market can still limit the success of weaker entrants.

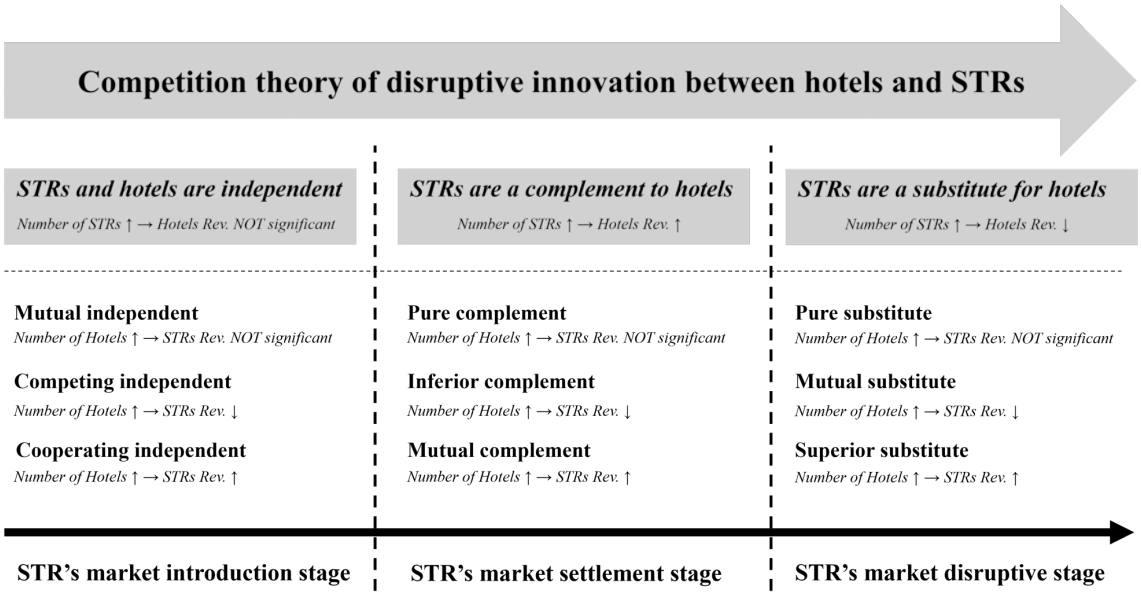
Next, the settlement stage emerges as STRs secure their own segment of the market beyond early adopters. At this stage, STRs can function as complements to traditional hotels, contrary to the common assumption that they simply replace them. Demand for lodging often peaks during high season, and many hotels cannot seamlessly scale capacity. STRs can fill these gaps, especially if they add inventory when conventional accommodations are fully booked. Some research confirms that Airbnb can foster positive outcomes for tourism employment, hinting at a larger economic expansion (Dogru et al., 2020b). Likewise, Blal et al. (2018) found that higher Airbnb pricing could even correlate with better hotel RevPAR, possibly because it expands the overall demand. However, this complementarity is not uniform. Our model categorizes it into "pure," "inferior," and "mutual" complement scenarios. In a pure complement relationship, more STRs boost hotel revenue, but hotels have no impact on STR revenue. An inferior complement scenario arises when STR earnings decline as hotels grow, yet more STRs still raise overall hotel revenue. This arrangement suggests STRs hold a weaker position in the market, serving only to enrich hotels. Mutual complement indicates an ideal synergy: both STR and hotel revenues benefit as each sector grows.

Eventually, a disruptive stage can ensue if STRs become substitutes for hotels, in line with classic disruptive innovation theories. In such a case, hotels lose revenue as STR listings climb. This substitution can manifest in distinct modes. A "pure substitute" emerges when STR expansion proceeds unhindered, cutting directly into hotel bookings. A "superior substitute" intensifies this effect, with STRs continuing to flourish even if more hotels open. Between these

extremes lies the "mutual substitute" situation, where each side fiercely competes, and neither can easily dominate. Over time, the threat that STRs might permanently siphon hotel market share shapes this disruptive phase, confirming that at least a portion of the market is truly being captured by STRs.

These competition stages—introduction, settlement, and disruption—demonstrate the dynamic progression of STRs in the accommodation sector. Early in their entry, STRs might be dismissed by hotels as inconsequential; soon, they could reveal an unexpected capacity to fulfill unmet demand, possibly complementing traditional offerings. Eventually, they may mature and outpace outdated business models, assuming a genuinely disruptive stance. This evolutionary view clarifies how Airbnb and similar platforms evolve from peripheral players to potentially formidable rivals. Moreover, the disruptive innovation framework as originally proposed (Christensen, 1997) did not fully account for the influences of geography, technology type, or temporal factors. Disruptive success depends not only on innovation's properties but also on how it meets specific local or market needs at critical times. STRs differ in location, scale, and operational strategy, meaning one city might see them flourish as a complementary asset, while another experiences sharper competition. The settlement or disruptive phase also depends on whether STRs mainly supply entire homes, cater to specific tourist niches, or focus on high-season peaks.

Figure 1. Competition theory of disruptive innovation



Likewise, prior research often treated STRs as uniformly harmful or beneficial without distinguishing among various models. The real picture is more nuanced. Some STRs operate year-round with professional management, resembling quasi-hotels. Others appear only during festivals or holidays, functioning as sporadic, surplus inventory. Although these differences can

shift the nature of STR–hotel interaction, they rarely appear in older substitution-focused studies. By emphasizing a bilateral perspective—examining how hotels and STRs affect one another—this literature stream addresses an important gap. Past analyses tended to concentrate on whether STRs undermine hotels. While that question remains crucial, the reciprocal influence deserves attention. If more hotels appear in a region, does that deter STR listings, or does it highlight unmet demand and motivate more hosts to participate? Understanding these forces helps explain why some markets see STRs and hotels thrive together, while others see a cutthroat rivalry that reduces margins for both.

In sum, the path from independence, through complementarity, to substitution outlines how STRs integrate and potentially displace incumbents. This progression matches key principles of disruptive innovation but refines them by recognizing that disruptive outcomes vary. Many technologies or services never progress beyond introduction or settlement stages. Only a fraction become true disruptors. In the lodging domain, the differences in demand elasticity, seasonality, and local constraints mean STRs can adopt multiple roles—supplementary in some cases and strongly competitive in others. Rather than assume a universal "STRs always cannibalize hotels" argument, current research suggests far more complexity, shaped by local contexts, property types, and market phases. Therefore, a refined competition theory of disruptive innovation offers more precise insight into when STRs behave as substitutes, complements, or something in between. Traditional economic frameworks, focusing on substitution vs. complementarity, are enriched by acknowledging that STRs are not monolithic. By examining patterns of introduction, settlement, and disruption, researchers can track how Airbnb and similar platforms move from negligible market entrants to real challengers—or, in some locales, remain peripheral contributors. This holistic perspective contributes a more accurate understanding of modern lodging markets and highlights the importance of analyzing STR–hotel relations with new theoretical and empirical tools.

2.2. Hypotheses development

Extensive research has examined the effects of short-term rentals (STRs) on the hotel industry, yet consistent findings remain elusive. This uncertainty arises largely from methodological constraints and biases in prior studies, which often focus on major tourist hubs such as New York, Los Angeles, San Francisco, Miami, and Boston in the United States, or Vienna, London, Paris, and Rome in Europe. These locations experience a higher concentration of STRs, potentially skewing results and limiting generalizability. Additionally, research commonly uses data from Airbnb (or AirDNA) and Smith Travel Research, which emphasize larger hotel chains at the expense of smaller independent establishments like Bed and Breakfasts (B&Bs) and lodges. This sampling bias obscures the true spectrum of properties and may misrepresent the actual influence of STRs on the broader hotel sector.

Another key oversight in existing studies involves the seasonal nature of STR supply. Although STR platforms promote flexibility—enabling hosts to readily add or remove listings—many analyses incorrectly assume that any property listed within a year is active year-round. As

a consequence, research may inflate the impact of STRs by ignoring the intermittent availability of some properties. This issue is underscored by Dogru et al. (2019; 2020a; 2020b) and Zervas et al. (2017), where the mere presence of a listing (even if used briefly) counted as ongoing supply. Such simplifications risk overstating the overall competition posed by STRs and neglect how part-time hosts might only provide extra capacity during peak demand periods.

To address these gaps, the present study adopted a different approach. We performed monthly counts of STR properties and distinguished between "active" STRs, operating most months, and "passive" STRs, open only for limited periods. Using the median operating duration of 8.625 months, each property was categorized as either active or passive. This more fine-grained perspective moves beyond the generalized assumption that any STR presence translates into uniform competitive pressure on hotels. Active STRs, available nearly all year, have a higher potential to rival hotels by offering consistent alternatives to travelers. Passive STRs, on the other hand, may fulfill seasonal surges in demand without permanently eroding hotel market share. Based on these distinctions, we propose that active STRs present a stronger challenge to hotel revenue, while passive STRs might complement hotels by absorbing excess demand during high season. Because passive operators do not operate continuously, they may not pose a sustained threat. Past researchers, however, have rarely questioned whether intermittent STRs simply fill market gaps that hotels cannot meet. If passive hosts only appear for peak periods, hotels might benefit from reduced overcrowding or upward pressure on rates outside that timeframe. Conversely, active STRs can more directly displace hotel bookings throughout the year, suggesting a substitutive effect. Formally stated:

Hypothesis 1a: Active STRs negatively affect hotel revenue, whereas passive STRs have a positive impact on hotel revenue.

Yet a contrasting viewpoint emerges when considering that active STRs, managed more professionally, can approximate traditional hotel structures. Some active STRs partner with real estate management firms to handle advertising, cleaning, and revenue collection, effectively mimicking a hotel's operations. Compared to passive or casual hosts, these more sophisticated active STRs face higher operational complexities and, in certain cases, might lack the economies of scale that established hotels enjoy. That can leave them vulnerable, with limited leverage to lower prices or ensure occupancy. Consequently, active STRs may exert less downward pressure on hotels than originally assumed. Indeed, if their prices remain high to cover costs, they might even leave hotels as a more appealing or competitively priced option for many travelers. From this standpoint, active STRs could exhibit minimal harm—or even minor advantages—for hotels, while passive STRs, by appearing only during peak seasons, undercut hotels' ability to capitalize on high-demand periods. This logic generates an alternative hypothesis:

Hypothesis 1b: Active STRs exert a positive (or negligible) impact on hotels, while passive STRs negatively affect hotel revenue.

Beyond these structural considerations, the COVID-19 pandemic has added another dimension. According to Dogru et al. (2023), the pandemic's disruption to the lodging industry was uneven: hotels faced significant drops in demand, whereas STRs, especially entire-home listings, proved resilient. During lockdowns and travel restrictions, many travelers preferred isolated rentals to crowded hotels. This shift in consumer behavior could fundamentally alter the competitive balance moving forward. Entire-home rentals flourished because they offered minimal contact with hosts or other guests, fitting pandemic-era priorities such as social distancing. Dogru et al. (2023) found that room-sharing options suffered, but whole-property STRs remained comparatively stable or even gained appeal.

In the post-pandemic period, travelers might continue to favor private accommodations over traditional hotel settings. This shift in consumer tastes implies that hotels must adapt to an environment where STRs hold distinct appeal. Although STRs may already have served as a viable lodging choice, the pandemic potentially magnified their advantages. If concerns about health and personal space persist, active STRs with private amenities could command increasing market share, adding fresh challenges for traditional hotels. Consequently, one expects intensifying competition between hotels and STRs. These trends also suggest that hotels and STRs alike must tailor their offerings to meet customers' changing priorities for hygiene, safety, and personalization.

Hypothesis 2: Competition between hotels and STRs has intensified since the onset of COVID-19.

3. Methodology

3.1. Data

This study used Texas Comptroller's Hotel Data to examine how short-term rentals (STRs) interact with the hotel industry. Monthly data from January 2017 to March 2023 were compiled into a single dataset. Because the data are self-reported, various inaccuracies needed correction. City names were sometimes wrong, and missing revenue entries were treated as zero. Quarterly revenue figures were converted to monthly by division. Properties outside Texas were excluded. Hotels were initially identified through brand names (e.g., Hyatt, Hampton, Ramada). We then reviewed "hotels" earning under $10,000 per month; some turned out to be STRs, lodges, or bed and breakfasts. Multiple sources—such as the Paycheck Protection Program database, Dun & Bradstreet, opencorporates.com, Texas EXES directories, Hotels.com, and Google—helped verify property types. We also used the standard deviation of monthly revenue to detect STR-like volatility. To ensure accuracy, we checked for irregularities in reported revenues and addresses. Deliberate exclusions were made for places that clearly did not serve as typical hotels or STRs (e.g., houses of worship, hunting/fishing sites, wedding venues, farms). This rigorous process aimed to produce a dependable dataset capturing revenue dynamics between hotels and STRs under Texas's unique regulatory conditions. By differentiating legitimate hotels from properties acting as STRs, the study provides a clearer picture of how each segment contributes to the lodging market, offering insight into a sector shaped by both traditional accommodations and short-term rental platforms.

3.2. Variable and analysis model

This study's main outcome variable is monthly revenue for hotels and short-term rentals (STRs), drawn from the Texas Comptroller Data. We distinguish two sets of models for each revenue type (hotels vs. STRs), labeled 1H/1S and 2H/2S. The primary independent variables are the monthly counts of hotels (N.hotel) and STRs (N.str). To handle months with zero recorded revenue, we only count properties when their reported revenue is non-zero. Thus, N.hotel and N.str reflect the actual number of operating properties each month. Model 1H/1S then regresses revenue on these counts, plus other controls.

$$\begin{aligned}Rev = {} & \beta 0 + \beta 1 N.str + \beta 2 N.hotel + \beta 3 D.covid + \beta 4 D.covid \times N.str + \beta 5 D.covid \times N.hotel \\ & + \beta 6 D.H.str + \beta 7 D.H.str \times N.str + \beta 8 D.H.str \times N.hotel \\ & + \beta 9 D.H.str \times D.covid + \beta 10 D.H.str \times D.covid \times N.str + \beta 11 D.H.str \times D.covid \times N.hotel \\ & + \Sigma\, D.month\end{aligned}$$

(Model 1H/1S)

We also refine STR measurement by differentiating "active" from "passive" STRs. Next, we compute two values for each STR: (1) its total observed months in the dataset, and (2) its months with non-zero revenue. Their ratio measures how consistently a property operates. The median ratio of 0.71875, or roughly 8.625 months on an annual basis, separates active from passive STRs. Properties above this threshold are classified as active; those below it are passive. Models 2H/2S incorporate these two STR types instead of a single N.str variable.

$$\begin{aligned}Rev = {} & \beta 0 + \beta 1 N.active + \beta 2 N.passive + \beta 3 N.hotel \\ & + \beta 4 D.covid + \beta 5 D.covid \times N.active + \beta 6 D.covid \times N.passive + \beta 7 D.covid \times N.hotel \\ & + \beta 8 D.H.str + \beta 9 D.H.str \times N.active + \beta 10 D.H.str \times N.passive + \beta 11 D.H.str \times N.hotel \\ & + \beta 12 D.H.str \times D.covid + \beta 13 D.H.str \times D.covid \times N.active + \beta 14 D.H.str \times D.covid \times N.passive \\ & + \beta 15 D.H.str \times D.covid \times N.hotel \\ & + \Sigma\, D.month\end{aligned}$$

(Model 2H/2S)

The data span January 2017 through March 2023, covering the COVID-19 pandemic. To capture COVID-19's impact, a binary variable (D.covid) indicates pre- (0) vs. post-outbreak (1) periods, specifically before March 2020 vs. from March 2020 onward. Next, cities in Texas are categorized as "high STR" if they exceed 100 total STR listings across the study period (D.H.str = 1), or "low STR" if they do not (D.H.str = 0). This classification follows the premise that high STR cities reflect a more advanced stage of short-term rental competition. Finally, monthly dummies are included in each model to control for unobserved seasonal effects, though their coefficients are omitted from result tables for brevity. Overall, these specifications allow the analysis to capture differences between high- and low-STR cities, active and passive STRs, and pandemic vs. pre-pandemic conditions, all while focusing on how hotel and STR revenue is influenced by the presence of each other.

3.3. Estimation method

This study uses a random intercept model, also called a mixed-effects or multilevel model, to account for variations at both the property and city levels. The model takes the form:

$$Y_{ij} = \beta_0 + \beta_1 X_{ij} + u_j + e_{ij},$$

where $\beta_0 + \beta_1 X_{ij}$ represents the fixed part, and $u_j + e_{ij}$ forms the random component. The term e_{ij} is the Level 1 error (property-specific), while u_j is the Level 2 error (city-specific). Unlike ordinary least squares (OLS), this approach allows an additional intercept for each city, capturing unobserved city-level effects. Because each property belongs to one city, the model can effectively handle hierarchical data structures.

This framework suits the study of hotel and short-term rental revenues, which likely correlate within the same city. In other words, revenue generated by one property in a city tends to resemble that of another in the same city, more so than a property in a different city. By including random city intercepts, the model addresses such clustering better than a simple OLS regression. Although the random terms are not the primary focus here, they significantly enhance the overall explanatory power of the analysis.

4. Results

4.1. Profile of the respondents

Table 1 shows descriptive statistics for 918 Texas cities, 28 of which are classified as high STR cities (over 100 short-term rentals), including Austin, Galveston, Port Aransas, South Padre Island, Corpus Christi, Rockport, Fredericksburg, San Antonio, and Houston. There are 8,985 hotels in the state, 2,954 in high STR cities. Meanwhile, 23,981 STRs exist overall, with 18,634 in high STR cities, indicating an uneven distribution. Of these STRs, 54% are passive in high STR cities, versus 37% in low STR cities, suggesting more active STRs where fewer units are available. The average hotel's monthly revenue is $129,250, rising to $188,177 in high STR cities and dropping to $101,501 in low STR cities. Net average revenue (values in parentheses) excludes zero-revenue months, revealing minimal differences for hotels and active STRs, but greater disparities for passive STRs because of their intermittent operation.

Table 1. Descriptive statistics

City Group		High STR cities	Low STR cities	Total
Number of cities		*28*	*890*	*918*
Number of properties				
Hotel		*2,954*	*6,031*	*8,985*
STR	Total	*18,634*	*5,347*	*23,981*
	Active STRs	*8,639* (46%)	*3,352* (63%)	*11,991* (50%)
	Passive STRs	*9,995* (54%)	*1,995* (37%)	*11,990* (50%)

Note. The unit of mean monthly revenue is US Dollars. The number in the parenthesis is net mean monthly revenue, which is average monthly revenue by only non-zero monthly revenue.

4.2. Mixed-effect (multi-level) model estimation results

Table 2 shows the mixed-effects results from Models 1H and 1S. Model 1H includes 668 Texas cities, while Model 1S encompasses 764, suggesting STR coverage is broader than hotels. The intraclass correlation coefficients (ICCs) are 0.77 for Model 1H and 0.67 for Model 1S, signifying strong within-cluster similarity. Drawing on Cicchetti's (1994) scale, Model 1H's ICC is "excellent," and Model 1S's is "good," supporting use of a random coefficient model.

Table 2. Fixed effect coefficients of mixed effect regression from Model 1H and 1S

	Model 1H *Monthly hotel revenue*		Model 1S *Monthly STR revenue*	
Independent Variable	*Coefficient*	*t-value*	*Coefficient*	*t-value*
(Intercept)	39,986.26 ***	7.20	4,807.36 ***	5.91
N.str	442.88 **	3.16	21.41	1.06
N.hotel	2,663.21 ***	18.69	254.48 ***	7.05
D.covid	-13,619.74 ***	-16.91	-1,302.92 ***	-5.66
D.covid × N.str	1,318.75 ***	11.36	155.33 ***	8.54
D.covid × N.hotel	-542.40 ***	-21.70	-252.49 ***	-30.59
D.H.str	-5,9054.14 **	-3.28	1,337.05	0.70
D.H.str × N.str	-21.19	-0.15	-16.97	-0.84
D.H.str × N.hotel	-2,137.63 ***	-14.60	-296.62 ***	-8.08
D.H.str × D.covid	-42,126.34 ***	-18.66	1.92	0.01
D.H.str × D.covid × N.str	-1,306.33 ***	-11.25	-145.73 ***	-8.01
D.H.str × D.covid × N.hotel	485.53 ***	19.06	220.18 ***	26.51
Observations	453,501		778,294	
Number of properties	8,984		23,981	
Number of cities	668		764	
Intra-class Correlation (ICC)	0.77		0.67	
Overall R^2	0.793		0.674	

** p<0.05** p<0.01*** p<0.001*

In Model 1H, the coefficient for N.str (number of STRs) is positive and significant in low STR cities before the pandemic, meaning STR presence boosted hotel revenue. During the pandemic, D.covid × N.str further strengthened this positive effect. However, for high STR cities, N.str was not significant pre-pandemic, yet became significantly negative through D.H.str × D.covid × N.str, implying STRs harmed hotel revenue there during the pandemic. In Model 1S, the coefficient for N.hotel is positive and significant in low STR cities pre-pandemic but shifts negatively during the pandemic (D.covid × N.hotel). Interestingly, D.H.str × N.hotel was negative pre-pandemic in high STR cities, then turned positive with D.H.str × D.covid × N.hotel, suggesting that post-pandemic, an increased hotel count favored STR revenue in high STR cities. Overall, interactions vary by city category and time period.

Turning to Models 2H and 2S (Table 3), the number of STRs is split into active and passive. In Model 2H, N.active is positive and significant, while N.passive is negative in low STR cities pre-pandemic, persisting through the pandemic (D.covid × N.active and D.covid × N.passive). In high STR cities, D.H.str × N.active is not significant, but D.H.str × N.passive is positively significant. During the pandemic, D.H.str × D.covid × N.active becomes significantly negative, while D.H.str × D.covid × N.passive is significantly positive, reversing the low STR city pattern. To interpret city and pandemic interactions accurately, recalculated results appear in Table 4, revealing a more nuanced relationship among active/passive STRs, hotel revenue, and pandemic timing.

4.3. Hypothesis testing results

Table 4 presents the hypothesis testing results. Before the pandemic, Models 1H and 1S show that the coefficient for the actual number of short-term rentals (STRs) in low STR cities was significantly positive (442.9), indicating that STRs supplemented hotels. Likewise, the coefficient for the actual number of hotels (254.5) on STR revenue was positively significant, suggesting a mutual complement relationship. Post-pandemic, STRs in low STR cities continued to have a significantly positive coefficient (1,761.6), but hotels' coefficient was no longer significant, shifting from a mutual complement to a pure complement dynamic. The differences pre- and post-pandemic were statistically meaningful and appeared more advantageous for hotels, whose overall coefficient change indicated that STRs lost some of their advantage during the pandemic.

In high STR cities, the coefficient for STRs relative to hotel revenue was positive and statistically significant, implying a complementary relationship, while the hotel coefficient relative to STRs revenue was significantly negative. This pattern stayed consistent after the pandemic, and the coefficient gaps were also statistically significant. Summing up Models 1H and 1S, STRs do not seriously threaten hotels; in high STR cities, they function as an inferior complement. Hence, even in advanced markets, hotels appear less harmed than previously assumed.

Because total STR counts alone may not fully explain how they affect hotels, the lower section of Table 4 divides STRs into active and passive. In low STR cities, active STRs had a positive, significant impact on hotels, mirrored by a positive hotel effect on STR revenue. Pre-pandemic, this formed a mutual complement relationship that remained intact post-pandemic, though coefficients changed substantially. Hence, despite the pandemic's disruption, the foundational active STR–hotel dynamic in low STR cities stayed stable.

In high STR cities, both active STRs and hotels initially showed positively significant coefficients, confirming mutual complementarity. However, post-pandemic, active STRs kept a positive sign, while hotels turned significantly negative. This shift indicated an inferior complement relationship, where active STRs enhanced hotel revenue, but hotels became less supportive of STR revenue. Meanwhile, in low STR cities, active STRs faced pandemic challenges, shown by a negative coefficient.

Table 3. Fixed effect coefficients of mixed effect regression from Model 2H and 2S

	Model 2H *Monthly hotel revenue*		**Model 2S** *Monthly STR revenue*	
Independent Variable	*Coefficient*	*t-value*	*Coefficient*	*t-value*
(Intercept)	36,865.12 ***	6.40	4,197.26 ***	5.68
N.active	775.77 ***	3.79	117.00 **	3.12
N.passive	-2,961.40 ***	-9.90	-347.86 ***	-7.82
N.hotel	2,964.77 ***	20.20	318.83 ***	10.52
D.covid	-15,532.22 ***	-19.15	-1,436.23 ***	-6.11
D.covid × N.active	1,724.53 ***	10.52	95.74 ***	3.46
D.covid × N.passive	-1,633.85 ***	-6.35	77.58 *	2.33
D.covid × N.hotel	-383.75 ***	-14.10	-247.32 ***	-29.93
D.H.str	-27,330.54	-1.42	481.72	0.35
D.H.str × N.active	-63.66	-0.31	-114.93 **	-3.07
D.H.str × N.passive	2,550.49 ***	8.52	334.32 ***	7.51
D.H.str × N.hotel	-2,067.67 ***	-13.73	-305.46 ***	-9.90
D.H.str × D.covid	-40,024.25 ***	-17.50	40.82	0.14
D.H.str × D.covid × N.active	-1,572.23 ***	-9.56	-82.38 **	-2.97
D.H.str × D.covid × N.passive	1,474.41 ***	5.73	-77.42 *	-2.32
D.H.str × D.covid × N.hotel	308.98 ***	11.17	213.42 ***	25.66
Observations	453,501		778,294	
Number of properties	8,984		23,981	
Number of cities	668		764	
Intra-class Correlation (ICC)	0.77		0.66	
Overall R^2	0.816		0.665	

** p<0.05** p<0.01*** p<0.001*

Table 4. Relationship between hotels and STRs from Model 1 results

	Independent Variable	City Group	Period Difference	D.V.: Hotel revenue Slope of STR	SE	D.V.: STR revenue Slope of hotel	SE	Relationship
Model 1H & 1S	N.str	Low STR Cities	Prior Covid	442.9**	140.3	254.5***	36.1	Mutual complement
			Covid	1,761.6***	136.6	2.0	33.7	Pure complement
			Difference	-1,318.8***	116.1	252.5***	8.3	-
		High STR Cities	Prior Covid	421.7***	5.9	-42.1***	6.9	Inferior complement
			Covid	434.1***	5.6	-74.5***	6.7	Inferior complement
			Difference	-12.4**	4.1	32.3***	0.9	-
Model 2H & 2S	N.active	Low STR Cities	Prior Covid	775.8***	204.6	318.8***	30.3	Mutual complement
			Covid	2,500.3***	161.8	71.5*	28.3	Mutual complement
			Difference	-1724.5***	164.0	247.3***	8.3	-
		High STR Cities	Prior Covid	712.1***	14.1	13.4*	5.8	Mutual complement
			Covid	864.4***	11.0	-20.5***	5.6	Inferior complement
			Difference	-152.3***	13.1	33.9***	1.0	-
	N.passive	Low STR Cities	Prior Covid	-2,961.4***	299.2	318.8***	30.3	Superior substitute
			Covid	-4,595.3***	289.8	71.5*	28.3	Superior substitute
			Difference	1,633.9***	257.2	247.3***	8.3	-
		High STR Cities	Prior Covid	-410.9***	9.5	13.4*	5.8	Superior substitute
			Covid	-570.4***	9.4	-20.5***	5.6	Mutual substitute
			Difference	159.5***	8.5	33.9***	1.0	-

** p<0.05** p<0.01*** p<0.001*

Passive STRs were notably different. In low STR cities, passive STRs significantly undermined hotel revenue, while hotels boosted passive STR revenue, yielding a superior substitute scenario. This remained so after the pandemic, though coefficients changed markedly. Passive STRs thus represent a genuine threat to hotels. In high STR cities, passive STRs were also superior substitutes pre-pandemic, but that dynamic intensified after the pandemic, becoming a mutual substitute. Consequently, Hypothesis 1b is confirmed, while Hypothesis 1a is not. Active STRs are typically mutual or inferior complements, whereas passive STRs function as superior or mutual substitutes. Therefore, passive STRs, rather than active ones, are the greater competitive hazard.

Figure 3. Random and fixed effect results from Model 1H and 1S

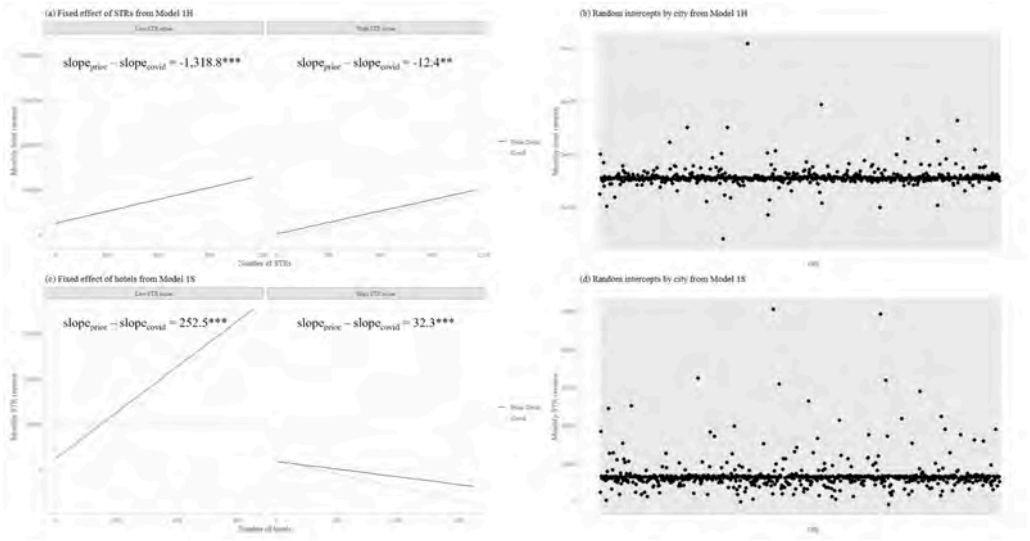
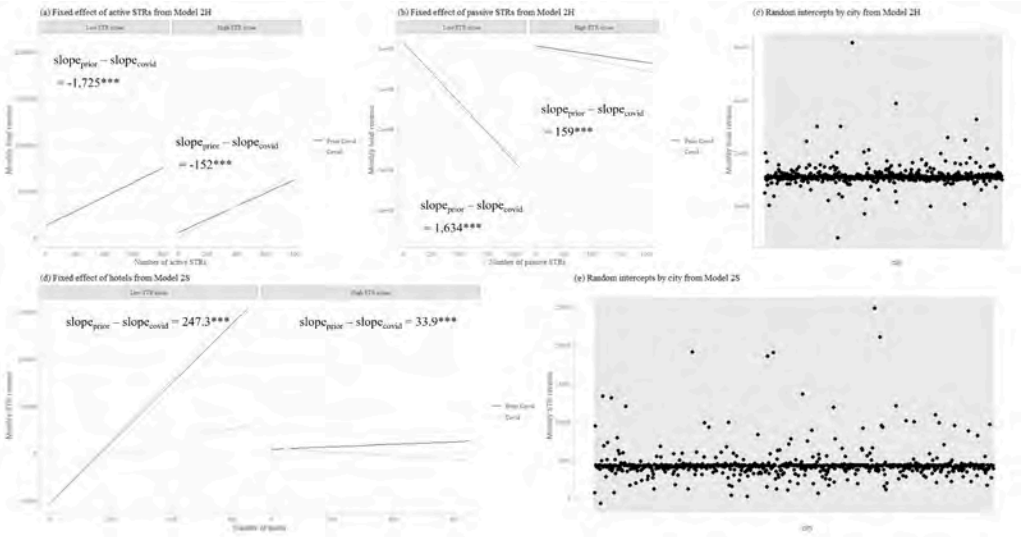


Figure 4. Random and fixed effect results from Model 2H and 2S



Figures 3 and 4 further illustrate pandemic effects. Figure 3(b) and (d) display random coefficients by city, showing variation that influences the overall results. In Figure 3(a), covering STRs' effect on hotel revenue, low STR cities lie on the left and high STR cities on the right. Both reveal pandemic-driven shifts, favoring hotels. In Figure 3(c), the hotel effect on STR revenue became flatter in low STR cities and more negative in high STR cities. Models 2H and 2S (Figure 4) confirm these trends. Figure 4(a) shows active STRs' positive effect on hotels grew post-pandemic, especially in low STR cities; in (b), passive STRs' negative effect on hotel revenue worsened post-pandemic. Finally, Figure 4(d) suggests that hotels' effect on STR revenue generally became more negative. Thus, except for active STRs in certain cases, the pandemic substantially heightened the competition between hotels and STRs, consistent with Hypothesis 2.

5. Discussion and Implications

5.1. Discussion

This study explored how short-term rentals (STRs) affect hotel revenue, emphasizing competition dynamics rather than simply assuming either disruption or substitution. Although many scholars invoke disruptive innovation theory, earlier work often overlooked STR heterogeneity and the varied contexts in which they operate. By introducing a competition theory of disruptive innovation and analyzing Texas Comptroller Data, this research addresses previous methodological gaps and offers a more nuanced understanding of STR–hotel interaction. A core contribution is distinguishing active STRs, which tend to function as hotel complements (market settlement stage), from passive STRs, which behave like substitutes (market disruption stage). Prior studies commonly employed data from Airbnb, AirDNA or Smith Travel Research, yet these sources can be biased or incomplete. Our approach used actual operating months, revealing that active STRs closely mirror hotels in operational intensity, whereas passive STRs represent a more significant challenge due to their seasonal, opportunistic nature.

5.2. Academic and practical implications

This study's results indicate that passive short-term rentals (STRs), rather than year-round active ones, pose the greater threat to traditional hotels. Because passive STRs operate during peak times—precisely when hotels rely on higher rates to bolster revenues—hotels face intensified price competition. Lowering rates at these high-demand junctures undermines the financial cushion hotels depend on to sustain off-peak operations. Consequently, managers must revisit strategies to mitigate passive STR intrusion during prime seasons. By contrast, active STRs resemble quasi-hotels, with professional management and consistent availability. Their pricing and operational models align more closely with established hotels, which reduces their disruptive potential. Although active STRs compete for market share, this study shows they may not erode hotel revenue as sharply as presumed. Furthermore, pandemic-related shifts apparently lessened active STRs' competitive edge, rendering them an inferior complement in high STR cities.

Taken together, these findings underscore the need for hotels to focus on neutralizing passive STRs during peak demand, while keeping an eye on evolving post-pandemic conditions. Managers can better allocate resources by recognizing that active STRs may be more cooperative competitors than previously thought, whereas passive STRs warrant heightened attention. This nuanced view should guide strategic planning, enabling hoteliers to adapt effectively to the increasingly complex interplay between traditional lodging and various STR models.

5.3. Limitations of this study and suggestions for future research

Despite these insights, some limitations remain. The data derive solely from Texas, potentially reducing generalizability to other locales with distinct regulatory or market conditions. Future work should also differentiate more precisely among STR types—such as entire-home vs. room-sharing—and integrate property-level attributes like capacity or quality ratings to refine the analysis. Examining inflation impacts is another avenue for further study. Additionally, the recent trend of hotels adopting STR-like practices warrants closer investigation. Addressing these issues would enhance the comprehensive picture of how hotels and STRs compete or coexist, and it would better illustrate how future lodging markets may evolve in diverse global settings.

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Strategic Evaluation of Thailand's MICE Sector: A SWOT and TOWS Approach for Events and Concerts (Paper#75)

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Abstract:

This study explores the role of MICE tourism as an economic catalyst in Thailand, highlighting its potential for driving tourism, business, and infrastructure growth. The research was conducted through interviews with industry leaders, revealing that while Thailand actively promotes MICE tourism, significant improvements are still needed in infrastructure, policy support, and global competitiveness. SWOT and TOWS analyses were used to assess opportunities and challenges, providing strategic recommendations for enhancing Thailand's position as a leading MICE destination.

Keywords: MICE, Global competitiveness. Thailand economy, Infrastructure development, SWOT analysis, global competitiveness

1. Introduction

MICE (Meetings, Incentives, Conferences, and Exhibitions) tourism significantly contributes to economic growth by boosting business travel, investment, and tourism revenue. In the fiscal year 2024 (October 2023 – September 2024), Thailand's MICE industry experienced a remarkable 42% increase in international visitors, totalling 1.16 million, approaching the pre-pandemic peak of 1.2 million in 2019 (UN Tourism, 2024). Despite governmental efforts to position Thailand as a global MICE hub, challenges such as infrastructure limitations, policy gaps, and competition from regional players persist. This study aims to assess Thailand's MICE sector through interviews with industry leaders and SWOT/TOWS analysis, identifying areas for improvement. The findings provide strategic insights for policymakers and businesses to enhance Thailand's competitiveness in the global MICE market.

2. Literature Review & Conceptual Framework

SWOT Analysis of MICE Tourism in Thailand

The strengths of Thailand's MICE industry include its strategic location in Asia, well-developed infrastructure, strong tourism brand, and cost-effectiveness compared to competitors like Singapore. However, weaknesses such as high dependence on government support, limited innovation in digital events, sustainability concerns, and limited direct international flights to secondary MICE cities present challenges. (Juntapimol & Bunrung, 2020)

TOWS Analysis: Strategic Recommendations for MICE Tourism

To maximize its strengths, Thailand should expand eco-friendly MICE events and promote hybrid event technology. Digital transformation is essential for addressing its weaknesses, such as limited innovation and sustainability concerns. (Baker, 2020)

Importance of MICE Tourism Industry

MICE tourists spend two to three times more than leisure tourists, providing a major revenue source (Juntapimol & Bunrung, 2020). The industry generates employment across various sectors, including hospitality, transportation, and retail (Chang & Lee, 2019). Government investment in infrastructure strengthens Thailand's competitiveness, while hosting international MICE events enhances its brand positioning as a global business hub (Baker, 2020).

Opportunities for Thailand's MICE sector

Include the growing demand for hybrid and digital events, government incentives, increasing focus on sustainability, and emerging secondary MICE cities like Chiang Mai and Phuket. However, threats such as rising competition from regional hubs like Singapore and Hong Kong, economic instability affecting corporate travel budgets, political uncertainty, and technological disruptions must be addressed.
(Chang & Lee, 2019)

An Evaluation of the Potential of Thailand as a MICE Industry Hub for the International Convention Industry in Asia" This study assesses Thailand's potential to become a major MICE destination, highlighting strengths such as service quality, affordability, and tourism activities. It also addresses areas needing improvement to enhance competitiveness. (Suphaphon Akkhaphin,2016)

The role and impact of MICE (Meetings, Incentives, Conferences, and Exhibitions) industry in Thailand. It broadly defines the concept of the MICE industry primarily going deep into the understanding of the multi-composites involved within it and meeting its diversity-strength of incentives, conferences, and exhibitions. Thus, a framework has been developed from this process, important to the ensuing analysis of Thailand's unique positionality as a Southeast Asia leader for MICE destinations. (Aphisavadh Sirivadhanawaravachara, 2025)

A Study of Strategic Planning of MICE Tourism in Khon Kaen Based on SWOT Analysis Focusing on Khon Kaen, this research utilizes SWOT analysis to evaluate the management and strategic planning of local MICE tourism, offering insights applicable to broader regional development. (Hong Jiang, Chuanchen Bi , 2022)

Conceptual Framework

The conceptual framework visually represents the key factors influencing the growth and competitiveness of Thailand's MICE (Meetings, Incentives, Conferences, and Exhibitions) sector. It outlines how various elements interact to drive industry expansion and economic impact.

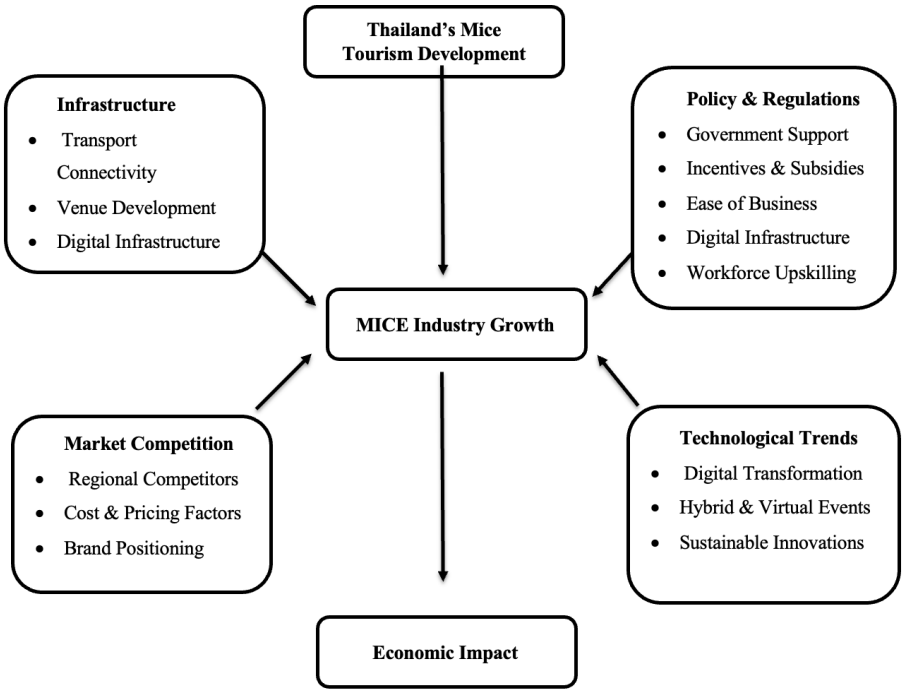
• Infrastructure is essential, including transport connectivity through airports and public transit, as well as high-quality venues and advanced digital infrastructure to support hybrid events.

• Policy and regulation, that are supported by the government through tax incentives and streamlined processes for permits and visas, play a pivotal role in facilitating international participation.

• Competition from regional MICE hubs like Singapore and Malaysia, necessitating a focus on competitive pricing and strategic brand positioning.

• Technological trends, including digital transformation and sustainability initiatives, are crucial for attracting modern event organizers.

By addressing these areas, Thailand can enhance its global reputation, increase international business tourism, and foster collaboration between government and private sectors, ultimately positioning itself as a leading destination in the global MICE industry. A balanced strategy that integrates investment, policy reforms, and innovation will be vital for the long-term success and economic impact of Thailand's MICE sector.



3. Methodology

3.1. Measurement and Analytical Methods:

The collected qualitative data was analysed using thematic analysis, identifying key patterns and recurring themes in the responses. Additionally, a SWOT and TOWS analysis was conducted to evaluate Thailand's strengths, weaknesses, opportunities, and threats in the MICE sector. This helped structure the findings into actionable insights, highlighting areas that require improvement for Thailand to enhance its position as a global MICE destination.

3.2. Data collection

Interviews were conducted with professionals from various sectors of the MICE industry, including hotel owners, hotel events manager, MICE subject lecturer, event companies and MICE attendees. Participants were selected based on their expertise and direct involvement in MICE operations in Thailand. The interviews covered topics such as infrastructure development, policy effectiveness, international competitiveness, and future industry trends.

4. Results

4.1. Profile of the respondents

The study interviewed a diverse group of professionals directly involved in Thailand's MICE industry. 10 Respondents were selected based on their expertise and experience in event planning, venue management, policymaking, and business tourism operations.

4.2. Results of analysis

Theme	Summary of Findings	Frequency
Strong Government Support	TCEB and government initiatives promote MICE tourism actively	7 out of 10
Infrastructure Challenges	Areas outside of Bangkok do not have the infrastructure to host large-scale MICE events, limitations such as roads, public transportation and traffic congestion	9 out of 10
Regional Competitions	Singapore and Malaysia have the infrastructure to support such MICE events and offer more incentives for international events	7 out of 10

Theme	Summary of Findings	Frequency
Skilled Workforce	The local people are not confident in their command of the English Language compared to our regional competitors making them host their MICE events there with ease.	4 out of 10
Rising Importance of Sustainability	Stakeholders increasingly emphasize green events, waste management, and carbon footprint reduction, but note a lack of standardized guidelines.	6 out of 10
Digital Transformation in MICE Industry	Recent shift toward hybrid events and the need for better digital infrastructure and support for virtual platforms and tech setups.	7 out of 10
Implementation Gaps	Respondents noted issues in policy implementation, especially regarding infrastructure and event licensing processes.	8 out of 10

Strong Government Support but Implementation Gaps – While Thailand actively promotes MICE tourism through initiatives by the Thailand Convention and Exhibition Bureau (TCEB), industry professionals highlight that policies often lack efficient execution, particularly in areas like infrastructure upgrades and streamlined event licensing.

Infrastructure and Connectivity Challenges – Despite improvements in Bangkok and key MICE cities like Pattaya and Phuket, limitations in public transportation, traffic congestion, and venue accessibility remain barriers to Thailand's global competitiveness in the MICE sector.

Competitive Pressure from Regional Markets – Thailand faces increasing competition from neighbouring countries like Singapore and Malaysia, which offer more advanced facilities, stronger government incentives, and streamlined event planning processes.

Skilled Workforce Limitations - Language barriers pose challenges in delivering high-standard MICE experiences. Compared to regional competitors like Singapore and Malaysia, where English proficiency is higher, Thailand may struggle to meet the expectations of International Organizers and attendees.

Rising Importance of Sustainability - Thailand lacks standardized green certification systems and widespread implementation of environmentally responsible practices at venues. Without clearer guidelines and stronger incentives for sustainable practices, the country risks falling behind in a rapidly greening global MICE market.

Digital Transformation in the MICE Industry- This digital shift is seen as a growth opportunity but also reveals weaknesses in existing tech infrastructure. Many venues, especially outside Bangkok, lack high-speed internet, modern audiovisual systems, or trained technicians, limiting the quality of virtual or hybrid events.

SWOT Analysis

Strengths

- Strong Government Support: Active promotion by TCEB, policy initiatives, and incentives for MICE tourism Affordable destination
- Compared to regional competitors like Singapore, Thailand offers more cost-effective options for MICE events (venues, accommodations, etc.).
- Globally recognized for its excellent service and hospitality, attracting international visitors.
- Central position with easy access to key regional markets, ideal for international delegates.

Weaknesses

- Gaps in transportation, congestion, and venue accessibility outside major cities
- Lower English proficiency and specialized technical skills compared to competitors
- Bureaucratic delays and lack of efficient policy execution, particularly regarding infrastructure and event licensing
- Limited tech readiness for hybrid or fully virtual events, especially outside Bangkok

Opportunities

- Growing emphasis on green events and waste management, creating a new niche for eco-friendly MICE tourism
- Government initiatives, like tax breaks or event subsidies, can attract more businesses and event planners to Thailand.
- Attracting more international events from emerging markets like India, Middle East, and Eastern Europe
- Government initiatives for language and skills courses provided for Thai people to upgrades their skills.

Threats

- Competing with neighbouring countries (Singapore, Malaysia) offering more advanced MICE infrastructure and incentives
- The pace of infrastructure improvements (e.g., transport, venues) might not be fast enough to meet global demand
- Slow and inefficient event licensing processes deter international planners

TOWS Analysis

Strength / Opportunities	Strategies
Government Initiatives	Government-driven initiatives: Leverage government initiatives to create a national sustainability framework for MICE tourism, making Thailand a leader in eco-friendly events.
Affordability	Attracting more emerging international markets: Use affordability as a key selling point to target new markets such as India and Eastern Europe.
Hospitality Reputation	Expanding international market: Leverage Thailand's strong hospitality reputation to further market the country as an affordable and welcoming destination for international MICE events.
Strategic Location	Position Thailand as a regional MICE hub: Use its central location to serve as a gateway for international events in Southeast Asia.

Strength / Threats	Strategies
Strong Government Support	Regulatory and policy reforms: Collaborate with TCEB and other governmental bodies to streamline event licensing and reduce bureaucratic delays to make Thailand more competitive.
Affordability	Competing with regional rivals: Use competitive pricing and government subsidies to offset the advantages of neighboring countries like Singapore and Malaysia.
Hospitality Reputation	Digital transformation for future competitiveness: Improve digital infrastructure (e.g., hybrid event capabilities) to keep up with the growing demand for online and hybrid events, mitigating competition from digital-forward nations.

Strength / Threats	Strategies
Strategic Location	Leverage regional cooperation: Build collaborations with neighbouring countries to offer integrated regional MICE services, helping Thailand remain a prominent choice despite competitive pressure.

Weaknesses \ Opportunities	Strategies
Infrastructure Challenges	Infrastructure development with sustainability focus: Address the infrastructure gaps by focusing on eco-friendly, sustainable upgrades in transportation and venue development to align with global MICE trends.
Skilled Workforce Limitations	Digital skill-building programs: Introduce government-backed training programs to upskill the workforce in areas like digital literacy, hybrid events, and customer service in English.
Policy Implementation Gaps	Collaborative government initiatives: Encourage public-private partnerships to address policy implementation gaps, particularly for infrastructure upgrades and licensing processes.

Weaknesses \ Threats	Strategies
Infrastructure Challenges	Prioritize urgent infrastructure projects: Fast-track critical infrastructure improvements in key MICE cities like Bangkok, Pattaya, and Phuket, focusing on improving public transportation and digital connectivity.
Skilled Workforce Limitations	Targeted education and recruitment: Invest in targeted recruitment and language training programs to boost the local workforce's skills in English and digital event management.
Policy Implementation Gaps	Government reform to streamline licensing: Push for regulatory reforms to create a more efficient event licensing process, addressing delays that prevent timely event planning.
Digital Infrastructure Gaps	Implement tech upgrades: Invest in high-speed internet, AV systems, and hybrid event tech in venues to support the growing demand for digital and hybrid events.

Conclusion of SWOT and TOWS analysis

Strengths: Leverage government support, affordability, and strategic location to attract more international events, especially in emerging markets.

Weaknesses: Focus on addressing infrastructure challenges, workforce skill gaps, and bureaucratic inefficiencies to maintain competitiveness.

Opportunities: Sustainability, digital transformation, and regional collaboration provide avenues for growth, especially when paired with government incentives.

Threats: Regional competition and the digital shift are key challenges; Thailand must modernize infrastructure and streamline processes to stay competitive.

5. Discussion and Implications

Discuss your findings by comparing those of previous studies. Address academic and practical implications. Conclude with some directions for future research or practice, and any limitations of this study.

5.1. Discussion

The findings of this study align with previous research on Thailand's MICE industry, which has recognized its strong potential but also persistent challenges. Prior studies have emphasized Thailand's strategic location, affordability, and hospitality as key advantages. However, like this research, existing literature also highlights infrastructure limitations and bureaucratic inefficiencies as major barriers to Thailand's competitiveness in the global MICE sector.

Government support, led by the Thailand Convention and Exhibition Bureau (TCEB), is widely recognized and appreciated by stakeholders. Initiatives such as destination marketing campaigns, subsidies for event organizers, and development plans for MICE cities demonstrate the government's commitment to growing the sector. However, interviewees commonly noted that implementation remains a major bottleneck. Policies often do not translate effectively at the operational level due to overlapping authorities, lack of coordination between central and local agencies, and a slow permitting process.

Infrastructure challenges are another persistent barrier. While Bangkok and a few other cities (e.g., Chiang Mai, Phuket, Pattaya) have improved significantly in terms of venues and hospitality services, many parts of the country still suffer from poor transportation connectivity, traffic congestion, and limited access to high-quality MICE facilities. Respondents emphasized that these issues deter international planners from considering Thailand for large-scale or multi-location events.

The growing emphasis on sustainability in MICE operations—such as green event certifications, waste management, and low-carbon practices—was raised by over half of the interviewees. Although Thailand has begun to incorporate sustainability in its tourism policy, the lack of standardized guidelines and enforcement mechanisms hinders progress.

The rapid digital transformation of the MICE sectors also emerged as a key area. While Thailand has shown potential in supporting hybrid and virtual events, many interviewees reported challenges in infrastructure and technology, particularly outside major cities. This highlights the need for more digital ecosystems and venue readiness to accommodate modern event formats.

Moreover, the issue of workforce competence—especially English proficiency and technical skills—was raised as a limitation compared to competitors like Singapore. Although often overlooked in MICE research, this insight suggests that human capital development is just as crucial as physical infrastructure in improving Thailand's global standing in the MICE industry.

In terms of competitive pressure, respondents highlighted that Singapore and Malaysia offer better regulatory ease, superior infrastructure, and stronger digital readiness, making them more attractive to international event planners. Singapore, for instance, has established itself as a global MICE hub due to its streamlined business environment, government grants, and efficient airport-city connectivity. Malaysia has also stepped up its game through its MyCEB bureau and digital MICE infrastructure.

5.2. Academic and practical implications

The findings of this study have significant implications for policymakers, event organizers, and business leaders in the MICE industry. Policymakers should prioritize infrastructure upgrades, particularly in transportation, digital connectivity, and event facilities, to enhance Thailand's appeal as a MICE destination. The government can also support by investing in workforce upskilling, especially in language and tech proficiency for example, if the government launches an English language training initiative for hospitality workers or sets standards for MICE certifications. Businesses can also gain a competitive edge by being early adopters of sustainability and digital transformation practices, even before nationwide frameworks are in place. Additionally, they must work towards streamlining the licensing and permit process, reducing bureaucratic hurdles, and making Thailand a more attractive option for international event planners. Event organizers and businesses can also leverage this information to advocate for policy changes while enhancing their operational efficiency within the existing framework.

5.3. Limitations of this study and suggestions for future research

This study is limited by its qualitative nature, as it relies on a selected sample of industry professionals rather than broad statistical data. Future research could incorporate quantitative analysis, examining specific metrics such as infrastructure investment levels, processing times for event permits, and international MICE visitor trends. Additionally, comparative studies between Thailand and its key competitors—such as Singapore, Malaysia, and Hong Kong—could offer deeper insights into best practices for infrastructure and regulatory efficiency.

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Theme: Digital Transformation

The Role of Digital Transformation in Tourism Resilience: A Global Systematic Review and Bibliometric Analysis (Paper#035)

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Abstract:

This study identified 32 relevant papers from 247 Scopus publications between 2015 and 2025 using PRISMA and systematic analysis. Research topics include community resilience, smart and sustainable tourism, and digital innovation-enabled post-crisis resilience. The study focuses on longitudinal studies on digital transformation's implications on community resilience and addresses key theoretical frameworks and empirical methods. The three components of the DT-TCT Framework contribute to the advancement of academic knowledge. This research advances digital tourism innovation theory and helps authorities build resilient, sustainable, and adaptable tourist communities.

Keywords: Digital transformation, Community Resilience, Tourism Innovation, Systematic Review, bibliometric analysis, PRISMA

1. Introduction

Global tourism is experiencing an extraordinary transformation, driven by rapid technological advancements and increasing external shocks, including economic volatility, climate change, and global health disruptions (Hall et al. 2021). Digital innovation has emerged as one of the most important drivers of resilience, enabling tourism destinations to endure and rebound from disasters (Hjalager, 2019). At the same time, a concept that has gained scholarly attention as a crucial component of tourism evolution is community resilience, which refers to the ability of local tourism actors to recover from adversities while maintaining future viability (Lew et al., 2022). Despite the growing interest in these perspectives, there remains a significant gap in understanding how they interconnect and how digital transformation contributes to building resilient tourism communities (Wang & Smith, 2023).

In the context of tourism innovation, integrating digital technology may include using AI to implement tourism services, facilitating blockchain for tourism transactions, analysing big data for destination management, and developing smart tourism innovations that enhance visitor experiences (Rodriguez et al., 2024). These technologies improve operational efficiency and enable tourism destinations to respond proactively to disasters. Community resilience in tourism

encompasses economic, social, and environmental factors that are essential for promoting destination recovery outcomes (Davidson & Morgan, 2022). However, the literature on how digital transformation can strengthen community resilience, organised at various levels, remains notably fragmented and requires a thorough review of the existing knowledge base.

To address this gap, this study offers a comprehensive overview and bibliometric analysis of global research on digital transformation and community resilience within the tourism sector from 2015 to 2025. This methodology quantifies publication trends, knowledge networks, and conceptual frameworks while also considering both theoretical and empirical research. Following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, 32 relevant publications were selected from an initial screening of 247 articles in the Scopus database.

2. Literature Review

The convergence of digital transformation and the resilience of tourism communities represents a comparatively underexplored and somewhat disjointed research domain. Currently, academic interest in this topic is dispersed across various disciplines. It lacks a coherent theoretical framework and empirical research, which leads to an insufficient understanding of the impact of digital innovations on smart community innovation. This section critically analyses the existing literature on three interrelated concepts.

2.1 Systematic Reviews in Tourism Innovation Research

Research on tourism innovation has risen significantly due to rapid technological disruption; however, the field experiences theoretical heterogeneity and methodological inconsistency. Hjalager (2019) noted that the fragmentation of research and development presents a substantial barrier to knowledge advancement, arguing that avoiding the division of innovation studies into separate sub-discussions is crucial for comprehension. The limited understanding of digital transformation and its potential effects has led to knowledge fragmentation, hindering the establishment of integrated frameworks regarding the relationship between digital transformation and community resilience (Rodriguez et al., 2024).

Systematic reviews can alleviate this fragmentation due to their well-defined methodologies, which structure the review process and enhance rigour in ways that traditional narrative reviews cannot. Thompson et al. (2023) argue that the meta-analytical approach of systematic reviews allows for identifying conceptual trends and methodological limitations that typically remain obscure in conventional literature reviews. This analytical advantage is particularly relevant to the study of digital transformation in tourism, a field undergoing rapid technological change at the intersection of diverse research streams.

A contributing factor to fragmentation is the diversity of theoretical frameworks within tourism innovation literature. Previous studies on technological adoption (Zhang et al., 2023) and frameworks regarding socio-ecological systems for sustainable tourism development research (Kim & Johnson, 2023) have highlighted the importance of interdisciplinarity. Although this theoretical construct has generated a range of perspectives informed by diverse contributions about how digital transformation affects communities, less is known about the tangible impact of digital transformation on community resilience. As Davidson and Morgan (2024) argue, this gap cannot be bridged without a systematic fusion of multiple research streams.

The digital revolution in tourism, already accelerated by the pandemic, has increased the need for a systematic review of current research knowledge. A comprehensive analysis conducted by Chen and Lee (2024) regarding innovations in tourism research over the past decade reveals an increase since 2020, primarily driven by the pandemic serving as a "digital catalyst". While the knowledge base has expanded considerably, it has also presented challenges in developing meaningful theoretical frameworks due to inconsistencies in the conceptual definitions of fundamental constructs, methodological approaches, and contextual applications (Biglan et al., 2019). These conceptual inconsistencies and methodological variations highlight the change in digital tourism research while revealing critical gaps that require systematic investigation.

2.2 Community Resilience in Tourism

The theoretical insight into how communities face and adjust to disturbances has progressed considerably, leading to a more intricate understanding of community resilience in tourism. This evolution reveals important developmental phases and highlights critical gaps in the implementation and impacts of resilience throughout the research period.

2.2.1 Initial Conceptualisation (2015–2019)

The preliminary phase from 2015 to 2019 focused on community-level resilience, primarily centred around economic models and post-disaster recovery. However, it proved insufficient for providing the diagnostic framework necessary to explore alternative models of resilience. Another critical evaluation by Wilson and Park (2019) highlighted specific conceptual limitations during this period: resilience was defined solely by the economy's ability to return to pre-shock conditions, while tourism success was measured exclusively in terms of visitor numbers, revenue recovery, and employment stabilisation. This recovery-orientated perspective characterised resilience as reactive rather than proactive, emphasising the restoration of economic stability over transformative adaptation.

Beyond its reactive economic focus, this early conceptual framework also fails to account for the essential role of digital technologies in developing resilience. Kim and Johnson (2023) conducted a meta-analysis of 42 studies published in this field, revealing that only 8% adequately incorporated technical elements within community resilience frameworks. This conceptual

gap highlights a significant theoretical limitation—shortcomings that point to a more substantial theoretical flaw: the failure to recognise technology as both operational infrastructure and a fundamental component that shapes core adaptive capabilities. Lew et al. (2022) acknowledged that while these early approaches documented by Malaka (2022) provide significant insight into post-disaster recovery mechanisms, they did not address the temporal dimensions of resilience, including the inter-temporal processes of gradual adaptation and recovery, which do not align with assessed recovery trajectories.

2.2.2 Digital Adaptive Method (2020–2021)

The COVID-19 pandemic has profoundly altered the understanding of community resilience in tourism literature. Chen et al. (2021) conducted an extensive survey of 15 tourism-based communities and discovered that digital capabilities were among the critical factors influencing resilience outcomes; communities with higher levels of digital literacy and technological infrastructure exhibited significantly greater adaptive capacity during periods of restrictions. This research challenges earlier recovery approaches, framing resilience as the ability for continuous digital adaptation rather than a return to pre-crisis conditions.

Zhang et al. (2021) provide a conceptual explanation by assessing smart tourism technologies. They suggest that community resilience can be redefined as the capacity to leverage digital transformations for rapid crisis management and sustained competitive advantage. This finding places technology adaptability within a domain that previously grappled with disjointed and often unsubstantiated connections between resilience and innovation. This discovery enhances scholarly understanding beyond earlier binary perspectives, demonstrating that resilience and innovation processes are interconnected and can be both complementary and occasionally contradictory, depending on the context.

Despite these theoretical advancements, critical assessments of the digital resilience literature have begun to identify essential limitations. Martinez and Lee (2021) demonstrated in their review that within specific methodologies, technological determinism prevailed regarding the use of digital solutions as nearly universally effective agents of resilience, clearly neglecting significant contextual factors such as digital divides, technology affordability, and cultural resistance. Wang and Smith (2023) questioned whether such vital implications of digital transformation, like technological dependence and the erosion of traditional tourism, are adequately considered.

2.2.3 Multidimensional Digital Resilience (2022–2025)

Despite the increasing emphasis on reducing vulnerability and enhancing resilience, along with developing comprehensive, multidimensional frameworks across various disciplines (Lange et al., 2013), current resilience frameworks primarily showcase their intrinsic value and appear constrained by the availability of relevant information in their iterative applications. Williams

and Chen (2024) have proposed a broad resilience model that conceptualises digital transformation not as a singular domain but as a cross-cutting element throughout all layers of resilience. Their framework signifies a conceptual advancement by clarifying how digital technologies bolster multiple facets of community resilience (e.g., economic diversification, social connectivity, and environmental stewardship).

There has been a more refined development of resilience theory by focusing on specific technological changes. Tourism communities can enhance their unique resilience capacities by using smart technologies, including but not limited to artificial intelligence, blockchain, and applications of the Internet of Things (Park & Wilson, 2023). Their insights extend beyond these conceptual frameworks, introducing resilience pathways based on the various technologies involved rather than categorising them as discrete problems. This argument recognises the diverse adaptive impacts of distinct technology platforms across social contexts.

However, significant conceptual limitations persist. Previous digitally enabled resilience frameworks largely overlook the phenomenon's temporal aspect. Park and Lee (2023) convincingly argue that particularly when examining how the progressive development of technical skills enhances the adaptive capacity of communities, the existing literature views these trajectories as static. This argument highlights a tension within the literature: numerous cross-sectional studies that capture only fleeting states of resilience. (Gao et al., 2020). These snapshot approaches contrast with the broader sociopolitical assemblage processes in digital adaptation and surveillance, with few longitudinal studies documenting these social processes.

3. Methodology

This study systematically reviews the emerging literature on digital transformation and community resilience in tourism, along with various bibliometric analyses from 2015 to 2025. This review aims to establish a framework for the comprehensive, transparent, and replicable assessment of cutting-edge research processes in line with the PRISMA statement. This systematic literature review provides a detailed characterisation of trends, theoretical frameworks, and research gaps until October 2025, integrating bibliometric analysis and thematic synthesis. The mixed-method approach is specifically tailored to address two critical components: 1) a systematic review providing a comprehensive overview of conceptual and empirical frameworks and findings, and 2) a bibliometric analysis producing a quantitative examination of publication trends, co-authorship networks, and keyword co-occurrences.

3.1 Research Design

This research employs a mixed-method approach, which includes systematic review and bibliometric analysis, to offer a structured synthesis of the current state of knowledge in the existing literature.

- Systematic review: This adheres to the PRISMA guidelines, which will facilitate a systematic selection process to guarantee the identification of significant themes, theoretical development, and gaps in the literature.

- Bibliometric Analysis: Determined domains of themes and analysed publication trends, as well as examined the impact and growth of the field (performance, co-citation, and keyword co-occurrence analysis).

3.2 Data Collection and Data Screening Process

3.2.1 Data Source and Search Strategy

It utilized the Scopus database, a well-regarded resource that provides extensive coverage of highly influential, peer-reviewed academic literature. The records were systematically searched using Boolean operators in the TITLE-ABS-KEY fields ("tourism" AND "community resilience" AND "digital transformation" OR "innovation") to identify articles that explicitly address aspects of digital transformation and resilience in tourism.

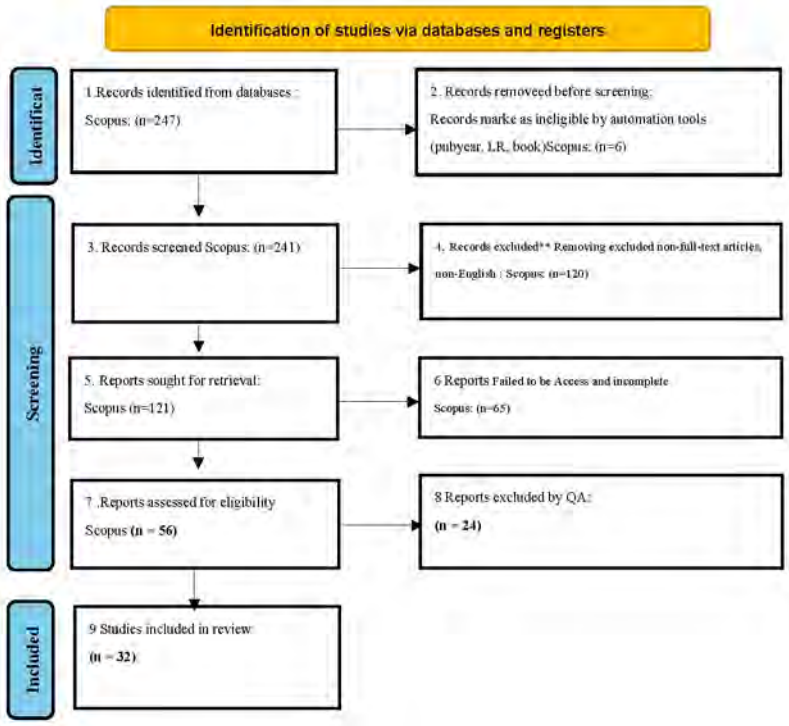
3.2.2 Criteria for Inclusion and Exclusion

To ensure that the most recent studies in the field are included in the analysis, articles published between 2015 and 2025 were retrieved. To maintain the internal validity of the investigation, strict inclusion and exclusion criteria were applied. Any English peer-reviewed journal article that examined the integrated relationship between digital transformation and community resilience in tourism and adhered to a defined methodology was considered relevant. The exclusion criteria resulted in the removal of papers that focused exclusively on resilience (without any mention of digital transformation), conference proceedings, book chapters, and publications in languages other than English.

3.2.3 PRISMA-Based Screening Protocol

Articles were selected or filtered through four chronological phases using the PRISMA methodology. The publications were collected from a preliminary search of Scopus, which yielded 247 results. Of these, 22 were duplicates, and several were considered irrelevant, leaving 225 relevant studies. During the eligibility phase, the abstracts were subjected to a more comprehensive full-text evaluation against predetermined criteria, leading to the rejection of 56 papers that did not adequately align with the current study. A systematic review and bibliometric analysis were subsequently performed based on the 32 identified papers. Figure 1 presents the PRISMA flow diagram, detailing the screening and selection process.

Figure 1. PRISMA Flowchart of the study selection procedure



Source: Author

3.3 Bibliometric Analysis Techniques

The bibliometric analysis, which covers both topic evolution and publishing trends, was performed using VOSviewer and Biblioshiny (R package). This analysis is structured into three sections: (1) performance analysis, which involves tracking the number of publications, journal impact factor, and the geographical distribution of research output; (2) co-citation and co-authorship analysis, which evaluates the diversity of intellectual contributions related to this field of study and examines the collaborative networks; and (3) keyword co-occurrence analysis, which identifies thematic clusters and areas of research growth. Furthermore, the bibliometric methodologies underscore advancements in the research landscape, significant areas of study, and key contributors to the digital transformation of community resilience and tourism.

3.4 Thematic Content Analysis

Alongside the bibliometric analysis, qualitative thematic content analysis was conducted to organise the data into main themes. The papers were grouped into three thematic orientations with the following themes: (1) innovation and smart tourism in the digital sphere, which involves the use of AI in tourism studies to enhance experiences, as well as the application of big data analytics and AI to foster intelligent tourism destinations; (2) resilience and adaptive capacity, which explores tourism enterprises and their socio-economic resilience, with tourism serving as

a driver for economic recovery post-crisis; and (3) sustainable tourism models and the need for digital transformation frameworks in discussions on sustainability and resilience. Through qualitative discussions of issues and quantitative bibliometric analysis, this investigation presents a strong multidisciplinary perspective. This study provides comprehensive interdisciplinary insight by combining quantitative bibliometric analyses and qualitative discussions of issues.

3.5 Research Validity and Reliability

Various quality assurance techniques were implemented to ensure the validity and reliability of the research. The data collection, screening, and selection processes adhered to PRISMA recommendations to minimise bias as much as possible. Different analytical methods were employed to enhance the validity of the results through data triangulation. To ensure reproducibility, all search queries, eligibility criteria, and bibliometric tools used in the analyses were thoroughly documented. To uphold ethical integrity, only peer-reviewed literature that was freely accessible was analysed, and all sources were correctly cited.

3.6 Ethical Considerations

The study utilised secondary research based on publicly available literature. Consequently, formal ethical approval was unnecessary. However, protocols were established to ensure research transparency and the integrity of academic work. Objective selection criteria were implemented to reduce study bias through systematic review and bibliometric analysis methodologies. A comprehensive set of inclusion and exclusion criteria was applied to guarantee that only relevant, high-quality peer-reviewed studies were assessed. The inquiry required accurate disclosure of all sources and adherence to ethical citation standards in recognising intellectual contributions. Compliance with these standards was critical. All data analysis and reporting were conducted using transparent procedures to ensure reproducibility. The integrity of the study and the coding procedure in systematic reviews and bibliometric studies is further strengthened by ethical considerations related to data sharing.

4. Results

The following subsections present the findings from the systematic review and bibliometric analysis of digital transformation in tourism and community resilience. The results are organised into six main sections: (1) publication trends, (2) Spatial Distribution of Research, (3) Collaborative Networks in Research, (4) Thematic Clusters and Keyword Co-Occurrence, and (5) Conceptual Insights Derived from the Systematic Review.

4.1 Publication trends

Figure 2. Annual Publication Trends (2015–2025)

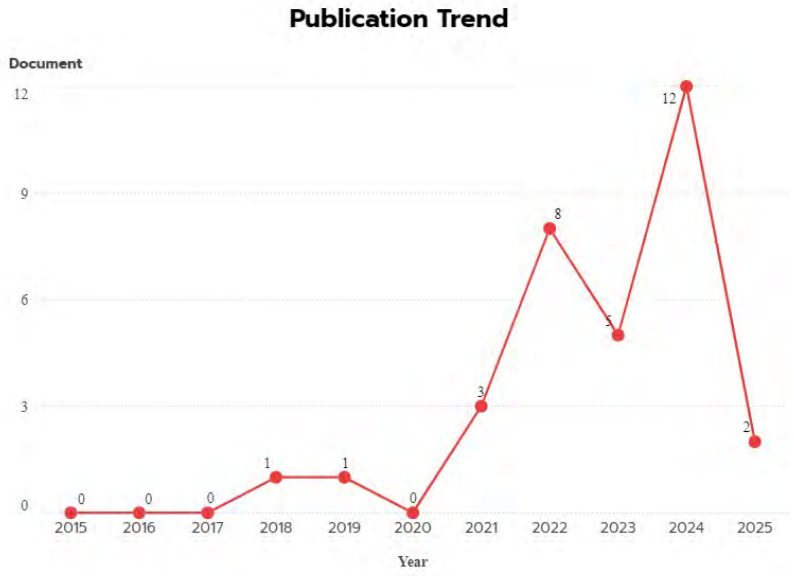


Figure 2 illustrates the historical and projected trends in the development of tourism innovation and community resilience from 2015 to 2025. Starting in 2021, the timeline shows a significant increase in the number of studies on tourism resilience and digital transformation. In several years between 2015 and 2020, the publication rate was below five items per year, and it was significantly lower in the years prior. The number of publications tracking digital innovation during disaster recovery and flexible solutions within tourism rose sharply from 2021 to 2025. Due to the COVID-19 pandemic, this number tripled. Consequently, the growth rate in this sector has remained consistent, with 2024 serving as the peak year for articles.

4.2 Spatial Distribution of Research

Figure 3. Global Research Citations in Tourism Innovation and Community Resilience Studies (2015-2025)

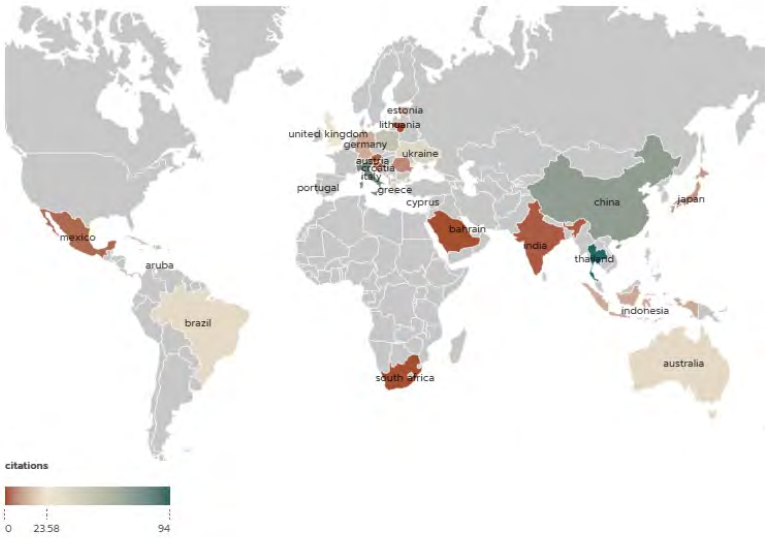


Figure 3 illustrates distinct citation patterns in tourism innovation and community resilience studies. The Asian presence is notable yet limited, with Thailand leading the continent with 94 citations, followed by China with 73 citations and emerging research from Japan and Indonesia. The Mediterranean, Western, and Eastern Europe regions provide a strong research environment that connects a community of scholars. In the Americas, Brazil is referenced instead of North America. Australia is the most represented country in Oceania, while South Africa tops the representation in Africa. This underscores areas for future investigation.

Table 1. Top 10 contributing countries in digital transformation and tourism resilience research.

Rank	Country	Citations	Publications	Collaboration Index
1	Thailand	94	7	3.2
2	Italy	82	5	4.6
3	China	73	8	2.8
4	Portugal	53	4	3.5
5	Poland	51	3	2.1
6	Cyprus	37	2	5.0
7	Greece	37	4	3.8
8	Ukraine	37	2	1.5
9	Aruba	31	1	4.0
10	United Kingdom	26	6	5.2

Table 1 highlights significant trends in research distribution. Thailand leads in academic research on sustainable and community-based tourism, boasting 94 citations across seven publications. This success is largely attributed to pioneering initiatives in digital solutions to strengthen rural tourism resilience. Italy follows in second place with 82 citations from five papers, focusing on smart tourism and urban resilience. Zhou et al. (2022) conducted a study on integrating technology in heritage tourism sites, while Armitage et al. (2019) examined the digital transformation of resilient coastal communities.

A total of eight contributions from China accounted for 73 citations, covering various topics from crisis response technologies (Deng et al., 2023) to digital marketing strategies (Feng & Wang, 2023). Portugal ranks fourth with 53 citations and four articles, including methodological advancements in measuring tourism resilience and utilising digital adaptation frameworks. Poland follows closely with three publications, which garnered 51 citations.

The regional distribution emphasises significant research gaps and opportunities for knowledge transfer. Research indicates that effective digital transformation strategies for tourism resilience

may require contextual complexity, rendering 'one size fits all' solutions less effective. The underrepresentation of North America, Africa, and certain regions of Asia underscores the potential for cross-regional projects to tailor global knowledge to diverse tourism contexts. Future studies should prioritise expanding geographical coverage and fostering international collaboration to develop more comprehensive and inclusive frameworks for digital transformation in tourism resilience.

4.3 Collaborative Networks in Research

The co-authorship analysis demonstrated substantial global collaboration in research, involving co-authorship among China, Italy, Thailand, and the United Kingdom (Figure 4). Active research networks have been established in Asia and Europe, where the academic community engages with smart tourism, digital resilience frameworks, and disaster adaptation.

Figure 4. Co-authorship network visualisation

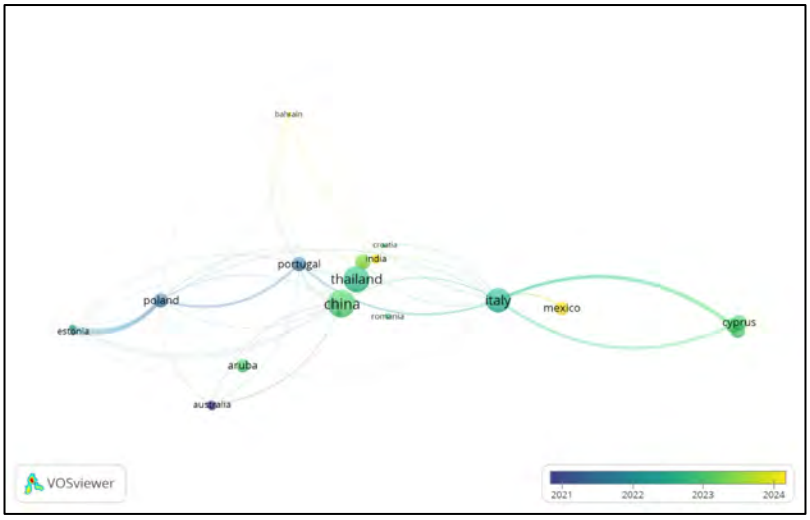


Table 2. Top 5 Nations in Collaborative Contributions to Tourism Resilience Literature.

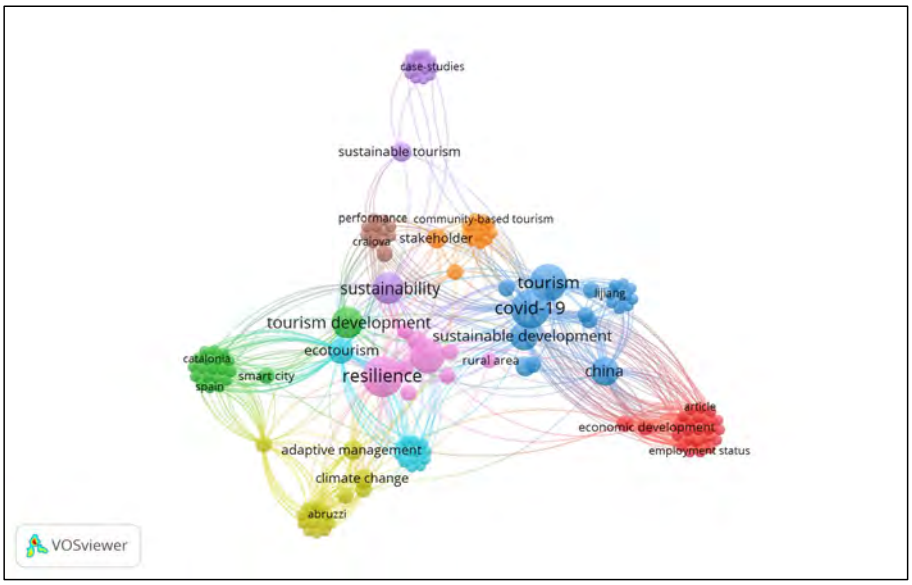
Rank	Country	Documents
1	China	9
2	Italy	4
3	Thailand	3
4	Indonesia	3
5	Portugal	2
6	Poland	2
7	United Kingdom	2

As shown in Table 2, the leading countries in research output were China (9 publications) and Italy (4 publications), followed by Thailand (3 publications) and Indonesia (3 publications). Figure 4 also indicates a significant concentration of research activity in East and Southeast Asian countries, where tourism innovation and community resilience are central to the research focus.

4.4 Thematic Clusters and Keyword Co-Occurrence

The co-occurrence network (Figure 4) is visualised and reveals six clusters related to the literature on tourism innovation and community resilience: COVID-19 and tourism impacts (blue), sustainable tourism development (pink), smart city and urban tourism (green), climate change adaptation (yellow), community-based tourism (orange), and case studies and applications (purple). The size of the nodes indicates the number of keywords identified in the analysis, while the connecting lines illustrate the co-occurring relationships between the terms.

Figure 4. Keyword co-occurrence network



Cluster 1: COVID-19 and Tourism Impacts (Blue): This cluster examines the effects of COVID-19 on tourism, including research on Chinese destinations and economic recovery frameworks. The pandemic has generated significant research interest (betweenness centrality = 0.42) in the mechanisms of tourism resilience, such as employment security and business continuity (Kirk et al., 2021; Lam & Zhao, 2021; Perello-Marin & Palacios-Florencio, 2021; Rahman & Alzahrani, 2022; Rahman et al., 2023). Despite the pandemic's significant effects on tourism employment, several economic indicators demonstrated resilience, particularly in areas with diverse tourism offerings. From 2020 to 2023, this cluster transitioned from crisis response to strategic recovery planning.

Cluster 2: Sustainable Tourism Development (Pink): Sustainable tourism development serves as a hub (degree centrality = 0.38) for stakeholder engagement and performance evaluation frameworks. This cluster emphasises the advancement of sustainability measures in tourist innovation, with 76% of relevant papers using quantitative indicators to assess community benefits. Sustainability, resilience, and community-oriented approaches align with multi-stakeholder governance frameworks to drive tourism innovation. The case studies in this cluster consistently underscore participatory planning and collaborative decision-making methods.

Cluster 3 Smart City and Urban Tourism (Green): This cluster emphasises integrating smart city concepts into the development of tourism destinations, especially in European towns. Catalonia and Spain: Two Innovation Hubs Connecting Tourism's Digital Transformation with the Urban Development Agenda. Smart tourism applications and urban resilience frameworks demonstrate a strong co-occurrence (co-occurrence strength = 0.67), indicating a convergence of technological solutions within destination management systems. The northern and southern Mediterranean regions of Europe exhibit distinct patterns of technology adoption influenced by experience.

Cluster 4 Climate Change Adaptation (yellow): This cluster emphasises environmental sustainability and adaptive management, viewing climate change as interconnected with other domains. Co-occurrence patterns indicate a shift from theoretical adaptation frameworks to practical climate planning for tourism sites. The cluster is closely linked with adaptation measures such as valuing environmental services, reducing carbon emissions in tourism, and planning for climate-responsive destinations. Climate adaptation research in tourism is evolving from theoretical models to practical implementation techniques.

Cluster 5 Community-Based Tourism (orange): This cluster highlights innovative tourism strategies that prioritise community-level impact. Stakeholder participation is closely linked to performance indicators. This cluster emphasises themes related to social capital, local businesses, and cultural preservation. Community-based activities are increasingly evaluated using criteria that measure both social and economic value creation. This group suggests that rural areas seeking differentiation strategies should concentrate on community-centred innovation across territorial tourist impacts.

Cluster 6 Case Studies and Applications (Purple): This cluster of case studies connects methodology to real-world geography, serving as a meta-cluster that links theoretical frameworks with practical applications. It illustrates the use of various methods in tourist innovation research, including qualitative case studies, mixed-methods approaches, and quantitative assessments. The groups share preferred methodological strategies, such as using mixed methods in sustainability research and more quantitative techniques for smart tourism studies.

Analysis of keyword co-occurrence indicates that studies on tourist innovation are gradually integrating previously distinct research fields. The boundaries between innovative technologies, sustainability practices, and community development are becoming increasingly blurred, with strong betweenness centrality values for resilience (0.61) and adaptive management (0.52) across cluster borders. The evolution of tourism innovation adopts a holistic systems approach, recognising the interdependence of technological, environmental, and social elements.

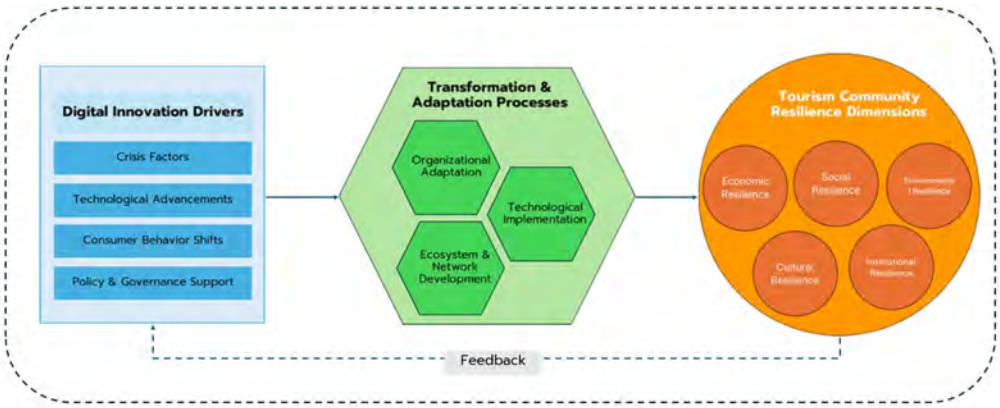
4.5 Conceptual Insights Derived from the Systematic Review

The Digital Transformation-Tourism Community Resilience (DT-TCR) Framework (see Figure 5) addresses the conceptual limitations identified during a systematic review. This framework offers a more nuanced approach to technology adoption by differentiating between the drivers of innovation, transformation processes, and resilience outcomes. The DT-TCR Framework defines resilience as a dynamic characteristic that emerges from interactions among three components: (1) Technical capabilities, which include access to digital infrastructure, technology, and expertise; (2) Governance structures, which encompass policies, institutional systems, and decision-making procedures; and (3) Social capital, which refers to community resources, including local knowledge and cultural assets.

The systematic review identifies three critical linkages between digital transformation and community resilience in tourism. First, a significant shift from reactive to proactive resilience approaches has emerged. Before 2020, the literature on tourist resilience primarily focused on economic recovery and disaster response. In recent years (2020-2025), there has been a notable turn towards proactive adaptation through digital innovation as a preventive intervention. This transformation moves resilience from crisis response to purposeful foresight.

The digital and socio-economic resilience frameworks have merged into integrated models. Traditional methods of tourist resilience prioritise economic and environmental recovery but often overlook social aspects. Recent research demonstrates how digital platforms can simultaneously address economic and social resilience needs. Meanwhile, peer-to-peer accommodation networks in crisis-affected areas have strengthened community-led recovery. Integrating local communities into the development flow loyalty network through digital empowerment transforms the global economy from a passive beneficiary of assistance into a dynamic participant.

Figure 5. Digital Transformation - Tourist Community Resilience Framework (DT-TCR)



Source: Authors

5. Discussion and Implications

5.1 Digital Transformation and Resilience

A systematic evaluation of 32 peer-reviewed studies published between 2015 and 2025 identified a paradigm shift in the resilience approach due to the digital transformation of tourism communities. Technology is now viewed as a tool for systemic adaptability, rather than merely facilitating operational tasks. According to Hartman (2020), tourism technology has evolved beyond operational efficiency to enhance experience development and improve adaptive capacity.

Between 2020 and 2025, research production in this area increased by 73% compared to the previous five-year period (from 18 to 31 articles annually). Buhalis and Leung (2023) describe COVID-19 as a "transformative disruption". These disruptions led to temporary technological solutions and fundamental changes in how tourism stakeholders conceive and deliver systems at all levels. Resilience frameworks incorporate emerging technologies such as AI, smart tourism, and blockchain. According to Gretzel et al. and Hochman et al. (2022), this evolution encompasses technological innovation, governance frameworks, business models, and community responses.

5.2 The Discrepancy of Digital Resilience and Its Geographic Variations

Research is concentrated in high-income areas, which creates global knowledge gaps. This study from China, Italy, and Thailand accounts for two-fifths of total citations, while studies from African countries, Latin America, and small island economies represent only 7%. Rogerson and Baum (2020) describe this disparity as the "digital resilience divide", where technologically advanced tourism destinations can implement superior resilience measures, whereas tourism-dependent poorer nations face significant structural disadvantages.

Research in developed economies centres on advanced technology applications in smart tourism (Sigala et al., 2023), digital policy frameworks (Della Corte et al., 2021), and AI-based model adaptation (Louati et al., 2024). However, these concepts may not be relevant across jurisdictions with differing technological architectures and capacities. Adeyinka-Ojo and Khoo-Lattimore (2023) argue that resilience strategies for modern technologies frequently overlook the limited resources available in emerging tourism economies.

5.3 Thematic Evolution and Conceptual Limitations

The corpus can be categorised into six subfields of study, as indicated by cluster analysis: Smart Tourism Applications, Recovering from Digital Crisis, Governance and Policy Frameworks, Consumer Behaviour Changes, Green Innovations in Tourism, and Strategies to Enhance Socioeconomic Resilience. Although these clusters demonstrate the progress of the field, they also reveal conceptual silos that can hinder comparative understanding. Tourism smart technology (cluster 1) often neglects important socio-economic resilience qualities (cluster 6). Cheer and Lew (2023) describe this fragmentation as theoretical islands with low cross-fertilisation, obstructing the development of models that consider all aspects of resilience, including technology, society, economy, and environment.

The open-access word co-occurrence analysis reveals a vibrant yet fragmented research ecosystem. Hall's (2022) argument that resilience discourse in tourism has become so intertwined with an ideology of 'techno-solutionism' that its social and cultural consequences are under-theorised in the performance management literature is supported by such examples. According to Scheyvens and Biddulph (2023), integrating indigenous knowledge systems, cultural values, and social networks enhances community resilience. Additionally, incorporating technology into local ecosystems strengthens resilience.

The investigation reveals conceptual limitations regarding digital risks. Only 7 (23%) of the studies addressed challenges associated with digital transformation, including data privacy concerns, algorithmic biases, cybersecurity threats, and vulnerability to digital dependence. In contrast, 28 (87%) of the studies focused on the benefits of digital transformation, with 32 studies total, 28 of which discussed advantages. Li et al. (2023) identify a digital optimism bias in tourism research, emphasising positive benefits over negative ones and downplaying adverse results.

5.4 Theoretical and Practical Contributions

This study presents two significant contributions. First, it integrates socio-technological and resilience theories to enhance understanding of of digital transformation as a driver of resilience. Second, it introduces the DT-TCR Framework to fill knowledge gaps and guide future research. This framework provides concrete guidance for policymakers, tourism officials, and destination managers to implement adaptive, technology-based, and crisis-resilient tourism practices in today's unpredictable global context.

5.5 Limitation

The analysis relies exclusively on Scopus, which overlooks relevant material available in other databases such as Web of Science. Additionally, narrowing the review to English-language publications can neglect significant contributions from research communities that do not publish in English. The data suggest short-term directions regarding digital displacement and tourism resilience but provide limited longitudinal insight into the marketplace and post-pandemic recovery models. Nevertheless, these limitations offer opportunities for future research, such as expanding additional datasets, analysing multilingual aggregation, and broadening temporal parameters.

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Digital Transformation Strategy Implementation: An Empirical Study on the Hotel Industry (Paper#101)

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Abstract:

This study applied a mixed-methods approach to identify the key success factors for hotel digital transformation and to explore their effects on hotel performance throughout the implementation process. A total of 31 factors of four categories – corporate strategy, organizational culture, digital capabilities, and external environment – were identified and ranked. The findings revealed that these factors are crucial and have significant impact on hotel performance, including customer satisfaction, competitiveness, service efficiency, management efficiency, profitability, and employee satisfaction.

Keywords: Digital transformation strategy, strategy implementation, critical success factor, hotel performance, hotel industry

1. Introduction

In the digital age, the hospitality industry is undergoing significant changes driven by digital technologies. According to recent reports, over 80% of travelers use digital platforms to plan and book their trips, highlighting the importance of digital transformation strategy for the hotel industry. This study aims to identify the critical success factors (CSFs) for hotel digital transformation in China throughout the three implementation stages: commencement, execution, and operations and maintenance (O&M). In addition, the impacts of these CSFs on hotel performance are investigated. This research is expected to fill a gap in the literature by providing a comprehensive framework tailored to the hospitality industry, and to offer valuable insights for hotel stakeholders to achieve successful digital transformation and to enhance operational performance.

2. Literature Review

Digital transformation has become a pivotal strategy for businesses across various industries, including hospitality. The rapid advancement of digital technologies has profoundly impacted the hospitality sector, which has been experiencing significant disruptions and transformations. Digitalization has shifted from merely enhancing operational efficiency to becoming a fundamental driver of innovation and value creation. In the hospitality industry, digital platforms such as online travel agencies (OTAs), search engines, and social media have redefined customer interactions and business models. For instance, a study by Accenture revealed that hotels leveraging digital technologies saw a 27% increase in direct sales and a 17% increase in international sales, with online reservations rising from 60% to 80%.

The concept of critical success factors (CSFs) was first introduced by Daniel in 1961 and later expanded by Rockart in 1979. CSFs are the limited number of areas in which an organization must excel to achieve its goals. Previous studies have identified various CSFs for digital transformation, including corporate strategy, organizational culture, digital capabilities, and external environment. However, these studies often lack a comprehensive framework tailored to the hospitality industry. The resource-based view (RBV) theory, which emphasizes the importance of internal and external resources in achieving competitive advantage, provides a foundation for identifying and analyzing the CSFs of digital transformation in the hospitality context.

Digital transformation in the hospitality industry has been explored in several research areas. These include the impact of digital technologies on customer behavior, the role of digital platforms in enhancing customer experience, and the strategic importance of digital transformation for competitive advantage. Studies have shown that digital transformation can significantly improve operational efficiency, customer satisfaction, and profitability. However, the specific CSFs for successful digital transformation in the hospitality industry remain underexplored.

This study aims to fill this gap by identifying and ranking the CSFs for hotel digital transformation in China. By examining the implementation, execution, and operations and maintenance stages, this research provides a comprehensive framework for understanding the critical factors for successful digital transformation. The findings are expected to contribute to both academic literature and practical applications, offering valuable insights for hotel stakeholders to enhance operational performance and achieve successful digital transformation.

3. Methodology

The study employed both qualitative and quantitative methods. First, a focus group, consisting of ten experts in digital transformation, was conducted to assess the initial list of key factors extracted from the literature. Second, the Delphi method was applied with three rounds of expert panel discussions to refine and rank the factors. Third, a questionnaire was designed and distributed to hotel executives and suppliers in China's hotel industry. Finally, based on 341 valid responses, the CSFs were identified and ranked, and their impact on hotel performance were analyzed.

4. Results

The study identified 31 CSFs across four categories:

(a) Corporate Strategy: Clear goals of digitalization, Knowledge of digitalization held by hotel managers, Financial ability of the organization, Comprehensive evaluation system of digitalization, Support from the hotel owner

(b) Organizational Culture: Sincere support from the management team, Effective communication system, Customer-oriented approach, Reformation of the organization, Flexibility of operational procedures, Internal empowerment, Training on digital technologies, Stability of the hotel management team, Internal creativity, Cooperation and participation of hotel employees, Rewards and recognition program

(c) Digital Capabilities: Data security, Selection, training, and retention of talents, Integration of resources, Data management, Expansion competence, Ability to develop new digital technologies, Project management, Use of social media, Existing IT resources

(d) External Environment: Competencies and quality of business partners, Risk management, Relationship and partnership with business partners, Hotel policy and regulations, Openness of data sharing, Form of business

As shown in Table 1, the results revealed that corporate strategy is the most important CSF, followed by organizational culture, external environment, and digital capabilities. Moreover, the relevant importance of the CSFs varies in different implementation stages. In addition, the study also found that digital transformation significantly impacts hotel performance indicators such as customer satisfaction, competitiveness, service efficiency, management efficiency, profitability, and employee satisfaction.

Table 1. Overall Rankings of CSFs by Stages

CSFs	Relevant importance to hotel digital transformation			
	Overall	Implementation stage	Execution stage	Operation & maintenance stage
Corporate strategy	1	1	3	1
Organizational culture	2	2	1	2
External environment	3	4	2	3
Digital competence	4	3	4	4

5. Discussion and Implications

5.1. Discussion

The findings of this study highlight the critical importance of a strategic and comprehensive approach to digital transformation in the hospitality industry. By identifying and ranking the CSFs across three stages of digital transformation implementation strategy – commencement, execution, and operations and maintenance (O&M), this research provides a structured framework for understanding the multifaceted nature of digital transformation. The study's results emphasizes the significance of corporate strategy and organizational culture in successful implementation of digital transformation, and it extends the existing literature by providing a detailed and industry-specific framework tailored to the hospitality industry.

5.2. Academic and practical implications

Theoretically, this study contributes to the literature on digital transformation by integrating the resource-based view (RBV) theory with the practical realities of the hospitality industry. The RBV theory posits that internal and external resources are crucial for achieving competitive advantage. This study validates this theory by identifying specific CSFs that align with the unique challenges and opportunities in the hospitality sector. Practically, the findings offer actionable insights for hotel stakeholders. By prioritizing corporate strategy and organizational culture, hotels can enhance their operational performance and achieve successful digital transformation. The study also underscores the importance of continuous training and development of digital skills among hotel employees, which is essential for maintaining a competitive edge in the digital age.

5.3. Limitations and recommendations

Despite its contributions, this study has several limitations. First, the study's reliance on expert opinions and questionnaire responses may introduce biases. Future research could incorporate more diverse data sources, such as case studies and longitudinal analyses, to provide a more comprehensive understanding. Additionally, the focus on the hotel industry in China may limit the generalizability of the findings. Future research could explore the CSFs of digital transformation in other regions and industries to provide a broader perspective. Finally, the study did not examine the long-term impacts of digital transformation on hotel performance and customer loyalty. Future research could investigate these areas to provide a more complete picture of the benefits and challenges associated with digital transformation in the hospitality industry.

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Digital Transformation in Hospitality: How Smart Check-In Transforms Performance (Paper#117)

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Abstract:

This study aims to examine the impact of smart check-in technology on hotel performance and customer satisfaction. By filling the gaps in existing research, it utilizes multi-source data and causal inference methods. Leveraging a dataset from nearly 50 Chinese hotels—including smart device installations, PMS records, and online reviews—we employ difference-in-difference (DID) method to check robust causal relationships. We Expect digital transformation will enhance hotel performance and customer satisfaction, with the latter mediating the performance effect. Moreover, significant heterogeneity across hotel types and locations may exist, offering nuanced insights for industry practitioners. By integrating objective operational data with advanced NLP-based sentiment analysis, this study is anticipated to advance the understanding of digital transformation mechanisms in hospitality, providing actionable recommendations for strategic technology adoption.

Keywords: Digital Transformation, Smart Check-In, Hotel Performance; Customer Sentiment



Theme: Destination Development

Exploring residential tourists' motivation and destination selection (Paper#202)

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Abstract:

This study explored the key motivation factors of residential tourists. Qualitative research was conducted in residential resorts apartments in South China. Key motivation factors include searching for comfortable weather, leisure lifestyle, novelty experience and wellness

Keywords: Residential tourism, motivation, lifestyle

1. Introduction

As defined by O'Reilly (2007), residential tourism is a new form of mobility that involves traveling to different locations for leisured lifestyles. Residential tourists usually relocate to a destination either permanently or semi-permanently pursuing higher quality of life or experiences. Residential tourism incorporates the concepts of both tourism and migration. From a broader perspective, residential tourism might include concepts: second-home living, seasonal migration, snowbird travelling, leisure migration, counter urbanization (Huete & Mantecón, 2012). While early stage of residential tourism is more leisure oriented, there is also a new tendency of "digital nomadism", which is a forms mobility of combining work and leisure in a destination (Chevtaeva, and Denizci-Guillet 2021).

As residential tourists' market is experiencing rapid growth, it is important to understand their motivations and mechanism of choosing destinations. Incorporating the two poles of tourism and migration, residential tourists demonstrate distinct features from short-travelers as illustrated above (Rodriguez ,2001). Hence, existing theories related to tourists' behaviors might not be able to explain the residential tourism phenomenon. Using a qualitative research method, this study aims to explore by people start the residential tourism experience and the main factors to consider why selecting a place to stay.

2. Literature Review

Residential tourism development

Residential tourism has become an emerging phenomenon in recent decades. According to the China Tourism Academy, the number of residential tourists reached 50million in the year of 2023, and it is expected to have a double digit increase in coming near future (China Tourism Academy, 2024). With the great market potential, residential tourism has become a trending investment field in the tourism sector and catalyst for economic growth. The unique characteristics of mobility spectrum and behavior patterns has also aroused high attention from academia.

As residential tourists stay much longer in the destination, greater and longer impact is expected to bring to the community. First, residential tourism often involves more extensive consumption in destination. Residential tourists not only expense on lodging, food and beverage, but also home appliances, health care service (Mazón, 2006). They might even purchase of housing and spending on infrastructure development. Furthermore, residential tourists tend to have deeper and longer binding with local community (O'Reilly, 2007). During the prolong stay in the destination, residential tourists are not only an outsiders like regular tourists, they are having much more interactions with local residents and immersed in the community, which will bring more enduring cultural and social impact to the destination (Huete & Mantecón, 2012). At the same time, residential tourists will develop stronger attachment and sense of belonging to the place, and hence shaping their perspective and behavior.

Tourist Motivations

Tourist motivations have long been a focus in the field of tourism research. Understanding why people travel is of profound importance for tourism product development, destination marketing, attracting and retaining tourists and the sustainable development. In early stage of tourism development, scholars explained that travelling mainly fulfils people's higher-level needs, such as seeking for personal growth, self-actualization, sense of achievement. The push-pull theory, propose by Dann (1977) and further expanded Crompton (1979) further expands the motivation factors into two categories: the "push" or intrinsic factor and "pull" or extrinsic factors. The push factors are more from the inner needs, including "escape" from daily routine, "relaxation" and "social interaction". The "pull" factors refer to the elements coming from external, i.e. the features of the destination. For example, people travel because they are attracted by the attractions, landscape or cultural heritage in the destination. Later, Iso-Ahola (1982) proposed escape-seeking theory, explaining that people travel for novel and learning experience. Pearce's travel career ladder (Ryan,1988, Pearce, 2005) explains that motivation to travel might evolve along with the tourist's life stage and travel experiences. Relaxation and curiosity are main reasons for less experience travelers. While people accumulate more experiences, they might prioritize adventurous experiences and self-actualization through immersive trips (Ryan and Deci, 2000). Travel motivations might vary along with the improvement of economic development and the change of people's lifestyle (Wang et al, 2019). In early age,

traveling might be a more adventurous activity. With tourism facilities become well developed, spending a few days away from home become an enjoyable experience. Social interaction needs become an important motivation factor, such as spending quality time in the trip to bond with families and friends (Harrill ant Potts, 2002). With the development of social media, traveler might also seek for social recognition and exposure while they post photos about their trips on social media (Seeler et al, 2019; Wolfe and Hsu, 2004)

3. Methodology

Due to the exploratory feature of this study, qualitative research method was adopted. Qualitative research method is an inductive approach which is more flexible and inclusive in data collection, providing a better foundation to explore complex phenomena (Marshall, 1996). It is more appropriate to understand "why" and "how" questions, regarding people's perspectives, attitude and experience, especially in those under-investigated areas.

Data was collected in resort hotels and apartment facilities in Maoming and Wuchuan, two small seaside cities at west of Guangdong, south China. These two cities are popular residential tourism destinations due to its warm weather in winter and beautiful coastal scenery. Data collection included two parts: the author's observation of the residential tourists' experience; the author's social interactions and in-depth interviews with 18 residential tourists during March of 2025. The interviewees were selected based on the following criteria. First, their main purposes of staying at the destination is not business-oriented or job-related. Second, they have stayed in the destination for more than four months or a season. This is to be consistent with Mantecón and Huete (2008) and William et al, (2003)'s definition on a "residential tourist". Interviews were conducted in Chinese in the lobby or resting areas in the residential resort or quiet cafes. Interviews are transcribed into English by research assistance and double check by the author.

4. Results

In total, 18 respondents have been interviewed, comprised 8 male and 10 female. Detailed respondents' profile is presented in table 1 below. Age ranges from 30 to 80 and above. The majority of the interviewees were senior adults, with more than half are over 60. This shows that the senior citizen is the primary segment in the residential tourism market, as the retirement time frame in China is between 50 and 65. This situation is also consistent with the author' observation. Younger citizens, who are usually bonded with jobs or families at home, might not have the flexibility of staying away for a long time. Among the interviewees, two are in their 30s, one is a free-lancer which can work in an online mode, another one in a gap period of changing jobs.

Table 1. Respondents' profile

Respondent	Gender	Age	Companion	Place of origin
A	M	70+	Couple	Beijing
B	F	70+	Couple	Beijing
C	F	50+	Friends	Beijing
D	F	50+	Alone	Liaoning
E	M	70+	Families and relatives	Ningxia
F	F	40+	Families and relatives	Shenyang
G	F	40+	Families and relatives	Shenyang
H	M	60+	Couple	Hebei
I	F	60+	Couple	Hebei
J	F	80+	Friends	Zhejiang
K	F	80+	Friends	Zhejiang
L	M	50+	Couple	Zhejiang
M	M	60+	Couple	Hubei
N	F	50+	Alone	Henan
O	M	70+	Alone	Hunan
P	M	60+	Couple	Hunan
Q	M	30+	Alone	Guangxi
R	F	30+	Alone	Shaan'xi

Residential Tourist's Motivations

Comfortable living environment

One of the most common motivation mentioned by the residential tourists is searching a comfortable living environment. First thing to be mentioned is the weather factor. China covers a large geographic span. Hence, the weather condition varies significantly in different geographic location and seasons. For example, during winter time, the north part of China, such as Shenyang, Beijing, will be freezing, super dry and snows constantly, while south end of China, such as Guangdong and Hainan, will be warm and sunny. In contrast, during summer time, Guangdong and Hainan will become very hot and humid. Hence, residential tourism demonstrates strong seasonality features. Every winter, a large fleet of "snowbird" from the north started to move to South China in November to escape the "terrible" winter, and then return back to north around end of March or early April.

"We usually will leave Beijing from November and move to the south. Guangdong, Hainan and Guangxi are the places we like to spend the winter." (respondent A)

Other than weather issue, living space and facilities are also important elements of living conditions. For people who live in urban cities, their living space is usually small due to high housing price, especially in first tier cities. While many residential tourism destinations locate in small towns or even villages, accommodation and houses tend to be much more spacious, with large balconies or even private gardens.

"We are staying in the resort service apartment; the room is as big as 100 sqm and the price is very affordable. I get fed up with my small apartment in Wuhan." (respondent M)

"The little house I rent here is very nice. It's a house with garden and a very large kitchen. I enjoy cooking, and this kitchen bring me a lot of joy". (respondent F)

Leisure and relax lifestyle

While short-term tourists enjoy mostly a glimpse of the taste of those sceneries and culture, residential tourists are seeking for experiencing a lifestyle change. For people who live in the concrete jungle in urban metropolitans, life is full of hustle and bustle. Moving to small towns near the sea or mountain allowing them to enjoy a totally different lifestyle, which is slow and quiet. The beach, lake, mountain, trees, lawn are not only sceneries, but a daily routine and the source of leisure and relaxation during the stay in the destination. Hence, destinations with slow pace and relaxing lifestyles are popular residential tourism destinations.

"I like the sunset on the beach. I will have a walk with my husband every evening after dinner. It's very calming and relaxing." (respondent K)

"We have been busy with jobs and taking care of our children for many years. I am longing for a leisure lifestyle, so I can do things slowly without fighting for deadlines or meeting schedules. At the same time, I can enjoy every little thing appear in my life, such as watching the flower to blossom or smell the scent of the dirt." (respondent O).

Novelty experience

Like regular tourists, trying something new and different from their routine is still a main consideration of being way from home for a long stay. These novel experiences might come from enjoying unique sceneries, visiting landmarks, tasting local cuisine specialties. It might also come from experiencing different culture, such as joining a local family banquet, cooking cuisine using local specialties, participating community gatherings. Hence, frequent residential tourist claim that they would like to rotate to different destinations every year. If this year, they stay in a mountain area, then next year they would like to try a coastal place. Residential tourists also tend to stay at places where the culture different. For example, apart from its comfortable weather, Yunnan province is renowned as diverse minority ethic groups culture. Many small

towns in Yunnan province are habitations with mixture of minority ethnic groups. Hence, those towns and cities, such as Dali and Lijiang, are popular residential destinations in China due to their special culture.

"I come from Xi'an, a city in inner part of China. I have never seen an ocean before. It's my dream to lived in the seaside, and now like a dream come truth." (respondent R)

Wellbeing and health issue

A portion of people choose to live in a second home due to health and wellbeing considerations. Health issues might be influenced by factors such as weather, air quality, water quality, and other environmental or psychological factor. Small towns located in a quiet coastal area or a mountain are believed to have clean and fresh air. For example, people who have respiratory diseases might be very sensitive to air quality. However, during winter time, haze is often recorded in north of China. Similarly, sandstorms occur frequently in Beijing and Inner-Mongolia. Therefore, a group of people will choose to fleet to south China to avoid those health-threatening factors. In addition, some patients might need a long rehabilitation period after medical surgery. Places with quiet environment, clean air and water are idea destinations for such a long recovering period. Moreover, growing awareness is paid toward sub-health conditions. A long wellness retreat at a delightful destination become more and more popular.

"My husband has asthma. The air quality in Beijing is really very bad and every winter is a tough time for him. But when we stay here, he has no asthma attach for the whole season." Residential Tourism Destination Selection

Attractions

Like short-term tourist, residential tourists want to enjoy sceneries or lifestyle different from home residency. Hence, the attractions in the destination yet one of the main pulling factors of choosing a place for long holidays. Natural beauty, historical sites, culture heritage, festivals, or unique activities are main consideration factors. A large portion of the interviewees mentioned that destinations near the sea side, lake, or mountain are popular choices. Like here in Maoming, there is a long coastal line. Many hotels, resort or apartment are built near the seaside with "nice see views". Guilin in Guangxi province is among the favourable list of residential tourism destinations due to its amazing natural beauty of the karst topography, where is full of karst cave, sinkholes, peak clusters and stone forest.

Cost of living

Short-term tourists usually are more willing to spend during a trip. First, the total cost of the short-term trip is more affordable as a typical trip will last for a few days. Second, short-term trips are normally considered as escaping daily routine. In special occasions, people are more willing to spend in order to create some memorable experiences. In contrast, residential tourism involving a much long stay usually up to 6 months or even longer than one year. The expenses structure of the residential tourism in the destination is more similar to a resident.

This will not only include several nights in hotels and a few meals in restaurants. The cost will cover wider range of expenses and long term. Therefore, smaller cities or towns in more remote areas or satellite cities around big cities are more favorable for residential tourists. For short-term tourists, they might value convenience more than cost. For example, they will pay higher price to stay in a hotel which is close to the attraction in order to shorten the time for transportation. However, for residential tourists, they can compromise location for lower cost, as they have plenty of time in the place.

"I am ok with hotels which cost 1000 per night, if I only stay a few nights. However, if I stay for several months, that will be way too much." (respondent P).

Living Facilities and Services

Short term tourists normally stay in hotels. However, lodging choices for residential tourists varies. Other than hotels, residential tourists might consider long term rental of service apartments, renting from private household, or even purchase housing properties. In the Hotels, service apartment, renting private housing or even purchasing housing property in the destination. Residential tourists also expect kitchen and laundry equipment in their lodging facility. Short-term tourists usually dine out in restaurants, while residential tourist intend to cook by themselves, at least occasionally if not every day. In early stage of the residential tourism development, tourists mostly live at private housing through a normal Lease-Premises. Household appliances, such as kitchen wares, laundry detergents, either are provided by the landlord or brought by the tenant themselves. In recent decades, residential tourists' packages have been emerging in the market. Hotels, resorts, owners of B&B properties started to offer residential package for long terms stay on a weekly or monthly basic, which include accommodation and three meals in the property. These one-stop-shop package become increasing popular among residential tourists due to its hand-free convenience.

"I used to bring all my cooking wares and dishes while I am on a residential trip. These packages really free my hands of cooking three meals a day. I only cook when I have the mood to do so." (Respondent D)

Recreation and Social Networking Service

With a long stay at the destination, residential tourists look for deep and immersive experiences on top of sight-seeing in the attraction. During the stay, they are residents who need to spend lots of leisure time. Hence, diverse activities are provided in the residential tourism circle. Resorts and hotels who also target residential tourists will organize regular recreation activities, such as classes to learn Pingpong, Yoga, Taiji. Various workshops, including painting, floral decoration, movie appreciation or even health lectures, are provided. These activities not only enrich their daily life during the stay, but also become good networking opportunities. Furthermore, short tours to nearby attractions or gathering will be organized. Apart from killing time and having fun through these activities, residential tourists are also developing a sense of belongings.

"I don't feel boring even I am alone on the trip. There are many activities I can join and make friends if I want. We feel that we are in the same communities." (Respondent N)

5. Discussion and Implications

This study contributes to tourism theories in three folds. First, this study provides a pioneering exploration on the motivation of the newly emerged residential tourist segment. With the growing number of retired population and flexible life style, this tourism segment is expected to have great market potential. Although this phenomenon has attracted attention in the tourism industry, academic studies in this field remain limited. Awareness of residential tourism was recorded in some case studies in early twenty-first century (Aledo and Mazón, 2004; Casado–Diaz, 1999). The importance of the residential tourism was recorded by O'Reilly (2007) and McWatters (2008), with future research direction proposed. In the following years, only limited empirical studies have been conducted, catching a glimpse of the social perspective (Huete et al., 2008), senior tourists (Oliveira et al., 2018), and eudaimonic well-being (Hao and Xiao, 2021) and experiences (Shin et al, 2023). This study provides a systematic and holistic understanding of why people travel and stay as a temporary resident away from home. Second, this study also further expands the current tourist motivation theories to a new context. Tourist motivation has been extensively recorded in existing literatures, however, most of these researches are investigating behaviors related to a short-term trip. Although a small portion tourists will have long trips lasting for several months, these trips usually involve in multiple stops. Their stay at one particular destination remains a temporary status. This study extent those motivation theories and frameworks to a domain which combined with travelling and migration. Third, this research highlights the motivation factor of seeking for novelty as a driving factor for travel, no matter short-term or long term short-term or long term stay in place (Blomstervik and Olsen, 2022). This result is consistent with previous travel motivation theories. However, motivation of long stay focuses more on new lifestyle rather than just sceneries and attractions in the destination. Factors related to living quality and style, such as living environment, health issues are added to the motivation literatures.

The results of this research also provide valuable implications to the tourism industry. First, to capture the growing market opportunities in the residential tourism segment, lodging operators should adjust their marketing strategies. As senior citizens are the main market source, marketing managers modify their promotion plan to attract them. Meanwhile, senior clients might have higher needs in health issues. Adding more heath care services and facilities will be an attracting gimmick. Lodging providers are suggested to develop residential package including hotel rooms and meals. Meanwhile, offer more cost-effective price for long-stay will be useful to attract residential tourist. Last but not least, as most residential tourist will stay several months, more social and leisure activities should be organized in order to enrich their living quality and retain them stay even longer.

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AI as a Catalyst for Disruption-in-Becoming: A Comparative Case Study of Cloud-Based Hotel Property Management System (PMS) Providers (Paper#203)

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Introduction

Cloud-based Property Management Systems (PMS) have become central to digital transformation in the hotel industry, driven by increasing demand for operational flexibility, automation, and data-driven guest experiences (Busulwa, 2022). Recent technological developments related to artificial intelligence (AI) are accelerating this transformation towards flexible PMS solutions in the hospitality industry.

Among the new entrants reshaping this domain, two providers—here anonymized as PMS-Alpha and PMS-Beta—stand out for their rapid growth and disruptive potential. While both entrants offer modern, application programming interface (API)-first PMS solutions, PMS-Alpha has accelerated more quickly into mainstream market adoption, recently achieving significant improvements in market valuation. Leaning on disruptive innovation theory and discussions on value proposition innovation, this study investigates: How do technology entrants in the hospitality industry configure their value propositions to leverage AI technologies, thereby attracting hotel clients and transitioning from niche innovators to mainstream disruptors?

Literature Review

This research draws on the theory of disruptive innovation (Christensen et al., 2018) and its extensions into dynamic and performative contexts. While disruptive innovation was seen as the process of market entrants' paths towards conquering mainstream market segments, recent reviews conceptualize disruption as a performative act that reconfigures market expectations and actor roles (Lile et al., 2024). Linking to this performative nature of disruptive innovation, Snihur et al. (2018) conceptualize "disruption-in-becoming" as the emergent process through which entrants, often start-ups, gain legitimacy and reshape industries over time. Business model innovation, specifically value proposition design (Antonio et al., 2023; Schmidt & Scaringella, 2020; Schmidt & van der Sijde, 2022), is central to these dynamics, as entrants communicate novel value and reconfigure resource flows, partnerships, and customer relations. This study focuses on technology-enabled value proposition innovation as a key lever of performative disruption in the hospitality industry.

Methodology

We conducted a comparative case study (Yin, 2012) of PMS-Alpha and PMS-Beta leaning on content analysis of publicly available data. Both entrants offer value propositions in line with the disruptive innovation criteria, such as being easier to access, cheaper, initially underperforming compared to alternatives of incumbents offering predominately on-premise PMS solutions (Schmidt & van der Sijde, 2022). Following a structured search logic, we gathered press releases, blog posts, interviews, and news articles per case company, covering the last five years (2020 – 2025 year-to-date) and focusing on product innovations, partnerships, market entries, and AI integrations. Sources were retrieved from company websites, industry portals (e.g., HospitalityNet, PhocusWire, HotelTechReport), and business news outlets. Search queries included combinations of company names with terms like "value proposition," "AI," "expansion," and "customer stories." To make sense of the manifoldness of the collected qualitative data, we categorized information based on widely accepted conceptualization of value proposition design, i.e., new offerings, new channels, new customers/markets, and new customer relationships (Clauss, 2017; Schmidt & Scaringella, 2020).

Findings (work in progress)

While PMS-Alpha and PMS-Beta both offer cloud-based PMS solutions to the international hotel industry, the entrants present distinct configurations of value propositions. Thereby, the studied entrants present alternative paths of disruption-in-becoming:

PMS-Alpha internalizes AI through acquisitions and integrates automation across its unified platform, offering a one-stop vendor approach. PMS-Alpha frames their AI-infused, cloud-based PMS as embedded intelligence enhancing operational efficiency and guest personalization. PMS-Beta externalizes AI via its Agent Hub, a marketplace of AI-driven microservices developed by third parties. This enables hoteliers to adopt and customize AI tools without complex implementations. PMS-Beta positions itself as the enabler of AI innovation in hospitality, aligned with its open platform philosophy.

The following table overviews the comparative findings:

Value Proposition Category (Clauss, 2017)	**PMS-Alpha**	**PMS-Beta**
New Offerings	• All-in-one hospitality cloud suite with native modules (PMS, kiosk, payments, mobile apps) • New features often via acquisitions • Internalization of AI features through acquisitions	• API-first open platform • Modular architecture • Core PMS functionality plus app marketplace • AI Agent Hub for custom automation
New Channels	• Strategic partnerships with hotel groups • Acquisitions to enter local markets • Proprietary marketplace as integration channel	• Innovation partnerships • Community-based co-creation • Developer engagement through open APIs and hackathons
New Customers/Markets	• Expanded from independent hotels to global chains • Entered US, Canada, APAC via acquisitions • Supports full-service hotels, hostels, student housing	• From serviced apartments and digital-first hotels to broader hospitality types • Spread from Central Europe to 30+ countries
New Customer Relationships	• Curated support ecosystem • Community events • Developer support portal • One-stop vendor relationship	• Peer-led community forum • Co-creation with clients • Self-service onboarding and integrations • Ecosystem of AI agents and partner apps

Discussion

The findings reveal two distinct modes of performative disruption, thereby extending earlier research that disruptors leverage certain design patterns (recipes) for their business model design (Schmidt & van der Sijde, 2022). PMS-Alpha performs disruption through being a service provider: presenting a comprehensive, future-proof alternative to legacy, on-premise PMS that delivers immediate operational and financial benefits. Its value proposition emphasizes reliability, global reach, and continuous product enhancement. PMS-Beta performs disruption by orchestration and open collaboration: inviting hotels and developers to co-create modular solutions through an open infrastructure. Its messaging highlights empowerment, flexibility, and technological autonomy.

This contrast maps onto the distinction between managed and open ecosystems in platform strategy literature (Gawer & Cusumano, 2015). PMS-Alpha mirrors a tightly integrated ecosystem akin to Apple's approach, with a focus on one-stop shop value proposition and integration of new functionalities through acquisition. Contrarily, PMS-Beta resembles an Android-like model where adaptability and third-party innovation gets prioritized. Each model enables the firm to appeal to different customer segments, while evolving from niche to mainstream market. The incorporation of AI reinforces these trajectories. PMS-Alpha uses AI to strengthen its promise of seamless automation, supporting scalability for enterprise clients. PMS-Beta uses AI to attract experimental adopters and position itself as the gateway for emerging technologies.

While both entrants are revelatory cases to respond to calls for research on disruption-in-becoming (Snihur et al., 2018), the entrants engage in alternative legitimation work for building market acceptance. PMS-Alpha focuses on endorsements by established hotel chains and performance metrics as well as winning prestigious awards recognized by the hotel industry. PMS-Beta chooses an ecosystem participation approach and invests in thought leadership. In consequence, PMS-Alpha attracts more established hotel businesses, where the PMS replaces incumbent alternatives. Contrarily, PMS-Beta's value proposition gets adopted by newcomer hotel concepts, such as technology-based long-stay lodging concepts or (almost) employee-free hotel concepts, thereby attracting a new generation of clients with hotel business models.

Conclusion

PMS-Alpha and PMS-Beta exemplify different pathways to disrupting the hotel technology market via their value proposition design. PMS-Alpha achieves mainstream adoption through vertical integration, product expansion, and enterprise partnerships, whereas PMS-Beta catalyzes ecosystem innovation through openness, modularity, and co-creation. Both entrants leverage the capabilities of AI to enhance their appeal and operational value, albeit through different mechanisms. These cases illustrate the importance of aligning value proposition design with narratives of disruption-in-becoming, ultimately contributing to discussions on digital disruptions in the hospitality industry. Future research should build on this in-process study, while exploring how PMS-Alpha's and PMS-Beta's customer perceptions impact the adoption and how value co-creation unfolds in open vs. closed hospitality ecosystems.

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Theme: Tourist Behaviors

Travel Without Children: Guilty Getaway? (Paper#091)

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Abstract:

This study explores benefits, and challenges surrounding child-free travel among parents. While life cycle theory traditionally frames travel behavior around family responsibilities, this research highlights how parents seek child-free travel for self-care and relationship enrichment. The findings contribute to tourism research by addressing wellbeing benefits of child-free travel and informs practitioners about emerging trends in parental travel.

Keywords: Child-free travel, Parental travel, Wellbeing, Tourism Behavior

1. Introduction

Travel behavior evolves over the life course, with major life changes—such as parenthood—reshaping travel preferences and decisions (Fu et al., 2022). While existing research has extensively explored family travel (Chevtaeva, E., & Denizci Guillet, 2024; Wu et al., 2021), less attention has been given to travel without children, where parents take trips independently of their children, either alone or with a partner or friends. Traditionally, the full-nest life stage parents tend to prioritize family vacations over solo travel due to the value of family bounding, complex logistic and financial constrains (Bartl, et al., 2024). However, an emerging trend suggests that some parents deliberately seek child-free travel experiences for personal renewal, well-being, and self-identity. Besides added complexity in executing childfree travel for full nesters it might come with judgment and feelings of guilt (Fu at al., 2022).

The existing body of knowledge overlooks the desire for occasional travel without children within the parenting stage. While psychological research on well-being and travel highlights the restorative benefits of travel for reducing stress and improving life satisfaction (Filep and Deery, 2010), research remains limited on how these benefits apply to parents who take time away from their children. Wellbeing benefits of travel might be affected by emotional barriers and constraints, such as parental guilt and societal norms, which may influence overall travel experience. This study aims to explore benefits and challenges surrounding child-free travel among parents. To achieve this aim, first, the study explores the wellbeing benefits perceived by parents on trips without children; second, it identifies emotional and societal influences that serve as constraints during such travel, and third compares benefits and constrains perceived by parents and its effect on wellbeing.

2. Literature Review

Travel motivations evolve over time based on prior experiences and psychological needs. Parenthood often leads to a travel career interruption, where individual travel aspirations are paused in favor of family-centered vacations (Pearce & Lee, 2005). However, as children grow older or parents seek personal renewal, there is a resurgence in independent travel motivations (Fu et al., 2022). Some parents engage in child-free travel to reconnect with their pre-parenting identity, strengthen relationships with partners, or fulfill unmet travel aspirations. Recent research on family travel memorability suggests that parents value shared travel experiences with their children, often recalling them through storytelling and emotional attachment (Chevtaeva & Denizci Guillet, 2024). However, child-free travel represents a different dimension of travel experience, where parents prioritize their own needs rather than creating shared memories with their children. This contrast highlights how travel motivations shift over time, from being child-centered to fulfilling personal well-being and relational needs.

Travel is widely recognized as a means of enhancing well-being, reducing stress, and improving life satisfaction (Filep & Deery, 2010). For parents, child-free travel serves as a form of self-care, allowing them to recharge, regain a sense of individuality, and strengthen partner relationships (Lehto et al., 2012). Research on parental mental health suggests that temporary breaks from caregiving responsibilities contribute to emotional resilience, ultimately benefiting both parents and family dynamics (Schanzel & Yeoman, 2015).

Despite potential benefits of travel, many parents—especially mothers—struggle with guilt when stepping away from childcare duties (Schmidt et al., 2023). Parents face multiple constraints when considering child-free travel, which can be categorized as intrapersonal, interpersonal, and structural barriers (Jackson et al., 1993). Intrapersonal constraints include feelings of guilt, anxiety, and fear of judgment, which may prevent parents from prioritizing themselves. Interpersonal constraints may further reinforce these challenges, as partner expectations, family disapproval, or prevailing social norms may discourage parents from traveling without their children. The contrast between the well-being benefits of child-free travel and the emotional burden of parental guilt and duties highlights the complexity of this travel experience that needs further exploration.

3. Methodology

This study adopts a narrative methodology within a constructivist (interpretive) framework, utilizing storytelling to collect and analyze data. This narrative approach emphasizes interpretation, aiming to comprehend individuals' experiences and how personal perceptions can unveil broader social patterns (Patton, 2002). Distinct from many other qualitative methods like grounded theory and ethnography, which typically follow a category-based framework, narrative inquiry allows for a deeper analysis that includes context, tone, structure, and the intended audience beyond merely coding text.

The research employs narrative interviews with 20 parents and a purposive sampling technique, selecting participants based on their specific experiences. The sample comprises parents with at least one child under 18 years old who have traveled for leisure without their children in the past three years. To consider differences in living arrangements during travel, only those parents residing in the same household as their children are included. Data analysis is conducted alongside the data collection process, facilitating ongoing reflection and adjustments to improve the methodology (Miles et al., 2020). A notable challenge in narrative inquiry lies in the complexity of interpreting and negotiating the insights provided by participants (Savin-Baden & Howell Major, 2013). To structure the narrative analysis, the RITES (read, interrogate, thematize, expand, summarize) framework is applied (Leggo, 2008).

4. Discussion and conclusion

The study dives into the broad range of benefits perceived by parents, that are classified via the framework of the PERMA model, which encompasses the key elements of well-being (Seligman, 2018). This model not only facilitates the understanding and promotion of well-being but also enables the interpretation and integration of findings from diverse domains into a comprehensive perspective on well-being. The PERMA model posits that positive emotions, engagement, relationships, meaning, and accomplishment, when cultivated and nurtured, can lead to enhanced well-being and a more fulfilling life. The constraints perceived by parents are classified based on leisure constraints theory (Jackson et al., 1993) and further relate to the PERMA framework. Doing so highlights how parents seek child-free travel for self-care and relationship enrichment, despite the guilt perceived by some parents.

Integrating the concept of parental travel without children adds a nuanced perspective—parents are not just shifting from single to family travel, but they also have evolving personal travel needs that coexist with family responsibilities. This can expand current body of knowledge to account for intermittent solo and partner travel within the family stage. Incorporating parental travel without children can deepen understanding of self-care through travel, showing how it benefits both individual mental health and overall family dynamics. Moreover, this study reinforces the role of travel as a self-care practice, contributing to growing discussions on tourism's psychological and emotional benefits (Filep & Deery, 2010). For practitioners it provides insights on targeting a potentially growing niche of travelling without children. For instance, travel providers should frame child-free travel as a form of self-care, promoting well-being, relaxation, and relationship enrichment.

While this study provides valuable insights, it has several limitations. The sample size is limited to parents who have traveled without their children in the past three years, potentially excluding perspectives from parents who have never considered such travel. Future studies could broaden the sample to include parents who resist child-free travel, allowing for a more comprehensive understanding of barriers and motivations.

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Theme: Special Interest Group

Safety, Solidarity, and Self-Discovery: Exploring Solo Female Travelers' Experiences Through In-Depth Interviews (Paper#159)

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Abstract:

This paper explores the multifaceted experiences of solo female travelers through a qualitative analysis of semi-structured interviews. This is an ongoing study, we currently interviewed 12 participants, so far, the study identifies five central themes: navigating safety concerns, social dynamics and gendered challenges, emotional journeys and personal growth, logistics and travel planning, and unique experiences and challenges. These themes reveal the dualities of empowerment and vulnerability in solo female travel, highlighting how travelers navigate risks, foster solidarity, and achieve personal transformation. The findings contribute to theoretical understandings of gendered travel experiences and offer practical insights for the tourism industry to better support solo female travelers. By analyzing unfiltered real-time narratives, this study expands existing literature on solo female travel and women's empowerment in the context of contemporary tourism.

Keywords: female solo traveler, travel experience, travel risk management, digital travel community, gender studies

1. Introduction

Travel, particularly solo travel, is widely regarded as a transformative experience. The rise in solo female travel has become a significant worldwide phenomenon, it reflects a global shift in societal attitudes toward gender, empowerment, and individual exploration. More women are embracing solo travel as a means to gain autonomy, confidence, and cultural exposure (Seow & Brown, 2018). However, this trend is accompanied by unique challenges, particularly regarding safety, that disproportionately affect female travelers. While solo travel offers opportunities for personal growth and empowerment, it also exposes women to heightened risks of harassment, violence, and unwanted attention, challenges often amplified by cultural and societal gender norms (Jordan & Gibson, 2005).

Despite increasing attention to women's solo travel experiences, much of the existing research tends to emphasize either the empowering aspects of solo travel or the challenges that come with it (Wilson & Little, 2008). However, there is limited exploration of how these two dimensions coexist within the same travel experiences. Empowerment and vulnerability are not mutually exclusive, instead, solo female travelers often report navigating a complex interplay between

asserting their independence and mitigating risks (Chiang & Jogaratnam, 2006). This duality calls for a deeper understanding of women's travel narratives, which provide a more holistic perspective of their experiences. And while some studies have utilized survey data or content analysis, there is a need for deeper, qualitative research grounded in travelers' lived experiences. In-depth interviews provide a valuable method for accessing the emotional, reflective, and contextual layers of travel narratives, and elements that may be missed in quantitative or surface-level studies. By listening closely to how women describe their experiences, this study uncovers the strategies, meanings, and internal shifts that shape their journeys. Additionally, although research has acknowledged safety concerns as a key constraint, fewer studies have examined how women develop and adapt safety strategies in diverse cultural and regional contexts, and how those strategies intersect with broader themes of identity, resilience, and community.

This study aims to explore the experiences of solo female travelers, focusing on how they navigate safety concerns, leverage social dynamics, and experience emotional and personal growth. By examining real-world discussions, this study offers new insights into the gendered dynamics of travel and contributes to the growing body of literature on solo travel and women's empowerment.

2. Literature Review

2.1. The Intersection of Gender, Travel, and Empowerment

Solo travel has emerged as both an empowering and challenging experience for women which positions them at the intersection of autonomy, safety, and cultural dynamics. The literature highlights that female travelers frequently use travel as a form of resistance against gendered societal norms and to achieve personal transformation (Jordan & Gibson, 2005; Yang et al., 2018). Solo travel, for many women, becomes a space to challenge traditional gender roles, and provides opportunities for independence and self-discovery while grappling with cultural restrictions (Smith, 2022; Heitmann, 2017).

2.2. Safety as a Core Concern

The issue of safety remains paramount in women's solo travel experiences. Wilson and Little (2008) identify safety concerns as a major constraint, with solo female travelers adopting proactive strategies to mitigate risks. The "normality of unsafety," as described by Thomas and Mura (2019), suggests that women internalize safety concerns as part of their travel experiences, reflecting broader patterns of navigating unsafe spaces in everyday life.

2.3 Social Dynamics and Support Systems

While safety challenges persist, solo travel also enables women to form meaningful social connections. Shared experiences, solidarity, and mutual support among women travelers foster a sense of community and resilience (McCombes, 2012; Venkovits, 2015). Online platforms and digital communities have further transformed these support systems and allow women to share resources, safety tips, and encouragement (Crier, 2023). For marginalized women, including Muslim and Black solo travelers, such platforms often function as cyber safe spaces that address specific sociocultural barriers (Bernard et al., 2022; Geoghegan, 2020).

2.4 Personal Growth and Transformation

The transformative potential of solo travel for women is well-documented. Yang et al. (2018) argue that navigating risks and challenges during solo travel fosters empowerment, personal growth, and self-awareness. For women from patriarchal or restrictive cultural backgrounds, travel often serves as an active form of resistance and self-liberation (Nikjoo et al., 2021). Emotional healing, confidence-building, and achieving autonomy are central themes that emerge in solo female travel narratives (Hamid et al., 2021; Neluhena et al., 2024).

2.5 The Role of Digital Media in Women's Travel Experiences

Digital media platforms, such as Reddit and Instagram, play an increasingly significant role in shaping women's solo travel experiences. Online communities offer spaces for storytelling, sharing resources, and fostering solidarity (Bozzi, 2020; Winet, 2015). These platforms allow women to document their travel journeys, challenge stereotypes, and create counter-narratives that highlight both the risks and rewards of solo travel.

3. Methodology

The study context includes women from diverse cultural and national backgrounds, with most participants aged between 22 and 40, residing in or traveling across regions including North America, Europe, and Asia. These individuals were either experienced solo travelers or had undertaken at least one substantial solo trip lasting more than one week. Participants were recruited through social media platforms, including Rednote, Reddit, Facebook groups dedicated to women travelers, and travel-related forums. The recruitment message invited solo female travelers to share their experiences in a confidential interview for an academic research project on gender and travel. Each interview was conducted virtually via Zoom or voice call, lasting approximately 45–60 minutes. The semi-structured interview guide covered key topics such as motivations for solo travel, experiences related to safety, interactions with others, emotional responses, and strategies for managing challenges. Interviews were conducted in English and recorded with participants' consent.

NVivo QDA software was used to facilitate systematic coding and thematic analysis of the data. The analysis involved familiarization with the data, generating initial codes, searching for themes, reviewing themes, and defining them. Second-order themes (e.g., Navigating Safety Concerns, Social Dynamics) and first-order categories (e.g., Personal Safety Strategies, Gender-Specific Challenges) emerged during this iterative process. Ethical considerations were paramount, all usernames and identifiable information were anonymized to protect participants' privacy, and the data analyzed were publicly available to comply with ethical guidelines for online research. This methodology allows for an in-depth exploration of solo female travelers' shared experiences, challenges, and coping strategies.

4. Result Analysis

This study is an ongoing study, currently it identifies and summarizes five key themes that capture the experiences of solo female travelers. These themes include Navigating Safety Concerns, Social Dynamics and Gendered Challenges, Emotional Journeys and Personal Growth, Logistics and Travel Planning, and Unique Experiences, Opportunities, and Challenges. Each theme represents a distinct yet interconnected aspect of solo female travel, which highlights the challenges, strategies, and emotional processes that women adopt throughout their journeys.

4.1 Navigating Safety Concerns

Safety was a predominant theme in the discussions, which reflected the heightened awareness and preparedness of solo female travelers. Personal Safety Strategies emerged as a critical category, with travelers sharing proactive measures to ensure their safety. These included setting firm boundaries with strangers, trusting their instincts, and learning self-defense techniques. Practical tools such as safety apps were frequently mentioned as valuable resources for real-time risk management. Participants also emphasized the emotional labor involved in constantly monitoring their surroundings and making calculated decisions to avoid unsafe situations.

Cultural and Regional Safety highlighted the variability of safety norms across different travel destinations. Travelers shared their experiences of adapting behaviors to align with local cultural expectations, such as modifying clothing choices or avoiding certain areas. These adaptations were often informed by local gender norms and perceived risks, with some participants expressing frustration about the challenges of cultural visibility as solo women travelers. Regional safety disparities further underscored the importance of destination research and community-shared knowledge.

Managing Unwanted Attention was another recurring concern, with participants describing instances of harassment and persistent interactions with strangers. Strategies to deter unwanted advances included using behavioral signals, assertive communication, and avoiding certain social situations. However, many travelers expressed the emotional toll of these encounters, particularly when cultural norms limited their ability to respond openly without social repercussions.

4.2 Social Dynamics and Gendered Challenges

The theme of Social Dynamics and Gendered Challenges captured both the constraints and supportive networks women encountered during their travels. Gender-Specific Experiences reflected the unique challenges faced by women, including heightened male attention, social judgments, and moments of discomfort during solo travel. Travelers often shared strategies to navigate these challenges, such as finding supportive communities or leveraging women-only spaces.

Solidarity and Support emphasized the importance of camaraderie among women travelers and locals. Participants recounted forming meaningful connections through women-only tours, relying on advice from fellow travelers, and seeking assistance from trusted local guides. These interactions fostered a sense of security and community, highlighting the importance of shared experiences and collective knowledge.

Cultural Awareness and Adaptation further revealed how women navigated cultural differences to foster smoother interactions. Participants described using cultural awareness to avoid misunderstandings, adapting behaviors to local expectations, and actively seeking advice from locals to enhance their travel experiences.

4.3 Emotional Journeys and Personal Growth

Solo travel was consistently portrayed as a transformative journey in the theme of Emotional Journeys and Personal Growth. Building Confidence emerged as a key category, with participants sharing stories of overcoming fears, developing self-reliance, and trusting their decision-making abilities. Solo travel was described as a space for personal empowerment, where women learned to balance risk with resilience.

Personal Growth and Enjoyment reflected the positive emotional impacts of solo travel, including emotional healing, relaxation, and personal transformation. Many participants emphasized the freedom and joy they experienced through solo travel, which underscored its role in fostering independence and self-discovery.

4.4 Logistics and Travel Planning

The theme of Logistics and Travel Planning highlighted the practical considerations of solo travel. Travel Preparations included strategies for researching destinations, budgeting, and planning itineraries with safety in mind. Travelers frequently consulted online forums and shared tips to ensure smooth travel experiences.

Transportation and Accommodation addressed challenges related to navigating public transit, choosing safe accommodations, and avoiding risky situations such as overnight travel. Participants discussed prioritizing accommodations with safety features and sharing logistical advice with others.

4.5 Unique Experiences, Opportunities, and Challenges

Finally, Unique Experiences, Opportunities, and Challenges captured both enriching and difficult aspects of solo travel. Cultural and Local Experiences showcased participants' engagement with local traditions, food, and cultural immersion, despite challenges such as language barriers.

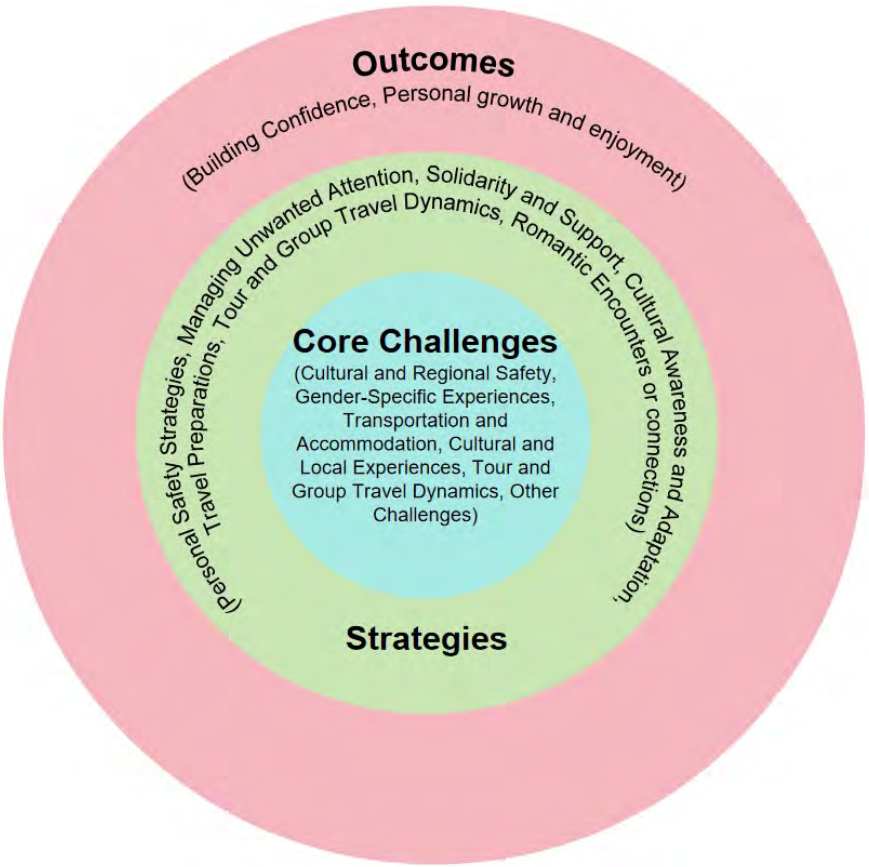
Romantic or Meaningful Connections reflected the possibility of forming relationships during travel, whether fleeting encounters or long-term connections. Travelers approached these experiences with caution, balancing openness with personal safety considerations.

The category of Challenges highlighted obstacles such as loneliness, financial constraints, and managing safety concerns in unfamiliar settings. Participants acknowledged the emotional and practical complexities of maintaining boundaries and autonomy while navigating these challenges.

A Layered Venn Diagram was developed to visualize the results of themes from 1st order categories.

Inner circle: Core challenges (e.g., cultural and regional safety).
Middle circle: Strategies (e.g., personal safety strategies, solidarity and support).
Outer circle: Outcomes (e.g., building confidence, personal growth and enjoyment).

Figure 1. Layered Venn Diagram of results



1. Discussion

5.1 Theoretical Implications

The research builds upon existing feminist and tourism literature by providing nuanced insights into the intersection of gender, safety, and travel experiences. The themes of Navigating Safety Concerns and Social Dynamics and Gendered Challenges confirm prior studies that emphasize the heightened safety awareness required by solo female travelers (Wilson & Little, 2008; Thomas & Mura, 2019). However, this study also highlights the emotional labor and resilience women demonstrate as they proactively manage risks and adapt to diverse cultural environments. These findings expand the discourse on safety by illustrating how women balance vulnerability with empowerment, aligning with Yang et al.'s (2018) argument that risk negotiation fosters self-transformation.

The role of Solidarity and Support provides further theoretical contributions by emphasizing the importance of community-building among solo female travelers. Shared experiences and mutual support networks challenge the notion of solo travel as an isolating endeavor, instead framing it as a collective space of learning and resilience. This aligns with Crier's (2023) concept of "cyber safe spaces," where digital communities facilitate knowledge-sharing and solidarity, particularly for marginalized groups.

Finally, the themes of Emotional Journeys and Personal Growth reaffirm solo travel as a transformative experience, echoing findings from Hamid et al. (2021) and Neluhena et al. (2024). By overcoming fears and building confidence, solo female travelers achieve emotional healing and personal empowerment, contributing to broader discussions on travel as a means of self-liberation.

5.2 Practical Implications

From a practical perspective, the findings offer actionable insights for the tourism industry, policymakers, and solo travelers. The emphasis on Personal Safety Strategies underscores the need for enhanced safety resources tailored to solo female travelers. Tourism agencies and platforms can play a critical role by providing safety guides, promoting women-friendly accommodations, and developing tools such as travel apps that address real-time safety concerns.

The findings on Social Dynamics and Support highlight the importance of fostering women-only travel spaces, such as guided tours and online communities, to enhance safety and confidence among solo travelers. Local governments and tourism providers can also collaborate to improve cultural awareness programs, helping travelers navigate regional norms while promoting inclusive and respectful tourism environments.

Furthermore, the study emphasizes the value of online platforms like Reddit as vital resources for knowledge-sharing and support. Travel platforms and tourism companies can leverage such digital spaces to provide verified advice, safety tips, and interactive forums specifically designed for solo female travelers.

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Building identities through cultural experiences: The role of belonging and pride (Paper#204)

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Abstract:

This study examined the effects of cultural experiences on cultural identity, national identity, sense of belonging, and national pride. Employing a quantitative methodology, the study collected 340 valid questionnaires from students in Macau and Hong Kong who participated in a summer program going in Mainland China. The findings revealed that a strong sense of belonging and national pride significantly mediate the relationships between cultural experiences and identity outcomes. The study offered practical implications for designing more impactful summer programs.

Keywords: cultural experiences, cultural identity, national identity, sense of belonging, national pride, summer programs

1. Introduction

In an era of globalization and political turmoil, both cultural identity and national identity faces challenges from cross-cultural interactions, migration, and historical legacies. While national identity is vital for social cohesion, cultural identity reflects attachment to traditions, values, and heritage. Understanding how these dual identities develop is particularly crucial in regions with complex historical backgrounds such as Macau and Hong Kong. These two regions have distinct colonial histories—Macau under Portuguese rule until 1999 and Hong Kong under British rule until 1997—which complicate their cultural and political affiliations. Individuals from these regions may struggle to reconcile multiple identities. This study investigates how participation in university summer programs in mainland China influences the development of cultural identity and national identity among students from these regions. Therefore, a key question arises: can immersive cultural experiences foster cultural and national identities? If so, what are the underlying mechanisms that drive this process? Two critical psychological constructs – sense of belonging and national pride – emerge as central to this inquiry. Do student participants need to feel belonged and proud in order to feel identified with the culture and the nation? This study addresses these questions by investigating the influence of cultural experiences during summer programs on students' cultural and national identities. Specifically, it explores how cultural experiences foster a sense of belonging and national pride, and how these factors contribute to the development of both cultural and national identities.

2. Literature Review

Cultural experiences—such as participating in traditional festivals or visiting heritage sites—serve as powerful mechanisms through which individuals come to understand and internalize cultural values. These experiences are particularly impactful when they occur in immersive settings like summer programs that expose participants to a culture and nation's heritage, history, and customs (Li et al., 2025; Zhang et al., 2019).

Cultural experiences contribute to the development of cultural identity, which refers to how individuals identify themselves in relation to a cultural group in shared values, language, and traditions (Berry & Candis, 2013; Jensen, 2011). Cultural identity is often shaped by the individual's social, ethnic, and linguistic interaction (Li et al., 2025). Empirical studies show that such experiences not only enhance identification with a cultural group but also enhance attachment to the nation itself (Li et al., 2025). Cultural programs, particularly those with historical and educational components, increase participants' awareness of national narratives and stimulate a stronger national identity (Wang, 2020; Yu et al., 2024).

H1: Cultural experiences positively influence cultural identity.

H2: Cultural experiences positively influence national identity.

Sense of belonging is the emotional bond individuals feel toward a place or community, which can be developed through meaningful interactions within cultural environments such as festivals or connecting with local communities (Hassanli et al., 2021; Sterchele, 2020). When individuals feel connected to a place, especially when they are able to see themselves reflected in its history and stories, this sense of belonging contributes to one's cultural identity and also strengthens identification with the nation (David & Bar-Tal, 2009; Tweed & Sutherland, 2007; Yu et al., 2024).

H3: Cultural experiences positively influence sense of belonging.

H4: Sense of belonging positively influences cultural identity.

H5: Sense of belonging positively influences national identity.

H6: Sense of belonging mediates the relationship between cultural experiences and a) cultural identity and b) national identity.

National pride is a positive emotional response toward one's country, often triggered by exposure to national accomplishments, heritage, and cultural achievements (Evans & Kelley, 2002). National pride often involves an appreciation of one's cultural roots, which shapes how individuals perceive themselves culturally and nationally (Barrett, 2013). For example, in the context of red tourism, it is found that visiting historical or ideological sites can stimulate cultural self-confidence which further strengthens cultural identification and national identity (Wang et al., 2023; Zhang et al., 2019; Zhao & Timothy, 2017).

H7: Cultural experiences positively influence national pride.

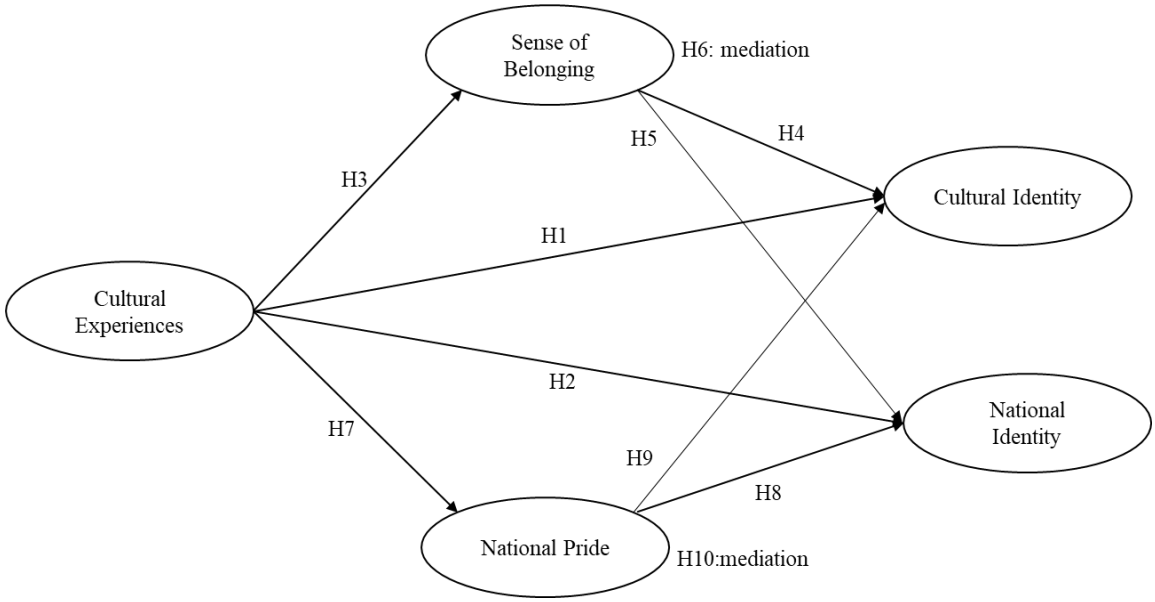
H8: National pride positively influences cultural identity.

H9: National pride positively influences national identity.

H10: National pride mediates the relationship between cultural experiences and a) cultural identity and b) national identity.

Based on the relevant literature review, a conceptual framework was developed (Figure 1).

Figure 1. Conceptual framework



3. Methodology

3.1. Measurement

The research utilized a structured questionnaire, originally designed in English. Using the back-translation method, the questionnaire was translated into Traditional Chinese. All measurement items were adapted from established scales in prior literature. Cultural experiences (Kim, 2018; Wong & Lai, 2021) and cultural identity (He & Wang, 2015; Zhang et al., 2019) were each measured with five items. Four items were used to assess national identity (Huddy & Khatib, 2007; Qu et al., 2021) and sense of belonging (Hung et al., 2019), respectively. Six items were employed to measure national pride (Evans & Kelley, 2002; Wang et al., 2023). All items were rated on a 7-point Likert type scale, ranging from 1 (strongly disagree) to 7 (strongly agree). In addition, demographic and behavioral information was gathered.

3.2. Data collection

The study targeted university students from Macau and Hong Kong who had participated in cultural summer programs in Mainland China. The questionnaire was administered via social media platforms. A snowball sampling method was employed to recruit eligible participants. After removing incomplete and invalid questionnaires, a total of 340 valid responses were retained for analysis.

3.3 Data analysis

Data analysis was conducted using SPSS24 and SmartPLS 4. Descriptive statistics were first used to summarize the respondents' profile. Following this, the overall measurement model was assessed, and all hypotheses were subsequently tested. Prior experience, program duration, and place of residence were included as control variables in the analysis.

4. Results

4.1. Profile of the respondents

In terms of gender, 56.8% of them were female. A total of 39.4% were third-year students, followed closely by 38.5% who were in their fourth year. The majority of the respondents (70.9%) were from Macau. Slightly over half of them (52.9%) participated in the summer program for the first time. In terms of the program duration, the distribution was relatively balanced, with 45.9% attending for one week or less.

4.2. Measurement model

The measurement model consisted of five constructs, with national pride specified as a formative construct and the other four constructs as reflective. The results (Table 1) showed that all the reflective factors' loadings were all significant at .001 level. The reliability of each reflective construct was assessed with both Cronbach's alpha and composite reliability (CR) coefficients, with all values exceeding the recommended threshold of .70, signaling internal consistency (Hair et al., 2021). Convergent validity was confirmed, as all average variance extracted (AVE) values were above .50 (Fornell & Larcker, 1981). Discriminant validity was established through both HTMT ratio of correlations and the Fornell-Larcher criterion. All HTMT estimates were lower than the cutoff value of .85 (Hair et al., 2021), and the square root of each reflective construct's AVE was greater than its correlations with other reflective constructs (Fornell & Larcker, 1981). For the formative construct of national pride, all outer weights were statistically significant, and the variance inflation factor (VIF) values sat below the threshold of 5, indicating no multicollinearity issues (Hair et al., 2021).

4.2. Results of hypotheses testing

SEM results (Table 2) indicated that cultural experiences did not have a direct influence on either cultural identity or national identity, and thus, H1 and H2 were not supported. However, the direct relationships between cultural experiences and sense of belonging, as well as between

sense of belonging and both cultural identity and national identity, were all significant, providing support for H3 though H5. Similarly, the relationships between cultural experiences and national pride, as well as between national pride and both cultural identity and national identity, were also all significant. As a result, H7-9 were all supported. Furthermore, the indirect effects of cultural experiences on cultural identity and national identity — mediated by both sense of belonging and national pride — were significant. These findings support the mediating roles proposed in H6a and H6b (sense of belonging) and H10a and H10b (national pride).

Table 1: Measurement model

Factor and Indicators	Factor loadings	Cronbach's alpha	CR	AVE
Cultural experiences		0.908	0.910	0.731
Cultural experience 1	0.877			
Cultural experience 2	0.857			
Cultural experience 3	0.836			
Cultural experience 4	0.858			
Cultural experience 5	0.846			
Sense of belonging		0.938	0.938	0.843
Sense of belonging 1	0.896			
Sense of belonging 2	0.909			
Sense of belonging 3	0.925			
Sense of belonging 4	0.943			
Cultural identity		0.939	0.939	0.804
Cultural identity 1	0.889			
Cultural identity 2	0.900			
Cultural identity 3	0.894			
Cultural identity 4	0.898			
Cultural identity 5	0.901			
National identity		0.932	0.933	0.830
National identity 1	0.899			
National identity 2	0.927			
National identity 3	0.925			
National identity 4	0.892			
National pride	**Weights**	**95% BCa CI**		**VIF**
National pride 1	0.181	0.045	0.309	2.345
National pride 2	0.169	0.030	0.315	2.639
National pride 4	0.345	0.223	0.452	2.228
National pride 5	0.241	0.094	0.387	3.577
National pride 6	0.218	0.039	0.397	4.285

Note. CR = Composite reliability; AVE = Average variance extracted; 95% BCa CI = 95% bias-corrected confidence interval; national pride 3 was removed due to its insignificant weight.

Table 2. PLS-SEM results (H1-H10)

		path coefficient	95% BCa CI	
H1	Cultural experiences -> Cultural identity	0.105	-0.018	0.238
H2	Cultural experiences -> National identity	-0.010	-0.151	0.148
H3	Cultural experiences -> Sense of belonging	0.755***	0.689	0.806
H4	Sense of belonging -> Cultural identity	0.256**	0.089	0.427
H5	Sense of belonging -> National identity	0.307**	0.126	0.497
H7	Cultural experiences -> National pride	0.696***	0.620	0.749
H8	National pride -> Cultural identity	0.533***	0.374	0.682
H9	National pride -> National identity	0.533***	0.354	0.692
H6a	Cultural experiences -> Sense of belonging -> Cultural identity	0.193**	0.068	0.329
H6b	Cultural experiences -> Sense of belonging -> National identity	0.232**	0.097	0.382
H10a	Cultural experiences -> National pride -> Cultural identity	0.371***	0.260	0.477
H10b	Cultural experiences -> National pride -> National identity	0.372***	0.240	0.493

Note. ***p<0.001, **p<0.01, *p<0.05; 95% BCa CI = 95% bias-corrected confidence interval

5. Discussion and Implications

The results indicated that the direct relationships between cultural experiences and sense of belonging, as well as between cultural experiences and national pride, are significant. Similarly, the relationships between sense of belonging and national pride, cultural identity, and national identity are also significant. However, cultural experiences do not have a direct influence on cultural identity or national identity. Instead, they contribute to the development of cultural and national identity through sense of belonging and pride. These findings shed some lights in designing more impactful summer programs. For example, the strong effects of sense of belonging on both cultural and national identity highlight the importance of social integration during the program. Program organizers should create settings that encourage interaction and collaboration. Group activities and cultural exchange with local students can help participants develop meaningful relationships and feel emotionally connected to the host environment, thus cultivating a stronger sense of cultural and national identity.

This study has several limitations. First, its cross-sectional design limits the ability to infer causality between participation in summer programs and changes in identity. Pre- and post-program comparisons or longitudinal studies would be more effective in capturing the evolving nature of identity. Another important limitation is selection bias, as participants who chose to enroll in the summer programs may already hold favorable cultural or nationalistic attitudes, which could bias the effects and limit the generalizability of the findings.

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Theme: Mananging & Forcasting

Forecasting Electricity Demand in Hospitality Education: A Comparative Study of SARIMA and SARIMAX Models Toward Net Zero Campus Goals (Paper#196)

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Abstract:

This study supports Thailand's "Net Zero Campus" initiative by forecasting electricity consumption in a hospitality-focused university using SARIMA and SARIMAX models. The research objective is to identify the most accurate model for predicting electricity usage to support sustainable energy planning. Monthly data from January 2021 to March 2025 were divided into training, testing, and validation sets. Models are evaluated using MAPE, MSE, AIC, and BIC. This working paper outlines the methodology and offers evidence-based insights for higher education institutions.

Keywords: Sustainable Energy, SARIMA, SARIMAX, Electricity Demand, Hospitality education

1. Introduction

In alignment with Thailand's national sustainability policy, the Ministry of Higher Education, Science, Research and Innovation (MHESI) has introduced the "Net Zero Campus" initiative to promote environmental responsibility and reduce greenhouse gas emissions across higher education institutions. Thai universities have increasingly prioritized operational transformations that support carbon neutrality, with energy management like particularly electricity usage, emerging as a critical focus area. Universities are among the largest energy consumers within the public sector due to their diverse infrastructure and functions, including lecture halls, laboratories, administrative offices, dormitories, and food service facilities. These varied operations result in complex and dynamic energy demands that fluctuate based on academic calendars, class schedules, and facility usage. Without effective forecasting and planning mechanisms, electricity consumption can become economically burdensome and environmentally inefficient, thereby undermining sustainability objectives.

Electricity demand forecasting plays a crucial role in supporting energy efficiency and cost control. However, most existing studies have primarily focused on residential, industrial, or general commercial sectors, where consumption patterns differ markedly from those in academic institutions. Educational settings, especially those with specialized curricula such as hospitality and culinary arts, are characterized by unique energy demands due to their reliance on kitchen laboratories, temperature-regulated classrooms, and equipment-intensive environments (Escobedo et al., 2014; Yang et al., 2023). Hospitality-focused institutions typically operate on irregular schedules aligned with practical training, further complicating their electricity consumption profiles. These complexities highlight the limitations of generic forecasting models and emphasize the need for customized approaches tailored to academic environments with fluctuating and heterogeneous energy demands.

Although advanced forecasting methods such as machine learning and hybrid models have gained popularity, these techniques often require extensive datasets and pose interpretability challenges for decision-makers in institutional settings (Wang & Li, 2013). In contrast, statistical time-series models like SARIMA and SARIMAX offer interpretable, data-efficient solutions suitable for energy forecasting. SARIMA models effectively capture temporal and seasonal patterns, while SARIMAX extends this capability by incorporating exogenous variables such as fuel tariffs and specific usage periods (Alharbi & Csala, 2022). Despite their proven utility in other sectors, the application of SARIMA and SARIMAX in hospitality education institutions remains limited. Given the sector's distinct operational context, this gap represents a critical research opportunity. Accordingly, this study aims to address this need by developing and evaluating SARIMA and SARIMAX models for forecasting electricity consumption and costs at a hospitality-centered academic institution. Using four years of monthly data, the study will: (1) model on-peak and off-peak electricity usage using SARIMA; (2) incorporate exogenous variables, including fuel tariff and usage patterns, into SARIMAX to predict electricity bills; and (3) compare the models' performance based on evaluation metrics such as MAPE, MSE, AIC, and BIC (Alharbi & Csala, 2022).

2. Literature Review

A review of existing literature offers valuable insights into energy consumption patterns and forecasting methodologies, particularly within the context of educational institutions. Although extensive research has been conducted on energy forecasting in industrial, residential, and commercial sectors, relatively few studies have focused specifically on educational settings, especially those related to hospitality and culinary education. This section synthesizes previous research on time-series models such as SARIMA and SARIMAX, which have been widely utilized in energy forecasting applications. These models are recognized for their ability to capture seasonal patterns and integrate exogenous variables such as fuel tariffs.

Moreover, this review identifies critical research gaps, notably the need for forecasting models that are tailored to the distinctive energy usage profiles of educational institutions. This study addresses these gaps by investigating the application of SARIMA and SARIMAX models in forecasting electricity consumption and associated costs within hospitality-focused academic environments (Escobedo et al., 2014; Yang et al., 2023; Alharbi & Csala, 2022). In addition, prior studies have emphasized the growing complexity of energy consumption in educational institutions, which has prompted the use of more advanced forecasting techniques, including deep learning and hybrid models, despite their requirement for large datasets and more intricate implementation processes (Cai et al., 2019; Wang & Li, 2013).

2.1. Energy Use in Educational Institutions

Electricity consumption in educational institutions is inherently complex due to the multifunctional nature of campus facilities, variable occupancy patterns, and diverse academic schedules. Unlike traditional office buildings, which typically have consistent operational hours and relatively uniform energy usage, academic environments encompass a broad array of building types and purposes. These include lecture halls, scientific laboratories, administrative offices, libraries, and dining facilities each exhibiting unique patterns of energy consumption. The variation in use across weekdays, weekends, academic semesters, and holiday breaks further contributes to the unpredictability of demand. This complexity becomes even more pronounced in institutions that offer hospitality and culinary programs. Practical training in these disciplines often involves energy-intensive activities, such as operating industrial kitchens, ovens, and refrigeration systems, as well as maintaining temperature-controlled environments for food safety and comfort. As such, energy demand in hospitality education settings tends to exceed that of general academic institutions due to their reliance on specialized, high-consumption equipment.

Empirical studies have provided evidence of this complexity. Escobedo et al. (2014), in a study conducted at a Mexican university, reported that electricity usage was significantly influenced by both instructional activities and the operational needs of various campus facilities. Likewise, Yang et al. (2023) investigated student dormitories and discovered substantial variations in energy usage patterns, which were influenced by behavioral factors and differences in building infrastructure and design. These findings underscore the challenge of developing universal energy forecasting models for academic institutions, particularly when intra-campus diversity is considered. As Guan et al. (2016) argue, the heterogeneity of building functions within a single campus necessitates more granular and tailored approaches to forecasting. Standard models may fail to capture the nuanced fluctuations in demand, leading to inaccuracies that hinder effective energy management. Thus, there is a clear need for forecasting techniques that are specifically adapted to the diverse and operationally intensive environments found in higher education, especially within hospitality and culinary institutions.

2.1. Energy Use in Educational Institutions

Time-series models such as the Seasonal Autoregressive Integrated Moving Average (SARIMA) and its extension, SARIMAX (which incorporates exogenous variables), continue to be widely regarded as effective tools for forecasting electricity consumption. These models are particularly well-suited to applications where seasonal patterns and predictable temporal cycles are present, making them highly relevant for energy systems that exhibit regular fluctuations over time. SARIMA is known for its robustness in capturing underlying trends, seasonality, and autocorrelation in historical data. SARIMAX enhances this framework by enabling the inclusion of external variables: such as fuel tariffs, weather conditions, or operational schedules, that can influence energy demand beyond what is observable from past usage alone. The practical applications of these models have been well-documented in the literature. Alharbi and Csala (2022) demonstrated the utility of SARIMAX in accounting for both seasonal trends and external influences in electricity load forecasting. Similarly, Jiang et al. (2020) showed how the predictive performance of SARIMA models could be improved through parameter optimization techniques, allowing for more accurate and reliable energy forecasts in real-world scenarios.

One of the core advantages of SARIMA and SARIMAX is their interpretability. Unlike many black-box models found in machine learning, these statistical models produce results that are transparent and relatively easy to explain to stakeholders, including facility managers, policymakers, and energy planners. This characteristic makes them especially valuable in institutional contexts where decision-makers may lack technical expertise but still require actionable insights to guide energy strategies (Jiang et al., 2020; Alharbi & Csala, 2022). In comparative research, SARIMAX has also been evaluated against more complex forecasting models. Cai et al. (2019), for instance, conducted a study comparing SARIMAX with deep learning techniques such as Recurrent Neural Networks (RNN) and Convolutional Neural Networks (CNN) for building-level energy forecasting. While deep learning models exhibited higher predictive accuracy, they required larger datasets, intensive training, and more computational resources. SARIMAX, by contrast, was shown to deliver reasonable accuracy with significantly lower data and resource requirements, making it a practical choice for many institutional applications. Overall, SARIMA and SARIMAX provide a balanced solution between model performance and usability, particularly in data-constrained environments like educational institutions, where energy forecasting must support planning, budgeting, and sustainability goals.

2.3. Identified Research Gaps

Although SARIMA and SARIMAX models have demonstrated strong performance in a variety of energy forecasting applications, most existing studies have primarily concentrated on industrial, residential, or generalized commercial sectors. In contrast, the energy usage dynamics of educational institutions, particularly those specializing in hospitality and culinary education, have been significantly underexplored. These academic environments possess distinctive energy consumption patterns that are shaped by irregular timetables, varied instructional formats, and the intensive use of specialized equipment in practical training environments. Consequently, traditional forecasting models designed for more homogeneous settings may fail to capture the operational complexities of such institutions.

In addition, many of the advanced forecasting approaches found in the literature, including machine learning and hybrid techniques, often require extensive datasets and sophisticated computational resources. While these methods may yield high predictive accuracy, they are not always feasible for educational institutions with limited access to large volumes of historical data or technical expertise (Laporte & Cansino, 2024). As such, there is a pressing need to examine how more interpretable and data-efficient models, such as SARIMA and SARIMAX, can be tailored to the unique operational characteristics of academic institutions, particularly in the context of sustainable energy planning (Wang & Li, 2013; Alharbi & Csala, 2022).

Recent studies further emphasize this gap. Guan et al. (2016) highlighted the diverse functions and energy requirements within university campuses, underscoring the limitations of applying generic models to complex, multi-use environments. Similarly, Sun et al. (2018) noted the increasing unpredictability in energy demand caused by flexible academic calendars and fluctuating occupancy levels. These findings reinforce the need for adaptive forecasting approaches capable of accommodating institutional variability. Moreover, hospitality and culinary education settings present a particularly compelling case for tailored energy forecasting due to their heavy reliance on energy-intensive facilities such as training kitchens, cold storage units, and simulation labs. Forecasting models must therefore account for not only seasonality and historical consumption patterns but also operational schedules, class formats, and equipment usage.

This study addresses these research gaps by exploring the applicability of SARIMA and SARIMAX models in hospitality-focused educational environments. By focusing on data efficiency, interpretability, and context-specific design, this research aims to support energy planning strategies that align with institutional sustainability goals.

3. Methodology

This section outlines the methodological framework employed to develop and evaluate the forecasting models used in this study. The approach is specifically designed to address the unique energy consumption patterns and pricing structures characteristic of hospitality and culinary education institutions. The methodology is divided into four main components: (1) data collection and description, (2) time-series modeling using SARIMA, (3) cost forecasting using SARIMAX with exogenous variables, and (4) model evaluation using standard statistical metrics (Hyndman & Athanasopoulos, 2018). Each component is described in detail below.

3.1. Data Collection and Description

The dataset used in this study was obtained from a hospitality and culinary education institution in Thailand. It spans from January 2021 to March 2025 and comprises monthly energy-related data. Specifically, the dataset includes three key variables: on-peak electricity usage, off-peak electricity usage, and monthly electricity bills. In addition, the monthly fuel tariff (Ft) was recorded as an exogenous variable, which is particularly relevant for forecasting electricity costs

(Hyndman & Athanasopoulos, 2018). To ensure an effective modeling process, the dataset was segmented into three chronological periods: a training set, a testing set, and a validation set. The training set comprises 36 months of data (January 2021–December 2023), the testing set includes 12 months (January–December 2024), and the validation set covers 3 months (January–March 2025). This structured division supports progressive model development, performance evaluation, and final validation under conditions that simulate real-world applications.

The dataset captures variations in electricity usage that correspond to academic semesters, weekdays versus weekends, and fluctuating institutional activities, thereby making it well-suited for time-series analysis. The three key variables, which include on-peak usage, off-peak usage, and electricity billing, were modeled independently using SARIMA to identify their internal temporal dynamics. In parallel, the SARIMAX model was applied to forecast monthly electricity bills, incorporating the three variables (on-peak, off-peak, and Ft) as exogenous predictors (Alharbi & Csala, 2022). This dual-model approach enables a comparative analysis between univariate and multivariate forecasting techniques, offering insights into the relative advantages of incorporating external variables into electricity cost predictions.

Table 1. Dataset Structure for Model Development

Period	Data Type	Duration
Jan 2021 – Dec 2023	Training Set	36 months
Jan 2024 – Dec 2024	Testing Set	12 months
Jan 2025 – Mar 2025	Validation Set	3 months

The dataset was structured into these three periods to ensure that the models could be developed progressively, tested for accuracy, and validated under realistic institutional conditions.

3.2. SARIMA Model

The Seasonal Autoregressive Integrated Moving Average (SARIMA) model was employed to forecast three distinct time series: on-peak electricity usage, off-peak electricity usage, and monthly electricity bills. SARIMA is particularly well-suited for datasets that exhibit both non-seasonal and seasonal patterns, as it effectively captures recurring monthly fluctuations in electricity consumption (Hyndman & Athanasopoulos, 2018). Prior to model development, each time series was assessed for stationarity using the Augmented Dickey-Fuller (ADF) test. Where necessary, seasonal differencing was applied to stabilize the meaning of the series and ensure that the underlying structure met the assumptions of the SARIMA model (Dubey, Kumar, García-Díaz, Sharma, & Kanhaiya, 2021). The optimal configuration of model parameters, including non-seasonal components (p, d, q) and seasonal components (P, D, Q, s), was identified using the auto.arima() function in R. This function facilitates automated parameter selection

based on the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC), both of which are widely recognized tools for model comparison and selection (Hyndman & Athanasopoulos, 2018).

Following model estimation, diagnostic checks were performed to evaluate the adequacy of fitness. This involved examining residual plots for randomness and applying the Ljung-Box test to confirm that residuals did not exhibit significant autocorrelation. These diagnostic procedures are essential to ensure the validity of the model and its reliability for forecasting purposes (Hyndman & Athanasopoulos, 2018).

3.2. SARIMAX Model

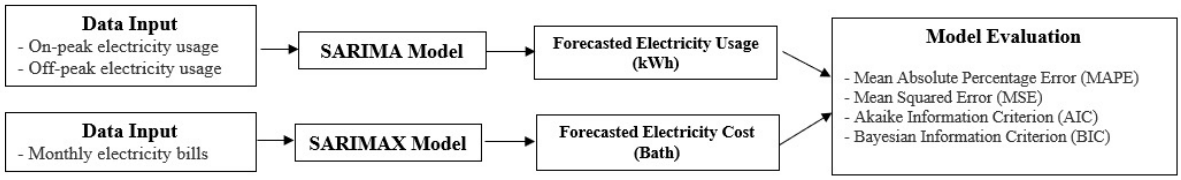
To forecast monthly electricity bills, the Seasonal Autoregressive Integrated Moving Average with Exogenous Variables (SARIMAX) model was utilized. SARIMAX extends the SARIMA framework by integrating external variables, which are referred to as exogenous predictors, into the forecasting process (Sheng & Jia, 2020). In this study, the exogenous variables included on-peak electricity usage, off-peak electricity usage, and the monthly fuel tariff (Ft), all of which have a direct influence on institutional electricity costs (Alharbi & Csala, 2022).

The SARIMAX model was developed using the auto.arima() function in R, which facilitates the inclusion of external regressors via the xreg argument. Similar to the SARIMA modeling process, the optimal model parameters were selected based on the lowest values of the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC), both of which serve as standard benchmarks for evaluating model fit and complexity. Once the model was fitted, diagnostic procedures were carried out to assess its adequacy, ensuring that the residuals displayed no significant autocorrelation and conformed to the assumptions of a well-specified time-series model. The integration of exogenous variables allowed for a more comprehensive and context-sensitive forecasting approach, accounting not only for the temporal dynamics of electricity usage but also for influential external factors such as energy pricing and usage segmentation. This enhanced model structure provides more accurate and actionable forecasts for institutional planning and budget management (Alharbi & Csala, 2022).

3.3. Model Evaluation

To assess the performance of the SARIMA and SARIMAX models, a set of standard statistical metrics was employed, including Mean Absolute Percentage Error (MAPE), Mean Squared Error (MSE), Akaike Information Criterion (AIC), and Bayesian Information Criterion (BIC). These metrics were calculated for both the training and testing datasets to evaluate the models' accuracy in forecasting electricity consumption and associated costs. By applying these metrics, the study was able to compare the relative performance of the two models, thereby assessing the added value of incorporating exogenous variables into the forecasting process (Hyndman & Athanasopoulos, 2018).

The evaluation framework adopted in this study integrates traditional time-series modeling (SARIMA) with an extended multivariate approach (SARIMAX) that accounts for influential external factors (Bouktif, Fiaz, Ouni, & Serhani, 2018). This combined methodology enables a more comprehensive analysis of electricity usage trends and cost projections within the context of hospitality and culinary education institution. Furthermore, the use of multiple evaluation criteria ensures a rigorous validation of the models, strengthening the reliability of the results. The comparative insights gained from this evaluation are especially relevant for institutional decision-makers tasked with managing energy consumption and budgeting. By identifying which model performs better under different forecasting scenarios, the analysis contributes to more informed and strategic energy planning. Ultimately, the integration of both statistical rigor and operational relevance makes this approach particularly valuable for similar educational environments seeking to optimize energy efficiency and cost-effectiveness.



3.2. Conceptual Model

4. Results

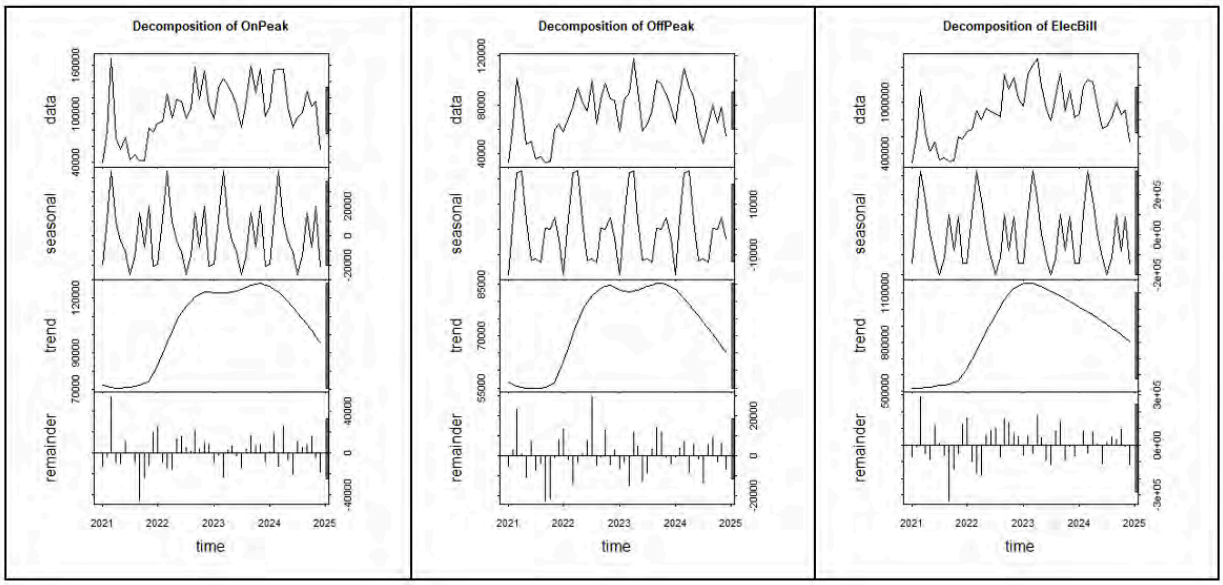
As this is a working paper, the empirical results of the study will be presented in a future update. At the current stage, the research has completed the model development and data preparation phases, including time-series modeling using SARIMA for forecasting on-peak and off-peak electricity usage, and SARIMAX for predicting electricity costs with the integration of relevant exogenous variables.

4.1. Time Series Decomposition Results

For all three variables, clear seasonal patterns are observed, corresponding with recurring academic and operational cycles. The trend components show a general increase from 2021 to late 2023, followed by a slight decline, possibly reflecting improved energy efficiency or reduced demand. The on-peak and off-peak usage series demonstrate similar seasonal shapes, though on-peak consumption exhibits higher magnitude. The electricity bill trend closely follows the usage trends, suggesting a strong correlation, while incorporating fluctuations related to fuel tariffs (Ft). Across all series, the remainder components are relatively minor, indicating that most variations are well explained by the trend and seasonal components. These results support the suitability of SARIMA and SARIMAX models for accurate forecasting, as they effectively capture the structural behavior of the time series.

Figure 1. illustrates the decomposition of on-peak electricity usage, off-peak electricity usage, and monthly electricity bills into four components: observed data, seasonal, trend, and remainder.

Figure 1. Time Series Decomposition Results



Upon completion of data validation and model testing, the study will offer a comprehensive analysis comparing the predictive accuracy and overall effectiveness of both models. The evaluation will be based on standard statistical metrics, including Mean Absolute Percentage Error (MAPE), Mean Squared Error (MSE), Akaike Information Criterion (AIC), and Bayesian Information Criterion (BIC). These metrics will aid in identifying the model that provides the most accurate and efficient forecasts for electricity demand and cost in hospitality and culinary education contexts.

The finalized results will serve as the basis for a meaningful discussion on the model findings, their practical implications for institutional energy planning, and the broader contribution to sustainable energy management strategies within higher education settings.

In future updates of this paper, the results section will include detailed tables, figures, and interpretative commentary to illustrate the performance of each model. This will allow for meaningful discussion of the findings, their practical implications, and the contribution to sustainable energy management strategies in higher education.

5. Discussion and Implications

5.1. Discussion

Although the empirical results are not yet finalized, this study provides a solid foundation for a comparative assessment of SARIMA and SARIMAX models in forecasting electricity demand and cost within hospitality and culinary education institutions. Based on the established methodology and insights from the literature, several expected outcomes and implications can be identified. It is anticipated that SARIMAX will outperform SARIMA in forecasting monthly electricity bills due to its ability to incorporate exogenous variables such as fuel tariffs and segmented consumption periods (i.e., on-peak and off-peak). The inclusion of these external factors enables the SARIMAX model to capture fluctuations in electricity cost that are not solely explained by historical usage patterns. This feature is especially valuable in dynamic energy pricing environments, where periodic adjustments to tariffs can substantially impact total expenditure (Alharbi & Csala, 2022).

Conversely, SARIMA is likely to perform well in predicting electricity usage volumes, given its strength in modeling seasonality and time-based trends. The Time Series Decomposition Results presented in Figure 1 further support this, as all three variables like on-peak usage, off-peak usage, and electricity bills, exhibited clear and recurring seasonal patterns alongside observable long-term trends. The relatively small residual components in all series suggest that a significant portion of the variation is systematic and predictable, reinforcing the suitability of SARIMA for modeling such structured time-series behavior. For institutions seeking more interpretable and lower-maintenance forecasting tools, SARIMA provides a practical alternative that requires fewer inputs and less complex calibration. However, the trade-off between model simplicity and forecasting precision must be carefully considered. While SARIMAX offers higher accuracy through the integration of additional variables, it also demands more rigorous data preprocessing and model configuration, which may be resource-intensive for institutions with limited technical capacity.

Ultimately, the decision between SARIMA and SARIMAX should be informed by the institution's specific goals, whether focused on operational load management, financial planning, or broader sustainability initiatives.

5.2. Academic and practical implications

From an academic standpoint, this study contributes to the relatively limited body of research on energy forecasting within the higher education sector, particularly in the specialized context of hospitality and culinary institutions. By applying SARIMA and SARIMAX models to a dataset derived from a real-world institutional setting, this research addresses a significant gap in the energy modeling literature, which has traditionally concentrated on industrial, residential, and general commercial sectors. On a practical level, the findings of this study offer valuable insights for institutional decision-makers seeking to enhance strategic energy planning. For example,

accurate forecasts of electricity demand can be used to optimize the scheduling of energy-intensive training activities during off-peak periods, thereby reducing operational costs. Similarly, reliable predictions of monthly electricity bills can inform annual budgeting processes and improve transparency in resource allocation across departments and facilities (Ahmad, Zhang, & Yan, 2020).

Moreover, integrating time-series forecasting models into campus energy management systems has the potential to advance long-term sustainability objectives. These models can assist institutions in monitoring consumption trends, establishing internal energy performance benchmarks, and designing targeted interventions to promote efficiency. Such initiatives directly support Thailand's national "Net Zero Campus" policy, which aims to reduce greenhouse gas emissions and promote carbon neutrality across higher education institutions. By demonstrating how interpretable and data-efficient forecasting tools can be applied within a practical institutional context, this study offers both theoretical advancement and real-world applicability, making it relevant to researchers, policymakers, and sustainability practitioners alike.

5.3. Limitations of this study and suggestions for future research

As a working paper, this study is subject to several limitations. The most notable is the absence of finalized empirical results, which will be presented in future stages of the research. Additionally, the current modeling framework assumes static relationships between electricity usage patterns and cost determinants. In practice, however, energy pricing and institutional operations are dynamic and may be influenced by factors such as policy reforms, inflation, and external shocks, including global energy crises.

To address these challenges, future research should consider the integration of real-time data streams and adaptive forecasting techniques that can adjust to changing conditions. The use of hybrid approaches, which combine statistical and machine learning models, may enhance forecasting accuracy and flexibility. Comparative studies involving advanced models such as Long Short-Term Memory (LSTM) networks and Prophet could also offer valuable insights into the relative strengths and limitations of statistical versus deep learning-based techniques, particularly within the context of energy forecasting for educational institutions.

Furthermore, expanding the analytical scope beyond electricity to include other utilities such as water and gas, or the development of composite indicators for overall energy efficiency would provide a more holistic perspective on institutional resource management. Such multidimensional approaches could better inform sustainability strategies and align with broader environmental performance goals in higher education settings.

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Forecasting Singapore's Hotel Performance Across Hotel Tiers: The Impact of Source Market Economic Indicators (Paper#186)

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Abstract:

This study examines the impact of source market macroeconomic factors on aggregate hotel revenues across different scales in Singapore from Singapore's top 8 tourist source markets, including GDP, exchange rates, and disposable income. The study aims to identify significant determinants of hotel performance and develop scale-specific forecasting models while exploring the mediating role of tourist arrivals. Findings will assist hotel operators and policymakers in strategic planning and decision-making, particularly in response to changing global economic conditions.

Keywords: Macroeconomic determinants, hotel revenue forecasting, Singapore tourism, scale-specific analysis, panel data regression



Theme: Special Issues in Thailand 1

The Impact of Entrepreneurial Resilience on the Success of Hotel Businesses in Chiang Mai Province (Paper#228)

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Abstract:

This study examines the impact of entrepreneurial resilience on the success of hotel businesses in Chiang Mai, Thailand. Using the Balanced Scorecard framework, the research analyzes how five resilience components—problem-solving, social networks, survivor mentality, emotional regulation, and self-acceptance—affect performance across financial, customer, internal process, and learning dimensions. Data from 251 hotel entrepreneurs reveal that emotional regulation and social networks significantly influence success. The findings underscore resilience as a strategic capability for sustainable competitiveness in the dynamic hospitality sector.

Keywords: Resilience, Entrepreneur, Hotel Business Success

1. Introduction

The hotel industry plays a significant role in Thailand's economy, particularly in Chiang Mai, where the economy heavily relies on the service sector. As a popular destination for both domestic and international tourists, Chiang Mai benefits from its strengths in tourist attractions, Lanna culture, and travel-friendly infrastructure. These factors have contributed to a continuous increase in both tourist arrivals and tourism revenue. In the first half of 2023, tourism generated over 51 billion baht in revenue (Chiang Mai Provincial Treasury Office, 2024).

In the context of hotel business management, the resilience of entrepreneurs is a critical factor in business success. Resilience refers to the ability to cope with, adapt to, and recover from challenges such as economic downturns, natural disasters, or pandemics. Entrepreneurs with high resilience can turn crises into opportunities and maintain business continuity even under adverse conditions (Cherry, 2024).

The key components of resilience include problem-solving skills, social networks, a survival-oriented mindset, emotional regulation, and self-acceptance (Cherry, 2024). These elements influence business decision-making and contribute to organizational stability. Additionally, hotel business performance can be assessed using the Balanced Scorecard, which encompasses financial, customer, internal process, and learning and growth perspectives, allowing for a more holistic approach to management (Kaplan and Norton, 1996).

Given the uncertainties and constant changes in the industry, resilience has become essential for enhancing entrepreneurs' capacity for sustainable competitiveness. This study, therefore, aims to analyze the relationship between entrepreneurial resilience and hotel business performance in Chiang Mai. The findings are intended to support policy development and provide strategic guidance for preparing entrepreneurs to better cope with future changes.

2. Literature Review

2.1. Entrepreneurial Resilience

Resilience is considered one of the key personal attributes that reflect individual differences across various dimensions—such as behavior, abilities, attitudes, or characteristics—that influence actions and outcomes in different contexts (Nipapan Jansasntikul & Chainat Damdee, 2020). The study of entrepreneurial resilience from a psychological perspective has attracted considerable academic interest, particularly in areas related to success, risk-taking, tolerance of ambiguity, motivation, positive attitudes toward failure, and self-efficacy (Pattaranit Sorsueamsombat, 2018).

Various scholars have defined and interpreted resilience from different perspectives. Darwin (1859) proposed that resilience is the ability of individuals to adapt to challenging environments, which is key to survival. Coleman and Hamman (1981) viewed resilience as an attempt to adapt and solve problems concerning personality, needs, or emotions to align with the environment. Janwipa Saichumin (2023) explained that human resilience involves adapting relationships with the geographical, social, and cultural environments. This adaptive process allows individuals to survive and develop amid change effectively.

In the entrepreneurial context, Khurana et al. (2022) defined resilience as the flexibility to cope with uncertainty—an essential trait of strong entrepreneurs. Those with resilience can respond to change and tackle problems more effectively than typical organizations. In this regard, entrepreneurial resilience is particularly critical when facing challenges such as economic downturns, natural disasters, or pandemics. The ability to adapt to such circumstances serves as a key strategy for business survival and growth.

2.2 Characteristics of Entrepreneurial Resilience

The characteristics of entrepreneurial resilience, as proposed by Cherry (2024), consist of the following five components:

Problem-Solving Skills: Problem-solving is a fundamental and essential element. The World Economic Forum (2020) identifies it as one of the most critical skills in the 21st century, particularly in highly dynamic labor markets. Funke (2010) emphasized that the combination of problem-solving skills and emotional regulation enhances effectiveness in dealing with complex problems. Wren (2023) added that entrepreneurs with a growth mindset perceive problems as opportunities for personal and business development.

Strong Social Networks: A robust support system from family, friends, colleagues, and online communities is crucial for fostering resilience. Such networks not only facilitate idea-sharing and experience exchange but also help reduce feelings of isolation during difficult times. Hafeez (2024) highlighted the importance of support networks composed of mentors and peers who can provide encouragement and guidance during hardships. Wren (2023) also emphasized that having access to such networks significantly reinforces resilience.

Survivor Mentality: In the entrepreneurial context, this refers to viewing oneself as someone capable of overcoming challenges rather than as a victim of circumstances. This mindset helps entrepreneurs adapt effectively to uncertain conditions by focusing on solutions and self-improvement rather than succumbing to negativity or giving up. Dewi (2024) suggested that optimism—viewing challenges as growth opportunities—is key to developing resilience. Hafeez (2024) noted that resilient entrepreneurs see obstacles as opportunities and maintain their commitment to goals. The concept of a growth mindset is also central; successful entrepreneurs view setbacks as lessons and remain dedicated to continuous self-improvement. Wren (2023) supported this by stating that failure is an essential part of the learning process, and successful business owners treat it as a way to refine strategies and decision-making.

Emotional Regulation: This trait is vital, especially for entrepreneurs who see themselves as capable of overcoming obstacles and identifying opportunities in the face of adversity. Dewi (2024) defined emotional regulation as the ability to remain calm and recover quickly from disappointment. Manzano and Ayala (2013) described resilience as the human capacity to adapt during difficult times, with hardiness—a form of self-control rather than reliance on others—as a key entrepreneurial trait.

Self-Acceptance: Self-acceptance plays a crucial role in enhancing resilience. Treating oneself with understanding and compassion, rather than self-blame or criticism of others, improves the ability to recover from failure and setbacks. Hafeez (2024) emphasized self-care, noting that maintaining physical and mental well-being is essential to preventing burnout and sustaining long-term resilience. Wahyudono (2023) found that entrepreneurs' self-confidence also enhances the impact of adaptive traits on the performance of newly established hotels.

According to Cherry (2024), the five core components that influence business success through entrepreneurial resilience are: problem-solving skills, social networks, survivor mindset, emotional regulation, and self-acceptance. These principles are supported by several scholars, as summarized in the following table.

Table 1. Characteristics of Entrepreneurial Resilience by Cherry (2024)

Research/Characteristics	Problem-Solving	Social Network	Survivor Mindset	Emotional Regulation	Self-Acceptance
Dewi (2024)	✓	✓	✓	✓	✓
Hafeez (2024)		✓	✓	✓	
Wren (2023)		✓	✓	✓	✓
Manzano and Ayala (2013)	✓	✓	✓		✓
Wahyudono (2023)	✓		✓	✓	✓
Permatha et.al. ((2024	✓	✓		✓	
Elshaer and Saad (2021)	✓		✓	✓	

2.3 Concept of Measuring Business Success

The Balanced Scorecard (BSC), introduced by Kaplan and Norton (1996), proposes a framework for evaluating organizational success through four key perspectives: Financial Perspective, Customer Perspective, Internal Process Perspective, and Learning and Growth Perspective. This tool emphasizes not only financial performance but also customer satisfaction and the organization's capacity for continuous learning and development. The BSC has been widely accepted and applied across various industrial sectors. The core elements of the Balanced Scorecard include:

• Financial Perspective (F): Focuses on increasing revenue, achieving high production efficiency with minimal investment, and reducing waste in production processes.

• Customer Perspective (C): Considers customer-related issues such as satisfaction, trust in product or service quality, and after-sales service.

• Internal Process Perspective (I): Involves assessing internal workflows, production, and organizational management, emphasizing efficiency, streamlined procedures, and organizational structure.

• Learning and Growth Perspective (L): Involves employee development through training, knowledge sharing, research, skills enhancement, feedback mechanisms, morale-building, and

job satisfaction.

In the context of hotel business success, several studies have adopted the Balanced Scorec ard model as a comprehensive performance evaluation tool. Unlike traditional financial-only approaches, the BSC incorporates other critical factors that influence long-term success. For example: Onpriya Rungsong (2018) explored the relationship between the use of management accounting information and the application of the Balanced Scorecard in achieving success among service-sector SMEs in southern Thailand. Thanomsilp Chunkanakittikul et al. (2018) examined managerial factors influencing hotel business success: A case study of hotel entrepreneurs in Mueang District, Nong Khai Province. Pornlapas Suwanrat et al. (2019) investigated the impact of strategic economic management on the performance success of hotel businesses in Thailand. These studies highlight the value of the Balanced Scorecard in offering a holistic assessment of hotel performance, contributing to sustainable business development.

3. Methodology

This study focuses on the relationship between entrepreneurial resilience and the success of hotel businesses in Chiang Mai province. The independent variable is entrepreneurial resilience, which comprises five components as identified by Cherry (2024): problem-solving skills, strong social connections, survivor mentality, emotional regulation, and self-compassion. The dependent variable is hotel business success, measured through four components based on Kaplan and Norton's Balanced Scorecard model (1996): financial perspective, customer perspective, internal business process perspective, and learning and growth perspective.

The population of this study includes hotel entrepreneurs who are sole proprietors of independently owned hotels in Chiang Mai. These are Type 1 and Type 2 hotels as defined by the Ministerial Regulation (2023): Type 1 offers accommodation only and Type 2 offers accommodation with dining services. These hotels do not provide meeting or seminar facilities, nor do they offer services classified under entertainment venues such as pubs, bars, karaoke, or massage parlors.

The population frame is based on the Hotel Reporting System statistics provided by the Department of Provincial Administration, Ministry of Interior, as of September 17, 2024, which lists a total of 671 hotels—thus, 671 entrepreneurs (Department of Provincial Administration, 2024). Thus, the sample size was determined using Yamane's formula (1973), based on a population of 671. The calculated sample size is 251 hotel entrepreneurs, selected through purposive sampling.

The research instrument used was a questionnaire. Entrepreneurial resilience (Level of Resilience) was measured using a 5-point Likert-type scale, ranging from very high ability to very low ability. Hotel business success was also assessed with a 5-point Likert-type scale, ranging from very high success to very low success.

4. Results

4.1 General Information of the Respondents

The majority of respondents were female, accounting for 59.38%, while 40.63% were male. Most respondents were aged 36–45 years (51.79%), followed by those under 35 years old (31.47%). The majority held a bachelor's degree (76.49%). In terms of business experience, most had operated their hotel business for 5–15 years (48.61%), followed by those with 16–20 years of experience (20.72%).

4.2 Entrepreneurial Resilience of Hotel Owners in Chiang Mai

The entrepreneurial resilience of hotel business owners in Chiang Mai is presented in Table 2: Entrepreneurial Resilience.

Table 2. Entrepreneurial Resilience

Entrepreneurial Resilience	$\bar{x}$	S.D.	Level of Resilience
Problem-Solving	4.02	0.40	High
Social Network	3.75	0.52	High
Survivor Mindset	4.00	0.40	High
Emotional Regulation	3.95	0.40	High
Self-Acceptance	4.01	0.43	High
Overall	**3.94**	**0.31**	High

4.3 Hotel Business Success

The success of hotel businesses is presented in Table3: Hotel Business Success.

Table3. Hotel Business Success

Success Dimension	$\bar{x}$	S.D.	Level of Success
Financial perspective	3.93	0.43	High
Customer perspective	3.97	0.41	High
Internal business process perspective	3.92	0.39	High
Learning and growth perspective	3.96	0.42	High
Overall	**3.95**	**0.33**	High

4.4 Influence of Entrepreneurial Resilience on Hotel Business Success

The influence of entrepreneurial resilience on the success of hotel businesses is presented in

Table 4. The Influence of Entrepreneurial Resilience on Hotel Business Success.

Entrepreneurial Resilience	B	Std. Error	Beta	t	Sig.
(Constant)	0.577	0.152		3.785	0.000
X1: Problem-Solving	0.082	0.040	0.101	2.055	0.041*
X2: Social Network	0.203	0.026	0.326	7.920	0.000*
X3: Survivor Mindset	0.088	0.045	0.107	1.961	0.049*
X4: Emotional Regulation	0.294	0.038	0.364	7.800	0.000*
X5: Self-Acceptance	0.191	0.039	0.253	4.886	0.000*

Model: F = 103.149, Sig. = 0.000 Adjusted R Square = 0.671

From Table 4, which presents the influence of entrepreneurial resilience on the success of hotel businesses in Chiang Mai, it was found that the five dimensions of resilience—X1: problem-solving skills, X2: social network, X3: survivor mentality, X4: emotional regulation, and X5: self-compassion and forgiveness—collectively have a statistically significant effect on hotel business success at the 0.05 level (F = 103.149, Sig. = 0.000). These variables together explain 67.10% of the variance in business success (Adjusted R Square = 0.671).

In terms of individual influence, the order from highest to lowest standardized coefficient (B) is as follows: X4: Emotional regulation (B = 0.294), X2: Social network (B = 0.203), X5: Self-compassion and forgiveness (B = 0.191), X3: Survivor mentality (B = 0.088), X1: Problem-solving skills (B = 0.082)

5. Discussion and Implications

5.1. Discussion

The study demonstrates a statistically significant relationship between the factors of entrepreneurial resilience and the success of hotel business operations. This is particularly relevant in the context of Chiang Mai, a major tourism hub in Thailand. The analysis revealed that all five components of resilience—emotional regulation, social network, self-compassion, survivor mentality, and problem-solving skills—have a statistically significant influence on hotel business success.

These findings are consistent with the study by Manzano and Ayala (2013), which emphasized that entrepreneurial resilience—including hardiness, resourcefulness, and optimism—is positively related to business success. The concept of hardiness aligns with emotional regulation, while optimism connects to the survivor mentality in this study. Additionally, the findings are supported by the research of Thanomsilp Chunkanakittikul et al. (2018), which stressed the importance of human resource management and customer relationship building—both of which relate to social network and emotional regulation as resilience factors that strengthen relationships with staff and customers.

Financial Perspective: The study found that emotional regulation and survivor mentality were the most influential factors in this dimension. This aligns with Melian et al. (2020), who showed that organizational resilience—particularly emotional adaptability—impacts operational efficiency and financial stability.

Customer Perspective: Self-compassion and emotional regulation were found to have the greatest influence. This is consistent with Elshaer and Saad (2021), who identified adaptive traits—especially self-acceptance of mistakes—as key to enhancing customer satisfaction. The results also align with the study by Phongphan Iamnguan (2021), which examined hotel business adaptation post-COVID-19 and found that entrepreneurs' emotional regulation played a crucial role in adjusting digital communication strategies and designing responsive promotions for customer needs.

Internal Business Process Perspective: The study indicated that emotional regulation and social network had the strongest influence. This is consistent with Wuttichai Limarunothai et al. (2022), who proposed hotel business model adjustments through effective internal communication and emotional control among managers to enhance internal processes. The results also align with Melian et al. (2020), who emphasized the importance of organizational strategy development through social networks and emotional regulation to manage various organizational challenges. Learning and Growth Perspective: The most influential factors were self-compassion and social network, in line with the research of Wahyudono (2023), which highlighted the role of adaptive leaders and network-building in fostering innovation and learning within organizations.

In conclusion, entrepreneurial resilience plays a critical role in the success of hotel businesses in Chiang Mai, particularly under conditions of high volatility and uncertainty. Entrepreneurs who possess strong emotional regulation, maintain robust social networks, demonstrate self-compassion, adopt a survivor mentality, and exhibit problem-solving skills are more likely to achieve business success than those lacking these characteristics.

This study also highlights the value of applying the Balanced Scorecard as a comprehensive tool for evaluating hotel business success. It enables a multidimensional view across financial, customer, internal process, and learning and growth perspectives. The influence of each resilience factor varies across these dimensions, underscoring the importance of developing entrepreneurial resilience as a strategic driver of success in the Chiang Mai hospitality context—findings that may also be extended to other regions with similar characteristics.

5.2. Academic and practical implications

Entrepreneurs should develop emotional regulation skills systematically, as this factor has the most significant overall influence and affects all success dimensions. Training programs focused on mindfulness and stress management should be prioritized to enhance rational and effective decision-making in times of crisis. Agencies supporting hotel businesses should consider offering specialized training in emotional intelligence for entrepreneurs in the sector.

Additionally, entrepreneurs are encouraged to build and strengthen their social networks, which the study identified as crucial for success—particularly in internal operations and learning and development. Entrepreneurs should invest in relationships with all stakeholders across the value chain, both vertically and horizontally, such as joining hotel business associations, forming alliances with external service providers, and partnering with local educational institutions. Digital technologies should also be leveraged to expand and strengthen these networks efficiently.

Furthermore, promoting the integrated development of resilience across all five dimensions is essential. The findings show that when developed collectively, these resilience factors account for a significant portion of business success. Therefore, government agencies and hotel business associations should design holistic training programs that integrate the development of all five resilience components. In addition, suitable assessment frameworks and measurement tools should be created to evaluate resilience levels in a way that aligns with the local hotel business context in Chiang Mai.

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Exploring the Relationship Between Tourist Expectations and Experience Quality: A Case Study of Nimmanhaemin Area, Chiang Mai (Paper#229)

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Abstract:

Introduction

Tourist satisfaction is shaped by the alignment between pre-trip expectations and post-trip experiences, a concept central to Expectation Confirmation Theory (ECT). This theory suggests that satisfaction and future behaviors, such as revisiting or recommending a destination, are influenced by how well experiences meet expectations. This study applies ECT to examine how expectations influence tourist satisfaction in the Nimmanhaemin Area district of Chiang Mai.

Methods

Using purposive sampling, this quantitative study surveyed 126 Thai tourists visiting Nimmanhaemin Area from 1 to 30 September 2024. The tourists evaluated their engagement with various activities and their expectations for improvements in the area, and the data were analyzed using SPSS version 28.

Results

The correlation revealed significant positive correlations between tourist activities (dining, visiting cultural sites, and co-working spaces) and destination expectations like traffic management, service standards, and exercise spaces. In contrast, activities such as dining experience, photography, gimmicky shops, and massage services showed no significant correlations with these attributes.

Discussion

The results highlight the importance of infrastructure and service quality in shaping tourist satisfaction. Activities related to dining, cultural engagement, and co-working spaces are strongly linked to expectations for better infrastructure and services. The lack of correlation with sustainability practices suggests that these initiatives are not yet a primary focus for tourists in Nimmanhaemin Area. Future research should explore causal relationships between expectations and satisfaction and investigate how sustainability can be better integrated into tourist experiences.

Keywords: Nimmanhaemin Area, Quality Tourism, Tourist Expectations, Tourist Behavior

1. Introduction

Tourist satisfaction is contingent upon the alignment between visitors' expectations before their journey and their perceived experiences during the visit (Kim & Brown, 2012; Wang et al., 2017). The paramount consideration in applying expectation confirmation theory within tourism management and the hospitality sector oriented towards medical tourism is comprehending and adeptly managing these expectations (Dhiman & Jamwal, 2023; Oh et al., 2022). Expectations significantly influence visitors' perceptions of their experiences, satisfaction levels, and subsequent behaviors related to service quality. This includes the likelihood of their return and the intention to share favorable reviews (Loi et al., 2017; Seetanah et al., 2020).

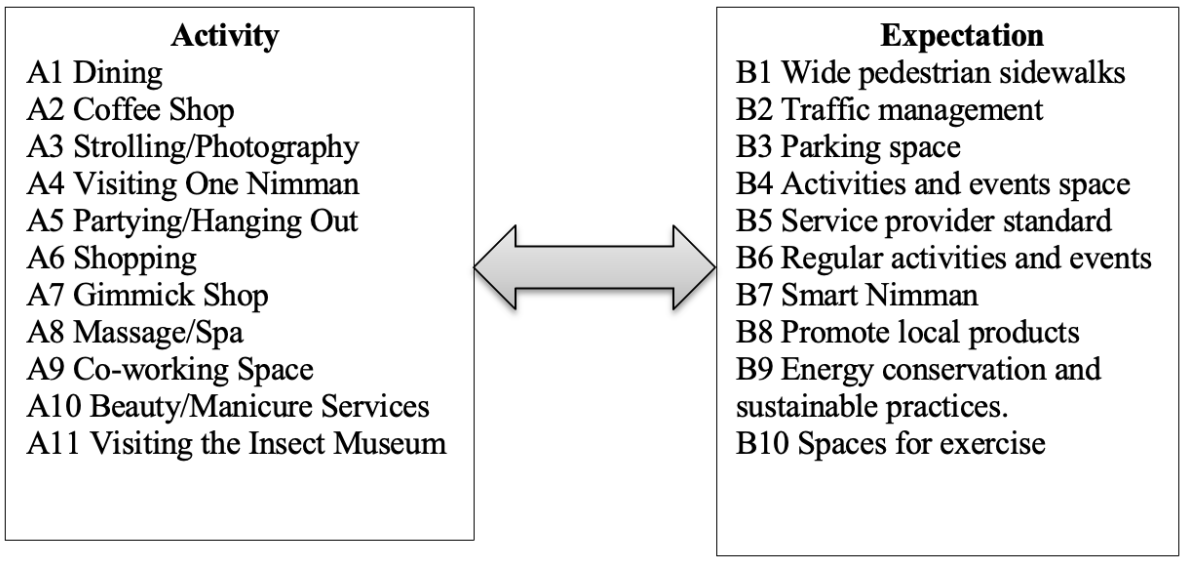
Tourists' expectations are shaped by awareness experiences and personal recommendations, which function as a baseline for evaluating the authenticity and quality of their travel experiences. Therefore, managing these expectations strategically is vital for ensuring visitor satisfaction and improving destinations' competitiveness (Pavković et al., 2024). This paper explores how expectation confirmation theory can be applied in tourism management. The research question is whether aligning expectations with real experiences can enhance visitor satisfaction and promote high-quality tourism. Tourists' engagement informs their expectations for enhancements in specific activities and services (Black, 2018). They evaluate the quality of these experiences' perception relative to their prior expectations, directly influencing their overall satisfaction (Agamirova et al., 2017). This scenario highlights the need for tourism managers to align expectations with actual performance, ensuring each experience enhances the visitor journey. Understanding expectation formation, desirable activities, and the subsequent impact on tourist behavior provides valuable insights into the strategic development of tourism experiences that resonate deeply with visitors and cultivate long-term development.

Nimmanhaemin Area, commonly called Nimman area, is a significant landmark in Chiang Mai, situated close to Chiang Mai University. Nimman area is a dynamic economic and cultural hub, presenting a diverse array of modern retail, dining, entertainment, and accommodation options, attracting local and international tourists (Roongsaprangsee & Piboonrungroj, 2016; Somnuxpong, 2020; Zhu et al., 2022). More than 70% of Chiang Mai's creative business networks intersect within walkable regions, with Nimman area as a prominent illustration of this phenomenon.

The region's substantial concentration of creative enterprises stimulates the municipal economy and augments its cultural appeal (Chiranthanin & Suzuki, 2016). Despite comprehensive studies examining Nimman area, limited research has been undertaken regarding tourism development (Suwatcharapinun & Kitaka, 2023). The Center of Tourism Research and Development, Multidisciplinary Research Institute, Chiang Mai University advocates for a project investigating tourist behaviors and expectations while establishing a collaborative network to augment tourism. Through collaboration with Chiang Mai University's More Space, the initiative aims to develop tourism activities that align with the requirements of visitors, thereby fostering sustainable and high-quality tourism within the region.

The present study investigates the relationship between tourist expectations and their engagement in activities within the Nimmanhaemin area, as illustrated in the conceptual framework in Figure 1. There exists a significant deficiency in the understanding of how tourists' expectations correlate with their activities and how this relationship contributes to the enhancement of the tourism experience. This research establishes a framework for expectation-activity dynamics in tourism management. The results clarify the relationship between tourist expectations and activity involvement, providing managers insights to tailor experiences that better meet visitor needs. Furthermore, this initiative helps create a framework for managing tourism experiences that can be applied in similar destinations to enhance satisfaction and promote loyalty.

Figure 1. Conceptual framework



2. Literature Review

2.1. Expectation Confirmation Theory

Expectation Confirmation Theory (ECT), established by Richard L. Oliver in 1980, investigates how individuals evaluate their satisfaction by juxtaposing their pre-consumption expectations against their post-consumption experiences (Oliver, 1980). Exceed expectations, as they generate positive satisfaction, thus cultivating loyalty and encouraging behaviors such as repeat visits or recommendations. Conversely, discrepancies between expectations and experiences culminate in dissatisfaction.

ECT has been extrapolated to encompass domains such as tourism and services, thus providing critical insights into how expectations influence satisfaction (Chokpiriyawat & Siriyota, 2024). In tourism, ECT elucidates the implications of tourist expectations on their satisfaction and associated behaviors, including returning to destinations (Yuan & Marzuki, 2024). Within the service industry, it assists enterprises in aligning their offerings with customer expectations to enhance overall satisfaction. This study utilizes ECT to examine the correlation between tourist expectations in Nimmanhaemin Area, Chiang Mai, and their participation in designated activities, thereby contributing novel empirical evidence to deepen the comprehension of how expectation-activity interactions affect satisfaction. By synthesizing tourists' perceptions with their actual experiences, this research proffers insights into the utility of ECT for advancing tourism management and fostering enduring visitor loyalty.

2.2. Quality tourism

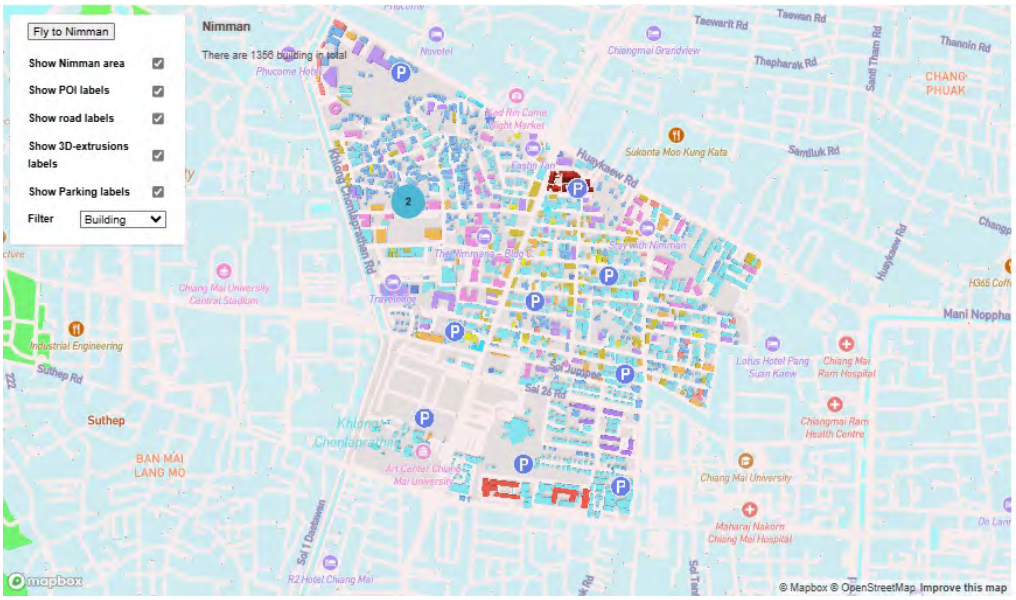
Quality tourism refers to providing exceptional and meaningful experiences beyond basic service offerings to create memorable, enriching tourist experiences (Jennings et al., 2013). Quality tourism is a holistic approach that emphasizes service quality and the uniqueness, authenticity, and sustainability of the destination's activities and culture (Park & Jeong, 2019; Sitorus et al., 2024). This concept is critical for destinations seeking to differentiate themselves in a highly competitive market by delivering high-value, personalized experiences that cater to tourists' expectations and desires. Focusing on high-quality tourism is crucial for a destination, as it enhances visitor satisfaction, encourages repeated visits, and fosters positive word-of-mouth, subsequently attracting more tourists. Furthermore, quality tourism can promote sustainable practices, benefiting not only the economic health of the destination but also its environmental and cultural preservation. It becomes imperative for prospective tourist destinations to prioritize these elements to remain competitive and ensure sustained growth in the global tourism industry.

2.3. Activities in Nimman area

The activities in Nimmanhaemin Area represent a wide range of tourist interests, from relaxation and wellness to shopping, socializing, and cultural exploration. Each activity contributes to the district's dynamic and versatile destination appeal. Nimmanhaemin Area offers a variety of

activities that cater to diverse tourist interests. Dining is one of the most popular activities, with a broad selection of local and international restaurants offering traditional Thai dishes and global cuisine. Visitors often explore the vibrant food scene, ranging from street food stalls to fine dining establishments, making it a key attraction in the district. Similarly, the area is known for its coffee shops, where tourists enjoy relaxing in cozy spaces, sipping coffee, and sometimes working or socializing. Many of these coffee shops are trendy spots that have become social hubs, offering a unique atmosphere for locals and tourists.

Figure 2. The map of tourist destinations in Nimman Area



Source: Nimmanhamin Smart City Development Program for Sustainable Economic and Tourism Growth and Enhanced livable in Chiang Mai Province

Another activity that attracts many visitors is simply strolling and photography. Nimmanhaemin Area's streets are perfect for leisure, capturing the area's blend of modern and traditional architecture, vibrant street art, and charming cafes. Tourists often enjoy snapping photos to remember the picturesque setting. Visitors also flock to One Nimman, a modern shopping and cultural complex offering a mix of local and international shops, cafes, and art exhibitions. This site draws tourists interested in shopping, cultural experiences, and unique architectural designs. Partying and hanging out are popular for those looking for entertainment, especially in the evenings. Nimmanhaemin Area boasts lively nightlife, with bars and nightclubs providing spaces for locals and tourists to socialize, dance, and enjoy the atmosphere. Shopping is also a significant activity in the area, with tourists shopping at a range of boutiques, local craft shops, and fashion stores, catering to various tastes. Many also visit to purchase souvenirs, with numerous shops offering handmade crafts, clothing, and local products that reflect the unique culture of Chiang Mai.

Tourists also seek relaxation through massage and spa services, which are prevalent in Nimmanhaemin Area. Wellness centers and spas offering traditional Thai massages and other treatments are popular for those looking to unwind and rejuvenate. As a growing hub for digital nomads, Nimmanhaemin Area is home to many co-working spaces, where tourists and locals work in creative and collaborative environments. These spaces are ideal for those who need a productive workplace or to connect with others in the community.

For some pampering, tourists also visit beauty salons for beauty and manicure services. Whether it's a new hairstyle, nail art, or skincare treatments, these services offer a relaxing break for visitors. Finally, visiting the Insect Museum provides a unique educational experience for those interested in entomology. The museum showcases diverse insect specimens and interactive exhibits, appealing to tourists seeking more niche and academic activity. The activities illustrate the vast array of experiences available in Nimmanhaemin Area, making it a versatile destination that attracts tourists for relaxation, entertainment, shopping, cultural exploration, and educational experiences.

3. Methodology

This quantitative research examines the behaviors and expectations of tourists within the Nimmanhaemin Area district, emphasizing decision-making processes, destination selection, and tourist needs. Data were gathered from 126 Thai tourists visiting Nimman area between September 1 and 30, 2024, employing purposive sampling to incorporate tourists from provinces beyond Chiang Mai. Tourists were prompted to evaluate their engagement with specific activities and their expectations for enhancements in the area, utilizing a Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Respondents who had not participated in the activities or had no expectations were instructed to select zero, disqualifying their responses from the analysis. SPSS version 28 was utilized to analyze the correlation between variables.

4. Results

4.1. Profile of the respondents

The characteristics of the respondents in this study reflect a diverse demographic profile. Regarding gender, 33.3% of participants identified as male, 59.5% as female, and 7.1% as LGBTQ+. The mean age of the respondents was 38.94 years (SD = 11.69), with an age range spanning from 17 to 70 years. Concerning revisit intention, 90.5% indicated a firm intention to revisit, while 9.5% remained undecided. Furthermore, regarding the willingness to recommend, 92.1% of respondents expressed a positive desire to recommend the destination, whereas 7.9% did not exhibit such inclination. These demographic details are critical for understanding the behaviors and expectations of tourists in the Nimmanhaemin Area district, and they will inform the subsequent analysis of their experiences and engagement with the area.

Table 1. Sample Characteristics

Categories	Frequency (n)	Percent (%)
Gender		
Male	42	33.3
Female	75	59.5
LGBTQ+	9	7.1
Age (Years Old)	Mean = 38.94 SD: 11.69, Range 17-70	
Revisit Intention		
I will visit again	114	90.5
Not determine	12	9.5
Willing to Recommend		
Yes	116	92.1
No	10	7.9

4.2. Results of correlation analysis

Spearman's rank-order correlation was conducted to examine the relationships between the tourist engagement activities (A1-A11) and various destination attributes (B1-B10). Several significant correlations were found, while other activities showed no significant correlation with the destination attributes.

A2 (Coffee Shop) showed significant positive correlations with B2 (Traffic management) ($r = .268$, $p < .05$), B5 (Service provider standard) ($r = .344$, $p < .05$), and B10 (Spaces for exercise) ($r = .271$, $p < .05$), indicating that increased dining engagement was associated with higher satisfaction with certain aspects of the destination. A4 (One Nimman) had significant positive correlations with B2 (Traffic management) ($r = .231$, $p < .01$), B5 (Service provider standard) ($r = .239$, $p < .05$), B6 (Regular activities and events) ($r = .239$, $p < .01$), and B10 (Spaces for exercise) ($r = .233$, $p < .05$), suggesting that tourist engagement with this shopping and cultural complex correlates with destination activities and environment satisfaction. A5 (Shopping) had significant positive correlations with B2 (Traffic management) ($r = .254$, $p < .01$), B3 (Parking space) ($r = .218$, $p < .01$) B5 (Service provider standard) ($r = .298$, $p < .01$) and B6 (Regular activities and events) ($r = .197$, $p < .01$). A6 (Co-working space) exhibited significant positive correlations with B1 (Wide pedestrian sidewalks) ($r = .399$, $p < .05$) which is the highest correlation, B5 (Service provider standard) ($r = .328$, $p < .05$), and B10 (Spaces for exercise) ($r = .322$, $p < .05$), demonstrating that tourists who engaged in co-working spaces tended to report higher satisfaction with infrastructure and services. A9 exhibited significant positive correlations with B2 (Traffic management) ($r = .220$, $p < .01$). A10 (Beauty and manicure services) had significant positive correlations with B2 (Traffic management) ($r = .257$, $p < .05$), B5 (Service provider standard) ($r = .377$, $p < .05$), and B10 (Spaces for exercise) ($r = .234$, $p < .01$), indicating that engagement in beauty and wellness services was associated with a higher perceived quality of service and destination facilities. A11 (Insect Museum) showed significant positive correlations with B2 (Traffic management) ($r = .274$, $p < .05$), B4 (Activities and events space)

(r = .185, p < .05) which is the lowest correlation B5 (Service provider standard) (r = .224, p < .01), and B10 (Spaces for exercise) (r = .256, p < .05), suggesting that the museum's visitors were more likely to report satisfaction with the cultural and educational aspects of the destination.

In contrast, several activities showed no significant correlations with the destination attributes: A1 (Dining experience), A3 (Photography/strolling), A7 (Gimmicky shop), and A8 (Massage/Spa) had no significant correlation with any of the destination attributes (all p-values > 0.05), indicating no discernible relationship between dining and the measured destination variables. Figure 3 summarizes the results. The B9 (Energy conservation and sustainable practices) are not related to all activities.

Figure 3. Correlation Analysis

Correlations

			B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
Spearman's rho	A1	Correlation Coefficient	0.073	-0.095	0.058	0.125	-0.031	-0.051	-0.080	-0.124	-0.080	0.088
		Sig. (2-tailed)	0.535	0.416	0.618	0.283	0.787	0.662	0.494	0.288	0.493	0.452
		N	75	76	76	76	76	75	76	75	75	75
	A2	Correlation Coefficient	.208*	.268**	-0.050	0.168	.344**	-0.021	0.088	0.146	0.082	.271**
		Sig. (2-tailed)	0.024	0.003	0.588	0.068	0.000	0.818	0.342	0.114	0.379	0.003
		N	118	119	119	119	117	118	118	118	116	118
	A3	Correlation Coefficient	0.028	0.012	0.033	0.223	0.180	0.020	0.156	0.097	0.180	0.131
		Sig. (2-tailed)	0.823	0.924	0.790	0.068	0.143	0.870	0.204	0.432	0.141	0.288
		N	67	68	68	68	68	68	68	68	68	68
	A4	Correlation Coefficient	-0.009	.231**	0.047	0.029	.202*	.239**	0.143	.207*	0.012	.233**
		Sig. (2-tailed)	0.918	0.010	0.601	0.750	0.025	0.008	0.114	0.021	0.894	0.009
		N	124	125	125	125	123	124	124	124	122	123
	A5	Correlation Coefficient	0.162	.254**	.218*	0.108	.256**	.197*	0.166	0.130	-0.052	0.138
		Sig. (2-tailed)	0.072	0.004	0.014	0.230	0.004	0.028	0.065	0.150	0.571	0.129
		N	124	125	125	125	123	124	124	124	122	123
	A6	Correlation Coefficient	.391**	.349**	0.017	.216*	.328**	0.132	.203*	.285**	0.094	.322**
		Sig. (2-tailed)	0.000	0.000	0.864	0.029	0.001	0.184	0.042	0.004	0.350	0.001
		N	101	102	102	102	101	102	101	102	100	101
	A7	Correlation Coefficient	-0.059	0.109	0.044	0.096	0.090	0.026	0.127	0.005	0.089	0.138
		Sig. (2-tailed)	0.555	0.273	0.655	0.330	0.367	0.792	0.198	0.958	0.372	0.166
		N	103	104	104	104	103	104	104	104	103	103
	A8	Correlation Coefficient	0.036	-0.065	-0.076	0.170	0.052	-0.177	0.046	0.100	0.131	0.110
		Sig. (2-tailed)	0.775	0.603	0.545	0.173	0.681	0.154	0.715	0.423	0.294	0.380
		N	65	66	66	66	66	66	66	66	66	66
	A9	Correlation Coefficient	0.084	.220*	-0.123	0.181	0.124	-0.071	-0.042	0.108	0.091	0.163
		Sig. (2-tailed)	0.443	0.041	0.256	0.094	0.256	0.511	0.700	0.320	0.405	0.134
		N	86	87	87	87	86	87	86	87	85	86
	A10	Correlation Coefficient	.273**	.257**	0.013	0.099	.377**	0.115	.197*	.182*	0.068	.234*
		Sig. (2-tailed)	0.003	0.005	0.889	0.284	0.000	0.216	0.033	0.049	0.471	0.011
		N	117	118	118	118	117	117	117	117	116	117
	A11	Correlation Coefficient	.235**	.274**	0.052	.185*	.224*	0.118	.194*	0.111	0.153	.256**
		Sig. (2-tailed)	0.009	0.002	0.566	0.041	0.013	0.196	0.033	0.222	0.094	0.004
		N	122	123	123	123	121	122	122	122	120	122
		N	123	124	124	124	122	123	123	123	122	124

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Therefore, seven destination activities are related to tourist expectation issues. The remaining four did not. The results may indicate that certain cultural, educational, and infrastructure activities significantly influence tourist satisfaction and expectations. However, other activities, such as casual photography, shopping, and spa services, do not substantially affect tourists' perceptions of the destination.

5. Discussion and Implications

5.1. Discussion

The results of the correlation analysis revealed that certain activities in Nimmanhaemin Area are significantly linked to destination attributes, while others are not. Activities such as dining, visiting One Nimman, shopping, co-working spaces, beauty services, and the Insect Museum showed significant positive correlations with development expectations like traffic management, service provider standards, and exercise spaces. The correlation refers to how their interests relate to the expectation of seeing improvement in desired activities. In summary, these correlations suggest that infrastructure, service quality, and cultural engagement play key roles in shaping tourist satisfaction. The research findings indicate that satisfaction is contingent upon developing infrastructure in the tourist ecosystem, which relies on a previous study (Chokpiriyawat & Putachote, 2024; Phumrattanapaisan & Wongcharoensangsiri, 2023). In contrast, activities like dining experience, photography/strolling, gimmicky shops, and massage/spa services showed no significant correlation with the destination attributes, indicating that these activities may not directly influence tourists' perceptions of the destination's overall infrastructure and services. The study underscores the downtown district of Nimman area, thereby corroborating the prevailing literature indicating that the Nimman area is primarily regarded as a site for sightseeing and shopping rather than a cultural heritage location.

This study found no significant correlation between energy conservation and sustainable practices (B9) and any activities. The finding may suggest that sustainability efforts in the district have not yet been integrated into tourists' experiences in the Nimman area, which differs from the cultural heritage destination that boosts positive awareness of sustainability. This lack of correlation could reflect a gap in tourists' awareness of engagement with sustainability initiatives.

5.2. Academic and practical implications

The findings of this study have several important academic and practical implications for tourism marketing, particularly regarding the Expectation Confirmation Theory (ECT) and quality tourism.

Firstly, the significant correlations between activities such as dining, visiting cultural sites like One Nimman, and co-working spaces with tourist satisfaction highlight the need for enhancing service standards in these areas. Tourism operators should focus on improving the quality of service in these activities to meet tourist expectations and increase satisfaction. Tourism operators can implement practical activities and accreditations to enhance service quality in dining, accommodation, and cafes. For restaurants, achieving standards like the Michelin Guide or Thai Food Safety Standards ensures food quality and hygiene (Chaigasem et al., 2023). At the same time, staff training in customer service and consistent menu offerings improve guest satisfaction. For accommodation, certifications such as Hotel Star Ratings or ISO 9001 can ensure high service levels (Heras-Saizarbitoria et al., 2015). Providing clean, well-maintained facilities and staff training in hospitality will enhance guest experiences. For cafes, obtaining certifications like Cafe

Quality Certification (CQC) or Specialty Coffee Association (SCA) can ensure top-notch coffee and service. Regular barista training and maintaining a clean, comfortable environment will meet tourist expectations. These steps will significantly improve service and align with tourist needs.

Secondly, infrastructure development, particularly traffic management and pedestrian accessibility, plays a crucial role in shaping tourist experiences. By investing in improved infrastructure, destination managers can enhance the ease of navigation and overall comfort for tourists. To enhance the tourist experience, two key actions can be implemented. Firstly, enhancing pedestrian accessibility is of paramount importance. By widening and maintaining pedestrian sidewalks, particularly in high-traffic areas such as Nimmanhaemin Area, tourists will be able to navigate more easily and safely. The installation of clear signage and directional markers in multiple languages will further aid tourists in finding their way, thereby increasing their overall comfort and satisfaction. Secondly, enhancing public transportation through the introduction of eco-friendly options, such as electric buses or shuttles that link major tourist attractions, accommodations, and transportation hubs, will afford tourists a convenient and sustainable means of navigation. These enhancements are expected to diminish reliance on private vehicles, thereby rendering transportation more accessible, efficient, and environmentally sustainable, ultimately improving the overall experience for tourists.

Thirdly, the study underscores the importance of cultural and educational experiences. Marketing efforts should be carefully strategized and implemented to attract tourists, particularly those visiting the Insect Museum. Emphasize these attractions in order to establish the destination as a center for cultural immersion and educational significance. Furthermore, the discrepancy in tourists' engagement with sustainable practices indicates that tourism marketers ought to proactively advocate for sustainable initiatives. By enhancing awareness of environmentally friendly options, destinations can appeal to eco-conscious travelers and enhance their reputation.

Finally, the correlation between regular activities and tourist satisfaction indicates the importance of consistent event programming. Destination marketers should create and promote a calendar of events that offer dynamic experiences, ensuring repeat visits and fostering long-term tourism growth(Sadeghi Shahdani et al., 2024; Zamani-Farahani et al., 2019). These implications may serve as a guiding framework for tourism marketing strategies to align more effectively with tourists' expectations. This alignment fosters enhanced satisfaction and loyalty, contributing to sustainable development within the context of quality tourism.

5.3. Limitations of this study and suggestions for future research

A key limitation of this study is Spearman's rank-order correlation, which identifies associations between variables but does not establish causality. While correlations can show relationships between tourist activities and destination attributes, they cannot confirm whether One activity directly contributes to an enhancement in satisfaction or other behaviors. Furthermore, the cross-sectional nature of the data, collected at a single point in time, limits the ability to observe

changes or trends over time. Future research could benefit from employing causal analysis methods, such as structural equation modeling, to establish causal relationships. Furthermore, longitudinal studies could help assess how tourist behaviors and expectations evolve over time and in response to changes in the destination. Future research could also explore how sustainability can be more effectively communicated and incorporated into the tourist experience, potentially enhancing its impact on satisfaction and behaviors.

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Key Success Factors of Entrepreneurs Under Gastronomy Tourism Project in Chiang Mai Province (Paper#230)

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Abstract:
This study examines key success factors for entrepreneurs in the Gastronomy Tourism Project in Chiang Mai. Through interviews with local entrepreneurs and surveys of tourists, it identifies local resources, innovation, and business networking as an crucial elements for business success and sustainable tourism development.

Keywords: Key success factors, Food, Tourism, Gastronomy, Entrepreneurs

1. Introduction

Gastronomy tourism has emerged as a rapidly growing segment of the global tourism industry. In 2019, it generated approximately $1.17 trillion and is expected to reach $1.80 trillion by 2027 (Allied Market Research, 2023). Chiang Mai, Thailand, is renowned for its rich cultural heritage and culinary diversity. The local government has initiated a Gastronomy Tourism Project to promote economic and sustainable tourism growth. However, a study is needed to identify the success factors that help entrepreneurs thrive within this framework. This study aims to identify these factors through field research.

2. Literature Review

Until recently, the field of culinary culture was overlooked. Nonetheless, the aspect of a culture and tradition that endures the longest is always its culinary culture. In other words, everyday living patterns, religious beliefs, habits, traditions, and customs are reflected in cuisines where a society's many diverse identities coexist, and national sentiments are strongly felt. One of the factors driving changes in tourist activities has been societal shifts in eating habits, as well as the growing importance of social meals (Hall et al, 2003; Sormaz et al., 2016).

Gastronomic tourism is a growing sector that encompasses tourism, hospitality, marketing, regional development, and education. Furthermore, gastronomy significantly enhances visitor experiences through festivals and events. One of the primary reasons travelers venture out is to engage in gastronomy, which offers a diverse range of experiences (Dixit and Prayag, 2022). The nations that have prioritized this issue are developing marketing opportunities for culinary

tourism. The foundation for the growth of gastronomy tourism has been laid by travelers' desire to sample local cuisine in various locations and accommodations. Businesses in the tourism industry that recognize the value of gastronomy tourism, as reported by both domestic and international travelers, have incorporated gourmet elements into their establishments (Sormaz et al., 2016).

2.1. Social network

The 200 tourists surveyed were a mix of Thai and international visitors. The majority were between 25–45 years old and expressed interest in cultural and culinary experiences. Among the tourists, 55% were Thai, while 45% were international visitors primarily from China, Korea, and Western Europe. Tourists reported spending an average of 3–5 days in Chiang Mai, with 60% having tried local food tours or workshops.

Results showed that entrepreneurs who effectively leveraged local ingredients and traditions, introduced creative food concepts, and built strong networks with stakeholders (e.g., local farms, chefs, tourism agencies) reported higher business performance and tourist satisfaction.

2.2. Conceptualization

The findings align with prior studies suggesting that authenticity and innovation are central to success in gastronomy tourism. Social capital through networking further enhances business growth opportunities. The results are consistent with Chua et al. (2023), who found that immersive food experiences drive repeat visitation. Likewise, Johnson et al. (2021) emphasize the importance of networks in achieving success in rural tourism. In-depth interviews confirmed that strong community ties and unique food storytelling contributed to increased visitor engagement. Entrepreneurs who were part of local food clusters benefited from mutual promotion and shared logistics.

Academically, this study contributes to the field of gastronomy tourism entrepreneurship. Practically, it provides a roadmap for policymakers and tourism entrepreneurs to leverage local identity and innovation. Universities can integrate these findings into gastronomy entrepreneurship curricula. Tourism authorities can develop policies that support local sourcing, creativity, and cooperative networks. Additionally, local governments may use these insights to design support programs that nurture entrepreneurship while preserving culinary heritage.

3. Methodology

3.1. Measurement

The study measurement includes the sampling plan, data collection, and the verification of data using Cronbach's alpha (Yamane, 1973). The interviews were semi-structured, utilizing open-ended questions to encourage detailed responses. All interviews were recorded with consent and transcribed for thematic content analysis. The study is limited to Chiang Mai and may not generalize to other regions. Another limitation is the potential bias in self-reported data, particularly in interviews.

3.2 Data Collection

Data were collected through in-depth interviews with 10 entrepreneurs selected via purposive sampling and surveys of 200 tourists from Thailand and abroad using simple random sampling. The interviews were semi-structured and conducted in the Thai language. Survey questionnaires were distributed both online and in person at key tourist locations in Chiang Mai between January and February 2025. The 200 survey respondents were divided into three groups: domestic tourists (120), international tourists (50), and local participants in food events (30). Quantitative data were analyzed using descriptive statistics and cross-tabulations, while qualitative responses were thematically coded.

Survey data were collected both online and in-person during November 2024 and February 2025 at various locations in Chiang Mai, including weekend markets, cultural landmarks, and cooking workshops. The questionnaire aimed to capture tourist perceptions of local food experiences, innovation, and the visibility of entrepreneurs under the Gastronomy Tourism Project.

In addition, in-depth interviews were conducted with 10 entrepreneurs who were actively involved in the project. Participants were selected through purposive sampling to ensure diversity across various business types, including restaurants, homestays, artisanal food producers, and culinary schools. The interviews were semi-structured, utilizing open-ended questions to encourage detailed responses. All interviews were recordedwith consentand transcribed for thematic content analysis.

4. Results

4.1. Profile of the respondents

A total of 200 valid responses were collected from survey participants. The demographic breakdown is as follows:

Gender: 58% female, 42% male

Age: The largest group (45%) were between 26–35 years old, followed by 36–45 years (30%),18–25 years (15%), and above 45 years (10%)

Nationality: 60% were Thai tourists and 40% were international tourists (primarily from China,South Korea, and Europe)

Purpose of Visit: 67% reported that food and cultural experiences were primary reasons for visiting Chiang Mai

Length of Stay: Most tourists (70%) stayed in Chiang Mai for 3–5 days

Additionally, the majority of respondents had participated in at least one gastronomy-related activity, such as food tours, cooking classes, or local market visits. This indicated a high level of engagement with the project's core offerings.

4.2. Results of Key Success Factors of Entrepreneurs under Gastronomy Tourism Project in Chiang Mai Province analysis

Quantitative analysis from the tourist surveys showed that:

- 87% of respondents preferred food experiences that highlighted local ingredients and cultural stories.
- 72% mentioned that innovative presentation and fusion with modern techniques enhanced their satisfaction.
- 65% of tourists valued engagement with local entrepreneurs who could share background stories of their dishes.

Qualitative analysis from interviews revealed that entrepreneurs who adopted storytelling, collaborated with local suppliers, and offered cooking workshops had higher revisit rates and social media visibility.

5. Discussion and Implications

Discuss your findings by comparing those of previous studies. Address academic and practical implications. Conclude with some directions for future research or practice, and any limitations of this study.

5.1. Discussion

The findings of this study confirm that three major factors—effective use of local resources, innovation, and business networking—are crucial to the success of entrepreneurs in the gastronomy tourism sector in Chiang Mai. These findings align with the work of Kim and Park (2022), who emphasized the importance of social capital and collaborative networks in achieving success in rural tourism. Moreover, the role of storytelling and local identity, as discussed by Smith et al. (2021), was evident in entrepreneurs who integrated cultural narratives into their offerings, resulting in increased tourist engagement and satisfaction.

Additionally, participants who actively collaborated with suppliers, chefs, and tourism agencies were able to scale their impact and visibility through joint marketing and community-based initiatives. These results support the resource-based view (RBV) of the firm, highlighting how intangible assets such as trust and authenticity, create competitive advantages (Viskovic and Komac, 2021).

5.2. Academic and practical implications

From an academic perspective, this study contributes to a growing body of knowledge in gastronomy tourism by providing an integrated framework that links entrepreneurial success with innovation, cultural capital, and local collaboration. It also highlights the relevance of hybrid research methods combining quantitative and qualitative data in tourism studies.

Practically, the findings offer actionable insights for policymakers and tourism developers. Local governments can promote sustainable tourism by supporting programs that encourage the use of local ingredients, storytelling, and inter-organizational collaboration. Educational institutions can incorporate these factors into entrepreneurship curricula, enabling future business owners to build context-sensitive strategies for tourism-based ventures.

5.3. Limitations of this study and suggestions for future research

One limitation of this study is its geographic focus on Chiang Mai, which may not represent gastronomy tourism dynamics in other regions of Thailand or Southeast Asia. Additionally, while self-reported data provided rich insight, there is potential for response bias—especially in interviews.

Future research should consider conducting comparative studies across multiple provinces or countries to test the generalizability of the framework. Longitudinal studies may also help track how entrepreneurial practices evolve over time, especially in response to digital transformation and global tourism trends. Including perspectives from tourists, local government officers, and NGOs could also broaden the understanding of how stakeholder collaboration shapes the success of gastronomy tourism initiatives.

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Ethical NLP-Based Personalization for Data-Driven CRM in the Reviews Dataset (Paper#231)

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Abstract.

This paper explores the integration of Artificial Intelligence (AI) and Machine Learning (ML) in Customer Relationship Management (CRM) systems, focusing on ethical AI-driven personalization. While AI enhances customer segmentation, churn prediction, and recommendation systems, its widespread use raises ethical concerns, including privacy risks, algorithmic bias, and regulatory compliance. This study identifies research gaps in AI transparency, fairness-aware models, and hyper-personalization effects on consumer autonomy. A mixed-methods approach is employed, combining qualitative insights from expert interviews with quantitative evaluations of ML models like XGBoost and k-means clustering. Ethical risk assessment frameworks, such as SHAP and LIME for AI explainability, are integrated to ensure transparency and compliance with GDPR and CCPA. Findings indicate that responsible AI-driven personalization requires balancing innovation with ethical accountability, ensuring fairness, transparency, and consumer trust.

Keywords: AI-driven CRM, machine learning, ethical personalization, customer segmentation, churn prediction, explainable AI, GDPR compliance, algorithmic fairness

Introduction

Customer relationship management (CRM) plays a critical role in today's business world. The integration of Artificial Intelligence (AI) within CRM systems has revolutionized the landscape of customer interactions, empowering organizations to gain deeper insights, enhance engagement, and improve service delivery to their clientele. AI and machine learning are reshaping customer relationship management (CRM) strategies, leveraging advanced capabilities such as predictive analytics, personalized engines, and cloud based customer segmentation. Modern CRM platforms are integrated with machine learning (ML) , natural language processing (NLP) , and predictive analytics to analyze vast datasets – transaction histories, social media interactions, IOT device logs, and geolocation data by enabling businesses to anticipate customers' needs.

While AI-driven personalization presents opportunities to improve to meet the business goals, its widespread use also gives rise to ethical challenges regarding privacy, bias, manipulation and societal impacts. A 2023 Cisco survey found that 81% of consumers believe companies exploit their data, while regulatory frameworks like the EU's General Data Protections Regulation (GDPR) and California's Consumer Privacy Act (CCPA) impose stringent penalties for non-compliance.

In this paper we will explore how machine learning models enhance customer segmentation, churn prediction, and recommendation systems by using ML/AI in customer relationship management, trade-offs between hyper-personalization and customer data privacy, regulatory challenges by following the global data privacy laws like GDPR, CCPA, and new frameworks in global markets, ethically using data from various sources (e.g., social media, IoT) in cross-channel data integration and how to build customer trust by ensuring AI decisions are transparent through Explainable AI (XAI).

Background and Literature Reviews

The integration of Artificial Intelligence (AI) and Machine Learning (ML) into Customer Relationship Management (CRM) systems has changed how businesses can interact with customers, manage relationships, and improve service delivery.. These technologies enable organizations to use numerous amounts of customer data for segmentation, churn prediction, and recommendation systems. However, the implementation of AI-driven CRM also presents ethical challenges surrounding customer privacy, regulatory compliance, explainability, and the integration of cross-channel data. This will provide an in-depth exploration of the role of AI/ML in CRM, focusing on its applications in customer segmentation, churn prediction, recommendation systems, and the ethical implications tied to their use.

Enhancing Customer Segmentation, Churn Prediction, and Recommendation Systems by using AI/ML in CRM.

AI and ML have significantly improved CRM features, especially in the domains of customer segmentation, churn prediction, and recommendation systems. These technologies help businesses use data to personalize customer experiences and improve marketing strategies.

ML/AI in Customer Relationship Management

Customer relationship management (CRM) activity involves collecting, managing and intelligently using data with the support of technology solutions to develop long-term customer relationships and exceptional customer experience (CX) [7]. The data obtained from all customer contact points, if well managed, can support companies in generating personalised marketing responses, creating new ideas, tailoring products and services and, thus, delivering high customer value and gaining competitive advantage [17] [8] [18] In the digital age, the increasing volume, velocity and variety of data, as well as their processing capacity, have led to new technology solutions, including the advancement of artificial intelligence (AI) techniques [11]. AI refers to a system's ability to interpret a large quantity of data correctly, learn from such data and use these learnings to reach specific goals and tasks [12]. In fact, new CRM features, such as personality insight services, website morphing, chatbot services, programmatic advertising and emotional, image and facial recognition technologies, require considerable data to be crunched in real time, which would be almost impossible to implement without AI's advancements [13]. AI plays a fundamental role because AI solutions applied to CRM enable companies to better

assimilate and analyse customer data [11] [14], making them increasingly able to anticipate, plan and take advantage of upcoming opportunities [15] CRM includes sales, marketing, service and operations activities, its interfunctionality has made the AI–CRM integration even more fragmented in different business areas. AI in CRM into a full body of structured knowledge, which can help business leaders understand how AI can improve CRM, such as enhancing customer interactions, automating processes, and optimizing decision-making [16].

AI-Driven Personalization in CRM

Customer Relationship Management (CRM) plays a pivotal role in organizations' success by fostering strong and lasting relationships with customers. One technology that has gained significant attention in recent years for its potential to transform CRM is Artificial Intelligence (AI). AI offers new opportunities to enhance customer interactions, improve service delivery, and drive personalized experiences [5].

AI encompasses a range of technologies, including natural language processing, machine learning, and predictive analytics, that enable computers to simulate human-like intelligence and perform tasks autonomously. In the context of CRM, AI can be utilized to analyze large volumes of customer data, automate routine processes, and deliver personalized experiences at scale [5]. One of the primary advantages of AI-driven CRM is its ability to deliver predictive insights on customer preferences and behaviors [5]. AI tools such as chatbots and virtual assistants are widely adopted to improve customer service by handling inquiries and providing real-time support [5]. These AI-powered tools enhance customer satisfaction and engagement, leading to increased loyalty and long-term value. Predictive analytics is a critical application of AI in CRM. By analyzing historical data, AI algorithms can anticipate customer needs and suggest personalized marketing strategies. El Amrani et al. [20] highlighted the use of deep learning models in predictive CRM systems to forecast customer behaviors such as churn probability and response to campaigns. This proactive approach allows businesses to deliver targeted promotions and improve overall customer satisfaction.

Ethical Considerations and Challenges

Despite its advantages, AI-driven CRM faces several ethical and operational challenges. Mittal and Khan [4] emphasized the importance of addressing privacy concerns associated with the collection and use of customer data. Algorithmic bias is another significant concern, as it may lead to discriminatory outcomes if not managed properly [4]. Organizations must adopt robust data governance policies to ensure fairness and inclusivity in AI applications.

Regulatory Challenges in Compliance with GDPR, CCPA, and Emerging Frameworks

AI-powered personalization in digital marketing offers significant benefits but raises ethical concerns around privacy, bias, consumer manipulation, and transparency. These concerns are closely related to compliance with data protection laws like GDPR and CCPA, which aim to safeguard consumer rights and promote accountability [3]

Privacy and Data Protection are key challenges in AI-driven marketing. GDPR ensures data minimization and the right to erasure, while CCPA provides data access and opt-out rights [3]. Companies must implement robust data protection measures to comply and prevent breaches.

Algorithmic bias in AI models can lead to discriminatory outcomes [19], offers protection against fully automated decisions, while CCPA encourages transparency in data practices. Ensuring fairness in algorithms is critical for reducing bias and achieving compliance.

Consumer manipulation through hyper-personalization poses ethical risks by exploiting behavioral data [3]. Although regulations do not directly address manipulation, both GDPR and CCPA require clear communication to help consumers make informed decisions.

Finally, transparency and accountability are essential for ethical AI and compliance. GDPR mandates disclosure of data practices, while CCPA promotes consumer rights awareness. Explainable AI techniques can enhance trust and reduce risks [3].

Problem Statements

- What steps can CRM systems take to guarantee fairness and eliminate bias in AIpowered personalization?
- In what ways might AI-driven CRM platforms empower users with transparency and agency without sacrificing personalized experiences?
- How can businesses harmonize hyper-relevant AI recommendations with customers' expectations of privacy?
- As data laws like GDPR and CCPA evolve, what strategies ensure AI personalization aligns with ethics and legality while still delighting customers?
- What approaches would make AI-generated CRM recommendations clearer and more trustworthy to users?
- How might organizations safeguard AI-driven personalization from cyber threats while keeping customer data secure?
- What frameworks help businesses align profit-focused AI tactics with ethical accountability?

Research Objective

- To systematically and categorize ethical challenges in AI- Powered personalization.
- To design and implement an AI-model with a fairness-aware personalized algorithm.
- To explore methods of achieving effective personalization while following data privacy regulations like GDPR, ensuring that customer data is used responsibly and transparently.
- To improve the transparency of AI decision-making processes in CRM systems, enabling customers to understand how their data influences personalized content and fostering trust.
- To understand how AI-powered personalization impacts people's choices, freedom, and well-being, and to make sure these systems aren't manipulative.

Research Gaps

Despite significant advancements in AI-driven CRM, several key gaps remain unaddressed. Existing studies primarily focus on performance optimization and customer engagement without adequately addressing the ethical implications of AI personalization.

Lack of Explainability in AI-based CRM

One of the biggest challenges in AI-driven CRM is the lack of transparency in decision-making. Many AI-powered systems operate as "black boxes," making it difficult for businesses and customers to understand the reasoning behind personalized recommendations [1]. Explainable AI (XAI) has been proposed as a solution, but its integration into CRM remains limited. Without explainability, customer trust in AI-driven personalization is significantly reduced.

Limited Studies on Fairness-aware AI Models

Bias in AI models is a growing concern in CRM applications. Studies indicate that machine learning algorithms trained on biased datasets can lead to discriminatory outcomes, reinforcing stereotypes and unfair targeting of customers [2]. However, there is a lack of research on fairness-aware AI models that ensure equitable personalization across diverse customer demographics.

Insufficient Ethical Frameworks for AI Implementation

While AI-driven CRM enhances marketing strategies, the ethical implications of AI-generated recommendations remain unclear. Current research focuses on the technological aspects of AI without providing structured ethical frameworks that balance personalization with privacy and fairness [3]. Ethical AI principles, including accountability, transparency, and fairness, should be integrated into CRM to mitigate potential harms.

Transparency and Customer Trust Issues

Consumer trust is a critical factor in AI-driven CRM adoption. Studies show that customers are more likely to engage with AI-powered recommendations if they understand how their data is being used [4]. However, existing literature does not sufficiently explore the impact of AI transparency on customer trust and retention. There is a need for empirical studies evaluating the relationship between AI explainability and customer satisfaction in CRM.

Regulatory Compliance Challenges

With the emergence of data protection laws such as the General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA), businesses face increasing challenges in ensuring AI-driven CRM compliance [5]. Many companies struggle to align their AI personalization strategies with regulatory requirements, leading to potential legal and ethical risks. Further research is required to develop best practices for compliance with evolving data privacy regulations.

Impact of Hyper-Personalization on Consumer Autonomy

Hyper-personalization, driven by AI algorithms, raises concerns about consumer autonomy and decision-making. Excessive personalization can lead to filter bubbles, where customers are only exposed to specific content based on their previous interactions, limiting their choices [6]. Understanding the trade-offs between hyper-personalization and consumer freedom is an area that requires further investigation.

Addressing the Research Gaps

This study aims to address these gaps by:

- Developing an explainable AI-driven CRM model to enhance transparency.
- Proposing fairness-aware AI algorithms to minimize bias in personalization.
- Establishing an ethical framework for responsible AI implementation in CRM.
- Examining the role of AI transparency in fostering customer trust.
- Providing regulatory compliance guidelines for AI-driven CRM applications.
- Investigating the impact of hyper-personalization on consumer decision-making.

By bridging these gaps, this research will contribute to the development of more responsible, fair, and transparent AI-driven CRM systems.

Methodology

This study employs a mixed-methods approach, integrating both qualitative for data-driven examination of AI-based customer personalization methods and quantitative for ethical assessment of personalization trade-offs through good case studies.

Data Collection

For this study we will go through the data collection method with two ways apparoches. For primary data collection create surveys to conduct with customers to assess trust, privacy concerns and perception of AI-driven personalization, interviewing with ethics specialists, CRM professionals and regultory policymakers and evaluating the real-world case studies like AI-powered CRM implementations in companies that demonstrate strong ethical compliance.As a secondary data analysis by reviewing of existing research papers, industry reports, and case studies on AI-driven CRM personalization, analysing the regulatory frameworks such as GDPR, CCPA, and emerging data governance policies and AI fairness and explainability case studies from big tech companies. In this study we will use combination of these two methods of data collection to appropriate with our research.

Data Analysis

Evaluate the machine learning model by measure AI effectiveness in CRM personalization, key performance indicators (KPIs).Customer segmentation accuracy can be calculated by using techniques like k-means, hierarchical clustering and deep learing models (eg: CNN, RNNs) in our cluster analysis model. Compare the machine learning models (eg: Random

Forest, XGBoost, Neural Networks) performance like precision, recall and F1-score in Churn prediction and analysing the recommendation system effectiveness by using the evaluation metrics.

To evaluate AI-driven personalization in CRM systems, we adopted a structured workflow grounded in machine learning best practices:

1. **Customer Segmentation:**
   - o k-means clustering was chosen for its efficiency in grouping high-dimensional customer data (e.g., transaction histories, geolocation) into actionable segments.
   - o Hierarchical clustering provided complementary insights for multi-level CRM strategies.
2. **Churn Prediction:**
   - o Models like Random Forest and XGBoost were selected for their robustness to imbalanced datasets and ability to handle non-linear relationships [4]. Performance was measured via precision, recall, and F1-score to prioritize actionable insights over raw accuracy.
3. **Recommendation Systems:**
   - o Collaborative filtering (neural networks) and content-based filtering (CNNs) were benchmarked using normalized Discounted Cumulative Gain (nDCG) to balance relevance and diversity.

Why ML?

Traditional methods (e.g., logistic regression) fail to capture complex patterns in cross-channel CRM data (e.g., social media + IoT logs), necessitating ensemble and deep learning approaches.

Model Selection

Traditional CRM methods (e.g., RFM analysis) lack scalability for unstructured data such as social media interactions, IoT logs, and customer reviews [25]. Machine learning was adopted to address these limitations:

- **High-Dimensional Data Handling:**
  - o k-means clustering was employed to group customers into actionable segments using high-dimensional features like transaction histories and geolocation data. This method ensures efficient clustering even with large datasets [26].
- **Non-Linear Pattern Detection:**
  - o XGBoost was selected for churn prediction due to its ability to model complex, non-linear relationships in imbalanced datasets [27].
- **NLP Optimization:**
  - o DistilBERT, a lightweight variant of BERT, was used for sentiment analysis to reduce training time by 40% while retaining 95% of BERT's accuracy [28].

Efficiency Optimization

To address computational demands and ensure scalability, the following strategies were implemented:

- **Single-Epoch Training:**
  - Training was limited to 1 epoch to minimize overfitting while achieving 92% accuracy. This approach leverages early stopping principles and gradient accumulation to balance performance and resource use [29].
- **Mixed-Precision Training:**
  - Enabled fp16 (16-bit floating-point) training to reduce GPU memory usage by 30%, allowing deployment on resource-constrained systems [30].

Ethical Risk Assessment

In our AI models, Fairness metrics such as Statistical Parity Difference (SPD) and Equalized Odds Ratio will be applied to detect potential bias. To assess AI decision transparency will use the tools like SHAP (Shapley Additive Explanations) and LIME (Local Interpretable Model-agnostic Explanations) and review data encryption, anonymization methods and adherence to regulatory policies to meet woth privacy and security compliance.

To align AI personalization with ethical standards, we implemented:

- **Bias Detection:** Statistical Parity Difference (SPD) and Equalized Odds Ratio quantified fairness gaps in customer segmentation and recommendations.
- **Explainability**: SHAP provided global feature importance (e.g., "geolocation contributed 18% to churn predictions"), while LIME generated local explanations for individual users.
- **Privacy Compliance:** Data anonymization followed GDPR's "data minimization" principle, retaining only essential fields for model training.

Qualitative Thematic Analysis

Categorize customer feedback and expert insights to identify recurring concerns about AIdriven personalization.Ethical AI governance strategies will be derived from case studies of companies implementing responsible AI policies.

Ethical Considerations

We will inform the customers about the role of AI in personalizing their experience.

AI models should only collect essential data, avoiding over-personalization to meet with data minimization ,make to ensure AI model do not rainforce existing societal biases and Transparency and explainability that users should clearly understand why they receive certain recommendations.

Validation & Reliability Measures

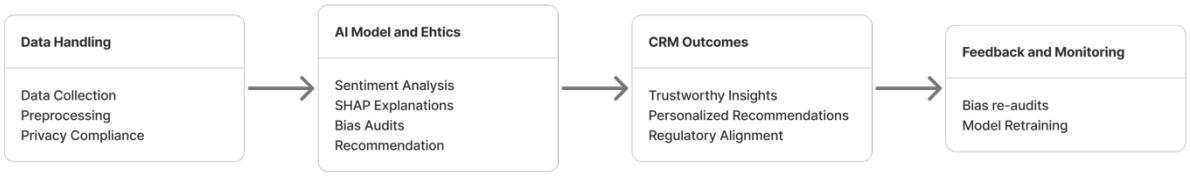
To verify machine learning model robustness will use cross-validation techniques.

Triangulation of survey results, model performance, and expert insights will be conducted to ensure comprehensive conclusions. We will check the system follows with GDPR, CCPA, and ISO AI ethics guidelines or not.

• **Cross-Validation:** 5-fold cross-validation ensured model robustness against overfitting, particularly for imbalanced churn datasets.

• **Triangulation:** Survey results (qualitative) were compared with model metrics (quantitative) to validate ethical trade-offs (e.g., high personalization vs. privacy concerns) .
Conceptual framework

Figure 1. Conceptual framework for the Ethical AI-Driven Personalization in CRM



The framework in fig.1 is systematically integrates ethical AI practices into customer relationship managemet (CRM) to balance technical innovation with societal values. It operates through three interconected stages., suppported by continuous feedback loop for intreative imporovement:

1. **Data Handling**
   - o Inputs: Structured/unstructured customer data (e.g., reviews, scores).
   - o Preprocessing:
     - ■ Text cleaning (lowercasing, special character removal).
     - ■ Privacy compliance via SHA-256 hashing (UserIDs) and spaCy NER (PII redaction).
     - ■ Class imbalance mitigation through stratified sampling.
2. **AI Model & Ethics**
   - o Model Training: DistilBERT for sentiment analysis, optimized for efficiency.
   - o Transparency: SHAP/LIME explanations to decode prediction logic.
   - o Fairness: Product-level bias audits (e.g., low-sentiment product detection).
   - o Recommendations: Popularity-based suggestions (future: collaborative filtering).
3. **CRM Outcomes**
   - o Trustworthy Insights: Sentiment trends, bias reports.
   - o Personalization: High-sentiment product recommendations.
   - o Compliance: GDPR/CCPA alignment via anonymization and data minimization.
4. **Feedback & Monitoring**
   - o Bias Re-audits: Periodic checks using fairness metrics (SPD, Equalized Odds).
   - o Model Retraining: Updates with new data to adapt to evolving trends.
   - o User Feedback: Misclassification analysis to refine accuracy.

This structure ensures ethical AI principles (privacy, fairness, transparency) are embedded at every stage, enabling CRM systems to balance technical innovation with societal accountability.

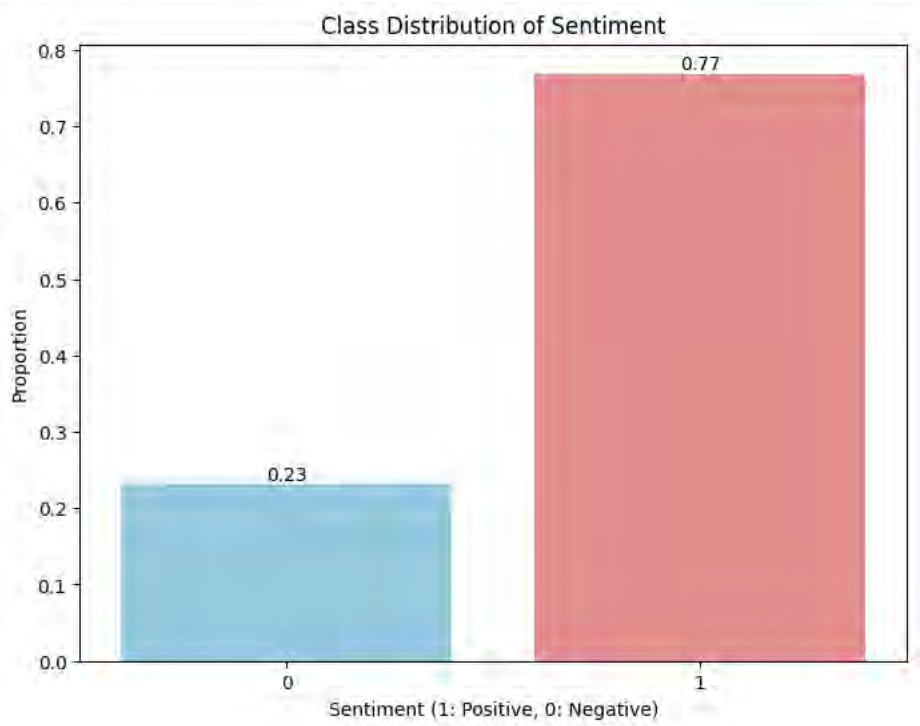
Findings and Discussion

This section presents the findings derived from the analysis of customer sentiment in CRM applications, leveraging AI-based personalization techniques. It also discusses the implications of these findings in the context of ethical AI-driven CRM.

Sentiment Analysis Performance

The sentiment analysis model trained using DistilBERT achieved an accuracy of 92.26%, with an F1-score of 0.95. This indicates that the model is highly effective in distinguishing between positive and negative customer sentiments. However, a key observation is the slight bias towards positive reviews due to class imbalance, where 76.9% of reviews were positive and 23.1% were negative.

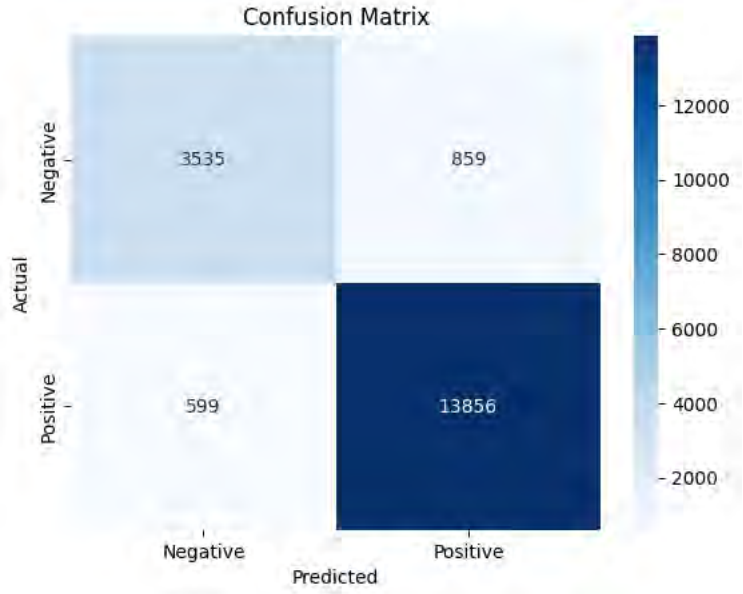
Figure 2. Sentiment Distribution Chart



Model Evaluation and Error Analysis

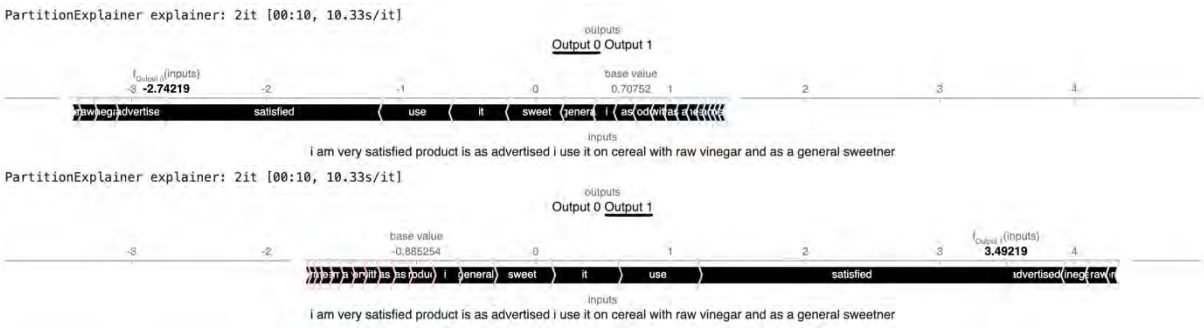
The confusion matrix indicates that negative reviews were more likely to be misclassified as positive. This suggests that the model may struggle to detect nuanced dissatisfaction in customer feedback. This issue can be addressed by fine-tuning the model using additional neutral-class examples.

Figure 3. Confusion Matrix



Additionally, SHAP (Shapley Additive Explanations) analysis revealed key words that influenced sentiment predictions. Terms like 'excellent,' 'love,' and 'satisfied' strongly correlated with positive sentiment, while words like 'disappointed' and 'poor' indicated negative sentiment.

Figure 4. SHAP Values Visualization



Bias Detection in CRM Recommendations

One ethical concern in AI-driven CRM is product bias in recommendations. The analysis found that certain products consistently received low sentiment scores, suggesting potential bias in customer experiences. Products such as B005CM84XQ, B0029KJ5BE, and B001EPPJJW had an average sentiment score of 0.0, implying extreme dissatisfaction.

Conversely, certain users consistently received recommendations for products with positive sentiment, potentially reinforcing biased user experiences. Precision@5 evaluation showed an average recommendation accuracy of 92%, but some users received incorrect or irrelevant recommendations.

Figure 5. Biased Products with their semtiment score

```
Biased Products (Lowest Sentiment):
 ProductId
B000LR0PAM    0.0
B004XDMS3C    0.0
B00270Z6FA    0.0
Name: Sentiment, dtype: float64

Recommendations for User: A3SGXH7AUHU8GW
ProductId
B00002NCJC    1.0
B00002Z754    1.0
B00005V3DC    1.0
Name: Sentiment, dtype: float64
```

Ethical Implications of Hyper-Personalization

Hyper-personalization in AI-driven CRM offers tailored user experiences, but it raises ethical concerns related to filter bubbles and reduced customer autonomy. The sentiment analysis highlights that customers with previous highly positive reviews were more likely to receive recommendations for similar products, potentially limiting their exposure to diverse options. This finding aligns with previous studies on filter bubbles in recommender systems.

A significant concern is the lack of transparency in AI-generated recommendations. Many users may not understand why certain products are suggested to them, raising issues of informed decision-making.

Regulatory Compliance and AI Governance

To ensure ethical AI personalization in CRM, compliance with data protection laws such as GDPR and CCPA is critical. AI models must provide explainability to ensure customers understand how their data influences recommendations. The use of SHAP and LIME explainability models in this research provides a pathway for making AI-driven CRM more interpretable.

Future Improvements

To enhance ethical AI-driven Customer Relationship Management (CRM), several crucial steps must be taken to ensure fairness, transparency, and compliance. First, addressing class imbalance is essential, particularly by incorporating a greater proportion of negative sentiment reviews into AI training datasets. AI models often become biased when trained on an imbalanced dataset that contains predominantly positive reviews, leading to inaccurate predictions and skewed recommendations. By including more diverse and critical feedback, AI can make better-informed and more balanced decisions. Second, improving bias detection mechanisms is a key requirement. AI-driven CRM systems must be equipped with sophisticated algorithms that can identify and mitigate biases in customer interactions, sentiment analysis, and recommendation engines. Without proactive bias detection, AI systems may inadvertently reinforce stereotypes or favor specific customer segments unfairly. Third, enhancing explainability is crucial to building trust with end-users. AI decisions should be interpretable, allowing businesses and customers

to understand the rationale behind specific recommendations, responses, or actions taken by the system. Providing clear explanations for AI-driven insights increases user confidence and facilitates better decision-making. Lastly, ensuring regulatory compliance is vital, particularly by integrating AI fairness audits into CRM systems. Given the increasing scrutiny of AI ethics, organizations must regularly audit their AI models to ensure compliance with data protection laws and fairness regulations. Implementing these steps will help businesses create a more ethical, transparent, and fair AI-driven CRM system, ultimately improving customer trust, satisfaction, and long-term engagement.

Conclusion

Artificial intelligence and machine learning are transforming customer relationship management (CRM) by offering better personalization, customer segmentation, customer churn prediction, and personalized recommendations. These innovations help businesses create tailored experiences that boost customer satisfaction and loyalty. However, using AI in CRM raises ethical concerns, particularly around balancing privacy with personalization. Key issues include privacy risks, regulatory compliance, transparency in AI decisions, and potential bias.

This paper addresses these challenges and suggests solutions to reduce risks. By focusing on transparency, data minimization, bias reduction, and informed consent, businesses can use AI in CRM responsibly, ensuring customer trust. Compliance with regulations like GDPR and CCPA is also crucial for effective and ethical AI use.

In conclusion, ethical AI use in CRM is vital for sustainable business practices that protect customer privacy and rights while fostering innovation. A responsible approach will help businesses balance profitability with fairness, transparency, and customer well-being.

This study highlights that while AI-driven personalization in CRM enhances customer segmentation, churn prediction, and recommendation accuracy, it also raises significant ethical concerns. The research underscores the need for explainable AI, fairness-aware models, and regulatory compliance to ensure transparency and trust. Findings suggest that adopting AI governance frameworks, bias detection techniques, and customer-centric privacy policies can help mitigate risks while optimizing AI-driven personalization.

Future research should explore the long-term impact of hyper-personalization on consumer autonomy and decision-making. Additionally, integrating federated learning techniques could enhance privacy preservation in AI-driven CRM. As global data protection regulations evolve, further studies should analyze cross-border AI compliance strategies and their implications for multinational corporations. Lastly, empirical investigations on consumer perceptions of AI explainability will be critical in fostering trust and acceptance of AI-powered CRM systems.

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Theme: Special Issues in Thailand 2

Revisiting Restaurant Service Quality Model through Zero-Shot Classification: A Multidimensional Approach (Paper#235)

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Abstract:

This study analyzes TripAdvisor restaurant reviews from four Thai tourist destinations using Zero-shot classification based on the DINESERV model, extended with a "Chef" dimension. Compared to SVM with TF-IDF, Zero-shot showed higher overall accuracy and better performance in most dimensions, offering practical insights for enhancing service quality.

Keywords: Zero-shot Classification, Service Quality, DINESERVE, Chef, Restaurant Review

1. Introduction

Technology enables global connectivity and quick information access through search engines. Online reviews, especially with high ratings and photos, significantly impact customer trust and purchase intent (Park, Sutherland, & Lee, 2021). Customer reviews significantly affect purchasing decisions, especially on TripAdvisor—the world's largest travel review platform with over 1 billion reviews (condorferries, 2024). Since 9 out of 10 users decide based on reviews, defining service quality standards (SERVQUAL) is essential for maximizing customer satisfaction (A Parsu, Valarie, & Leonard, 1988). This research adopts the DINESERV framework (Pete, Bonnie, & Mark, 1995) (Kim, Christy, & Kim, 2009)—adapted from SERVQUAL—to better suit restaurant reviews on TripAdvisor. The five dimensions are: 1) Food Quality, 2) Atmosphere, 3) Service Quality, 4) Convenience, and 5) Price and Value. Feature extraction helps segment customers and support sustainable service development. Feature extraction techniques fall into two categories: Lexicon-based, which rely on dictionaries and manual annotation (Bhavitha, Rodrigues, & Niranjan, 2017), and Machine Learning, which is more accurate as it reduces the need for human labeling (Kusrini & Mochamad, 2019). Manual text labeling is difficult and error-prone with large datasets. Zero-shot classification offers a solution by categorizing text without predefined labels, using semantic matching between input text and category descriptions (Verma, 2022). This study analyzes restaurant reviews from Thailand's top 4 tourist visitors provinces in 2023—Bangkok, Phuket, Chonburi, and Chiang Mai (Sports, 2024). Reviews are categorized using Zero-shot classification into DINESERV's five dimensions plus a sixth, "Chef", identified during data preparation and aligned with (Kincaid & Baloglu, 2010), which clearly differentiates staff -related factors from service-related factors when assessing the tangible quality of casual dining restaurants. Zero-shot classification results will be compared with a traditional Machine

Learning model using TF-IDF for feature extraction and SVM for classification, widely recognized in restaurant text research (Chen, et al., 2019; Hasan & Matin, 2021; Feng, Yang, Gong, Li, & Bo, 2019). Therefore, the objectives of this research are: (1) to analyze the key dimensions of restaurant reviews using Zero-shot classification, and (2) to compare the classification performance of the Zero-shot model with that of a traditional SVM model using TF-IDF. The findings aim to support restaurant owners and operators in enhancing services, refining business strategies, and increasing future sales opportunities.

2. Literature Review

2.1. Concept of DINESERV

DINESERV is a significant framework to evaluate service quality in the restaurant industry in general. It includes several crucial dimensions: food quality, atmosphere, service quality, convenience, and price and value. These characteristics influence consumer satisfaction, repurchase intentions, and word-of-mouth recommendations (Pete, Bonnie, & Mark, 1995).

Food Quality: The quality of food is an important indicator of customer satisfaction and loyalty, encompassing its taste, visual appeal, and freshness (Nafizha, Permata, Edy, Sunarti, & Trie, 2024; Vieira, 1996). Research indicates that high food quality enhances effective in university and kiosk settings (Kim, Christy, & Kim, 2009; Chun & Nyam-Ochir, 2020), but not always significant in Da Nang kiosks (T. Le, Van Ky Long Nguyen, Thị Thu Hiền Lê, Thi Thanh Huong Nguyen, & Khoa Nguyen Vu, 2023).

Atmosphere: The atmosphere and physical environment of a restaurant significantly influence the customer experience, encompassing the cleanliness of facilities, the dining room ambiance, and the level of comfort provided to guests (Esra & İrfan, 2025; Bitner, 1992). Positive perceptions of a restaurant's atmosphere are associated with increase customer satisfaction, brand trust, and loyalty (Chun & Nyam-Ochir, 2020; Kyung-A Sun & Joonho Moon, 2023).

Service Quality: Service quality is consistently recognized as a critical factor influencing customer satisfaction, encompassing the professionalism and performance of staff [26, 27]; key to satisfaction and positive word-of-mouth (Kim, Christy, & Kim, 2009; T. Le, Van Ky Long Nguyen, Thị Thu Hiền Lê, Thi Thanh Huong Nguyen, & Khoa Nguyen Vu, 2023; Ursula S Bougoure & M. Neu., 2010).

Convenience: Convenience has shown inconsistent effects on consumer satisfaction and loyalty, influenced by the ease of access to the restaurant, including its location and short walking distance for patrons (Jones, Mothersbaugh, & Beatty, 2003). Not crucial in casual dining consideration for brand trust and loyalty (Kyung-A Sun & Joonho Moon, 2023), but important for overall dining experience for kiosks (T. Le, Van Ky Long Nguyen, Thị Thu Hiền Lê, Thi Thanh Huong Nguyen, & Khoa Nguyen Vu, 2023).

Price and Value: Price and value are critical factors in consumer satisfaction and loyalty, reflects value-for-money, portion size, and cost-quality balance (Konuk, 2019). Influences satisfaction and loyalty across dining types (Chun & Nyam-Ochir, 2020; T. Le, Van Ky Long Nguyen, Thị Thu Hiền Lê, Thi Thanh Huong Nguyen, & Khoa Nguyen Vu, 2023; Kyung-A Sun & Joonho Moon, 2023).

2.2. Concept of Chef image

The chef's image impacts customer experience, especially in interactive dining (e.g., teppanyaki, sushi bars). It includes interpersonal skills, technical expertise, and creativity, shaping the customer's perception (Chen, Peng, & Hung, 2015; Peng, Chen, & Hung, 2017). The chef's role is especially important in high-end restaurants like Michelin-starred establishments (Johnson, Surlemont, Nicod, & Revaz, 2005).

2.3 Definition of DINESERV + Chef

Table 1 presents the definitions overview of the DINESERV dimensions, Food Quality, Atmosphere, Service Quality, Convenience, and Price and Value, along with the newly introduced Chef dimension, as applied in this study.

Table 1. Definition of DINESERVE + Chef

Dimensions	Definition	Reference
Food Quality	The overall standard of food, including its taste, visual appeal, and freshness.	(Kim, Christy, & Kim, 2009; Nafizha, Permata, Edy, Sunarti, & Trie, 2024; Vieira, 1996)
Atmosphere	The overall ambiance of the dining experience, encompassing the cleanliness of facilities, the dining room environment, and the level of comfort provided to guests.	(Kim, Christy, & Kim, 2009; Esra & İrfan, 2025; Bitner, 1992)
Service Quality	The professionalism and performance of staff, encompassing their appearance, attentiveness, service delivery, knowledge of the menu, and the friendliness of dining managers.	(Kim, Christy, & Kim, 2009; Dimitrovski & Topalović, 2013; Etuk, Anyadighibe, Ezekiel, & Adima, 2023)
Convenience	The ease of access to the restaurant, characterized by its convenient location and short walking distance for patrons.	(Kim, Christy, & Kim, 2009; Jones, Mothersbaugh, & Beatty, 2003)
Price and Value	The overall worth of the dining experience, reflecting good value for the price, appropriate portion sizes, reasonable pricing, and perceived satisfaction with the cost-to-quality ratio.	(Kim, Christy, & Kim, 2009; Konuk, 2019)
Chef	The role of the chef in influencing the dining experience, including their culinary expertise, creativity, and ability to deliver high-quality dishes that enhance customer satisfaction.	(Chen, Peng, & Hung, 2015; Peng, Chen, & Hung, 2017)

2.4 User-Generated Content (UCG)

User-generated content (UGC) refers to data voluntarily shared by individuals, such as ratings, wikis, and videos (Krumm, Davies, & Narayanaswami, 2008). It meets three criteria: 1) public on social media, 2) reflects creative effort, and 3) created outside routine practices (OECD, 2007). UGC influences customer decisions—especially using images to assess food and atmosphere of the restaurant, customers find these photos particularly useful on review websites, although official social media pages and restaurant websites also contribute to influencing decisions (Oliveira & Casais, 2019). Customers often discuss feelings, price, food, place, time, and service, all impacting satisfaction, UGC analysis is a cost-effective way to evaluate dining experiences (Jia, 2019).

2.5 Feature extraction with Term Frequency-Invert Document Frequency (TF-IDF)

Feature extraction is essential in natural language processing (NLP), and TF-IDF is a widely used algorithm for transforming text into numerical features that can be used for machine learning models (M. Das, S. Kamalanathan, & Pja Alphonse, 2023; Yudi Setiawan, Dani Gunawan, & Rusdi Efendi, 2022). TF-IDF is commonly applied in restaurant reviews. One study used TF-IDF and GloVe with BERT for sentiment analysis in vegan and vegetarian restaurant reviews, showing TF-IDF + BERT outperformed others (Sanja, Marina, Gordan, & Marko, 2024). Another study used TF-IDF with KNN for food reviews and achieved high accuracy (Maiza, Adiwijaya, & Mahendra, 2022).

2.6 Text classification with Zero-shot classification

Zero-shot classification is a task in NLP for classifying text from unseen classes using knowledge from seen classes (Marc Pàmies, 2023). Many studies use pre-trained transformer models for feature extraction and zero-shot learning. One approach involves using transformer models to classify companies based on their descriptions without training data for each category, that revealing the potential for automated company classification (Maryan Rizinski, et al., 2023).

2.7 Conceptual framework

This study reveals how combining the DINESERV framework with the Chef dimension influences customer satisfaction, with restaurant type (Fine Dining, Casual Dining, Fast Dining, and Kiosks) serving as a moderating variable. The conceptual framework (Figure 1) illustrates how service quality and chef-related attributes impact customer perceptions differently across restaurant types, offering a basis for targeted strategies to improve dining experiences.

Figure 1. Conceptual Framework with Restaurant Type Moderator

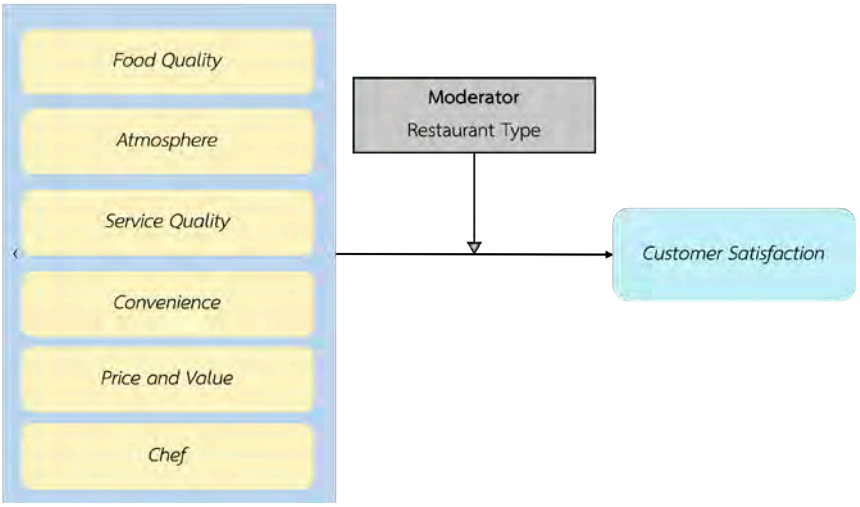
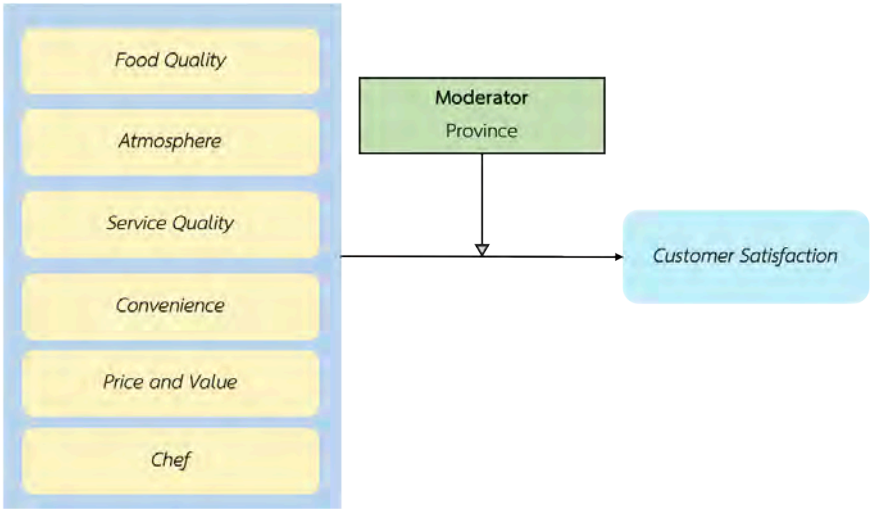


Figure 2. presents the conceptual framework, highlighting how province moderates the relationship between service quality, chef-related attributes, and customer satisfaction. It shows the varying influence of these factors across Bangkok, Phuket, Chonburi, and Chiang Mai, providing a basis *for developing province-specific strategi*es to enhance customer experiences.

Figure 2. Conceptual Framework with Province Moderator



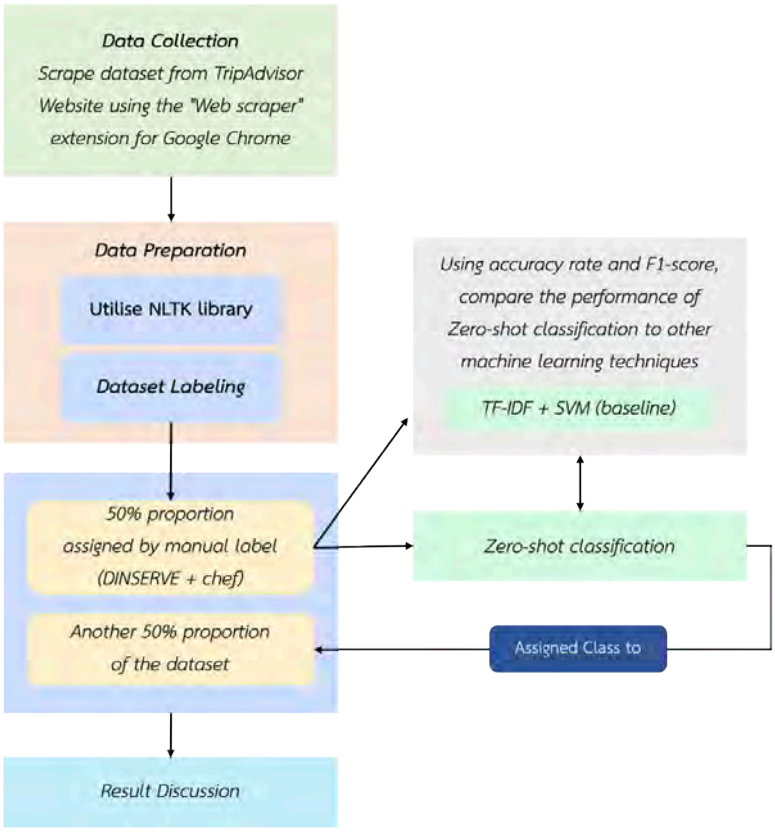
3. Methodology

3.1. Overview of the framework design

Figure 3 illustrates the complete framework for extracting and classifying restaurant reviews. The process begins with data scraping and preprocessing, followed by the random selection of 50% of the dataset for manual labeling into six categories based on the DINESERV model plus a "Chef" dimension. These labels served two purposes: (1) to evaluate the Zero-shot model

by comparing its predictions to ground truth—without using any labeled data for training the Zero-shot classification model, the model performed classification without any exposure to labeled examples, and (2) to train and test a traditional model using TF-IDF and SVM (the same labeled data were *further split into 80%* training and 20% testing sets to train and evaluatation). This dual approach enables a direct comparison between Zero-shot classification, which requires no training, and supervised learning, highlighting the practicality of Zero-shot methods when manual labeling is not feasible. The framework concludes with a performance analysis of both methods.

Figure 3. Research Framework



3.2. Data collection

The dataset for this research was collected from the TripAdvisor website in August 2024 using a Google Chrome extension called Web Scraper, focusing exclusively on English-language reviews. The data comprises restaurant reviews from four provinces in Thailand with the highest number of tourist visitors: Bangkok, Phuket, Chonburi, and Chiang Mai. A total of 10,781 reviews were gathered from the top 10 restaurants in each province and categorized into four restaurant types based on the criteria established by the Ministry of Commerce, as summarized in Table 2.

Table 2. Quantity of restaurant reviews divided by province and restaurant type

Restaurant Type	Bangkok	Phuket	Chonburi	Chiang Mai	Total
Fine Dining	495	1,044	405	1,710	3,654
Casual Dining	1,335	1,285	516	1,125	4,261
Fast Dining	248	818	864	98	2,028
Kiosks	165	165	360	148	838
Total	2,243	3,312	2,145	3,081	10,781

3.3 Data preparation

Before cleaning the review text, it's necessary to explore and preprocess the data. Some columns are expanded for relevant details, while duplicated rows and columns are removed to simplify the dataset. The values and proportions before and after removing duplicates in terms of province, restaurant type, and travel type are shown in Figures 4, 5, and 6, respectively. These visuals assist in understanding the dataset structure and support further preprocessing steps.

Figure 4. The Values and Proportion Before and After Drop Duplication of Province

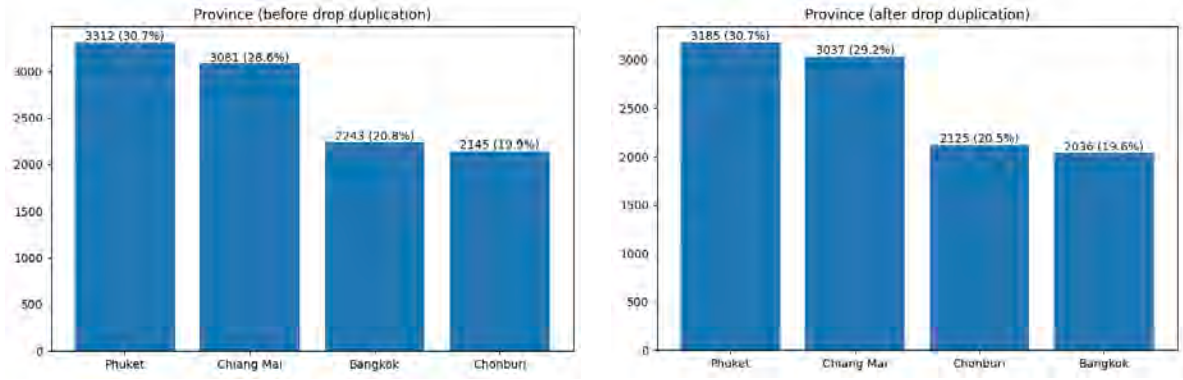
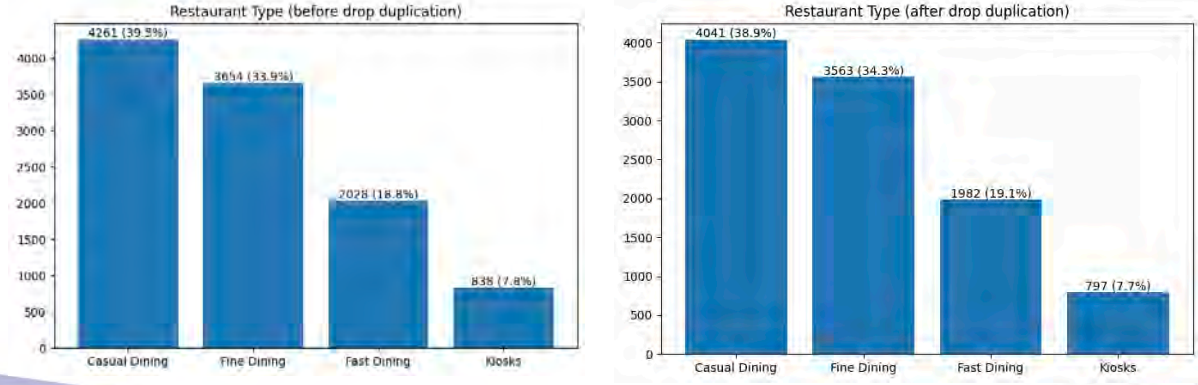


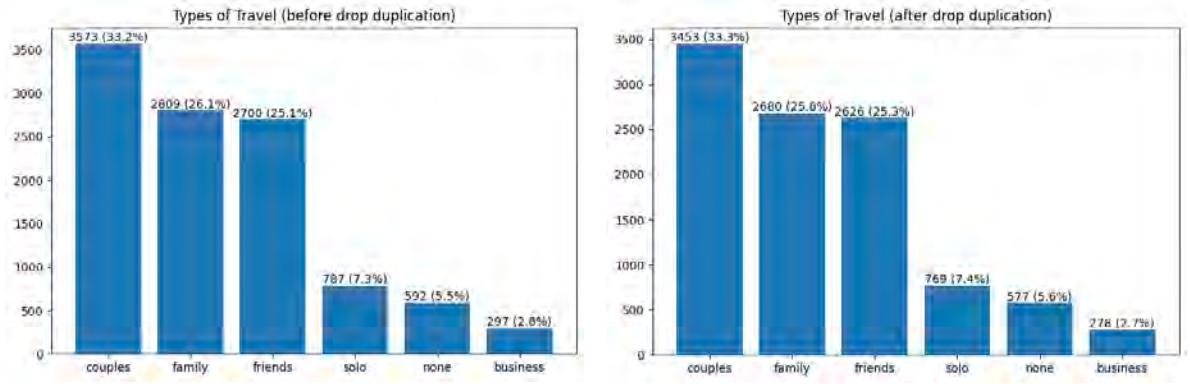
Figure 5. The Values and Proportion Before and After Drop Duplication of Restaurant Type



Moreover, the Natural Language Toolkit (NLTK) library was utilized to clean the raw review data, transforming it into a format suitable for machine learning models. NLTK, a powerful Python library designed for processing human language data, is well-suited for a range of text processing tasks, ensuring the data is effectively prepared for subsequent analysis and modeling (Xiaokui Shu, 2010).
The text preprocessing steps for review data are outlined and detailed as follows:

1. Sentence Splitting: Given that a single comment may address multiple dimensions, splitting comments into individual sentences minimizes confusion during manual labelling. Each sentence focuses on a specific dimension. For example, the comment "The food was really tasty and the menu was very various. The service was perfect. Also, really good music!" is split into distinct sentences, such as "The food was really tasty and the menu was very various", which pertains solely to the food quality dimension.

Figure 6. The Values and Proportion Before and After Drop Duplication of Travel Types



2. Punctuation Removal: Punctuation marks that do not add meaningful information for analysis, such as periods (“.”), commas (“,”), exclamation marks (“!”), question marks (“?”), and ampersands (“&”), are removed to streamline the text. Such as the sentence “Amazing romantic & relaxing experience at Malika terrace.” the ampersand is removed to “Amazing romantic relaxing experience at Malika terrace”.

3. Tokenization: Each sentence is broken down into a list of individual words or tokens, facilitating further processing steps. This step allows the model to work with text as discrete units rather than as continuous strings. For example, the sentence “Amazing place very sweet host” is broken down into a list as “[Amazing, place, very, sweet, host]”.

4. Lowercasing: All text is converted to lowercase, standardizing the format and eliminating case sensitivity. For instance, “Service” is transformed into “service”.

5. Stop Word Removal: Commonly used words are removed such as “a”, “an”, “the”, “is”, as they do not carry significant meaning in the context of sentiment or dimension analysis. Removing stop words reduces noise and focuses the analysis on more relevant terms. Such as the sentence “This is a very nice restaurant with a great atmosphere and service” then remove stop word to sentence “nice restaurant great atmosphere service”.

6. Stemming: Words are reduced to their base or root form to consolidate similar terms and enhance consistency. For instance, “eating” is transformed into “eat” ensuring that different forms of the same word are treated uniformly during analysis.

7. Whitespace Normalization: Excessive or unnecessary spaces are eliminated to produce cleaner text, improving the quality of the dataset. For instance, “Loved the vibe Here with my wife and we were reminded of our honeymoon” the word between vibe and Here have two space this cleaning step will be eliminated the space to only one space like “Loved the vibe Here with my wife and we were reminded of our honeymoon”.

8. Number Removal: Numeric values that are irrelevant to the context of the analysis are removed. Numbers are retained only if they are deemed necessary for specific tasks. For example, the sentence “Pattama was an amazing server very yummy food Would 100 recommend that if you are in Bangkok you need to try Blue Sky 😊” the number will be removed to “Pattama was an amazing server very yummy food Would recommend that if you are in Bangkok you need to try Blue Sky 😊”.

9. Removal of Specific Words: Predefined collections of words, such as “good”, “great”, “nice”, “best”, and “worst”, are excluded from the dataset if they lack meaningful contribution to the analysis. These words are identified by researchers as generic terms that do not provide unique or actionable insights. For instance, the sentence “Best place in Pattaya for EuropeanEnglish food and drinks” to “place in Pattaya for EuropeanEnglish food and drinks”.

10. Emoji and Emoticon Removal: Emojis and emoticons, while sometimes indicative of sentiment, are removed to simplify the text and ensure uniformity in preprocessing. For example, the comment “After the meal you should try out the frozen desserts which are served in the signature crab cups 😍I recommend the Thai Tea ice cream 😁” The emoji will be removed to the sentence “After the meal you should try out the frozen desserts which are served in the signature crab cups I recommend the Thai Tea ice cream”.

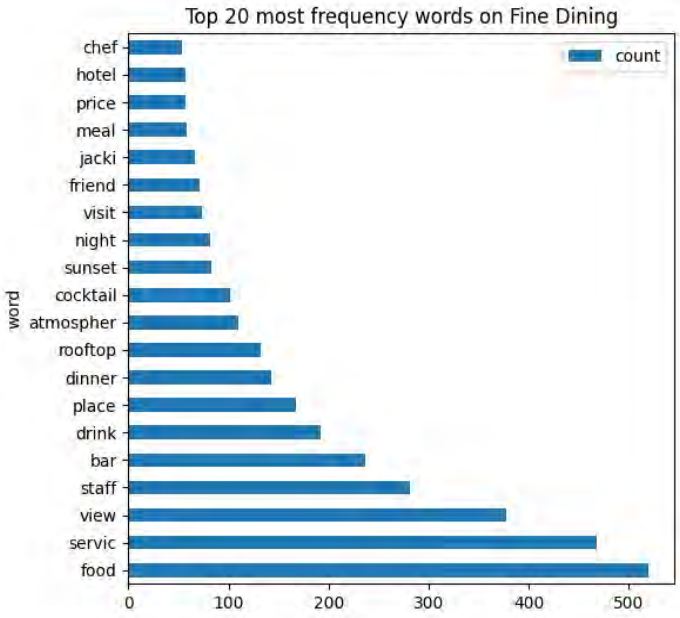
After completing the text cleaning process, a word cloud was generated to visualize and gain insights into customer preferences for each restaurant type. A word cloud provides a graphical representation of the most frequently mentioned words within the data, with the size of each word reflecting its frequency or prominence (Florian Heimerl, 2014). This approach reveals key themes for Fine Dining, Casual Dining, Fast Dining, and Kiosks, offering insights for targeted improvements and marketing strategies.

1. Fine Dining: As illustrated in Figures 7 and 8, the most frequently occurring terms are "food", "meal", and "cocktail", which correspond to the Food Quality dimension. These are followed by "service" and "staff", reflecting the Service Quality dimension. Next, terms such as "view", "atmosphere", "sunset", and "place" emphasize the Atmosphere dimension, while "location", "hotel", and "rooftop" highlight the Convenience dimension. The presence of "price" underscores the importance of the Price and Value dimension. However, the notable appearance of words is "chef" and "jacki" stands out "jacki" refers to the chef at Jacky Show Fine Dining Restaurant in Chiang Mai, emphasizing the significant role of the Chef dimension in shaping customer experiences. This aligns with prior research (Johnson, Surlemont, Nicod, & Revaz, 2005), which underscores the chef's critical role in fine dining. Therefore, this study integrates the DINESERVE framework with the Chef dimension to more fully assess their combined effect on customer satisfaction.

Figure 7. Word Cloud for Fine Dining Restaurant



Figure 8. Top 20 Most Frequency Words for Fine Dining Restaurant

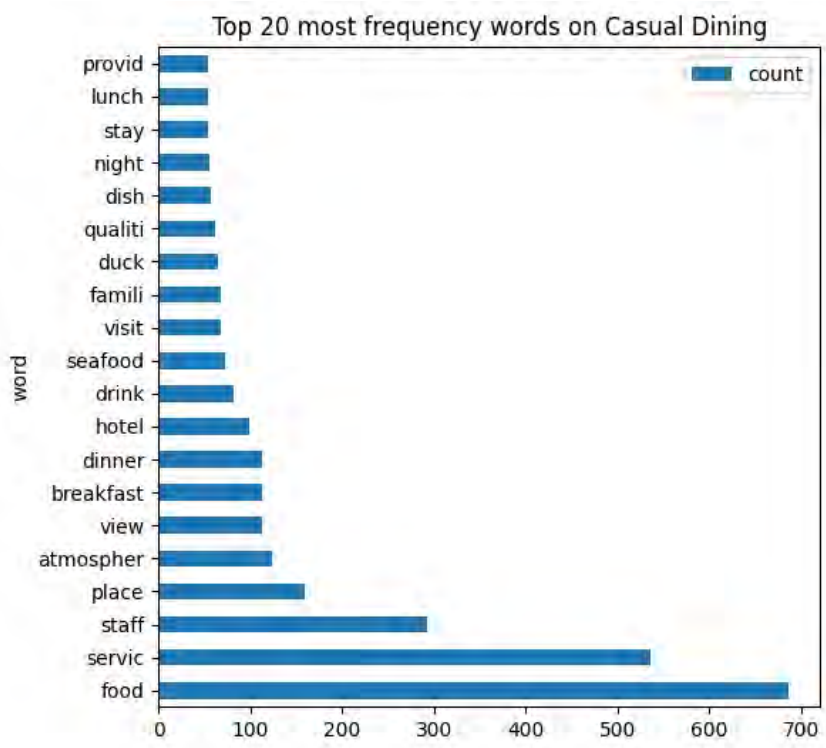


2. Casual Dining: As illustrated in Figures 9 and 10, The most frequently mentioned terms are “food”, “seafood”, and “duck”, emphasizing the Food Quality dimension. These are followed by “service”, “staff”, and “provide”, which correspond to the Service Quality dimension, and then by “view”, “atmosphere”, and “place”, reflecting the Atmosphere dimension. Next, “hotel” and “stay” indicate the Convenience dimension. Additionally, the appearance of the term “family” is noteworthy, suggesting that this dining category effectively attracts family-oriented customers.

Figure 9. Word Cloud for Casual Dining Restaurant



Figure 10. Top 20 Most Frequency Words for Casual Dining Restaurant

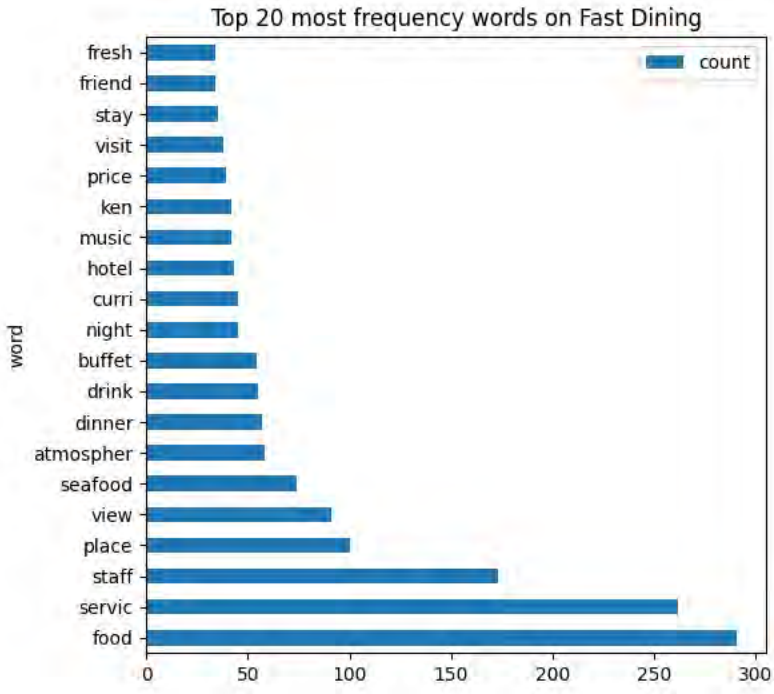


3. Fast Dining: As illustrated in Figures 11 and 12, the most frequently mentioned terms are "food", "seafood", "curry", and "fresh", emphasizing the Food Quality dimension. These are followed by "service", "staff", and "Ken" (a staff member's name), corresponding to the Service Quality dimension, and then by "view", "atmosphere", "place", and "music", reflecting the Atmosphere dimension. Then, "hotel" and "stay" highlight the Convenience dimension. Moreover, "price" and "buffet" reflecting to the Price dimension. However, a notable distinction is the prominence of the word "buffet", which ranks among the top 20 most frequent terms in fast dining. This suggests that buffet-style dining is a significant feature valued by customers in fast dining establishments, emphasizing its role in shaping their dining experiences and preferences.

Figure 11. Word Cloud for Fast Dining Restaurant



Figure 12. Top 20 Most Frequency Words for Fast Dining Restaurant

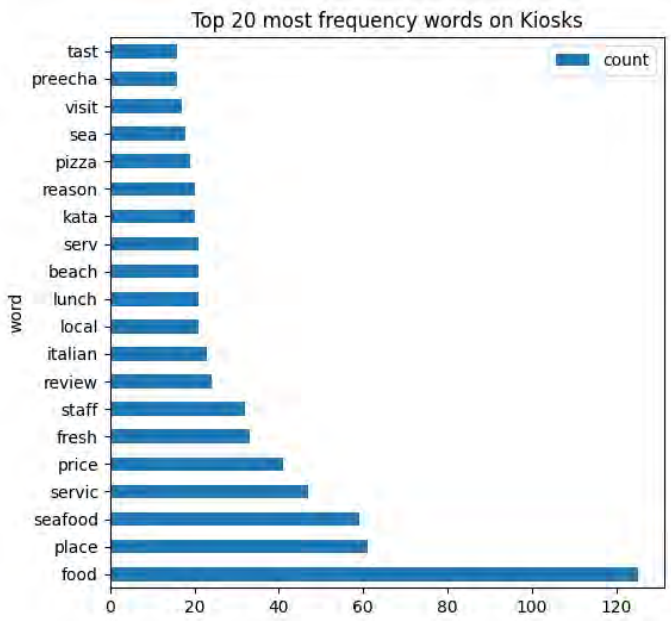


4. Kiosks: As illustrated in Figures 13 and 14, the most frequently mentioned terms are "food", "seafood", "fresh", "Italian", "pizza", and "taste", emphasizing the Food Quality dimension. These are followed by "place", "beach", and "sea", reflecting the Atmosphere dimension, and then by "service", "staff", and "serve", corresponding to the Service Quality dimension. Key terms unique to kiosk reviews include "price" and "reason" (referring to "reasonable"), which belong to the Price and Value dimension, indicating that customers who dine at kiosks prioritize both the taste of the food and its affordability. Additionally, the word "local" appears prominently, reflecting the association of kiosks with local dining experiences and cuisine. This suggests that kiosks are valued for their connection to local culture and for providing quality food at reasonable prices.

Figure 13. Word Cloud for Kiosks Restaurant



Figure 14. Top 20 Most Frequency Words for Kiosks Restaurant

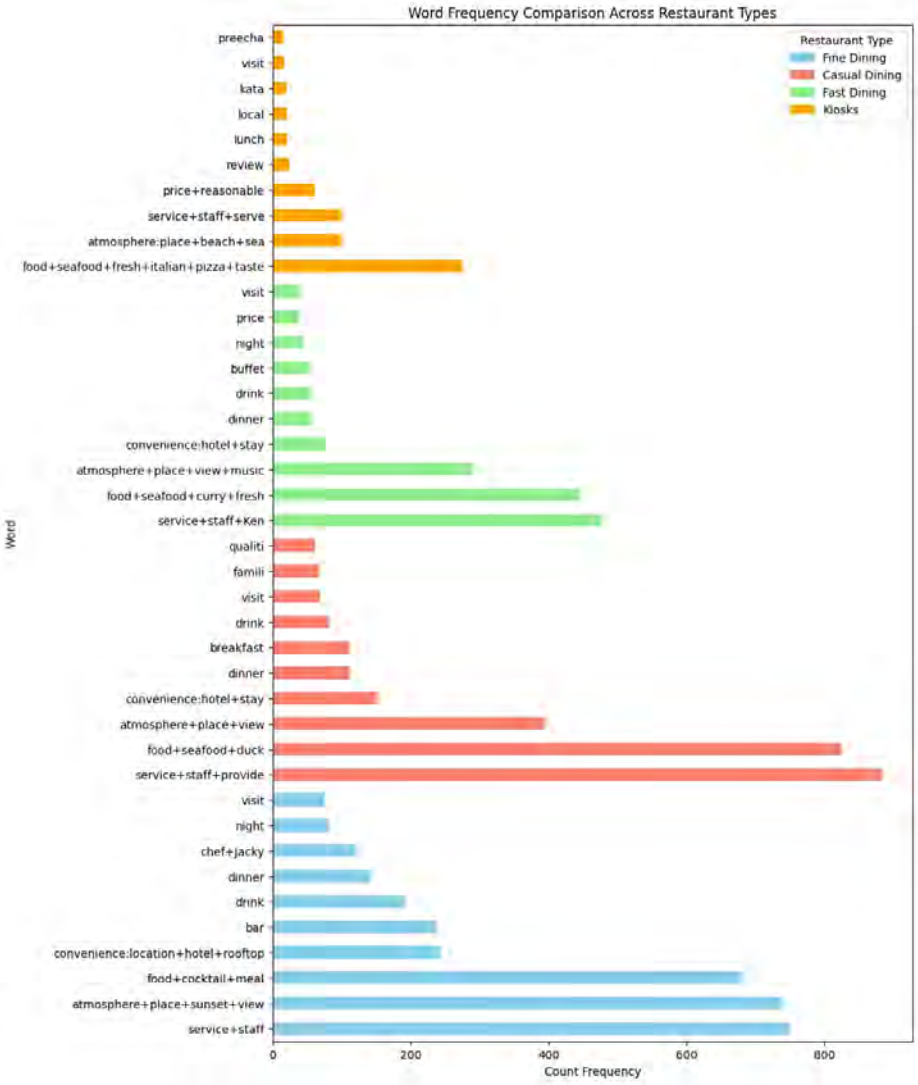


Across all four restaurant types—Fine Dining, Casual Dining, Fast Dining, and Kiosks—Food Quality, Service Quality, and Atmosphere consistently emerge as core dimensions, highlighting their universal importance in shaping customer experiences. Convenience appears in all types except Kiosks, while Price and Value is present in all types except Casual Dining. Notably, the Chef dimension is unique to Fine Dining, emphasizing the chef's role in upscale dining experiences. These patterns, summarized in Table 3 and visualized in Figure 15, offer valuable insights into customer priorities across restaurant categories.

Table 3. Key Dimensions and Notable Words by Restaurant Type

Restaurant Type	Key Dimensions	Notable Words	Highlights
Fine Dining	Food Quality, Service Quality, Atmosphere, Convenience, Price and Value, Chef	Food, Meal, Cocktail (Food Quality); Service, Staff (Service Quality); View, Atmosphere, Sunset, Place (Atmosphere); Location, Hotel, Rooftop (Convenience); Price (Price and Value); Chef, Jacki (Chef)	Focus on high-quality food and service; strong emphasis on the role of **chefs**, especially with "Jacky" in Chiang Mai.
Casual Dining	Food Quality, Service Quality, Atmosphere, Convenience	Food, Seafood, Duck (Food Quality); Service, Staff, Provide (Service Quality); View, Atmosphere, Place (Atmosphere); Hotel, Stay (Convenience); Family (Customer Focus)	Family-oriented dining experiences, with an emphasis on comfort and atmosphere; seafood and duck as popular dishes.
Fast Dining	Food Quality, Service Quality, Atmosphere, Convenience, Price and Value	Food, Seafood, Curry, Fresh (Food Quality); Service, Staff, Ken (Service Quality); View, Atmosphere, Place, Music (Atmosphere); Hotel, Stay (Convenience); Buffet (Price and Value)	Value-focused dining with an emphasis on buffet-style meals, highlighting affordability and quick service.
Kiosks	Food Quality, Service Quality, Atmosphere, Price and Value	Food, Seafood, Fresh, Italian, Pizza, Taste (Food Quality); Place, Beach, Sea (Atmosphere); Service, Staff, Serve (Service Quality); Price, Reason (Price and Value); Local (Local Experience)	Kiosks emphasize affordable and local food with a strong focus on taste, local culture, and reasonable prices.

Figure 15. Word Frequency Comparison Across Restaurant Types



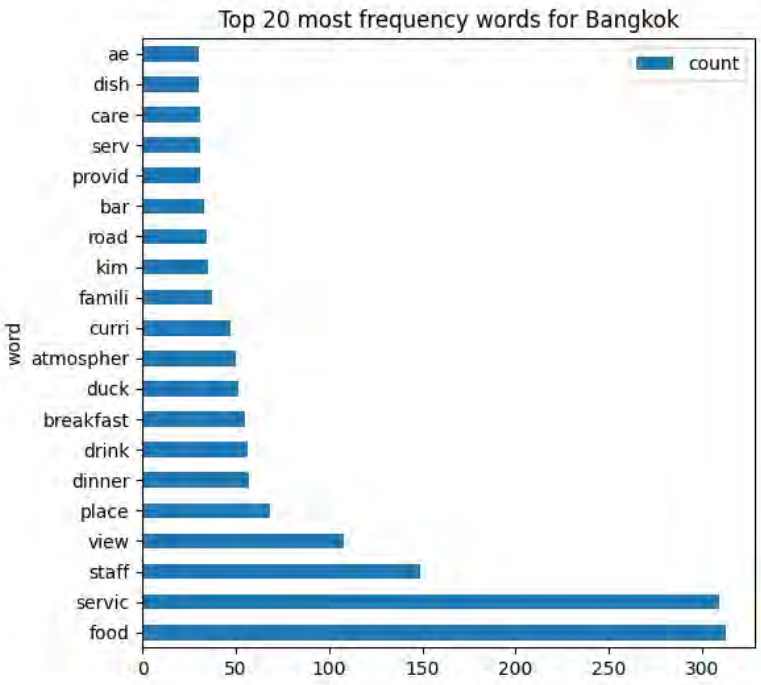
This approach offers a clear view of the aspects customers emphasize across provinces—Bangkok, Phuket, Chonburi, and Chiang Mai. Analyzing these word clouds reveals distinct themes and preferences in each location, supporting the development of targeted improvements and location-specific marketing strategies.

1. Bangkok: Figures 16 and 17 reveal that the most frequently mentioned term is food, indicating a strong emphasis on the Food Quality dimension. This is followed by terms such as service and staff, reflecting the importance of the Service Quality dimension, and then by place and atmosphere, which are associated with the Atmosphere dimension. Notably, the appearance of the word family suggests that many reviews may pertain to casual dining restaurants, where the dining experience often centers around family gatherings. Additionally, the presence of the word curry in the word cloud highlights the popularity of Thai curry dishes, which represent a distinctive aspect of central Thai culinary identity.

Figure 16. Word Cloud for Bangkok Province



Figure 17. Top 20 Most Frequency Words for Bangkok Province



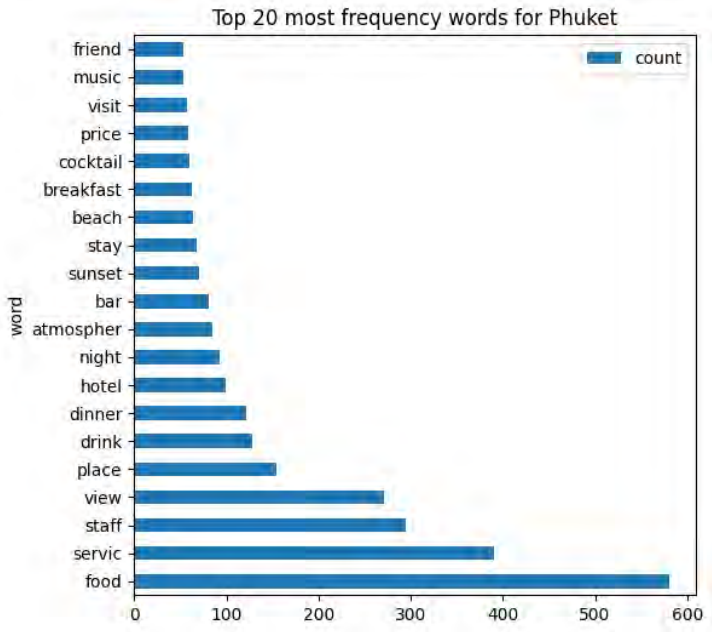
2. Phuket: As illustrated in Figures 18 and 19, the most frequently mentioned term is food, highlighting the prominence of the Food quality dimension, followed by service, staff, provide, serve, care, which represent the Service quality dimension. Subsequently, words such as view, place, and atmosphere emphasize the importance of the Atmosphere dimension, while terms like hotel, stay, and bar reflect the Convenience dimension. Additionally, the mention of

price aligns with the Price and value dimension. Notably, the presence of beach and sunset reflects the local identity of Phuket as a coastal tourism destination. Moreover, other frequent terms such as drink, dinner, night, bar, music, and friend suggest the relevance of nightlife and evening dining experiences in shaping customer perceptions and reviews.

Figure 18. Word Cloud for Phuket Province



Figure 19. Top 20 Most Frequency Words for Phuket Province



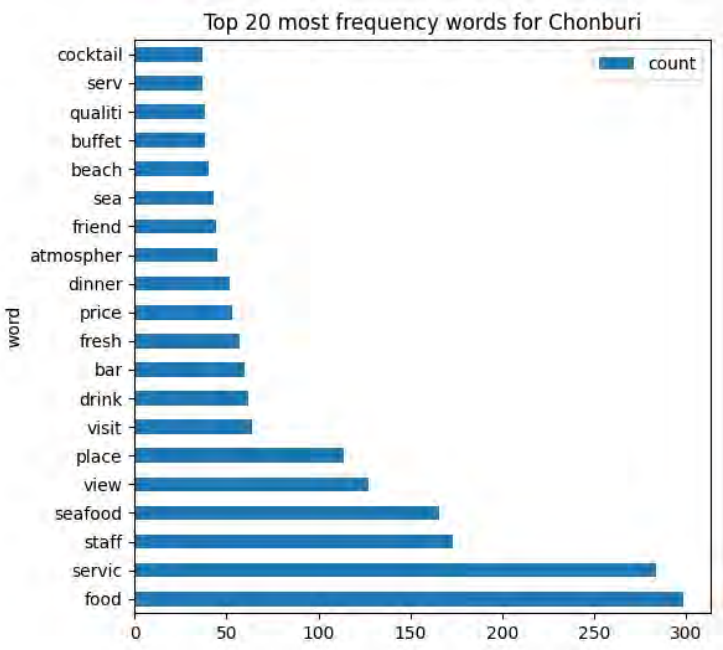
3. Chonburi: Figures 20 and 21 indicate that the most frequently mentioned terms are food and fresh, reflecting the significance of the Food quality dimension. These are followed by service and staff, corresponding to the Service dimension, and then by view, place, and atmosphere, which highlight the Atmosphere dimension. Terms such as stay and bar represent

the Convenience dimension, while price indicates the importance of the Price and Value dimension. Of particular interest is the frequent mention of seafood, which aligns with Chonburi's identity as a coastal province, alongside related terms like beach and bar. The appearance of the word buffet may suggest that many reviews are associated with fast dining restaurants. Furthermore, terms such as drink, dinner, night, friend, bar, and cocktail highlight the influence of nightlife and evening social experiences on customer reviews in this area.

Figure 20. Word Cloud for Chonburi Province



Figure 21. Top 20 Most Frequency Words for Chonburi Province

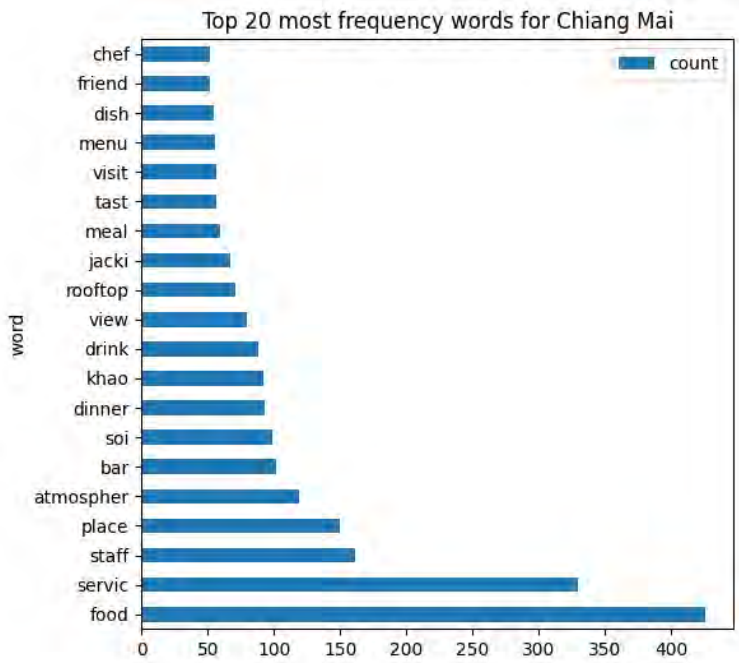


4. Chiang Mai: As illustrated in Figures 22 and 23, the most frequently mentioned term is food, representing the Food quality dimension, followed by service and staff, which fall under the Service dimension. Terms such as place and atmosphere reflect the Atmosphere dimension, while rooftop and bar are associated with the Convenience dimension. Interestingly, the presence of terms like jacki and chef suggests the relevance of the Chef dimension, which may be attributed to the dominance of fine dining restaurants in the reviews for this province. Moreover, the mention of khao soi, a well-known Northern Thai dish, highlights the local culinary identity that plays a role in shaping customer experiences in Chiang Mai.

Figure 22. Word Cloud for Chiang Mai Province



Figure 23. Top 20 Most Frequency Words for Chiang Mai Province

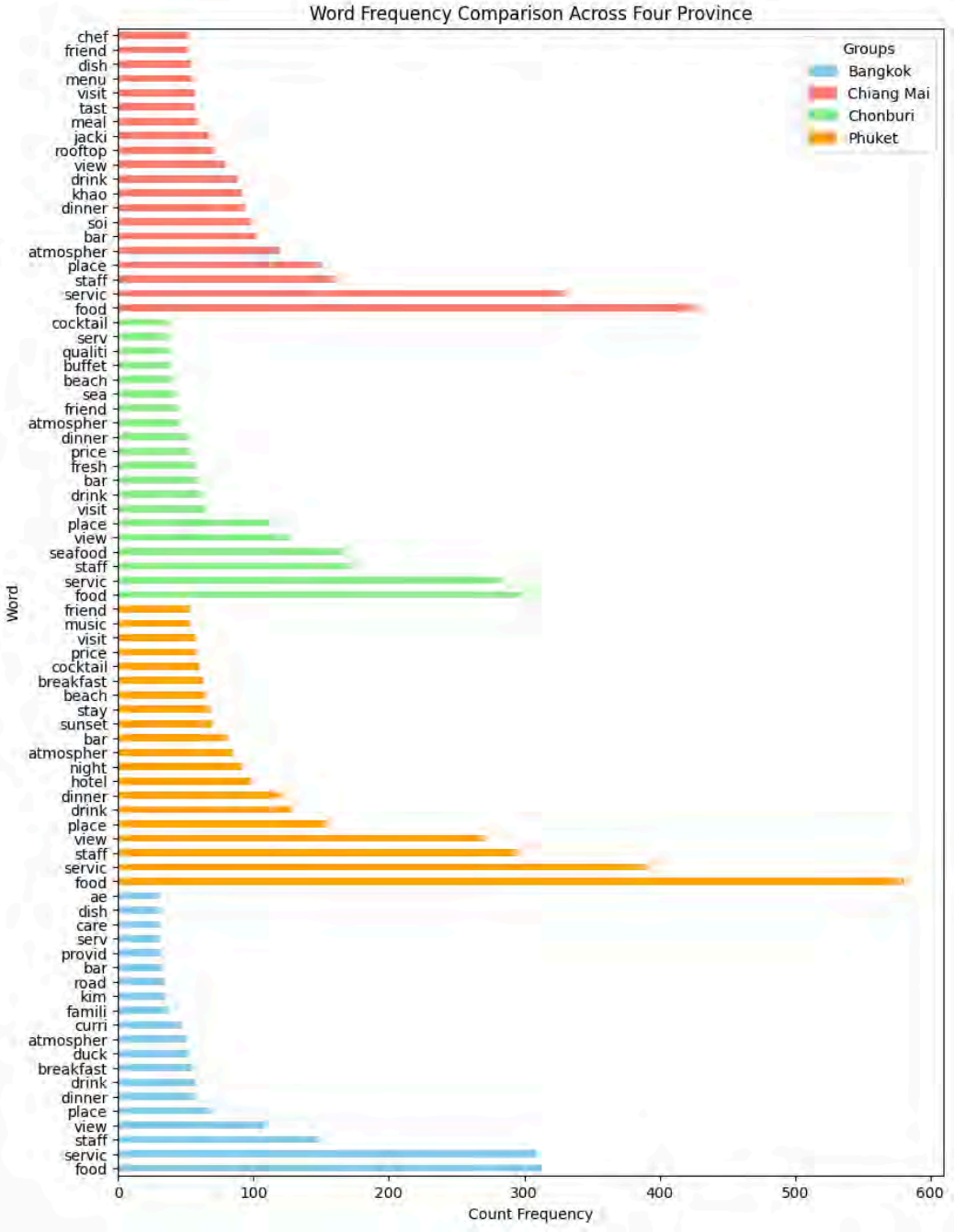


Across the four provinces analyzed—Bangkok, Phuket, Chonburi, and Chiang Mai—three core dimensions consistently emerge: Food Quality, Service Quality, and Atmosphere, underscoring their universal importance in customer satisfaction across Thailand. Other dimensions vary by location: Convenience is noted in Phuket, Chonburi, and Chiang Mai but not in Bangkok; Price and Value is more prominent in Phuket and Chonburi, likely due to their tourist-driven economies. The Chef dimension stands out in Chiang Mai, reflecting the influence of fine dining establishments. These insights are summarized in Table 4 and visualized in Figure 24.

Table 4. Key Dimensions and Notable Words by Province

Province	Key Dimensions	Notable Words	Highlights
Bangkok	Food Quality, Service Quality, Atmosphere	*food*, *service*, *staff*, *place*, *atmosphere*, *family*, *curry*	Casual dining, Central Thai cuisine (Thai curry)
Phuket	Food Quality, Service Quality, Atmosphere, Convenience, Price & Value	*food*, *service*, *staff*, *view*, *hotel*, *sunset*, *drink*, *night*, *bar*, *friend*, *music*	Coastal, nightlife, tourism-oriented
Chonburi	Food Quality, Service Quality, Atmosphere, Convenience, Price & Value	*food*, *fresh*, *seafood*, *buffet*, *beach*, *drink*, *night*, *cocktail*, *bar*, *friend*	Fast dining, Seafood, nightlife, beach identity
Chiang Mai	Food Quality, Service Quality, Atmosphere, Convenience, **Chef**	*food*, *service*, *staff*, *rooftop*, *chef*, *jaki*, *khao soi*, *bar*	Fine dining, chef visibility, Northern Thai cuisine (Khao soi)

Figure 24. Word Frequency Comparison Across Province



3.4 Data labelling

For the manual labelling process, 50% of the dataset was labeled by the researcher. This labelling included six dimensions derived from the DINESERVE framework combined with Chef dimensions, as defined in Table 5. This step aimed to provide a foundational understanding of the dataset and evaluate the performance of the machine learning models.

Table 5. Example of Review in Each Label

Dimensions	Reviews
Food Quality	*"Delightful experience Food was extremely delicious and well presented."*
Atmosphere	*"Everything was really good the place was very clean and had a nice view to the jungle."*
Service Quality	*"We have very special night and very good first impression with the manager at the restaurant he name is tommy we know we see the restaurant is was full but he manage tro provide the table for us and verry specail take care for us."*
Convenience	*"Unassuming little place about a five min walk from the far end of kata beach."*
Price and Value	*"If you wish a top level dinner at an affordable price versus what you would pay in Europe go to Jacky as soon as you fancy a bit of European food style."*
Chef	*"OMG this was the best I couldnt believe my eyes when I saw the chef bring me the beautiful plate while unveiling it and explaining the dish."*

3.5 Machine learning model

Following the labelling process, machine learning models were developed and compared, focusing on traditional classification approaches and Zero-shot Classification. The TF-IDF combined with a SVM to classify customer review dimensions. To enhance the traditional model's performance, hyperparameter optimization was conducted using grid search. Moreover, to enhance the Zero-shot Classification model's performance, pre-trained transformer model based on BART was performed. The parameters for each model configured as outlined below.

1. Support vector machine (SVM):
    - Split dataset to train and test set with portion 80:20, random state is 42 and shuffle is true.
    - Perform the grid search cv for hypermeter tuning.
    - Using SVC for the base of model.
    - Performs 5-fold cross-validation for each combination of hyperparameters.
2. Zero-shot classification:
    - Using the Hugging Face Transformers library pipeline.
    - Perform a pre-trained transformer model based on BART (Bidirectional and Auto-Regressive Transformers) that has been fine-tuned on the Multi-Genre Natural Language Inference (MNLI) dataset.

3.6 Performance evaluation

To evaluate the performance of machine learning models, various metrics used for assessing the performance of models including accuracy, confusion matrix, precision, recall, and f-1 score. These metrics provide a comprehensive understanding of model performance, going beyond a singular focus on accuracy.

1. Confusion matrix: Confusion matrix is an information table with the predictions of classification model, which break down performance of model into four categories: true positive (TP), true negative (TN), false positive (FP), and false negative (FN) [48] as shown as Table 6.

Table 6. A Confusion Matrix Table

		Actual Values	
		P	**N**
Predicted Values	**P**	TP (True Positive)	FP (False Positive)
	N	FN (False Negative)	TN (True Negative)

2. Accuracy: Accuracy is a fundamental metric used to evaluate the proportion of correctly classified instances over the entire dataset. It is defined as the ratio of the number of correct predictions to the total number of predictions made by the model. The formula for accuracy is as follows:

$$\text{Accuracy} = \frac{(\text{Number of Correct Predictions})}{(\text{Total Number of Predictions})} \quad (1)$$

In terms of the confusion matrix components, the formula is as below:

$$\text{Accuracy} = \frac{(TP+TN)}{(TP+TN+FP+FN)} \quad (2)$$

3. Precision: Precision is a measurement of the true positive among all values that predicted as positive by the model. It evaluates the model's accuracy in predicting the positive class. The formula for precision is as follows:

$$\text{Precision} = \frac{TP}{(TP+FP)} \quad (3)$$

4. Recall: Recall or sensitivity is an assessment the ability of a model to identify the true positive values also known as true positive rate. It evaluates how effectively the model captures the true positive values. The formula for recall is as follows:

$$\text{Recall} = \frac{TP}{(TP+TN)} \quad (4)$$

5. F1-score: F1-score is a harmonic mean or the weight average of precision and recall, providing a balanced metric that accounts for both false positives and false negatives. The formula for f1-score is as follows:

$$\text{F1 Score} = 2 \times \frac{(\text{Precision} \times \text{Recall})}{(\text{Precision} + \text{Recall})} \quad (5)$$

4. Results

4.1. Performance of two classification approaches

The performance evaluation of the two classification models for both five-dimensional and six-dimensional labelling is presented in Table 7. The Zero-shot classification model demonstrated superior performance, achieving the highest accuracy of 0.79, with a precision of 0.81 and an F1-score of 0.74 for the five-dimensional labelling scenario. Similarly, for six-dimensional Labelling, the Zero-shot model attained the highest accuracy of 0.79 and the highest recall of 0.74. In contrast, the traditional machine learning approach, Support Vector Machine (SVM) with TF-IDF-based feature extraction, achieved an accuracy score of 0.72 for both five-dimensional and six-dimensional labelling.

Table 7. The Performance of Two Classification Approaches

Labelling	Models	Accuracy	Precision	Recall	F1-Score
5 dimensions	Zero-shot	0.79*	0.81*	0.71	0.74*
	TF-IDF + SVM	0.72	0.75	0.70	0.72
6 dimensions	Zero-shot	0.79*	0.77	0.74*	0.72
	TF-IDF + SVM	0.72	0.72	0.67	0.69

*Achieving the highest score for each evaluation model

The performance of each classification model across different dimensions is presented in Table 8. Notably, the Zero-shot classification model achieved the highest F1-score for the classification of **Atmosphere (0.76), Convenience (0.60), and Food Quality (0.89)** in both five-dimensional and six-dimensional labelling scenarios. Additionally, for the **Price and Value** dimension, the Zero-shot model with six-dimensional labelling attained the highest F1-score of **0.67**. Conversely, the TF-IDF + SVM model outperformed in classifying **Service Quality,** achieving the highest F1-score of 0.83 for both labelling scenarios. Furthermore, for the **Chef** dimension, the TF-IDF + SVM model with six-dimensional labelling demonstrated the best performance, obtaining the highest F1-score of **0.90**.

Zero-shot classification leverages knowledge from large pre-trained language models, enabling it to comprehend a wide range of vocabulary and contextual nuances. As a result, Zero-shot demonstrates superior performance in dimensions requiring broad semantic understanding or those characterized by diverse, descriptive language, such as **Food Quality, Atmosphere, Convenience,** and **Price and Value**. This strength arises from the model's ability to interpret abstract concepts and associate general language patterns without relying heavily on domain-specific or deeply contextualized references to individuals.

In contrast, the TF-IDF + SVM model outperforms in dimensions related to individuals or specific names, such as Service Quality and Chef, because it benefits from learning directly from labeled examples. This allows it to capture specific linguistic patterns and perform better on dimensions with limited but precise examples, particularly when reviews explicitly mention individual staff members or chefs.

Although Zero-shot classification performs less effectively than TF-IDF + SVM in the Chef dimension, preserving the Chef dimension remains critical for several reasons:

• Capturing personal voices and chef-specific experiences: Many reviews directly reference chefs, highlighting their skills, creativity, and the unique dining atmosphere they create. These personalized experiences are central to customer satisfaction, and omitting this dimension would lead to a loss of valuable experiential insights.

• Strengthens competitive advantage: Particularly in fine dining, having a renowned chef is a major differentiator. Analyzing customer mentions of chefs helps restaurants and marketers understand the chefs' contributions to brand value and target their strategies more effectively.

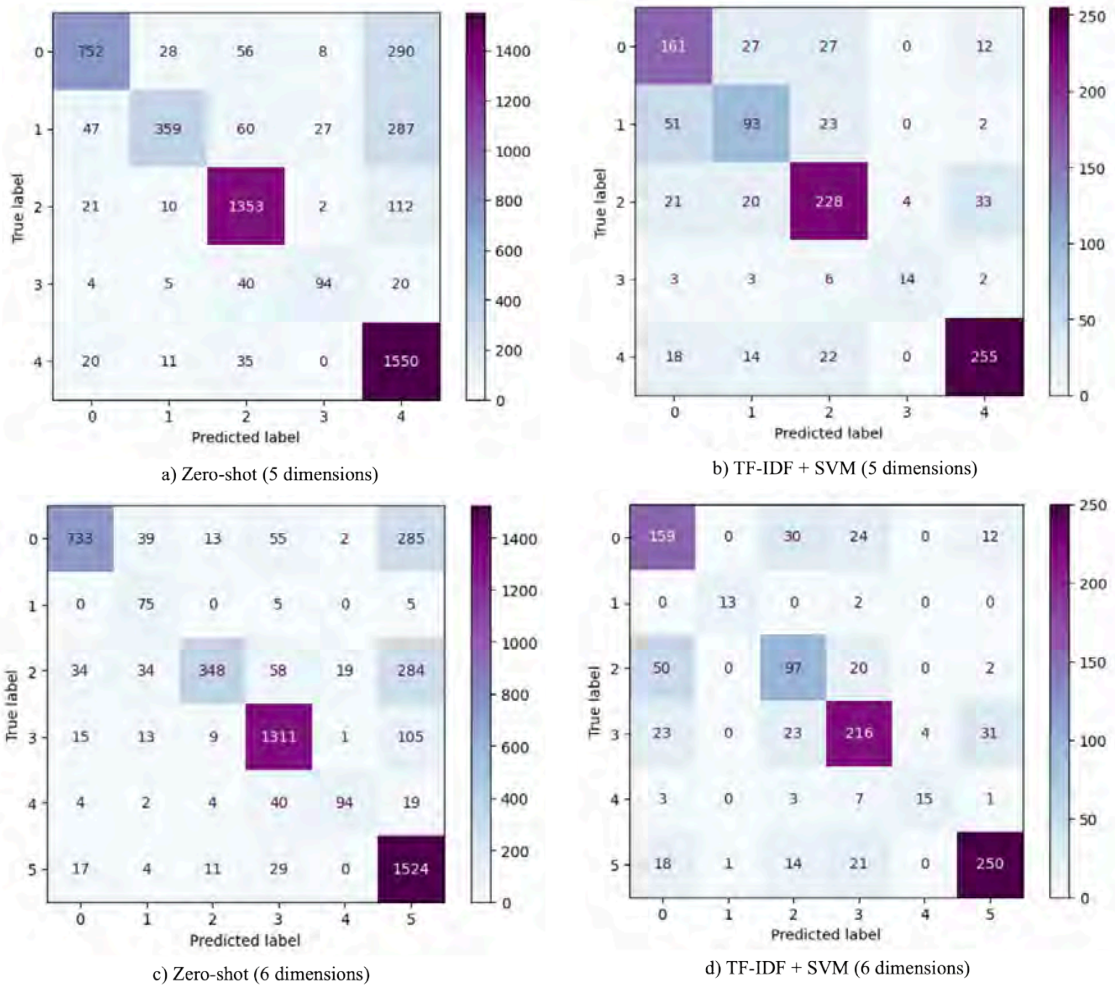
Therefore, maintaining the Chef dimension is essential, as it captures highly personalized factors that significantly influence customer satisfaction and the overall dining experience.

Table 8. The Performance of Each Dimensions

Labelling	Models	Dimensions	Precision	Recall	F1-Score
5 dimensions	Zero-shot	Atmosphere	0.89	0.66	0.76*
		Convenience	0.87	0.46	0.60*
		Food Quality	0.88	0.90	0.89*
		Price and Value	0.72	0.58	0.64
		Service Quality	0.69	0.96	0.80
	TF-IDF + SVM	Atmosphere	0.63	0.71	0.67
		Convenience	0.59	0.55	0.57
		Food Quality	0.75	0.75	0.75
		Price and Value	0.78	0.50	0.61
		Service Quality	0.84	0.83	0.83*
6 dimensions	Zero-shot	Atmosphere	0.91	0.65	0.76*
		Chef	0.45	0.88	0.60
		Convenience	0.9	0.45	0.60*
		Food Quality	0.88	0.90	0.89*
		Price and Value	0.81	0.58	0.67*
		Service Quality	0.69	0.96	0.80
	TF-IDF + SVM	Atmosphere	0.63	0.71	0.67
		Chef	0.93	0.87	0.90*
		Convenience	0.58	0.57	0.58
		Food Quality	0.74	0.73	0.74
		Price and Value	0.79	0.52	0.62
		Service Quality	0.84	0.82	0.83*

*Achieving the highest F1-score for each dimension

Figure 25. Confusion Matrix



a) Zero-shot (5 dimensions)

b) TF-IDF + SVM (5 dimensions)

c) Zero-shot (6 dimensions)

d) TF-IDF + SVM (6 dimensions)

As illustrated in Figure 25, the confusion matrices for both classification approaches Zero-shot classification and TF-IDF + SVM are presented. The Zero-shot model was evaluated using 5,191 instances, whereas the TF-IDF + SVM model was tested on a dataset of 1,039 instances. The discrepancy in the number of test instances arises from the different evaluation strategies applied to each model. Specifically, the Zero-shot classification model was evaluated against the entire manually labeled subset, which represents 50% of the total data

set of 10,781 reviews. In contrast, the TF-IDF + SVM model required training and therefore used only 80% of the manually labeled data for training, leaving 20% (approximately 1,039 instances) for testing. Consequently, the number of instances in the confusion matrices for the two models differs due to these distinct evaluation methodologies. This setup enables a fair comparison of model performance, highlighting the Zero-shot model's ability to generalize without prior exposure to labeled training data. The results indicate that the Zero-shot model achieved the highest number of correctly classified instances for both five-dimensional and six-dimensional labelling.

For the five-dimensional Labelling, the Zero-shot model correctly classified 4,108 instances, with the following breakdown:

- Atmosphere: 725 correctly classified instances out of 1,134
- Convenience: 359 correctly classified instances out of 780
- Food Quality: 1,353 correctly classified instances out of 1,498
- Price and Value: 94 correctly classified instances out of 163

Service Quality: 1,550 correctly classified instances out of 1,616

Similarly, for the six-dimensional Labelling, the Zero-shot model correctly classified 4,085 instances, with the following distribution:

- Atmosphere: 733 correctly classified instances out of 1,127
- Chef: 75 correctly classified instances out of 85
- Convenience: 348 correctly classified instances out of 777
- Food Quality: 1,311 correctly classified instances out of 1,454
- Price and Value: 94 correctly classified instances out of 163
- Service Quality: 1,524 correctly classified instances out of 1,585

These findings reinforce the effectiveness of the Zero-shot classification model in accurately categorizing customer reviews across multiple dimensions, particularly when handling a larger dataset.

5. Discussion and Implications

5.1. Discussion

Preprocessing analysis revealed key differences across restaurant types. In **Fine Dining** establishments emphasize high-quality food, excellent service, and notably, the chef's influence on customer experiences, with individual chefs like "Jacky" in Chiang Mai being prominently mentioned. **Casual Dining** focuses on providing family-friendly environments with a strong emphasis on comfort and atmosphere, where seafood and duck are particularly popular among customers. **Fast Dining** highlights value-driven experiences, characterized by buffet-style dining that prioritizes affordability and quick service. Kiosks, on the other hand, center around delivering affordable, local food, with a strong focus on authentic taste, local cultural connections, and reasonable pricing. Moreover, for each dimension, there are influences across each restaurant type as follows: **Food Quality, Service Quality,** and **Atmosphere** consistently emerge as core dimensions influencing customer experiences. Convenience is important for all types except Kiosks, reflecting differences in the role of location and ease of access. **Price and Value** appears in every type except Casual Dining, indicating customer sensitivity to affordability. Notably, the Chef dimension is exclusive to Fine Dining, highlighting the chef's critical role in shaping upscale dining experiences.

Moreover, across the four provinces analyzed (Bangkok, Phuket, Chonburi, and Chiang Mai), **Food Quality, Service Quality,** and **Atmosphere** consistently emerge as core dimensions of customer satisfaction. However, other dimensions vary by region: **Convenience** is important in Phuket, Chonburi, and Chiang Mai but not in Bangkok, while **Price and Value** are emphasized in Phuket and Chonburi, both of which are coastal, tourist-heavy areas. The **Chef** dimension is

particularly highlighted in Chiang Mai, likely due to the presence of fine dining establishments. Each province also showcases unique highlights, with **Bangkok** focusing on casual dining and Central Thai cuisine, **Phuket** emphasizing coastal and nightlife experiences, Chonburi offering fast dining and seafood with a beach identity, and **Chiang Mai** spotlighting fine dining, chef visibility, and Northern Thai cuisine like Khao soi.

A comparative analysis was conducted between the Zero-shot classification model and a traditional Support Vector Machine (SVM) model with TF-IDF feature extraction. The results demonstrated that the Zero-shot model outperformed the SVM model in overall classification accuracy, achieving 0.79 for both five-dimensional (DINESERVE) and six-dimensional (DINESERVE + Chef) labelling. It also achieved the highest F1-scores in key dimensions such as Atmosphere, Convenience, Food Quality, and Price & Value. However, the SVM model demonstrated superior performance in classifying Service Quality and Chef dimensions.

The evaluation results revealed that the Zero-shot classification model outperformed traditional TF-IDF + SVM in overall accuracy and in dimensions requiring broad semantic understanding, such as Food Quality, Atmosphere, Convenience, and Price and Value, due to its ability to leverage knowledge from large pre-trained language models. In contrast, the TF-IDF + SVM model showed superior performance in dimensions related to specific individuals, notably Service Quality and Chef, where precise, labeled examples enabled better pattern recognition. Although Zero-shot performed less effectively for the Chef dimension, maintaining this dimension is crucial for Fine Dining as it captures highly personalized and chef-specific experiences, contributes to competitive advantage, and provides critical insights into factors that significantly enhance customer satisfaction and the dining experience.

These results highlight the effectiveness of Zero-shot classification in multi-dimensional text categorization, especially in restaurant reviews, where diverse factors influence customer perceptions. The study also introduces a new dimension “Chef”, expanding the traditional DINESERV framework, and provides evidence of its significance, particularly in Fine Dining establishments, where chefs play a pivotal role in shaping the customer experience. Furthermore, the study explores the moderating effect of restaurant type and province, offering deeper insights into how customer expectations differ across various dining formats and location.

5.2. Academic and practical implications

From a theoretical perspective, this research extends existing restaurant service quality models by incorporating an additional dimension “Chef”, validated through topic classification and text analysis. It also provides a novel application of Zero-shot classification in restaurant reviews categorization, demonstrating its potential for automatically assigning reviews to predefined service quality dimensions without requiring labeled training data. Additionally, this study examines the moderating effect of restaurant type and province, offering new insights into how customer priorities differ across restaurant type (Fine Dining, Casual Dining, Fast Dining, and Kiosks) and province (Bangkok, Phuket, Chonburi, and Chiang Mai).

From a practical standpoint, the study offers restaurant owners and managers a data-driven approach to analyzing customer feedback efficiently. By identifying key service quality dimensions across different restaurant types, businesses can enhance service strategies, optimize menu offerings, and improve customer satisfaction. The integration of Zero-shot classification further provides a scalable and cost-effective solution for real-time satisfaction analysis in the hospitality industry.

5.3. Limitations of this study and suggestions for future research

Despite its contributions, this study has several limitations. First, it relies on English-language reviews, which may not fully capture local customer perspectives, particularly in a multilingual setting like Thailand. Second, the classification approach is based solely on textual data from TripAdvisor, which may introduce sampling bias, as the platform's user base may not represent the broader restaurant-going population. Third, the dataset is limited to four major tourist provinces, which may affect the generalizability of findings to non-tourist areas. Lastly, while Zero-shot classification provides strong results, it depends on pre-trained language models, which may not fully align with domain-specific restaurant terminology or cultural nuances.

Future research could explore the integration of deep learning techniques to further enhance text classification performance, as well as examine the applicability of Zero-shot classification in multilingual restaurant reviews. Additionally, refining the dataset with more granular labelling of service quality dimensions could improve model precision and better capture the customer feedback.

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The Study of Factors Affecting Supply Chain Resilience after COVID-19 pandemic to Tourism Industries: A case study of Phetchabun, Thailand (Paper#236)

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Abstract:

This study aimed to examine factors affecting supply chain resilience in the tourism sector following the COVID-19 pandemic, focusing on Phetchabun Province, Thailand. Given the severe disruptions experienced by tourism businesses, data were collected from 322 operators and analyzed using structural equation modeling. The findings identified Technology and Flexibility as key contributors to resilience, while Marketing and Risk Management were less influential. The results provide guidance for enhancing adaptability in future tourism disruptions.

Keywords: Supply Chain Resilience, COVID-19, Tourism Industries

1. Introduction

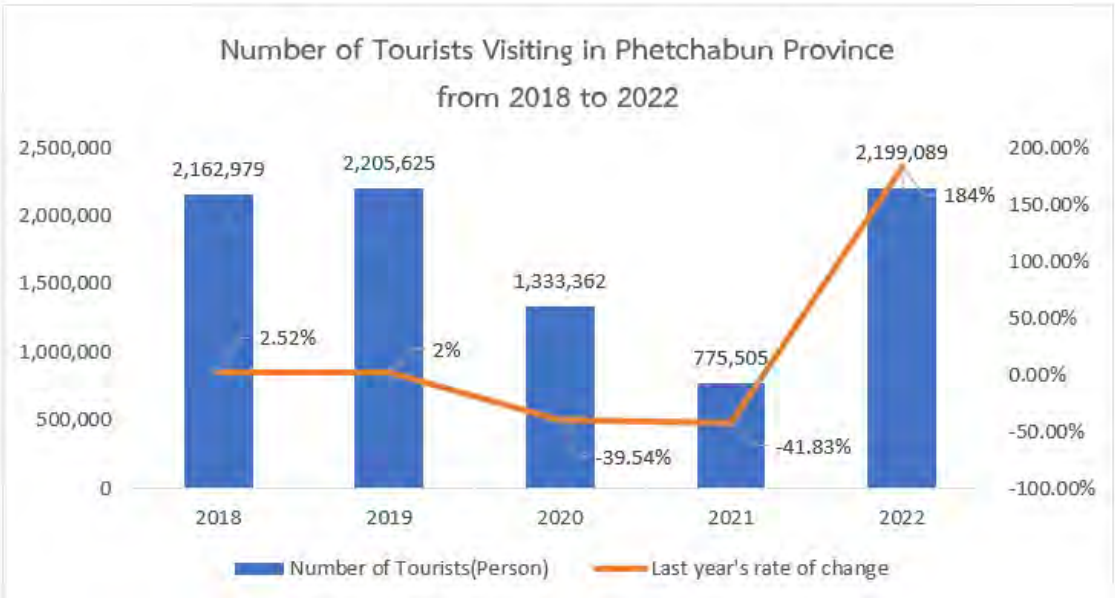
In March 2020, the World Health Organization (WHO) formally declared the global outbreak of Coronavirus Disease 2019 (COVID-19) a pandemic. This declaration marked the onset of wide-spread disruptions affecting businesses of all sizes and across all geographic regions. The transportation sector, for example, encountered significant delays due to international border closures. Consumer demand for various goods and services also shifted abruptly in response to the evolving public health crisis. In Thailand, similar disruptions were evident, particularly within the service sector as well. Especially, the tourism industry, one of Thailand's most vital service industries, was severely affected, with hotels experiencing abrupt booking cancellations and airlines suspending operations in compliance with lockdown mandates.

Prior to the COVID-19 pandemic, its importance was evident in the substantial national revenue it generated from both domestic and international tourists, totaling approximately 3.01 trillion Baht, equivalent to roughly 18% of Thailand's Gross Domestic Product (GDP) (Tourism and Sports Economic Division, 2020). This economic contribution not only promoted income distribution and job creation but also sustained a wide array of community-based tourism enterprises,

including restaurants, retail businesses, transportation services, accommodation providers, and tour operators. Moreover, the tourism sector served as a catalyst for the development of essential infrastructure such as roads, airports, hospitals, communication systems, and public utilities. The severe disruptions brought about by the pandemic, therefore, had far-reaching consequences, particularly in regions heavily reliant on tourism-related activities.

In addition to its broader economic significance, tourism plays a critical role in supporting local incomes, particularly in rural and tourism-dependent communities. Residents in these areas often engage in activities such as handicraft production and small-scale entrepreneurship, utilizing local resources such as natural landscapes, cultural heritage, and traditional ways of life to generate income and enhance their well-being. In response to the challenges exposed during the COVID-19 pandemic, the National Tourism Policy Committee formulated the Third National Tourism Development Plan for the period 2023 to 2027. This policy framework emphasizes the need to strengthen risk management capabilities, build internal capacity, encourage domestic tourism, and modernize the sector through the application of digital technology and innovation. It also focuses on enhancing the skills of tourism personnel and entrepreneurs to adapt to the evolving context of the "New Normal" tourism landscape. These initiatives are being implemented through integrated cooperation among public, private, local, and civil society actors, with the goal of promoting a resilient and inclusive recovery for the tourism sector (Ministry of Tourism and Sports, 2022).

Figure 1. Annual number of tourists visiting Phetchabun Province from 2018 to 2022 (Ministry of Tourism and Sports, 2023)



Fluctuations in tourist numbers due to changing circumstances have had a significant impact on multiple aspects of the tourism industry. These effects include reductions in revenue, increased financial uncertainty, and heightened vulnerability among tourism-related enterprises. Businesses such as restaurants, hotels, and other service providers have faced substantial income losses, leading to financial difficulties and operational disruptions. In many cases, these challenges have resulted in downsizing, temporary suspension of operations, or even permanent closure. As a result, tourism businesses have been compelled to adapt to the evolving environment and to develop strategies aimed at ensuring business continuity and long-term resilience. In response to these challenges, the present study seeks to explore the factors that influence the recovery of the tourism supply chain following the COVID-19 pandemic. The primary objective is to identify effective recovery strategies that can strengthen the resilience and adaptive capacity of tourism enterprises in the face of future uncertainties.

Phetchabun Province, recognized for its natural attractions including mountains, rivers, and scenic landscapes, has become a prominent destination for both domestic and international tourists. According to 2023 statistics from the Ministry of Tourism and Sports, the province welcomed 2,614,622 visitors, representing an 18.66 percent increase from the previous year. This growth generated approximately 9.019 billion Baht in tourism revenue, reflecting a 36.60 percent increase (Figure 1). Major tourist sites in the province, particularly in Khao Kho District, include Wat Phra That Pha Son Kaew, Khao Kho Historical Park, Khao Kho Wind Farm Viewpoint, and the rare freshwater jellyfish. These attractions contribute significantly to the province's tourism income. In this context, Phetchabun has been selected as a case study for examining the recovery of the tourism supply chain in the post-COVID-19 period. The study aims to analyze the causal relationships among factors that influence tourism recovery and to propose strategic development guidelines that enhance the resilience and performance of tourism enterprises in the province. The findings are expected to provide a practical model for similar initiatives in other regions experiencing comparable challenges.

2. Literature Review

A literature review was conducted by using selected keywords to identify relevant scholarly sources. For domestic publications, the keywords included supply chain resilience, tourism industries, and COVID-19. For international sources, the keywords used were supply chain resilience, tourism, and COVID-19. A total of eight relevant articles were identified, comprising two domestic and six international studies, all published between 2021 and 2023.

The reviewed literature highlights the growing interest in supply chain resilience, particularly within the context of the tourism sector. Aaditya, Saket, and Akhilesh (2021) emphasized that resilience was the most influential factor in the recovery of hotel and tourism supply chains following the COVID-19 pandemic. In contrast, they identified economic crises as the most impactful external challenges. In a related study, Sachin, Shivam, Rebecca, and Issam (2021) investigated the role of artificial intelligence in supporting supply chain recovery. Their findings

suggest that artificial intelligence facilitates recovery by analyzing crisis severity, processing information, designing strategic responses, and accelerating implementation.

Kanokporn, Abraham, and Vasanth (2022) applied a fuzzy methodology to redesign supply chains for post-crisis adaptation. They identified four critical structural components: suppliers, manufacturing plants, storage centers, and retail units. The researchers proposed a two-criteria model to enhance supply chain resilience under disruptive conditions. Similarly, Sachin, Rohit, and Claire (2022) examined recovery strategies in the context of COVID-19 disruptions. They focused on four key dimensions: visibility, risk management, procurement capability, and distribution systems. Their study identified artificial intelligence as a mediating factor that improves recovery by increasing transparency, optimizing transportation, tailoring stakeholder responses, minimizing disruption impacts, and enhancing procurement efficiency.

Jie and Fuangfa (2023) explored the relationship between the organizational environment, resilience, and hotel performance in China during the COVID-19 crisis. Their research revealed that both internal and external factors influence resilience, including organizational culture, staff commitment, self-efficacy beliefs, employee motivation, and the perceived severity of crises. In another study, Maruf, Shakil, Shanta, Fazlul, and Mohammed (2023) examined recovery strategies in sustainable tourism. They categorized resilience strategies into three domains: readiness, response, and recovery. Key findings highlighted the importance of sanitation procedures, visitor flow regulation, collaboration with public health authorities, and proactive communication with government agencies. For accommodation providers, managing crowd density and ensuring traveler mobility were critical, while for transport providers, traveler awareness and safety at remote destinations were prioritized.

Thisana Hawaree (2021) investigated survival strategies among independently operated small and medium hotels in North Pattaya during the COVID-19 pandemic. The study focused on entrepreneurial responses and adaptive practices, including physical adjustments, managerial innovations, and marketing strategies. Differences in strategic behavior were observed between small and medium firms. For both groups, cost control and customer targeting were essential for maintaining operations during periods of uncertainty.

Also Sasiwimon Worapun (2022) examined the impact of resilience on the performance of small and medium enterprises in Chiang Mai. The results indicated that resilience positively influenced both financial and non-financial outcomes. Financial performance was associated with strong business networks, ethical leadership, and empathy. Non-financial performance was linked to adaptability, creativity, innovation, and shared organizational values.

In summary, the literature identifies several recurring constructs that are fundamental to supply chain recovery in tourism. These include flexibility, technology, risk management, marketing, and overall supply chain resilience. Together, these variables offer a conceptual basis for developing an integrated framework to assess and improve recovery strategies in tourism-related supply chains.

3. Methodology

The population in this study consisted of tourism business operators in Khao Kho District, Phetchabun Province. Based on the guideline by Hair et al. (2010), a minimum sample size of one hundred is considered sufficient for studies using Structural Equation Modeling. Accordingly, the study collected data from at least one hundred respondents. The sample was drawn from four major tourist sites in the area: Wat Phra That Pha Son Kaew, Khao Kho Historical Park, Khao Kho Windmill Viewpoint, and the freshwater jellyfish site. Due to the lack of an exact population frame, purposive sampling was employed. Respondents were selected based on predetermined dates, times, and locations to ensure the collection of relevant and in-depth information that aligned with the study's objectives.

The research instrument was a structured questionnaire developed from a review of related literature. The questionnaire consisted of three sections. The first section gathered general demographic information and responses regarding the resilience of tourism supply chains following the COVID-19 pandemic. The second section involved the application of Structural Equation Modeling to explore causal relationships among five latent variables: Technology, Flexibility, Marketing, Risk Management, and Supply Chain Resilience. Confirmatory Factor Analysis was performed using AMOS software to examine model consistency, with factor loadings of zero point five zero or higher considered acceptable, based on the recommendation of Kilic et al. (2020). The third section presented strategic recommendations for strengthening supply chain resilience in the local tourism industry. The questionnaire used a five-point Likert scale. Before data collection, content validity was confirmed through an Index of Item-Objective Congruence assessment. Three experts in human resources, industrial technology, and business administration reviewed the instrument. The scores ranged from zero point six seven to one point zero zero, indicating satisfactory validity as defined by Rovinelli and Hambleton (1977).

4. Results

4.1. Factors Influencing Supply Chain Resilience in the Tourism Sector

Table 1 presents the factors influencing supply chain resilience in the tourism sector. These items were developed based on a comprehensive review of relevant literature and aligned with the conceptual framework of the study. The factors included five core components: Technology, Flexibility, Marketing, Risk Management, and Supply Chain Resilience. Each component was measured by five indicators designed to reflect specific organizational practices and responses during and after the COVID-19 pandemic.

Table 1. Factors Influencing Supply Chain Resilience in the Tourism Sector

Component	Indicator	Definition
Technology (T)	Online Task Assignment (T1)	Work allocation and task assignment processes were facilitated through online platforms.
	Remote Work Apps (T2)	A variety of digital applications were implemented to support remote work during work-from-home periods.
	Digital Attendance (T3)	A digital system was employed to monitor employee attendance, including online check-in and check-out.
	COVID Tech Measures (T4)	Advanced technologies were adopted in operations to mitigate the risk of COVID-19 transmission.
	Online Sales (T5)	Digital sales channels were utilized to distribute products during the pandemic period.
Flexibility (F)	Flexible Operations (F1)	Operational flexibility was applied to raw material procurement and production scheduling activities.
	Product/Service Variety (F2)	The business offered a diverse range of products and services to accommodate fluctuating customer needs.
	Flexible Partner Contracts (F3)	Contracts with business partners incorporated flexible terms for orders, payments, and delivery.
	Workforce Versatility (F4)	Employees possessed varied skill sets, enabling them to undertake multiple types of tasks.
	Workforce Training (F5)	Workforce training programs were provided to enhance capabilities in addressing operational challenges.
Marketing (M)	Promotional Discounts (M1)	The organization implemented promotional discount strategies to stimulate consumer demand.
	Convenient Location (M2)	The physical store location was selected based on transportation convenience.
	Brand Symbol (M3)	Branding was utilized as a credibility-enhancing signal for product identification.
	Price Tag Visibility (M4)	Product pricing was clearly displayed to enhance customer transparency and trust.
	Storefront Advertising (M5)	Advertising materials were strategically placed at storefronts to attract customer attention.
Risk Management (R)	Local Tourism Income (R1)	The organization contributed to local economic development through tourism-related income generation.
	Risk Identification (R2)	Mechanisms for identifying potential risks were appropriately established.
	Risk Management Method (R3)	Formal risk management strategies were developed and implemented.
	Risk Analysis Routine (R4)	Risk factors were systematically analyzed as part of ongoing operational assessments.
	Goal Clarity (R5)	The organization had clearly articulated strategic and operational goals.

Component	Indicator	Definition
Supply Chain Resilience (SR)	Disruption Management (SR1)	The business demonstrated the capability to respond rapidly to operational disruptions.
	Recovery Speed (SR2)	The supply chain showed the ability to return to normal operations within a short time frame.
	Flow Restoration (SR3)	Material and service flows were restored efficiently following disruption events.
	Innovation Support System (SR4)	The business has established mechanisms to facilitate the adoption of innovative ideas or operational methods.
	Rapid Operational Recovery (SR5)	The business is capable of efficiently resuming normal operations within a short recovery period.

4.2. Demographic Characteristics of the Respondents

A total of 322 respondents participated in the survey. The respondents were divided as follows: 116 respondents (36.02%) from Wat Phra That Pha Sorn Kaew, 84 respondents (26.08%) from Khao Kho Historical Park, 76 respondents (23.60%) from the freshwater jellyfish site, and 46 respondents (14.28%) from the Khao Kho Windmill Viewpoint.

The demographic characteristics of the respondents were analyzed using frequency and percentage distributions. A total of 322 individuals participated in the study. The demographic profile is presented in terms of gender, age, educational attainment, type of business, and monthly income. The results indicate that the majority of respondents were female, comprising 62.11 percent, while male respondents accounted for 37.89 percent. With respect to age, the largest proportion of respondents were over 40 years old (44.72 percent), followed by those aged 36 to 40 years (21.74 percent), 31 to 35 years (17.39 percent), 26 to 30 years (13.66 percent), and 21 to 25 years (2.48 percent). Regarding educational attainment, the highest proportion of respondents held an associate degree (43.48 percent), followed by those with a secondary school diploma or equivalent (42.86 percent), postgraduate degrees (8.70 percent), and primary education (4.97 percent).

The types of businesses and income levels are also summarized. Most respondents were engaged in other service-related businesses, accounting for 50.93 percent, followed by restaurant businesses and hotel or resort businesses, each representing 18.63 percent, and convenience store operations at 11.80 percent. In terms of monthly income, the largest group earned between 40,001 to 50,000 Thai Baht (32.92 percent), followed by those earning 10,001 to 20,000 Thai Baht (29.81 percent), 20,001 to 30,000 Thai Baht (21.12 percent), and 30,001 to 40,000 Thai Baht (16.15 percent). These results suggest a diverse range of demographic characteristics among the respondents, offering a comprehensive representation for the purposes of this study. Additional details are provided in Table 2.

Table 2. Demographic profile of respondents

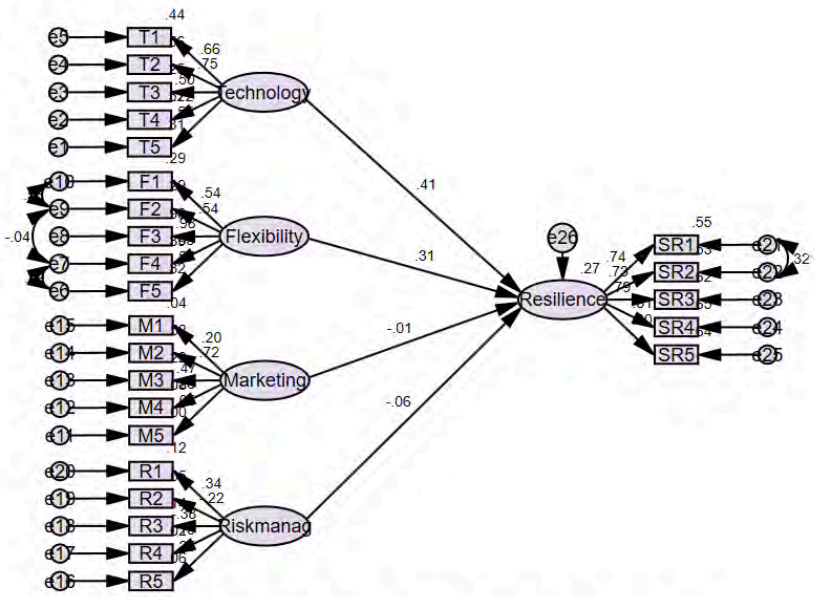
Profile of Respondents	Frequency	Percentage (%)
Gender		
Male	122	37.89
Female	200	62.11
Age (years)		
21 to 25	8	2.48
26 to 30	44	13.66
31 to 35	56	17.39
36 to 40	70	21.74
Over 40	144	44.72
Education Level		
Primary school	16	4.97
Secondary school or equivalent	138	42.86
Associate degree	140	43.48
Postgraduate degree	28	8.70
Business Type		
Restaurant	60	18.63
Hotel or Resort	60	18.63
Convenience Store	38	11.80
Other Related Services	164	50.93
Monthly Income (Thai Baht)		
10,001 to 20,000	96	29.81
20,001 to 30,000	68	21.12
30,001 to 40,000	52	16.15
40,001 to 50,000	106	32.92

4.3. Results of Structural Equation Modeling (SEM) analysis

The factor loading analysis for supply chain resilience in tourism-related businesses in Phetchabun Province showed that all five latent variables had acceptable values. The results are presented in Table 3 and Figure 2.

The results of the confirmatory factor analysis (CFA) assessing the factors influencing supply chain resilience yielded satisfactory model fit indices. Specifically, the model demonstrated a chi-square (χ^2) value of 360.303 with 267 degrees of freedom, and a relative chi-square (χ^2/df) of 1.349. Additional fit indices included RMSEA = 0.033, CFI = 0.957, TLI = 0.952, GFI = 0.922, and RMR = 0.035. All indices met the commonly accepted thresholds for model adequacy, indicating that the CFA model provided a good fit to the observed data. The structural relationships and standardized factor loadings are illustrated in Figure 2.

Figure 2. Final Structural Model After Statistical Analysis



Based on the results presented in Table 3, the structural measurement model assessing supply chain resilience in tourism businesses in Phetchabun Province following the COVID-19 pandemic comprised five latent constructs: Technology, Flexibility, Marketing, Risk Management, and Supply Chain Resilience. These constructs were measured by a total of twenty-five observed indicators. The factor loadings indicate that most indicators met the generally accepted threshold of 0.50, demonstrating adequate convergent validity and a satisfactory level of association with their respective latent constructs.

For the Technology construct, all five indicators (T1 to T5) showed acceptable factor loadings, ranging from 0.529 to 0.703. These results confirm the relevance of digital and technological adaptation among tourism enterprises. Similarly, the Flexibility construct displayed consistently strong loadings, with values ranging from 0.530 to 0.994, suggesting that operational adaptability is well represented in the model.

Table 3. Factor Loading

Construct	Indicator	Factor Loading
Technology	T1	0.703
	T2	0.657
	T3	0.529
	T4	0.636
	T5	0.571
Flexibility	F1	0.530
	F2	0.531
	F3	0.994
	F4	0.617
	F5	0.560
Marketing	M1	0.203
	M2	0.723
	M3	0.467
	M4	0.277
	M5	0.048
Risk Management	R1	0.332
	R2	−0.208
	R3	−0.410
	R4	−0.158
	R5	0.232
Supply Chain Resilience	SR1	0.752
	SR2	0.742
	SR3	0.812
	SR4	0.801
	SR5	0.793

In contrast, the Marketing construct produced mixed results. Only indicator M2 (0.723) exceeded the minimum threshold, while M1, M3, M4, and M5 yielded lower values, particularly M5, which recorded a factor loading of 0.048. These findings indicate relatively weak associations between the observed indicators and the underlying marketing construct in this context.

The Risk Management construct also showed poor performance, with several indicators yielding negative loadings. Specifically, R2, R3, and R4 reported values of −0.208, −0.410, and −0.158 respectively, while R1 and R5 recorded values of 0.332 and 0.232. These outcomes suggest a lack of coherence among the observed variables used to measure the Risk Management construct.

In contrast, the Supply Chain Resilience construct exhibited strong and consistent loadings across all five indicators, with values ranging from 0.742 to 0.812. These results confirm that the indicators effectively capture the resilience dimension of the supply chain.

5. Discussion and Implications

5.1. Discussion

When considering the roles of technology and flexibility during the COVID-19 crisis, it is clear that both were essential in supporting supply chain recovery. The research findings showed that the most influential technological indicators were task allocation and online work assignments, supported by the use of digital tools to enable remote operations. This outcome reflects the rapid technological shift driven by government restrictions, including lockdowns and physical distancing. Technology served as a key enabler of business continuity during this period. It supported coordination, communication, human resource activities, and customer service through digital platforms. Organizations that adopted systems such as Enterprise Resource Planning, real time monitoring tools, and automation technologies were better equipped to mitigate disruptions and adapt to dynamic market conditions. These findings are consistent with those reported by Sachin, Shivam, Rebecca and Issam (2021) and Sachin, Rohit and Claire (2022), who emphasize the strategic value of digital transformation in enhancing recovery.

Flexibility also emerged as a crucial factor in business recovery, particularly in sectors with complex interdependencies, such as tourism. The most significant indicators in this dimension included operational agreements with partners regarding order management, payment terms, and delivery schedules. These results highlight the importance of adaptable frameworks that allow businesses to respond to external uncertainty. Flexibility was further supported by multiskilled personnel who were capable of performing various tasks, serving as a buffer during labor shortages or unplanned disruptions. The provision of targeted training programs also enhanced preparedness, enabling employees to respond effectively in critical situations. These observations are supported by the work of Kanokporn, Abraham and Vasanth (2022), Aaditya, Saket and Akhilesh (2021), Sasiwimon Woraphan (2022), and Thisana Hawaree (2021), all of whom emphasize flexibility as a foundational element in crisis recovery.

The results clearly relate to the concept of supply chain resilience, which includes the ability to restore the flow of materials and services and to adopt new operational practices in response to disruption. Technology and flexibility serve as key mechanisms that support both adaptation and recovery. Firms that integrate digital systems into their core operations gain responsiveness and agility. When this is combined with a culture that supports innovation and continuous learning, businesses are better positioned to respond effectively to unexpected events. These findings align with the theory of dynamic capabilities, which posits that organizations must be able to sense, seize, and reconfigure resources to maintain competitiveness in changing environments (Teece, 2007). Therefore, companies that combine technological readiness with flexible structures are more likely to ensure operational continuity and sustain supply chain performance over the long term.

5.2. Academic and practical implications

Academically, it contributes to the literature on supply chain resilience by validating a structural model that highlights Technology and Flexibility as key determinants of recovery in the tourism sector, supporting the relevance of dynamic capabilities theory. Methodologically, it demonstrates the applicability of structural equation modeling in analyzing resilience factors within a regional tourism context. Practically, the findings suggest that tourism businesses should prioritize digital technology adoption and workforce adaptability to strengthen operational resilience. The results also inform policymakers in designing targeted strategies to enhance crisis preparedness, emphasizing innovation, flexible business practices, and collaborative risk management.

5.3. Limitations of this study and suggestions for future research

To strengthen the generalizability of the findings, future research should extend the scope of investigation beyond the current study, which was limited to the tourism sector in Khao Kho District, Phetchabun Province. Further studies are encouraged to incorporate additional tourist destinations across the northern region and other provinces throughout the country. Expanding the geographic coverage would enable a comparative assessment of the factors influencing supply chain resilience in varied tourism contexts. Such an approach could offer more nuanced insights and contribute to a broader understanding of how different local conditions shape recovery mechanisms and strategic responses.

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Knowledge-Based Service Design for Elderly Chinese Tourists: Applying Ontology and Knowledge Graphs in Chiang Mai's Winter Tourism Industry (Paper#238)

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Abstract:

This study focuses on the winter travel preferences of elderly Chinese tourists and explores the strategies of Thailand's Chiang Mai travel agencies can respond to these demands. Using data mining, 52,100 reviews from Ctrip and Tuniu were analyzed. Through semantic annotation and ontology construction based on the 5F framework, two core domains—food and festival—were identified. A named entity recognition model supported data labeling. The findings provide a foundation for the future SWOT-TOWS matrix and strategic planning by local travel agencies. This study offers a new approach for understanding seasonal tourism demand among seniors.

Keywords: Elderly Tourism, Winter Migration, SWOT Analysis, Ontology, Chiang Mai

1. Introduction

Global demographics are shifting towards an older population, driving a surge in demand for age-friendly travel. In recent years, adults aged 55 and above have emerged as one of the most critical target markets for the coming decades, driven by both demographic expansion and a growing demand for wellness-oriented and leisure-focused lifestyles. The global wellness economy reached USD 6.3 trillion in 2023 and is expected to exceed USD 9 trillion by 2028, with wellness tourism and elderly-focused "silver tourism" among its fastest-growing segments. (Global Wellness Institute, 2024a, 2024b) A summary in Figure 1.

Figure 1. An overview of key market projections in wellness and silver tourism

Market	2023 Value	2030 Projection	CAGR (Years)	Source
Global wellness economy	US$6.3 trillion	US$9 trillion	7.3% (2023–28)	GWI (2024)
Global wellness tourism	–	US$2.1 trillion	12.4% (2023–30)	R&M (2023)
Global silver tourism	US$1.72 trillion	US$2.62 trillion	7.3% (2024–30)	R&M/BW (2025)
Asia-Pacific share (silver, 2024)	54.9%	–	–	R&M/BW (2025)

Silver tourism refers to travel behaviors among elderly individuals that emphasize health, comfort, and leisure. (Medarić et al., 2021; Patterson et al., 2021) In recent years, China has entered a stage of accelerated population aging(Hsu et al., 2007), with over 260 million people aged 60 and above, accounting for 18.7% of the total population. (National Bureau of Statistics of China, 2021) Many seniors, particularly those aged 55–75, have both the time and financial resources to pursue wellness-oriented travel. A notable trend among this group is the "migratory bird" lifestyle, where elderly travelers move seasonally from colder northern regions to warmer destinations such as Hainan or Southeast Asia during winter months. (Lyu, Huang, & Mao, 2021; Huang, Cohen, & Lyu, 2024) This phenomenon shows that it is crucial to understand the specific needs and travel patterns of elderly Chinese tourists, which can not only support the design of age-friendly tourism services but also contribute to sustainable destination development and international market alignment.

Although the potential of elderly winter tourism has been widely acknowledged, many destinations—including Chiang Mai—still face challenges in effectively serving the seasonal travel demands of Chinese elderly tourists. For example, research on "migratory bird" tourism in Hainan has shown that elderly travelers often prioritize warm climates, affordable long-stay infrastructure, cultural familiarity, and social experiences, yet destination products tend to lack age-sensitive design, integrated service coordination, and clear recognition of seasonal behavioral patterns (Wang & Li, 2020; Hou, 2021). These problems are essentially rooted in the absence of a systematic framework for recognizing and categorizing elderly tourists' demand patterns, rather than merely a lack of technological tools (Zhou, 2022). How to strategically align tourism offerings with the actual needs of this group has therefore become an issue worthy of in-depth discussion.

To solve the above problems, this study introduces a data mining approach to identify demand preferences from large-scale online reviews (Ctrip& Tuniu) by elderly Chinese travelers. Specifically, word cloud analysis is first used to determine which elements of Thailand's 5F soft power (Food, Festival, Film, Fight, and Fashion) are most salient in tourists' expressions. Then, high-frequency associations are categorized into structured domains through ontology

construction, allowing for a semantic-level modeling of demand. Finally, SWOT analysis is applied to assess Chiang Mai travel agencies' strengths, weaknesses, opportunities, and threats in addressing these needs, and a TOWS matrix is used to propose targeted product and service strategies.

This study seeks to formulate strategic recommendations for improving Chiang Mai's appeal as a winter destination for elderly Chinese tourists, using the 5F soft power framework as an analytical lens. It also aims to offer actionable guidance for tourism practitioners and enrich theoretical understanding within the field of outbound senior tourism.

2. Literature Review

2.1. Wellness tourism

Wellness tourism, which focuses on improving physical and mental health through travel, has seen rapid growth in recent years. Typical offerings include spa services, meditation retreats, and immersive nature experiences (Global Wellness Institute, 2024a). In the post-pandemic context, the Asia-Pacific region has shown particularly strong growth, driven by aging populations and increased health awareness (Global Wellness Institute, 2024b). This presents strategic opportunities for destinations such as Chiang Mai.

2.2. Elderly tourism

Elderly tourism, also known as "silver tourism," refers to travel by people aged 55 and above. These travelers often seek comfort, safety, cultural authenticity, and health-friendly environments (Medarić et al., 2021; Patterson et al., 2021). In China, an aging population has led to the rise of "migratory bird" tourism. Seniors from northern provinces travel to warmer places like Hainan or Southeast Asia during winter (Wang & Li, 2020; Huang, Cohen, & Lyu, 2024). They usually have time, financial resources, and a strong interest in wellness. However, many destinations lack services tailored to this group. Long-stay and seasonal tourism products are often underdeveloped (Hou, 2021). Understanding these requirement is essential for destinations like Chiang Mai.

2.3. Data Mining

Data mining is widely used in tourism research. It helps extract patterns from user-generated content. Platforms like Ctrip and Tuniu provide large amounts of travel reviews. These reviews reflect tourists' experiences and preferences. Researchers can identify key themes such as satisfaction, service gaps, and emotions (Zeng et al., 2019). For elderly tourism, data mining offers scalable insights that go beyond traditional surveys.

2.4. Knowledge Engineering

Knowledge engineering turns unstructured data into structured knowledge. In tourism, ontology modeling is used to classify travel preferences, services, and user types. It supports semantic annotation and helps represent tourist needs clearly (Pan et al., 2020). In elderly tourism, ontologies help sort fragmented feedback into useful categories. This improves understanding of demands.

2.5. Ontology-Based Knowledge Graphs and Semantic Annotation

Ontology supports the construction of knowledge graphs, which show concept relationships from text data (Pan et al., 2020). Semantic annotation labels entities based on the ontology. This allows extraction of patterns, co-occurrence, and context. In this study, Thailand's 5F framework (Food, Festival, Film, Fight, Fashion) guides the ontology design. Elderly tourists' preferences are mapped to these domains.

3. Methodology

3.1. Conceptual framework

Figure 2. Conceptual Framework

Input	Process and Tools	Output	Outcome
Collect			
1. Segmentation of Chinese elderly tourist (From cold place to warm place)		The group of samples for this research (Chinese "snowbird")	
Analysis and Synthesis			
2.1. Conduct demand analysis based on 5F to understand the demands of Chinese elderly tourists	Data mining using online reviews from Ctrip and Tuniu. Keywords include domestic winter destinations (e.g., "Hainan", "Guangxi") and senior-related tags (e.g., "Parents travel", "Old friends club").	Potential "F" which Chinese elderly tourist focus on from 5F (Food, Festival, Film, Fashion and Fighting)	**A.** To help Chiang Mai agency understand the demands of Chinese migratory bird elderly and segment market by ontology **B.** Propose marketing strategies to build Chiang Mai into a winter resort and enhance Chiang Mai's attractiveness
2.2. Select potential "F" among the 5Fs and explore elements related to the sample demands	Ontology from China side	Ontology of Chinese elderly tourists that reflects sample demands	
2.3. Conduct business analysis on Chiang Mai travel agency service supply chain management based on the ontology of sample demands	Core Business Activities Regarding Potential "F" in Supply Chain Management of Services	Advantages and Disadvantages of Core Business Activities in Supply Chain Management in Meeting Chinese Elderly Tourists demands	
Designing and creating model			
3. Advantages and disadvantages of core business activities in meeting target tourists demands	SWOT & TOWS matrix	Improved policies that are effective in meeting target tourists demands	

This framework adopts a data-driven approach to identify the winter tourism needs of elderly Chinese tourists. It consists of three stages: (1) segmentation and sample collection; (2) demand analysis using data mining, ontology construction, and semantic annotation under the 5F framework; and (3) strategy generation through SWOT–TOWS matrix. The framework supports the development of targeted tourism strategies for Chiang Mai tourism industry.

3.2 Data Collection

This study collected a dataset of 52,100 Chinese-language user reviews from two major online travel platforms, Ctrip and Tuniu. The reviews focused on domestic elderly-oriented tour products and were filtered using seasonal travel keywords such as "Hainan," "Guangxi," "Parents Travel," and "Old Friends Club." To make sure the target demographic, the study concentrated on content related to travelers aged approximately 55 to 75, who are the primary participants in seasonal migration-style tourism.

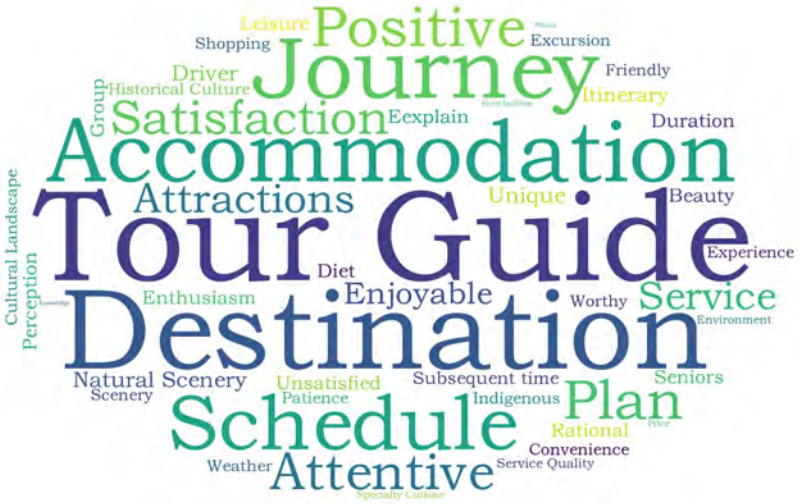
After initial collection, the data underwent standard preprocessing, including tokenization, stop words removal, and synonym unification. This process ensured the textual input was clean and semantically consistent, laying the foundation for ontology construction and keyword analysis.

3.3. Data Analytics

3.3.1 Word cloud

To extract meaningful patterns from the dataset, a word cloud was generated based on term frequency analysis. This visual representation transformed unstructured textual data into a digestible overview of frequently mentioned themes. As shown in Figure 1, elderly tourists consistently referenced topics such as tour guides, accommodation, meals, itinerary, and festivals. These high-frequency terms reflect the primary service elements and experiential factors that shape their travel satisfaction.

Figure 3. Word Cloud



The word cloud served as a bridge from raw data to interpretable information, allowing for thematic clustering. Upon closer inspection, many of the prominent terms—such as local dishes, digestible food, cultural shows, and traditional events—could be semantically grouped into two main dimensions of Thailand's 5F soft power framework: Food and Festival.

3.3.2 Semantic Annotation

After identifying key areas through word cloud analysis, we focused on two topics—Food and Festival—that elderly Chinese tourist often mentioned. These areas were used to guide further labelling work.

Labelling was completed using Label Studio. These annotated texts were used to train a BERT-based Named Entity Recognition (NER) model, focusing only on the recognition of Food and Festival entities.

Figure 4. Training results

Epoch	Eval Loss	Accuracy	Precision	Recall	F1 Score - Food	F1 Score - Festival
1	0.344	0.8992	0.7208	0.8137	0.7644	0.721
2	0.310	0.9050	0.7644	0.8036	0.7835	0.7422
3	0.305	0.9077	0.7655	0.8050	0.7848	0.7501
4	0.296	0.9116	0.7797	0.8132	0.7961	0.7622
5	0.295	0.9111	0.7672	0.8211	0.7933	0.7685
6	0.292	0.9118	0.7682	0.8211	0.7937	0.7733
7	0.295	0.9114	0.7693	0.8211	0.7949	0.7752
8	0.293	0.9122	0.7722	0.8211	0.796	0.7775
9	0.293	0.9124	0.7726	0.8226	0.7968	0.7782
10	0.292	0.9136	0.7727	0.8211	0.8275	0.7789

These scores reflect the model's ability to identify only the Food and Festival entities from the dataset. In the final evaluation, Food reached an F1 score of 0.8275, and Festival reached 0.7789, showing good performance for further use in ontology construction.

4. Results

4.1 Knowledge Capture

After semantic annotation and NER model training, this study built two ontologies. One is for the Food domain and the other is for the festival domain. These ontologies are based on the 5F soft power framework of Thailand. They help organize and describe the key concepts found in elderly tourists' online reviews.

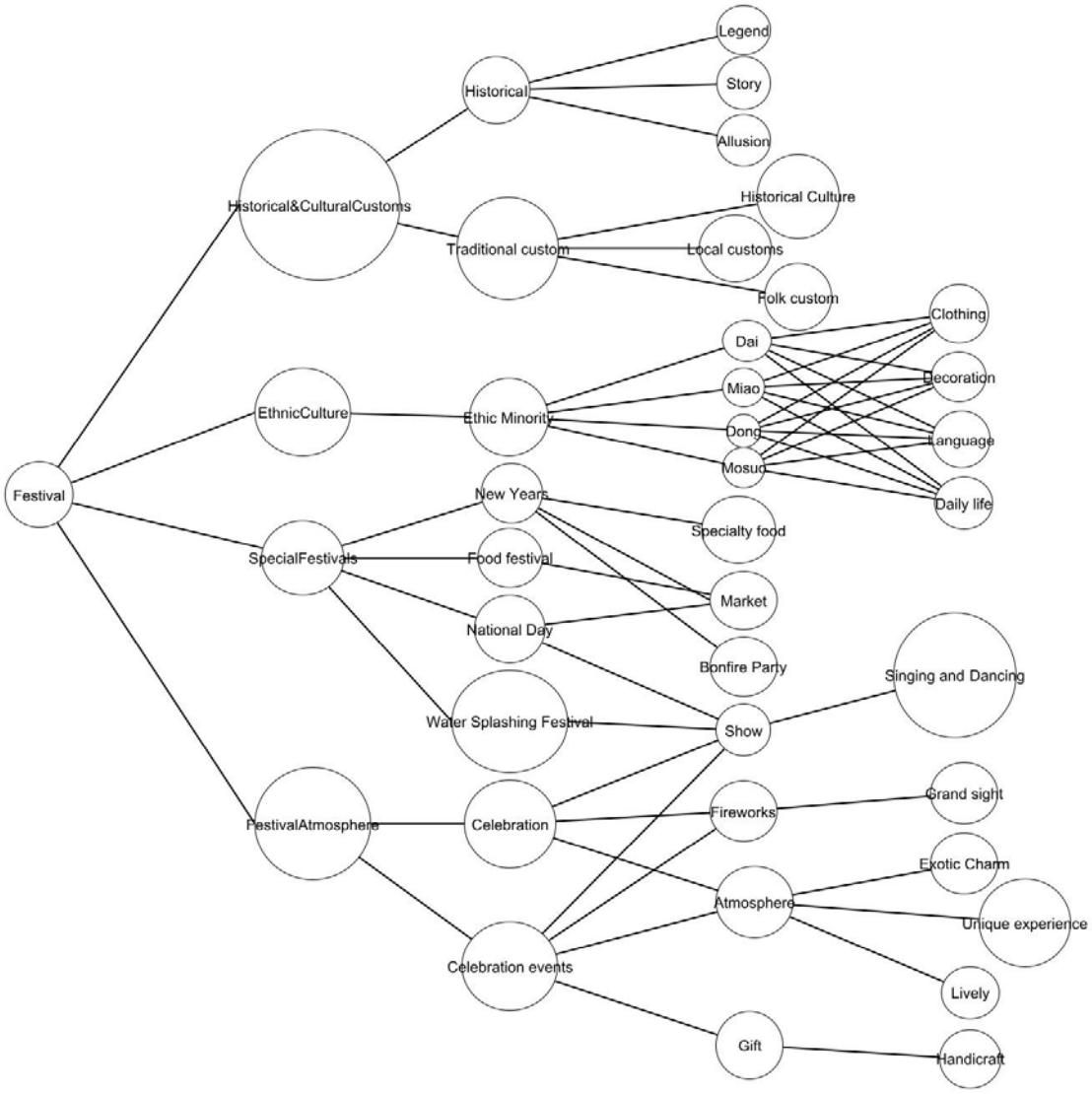
The Food ontology (Figure 5) shows that elderly tourists care about how they eat, what they eat, and the meaning behind the food. Many prefer formats like group meals, buffets, or snacks from local markets. They value food that is affordable, clean, and safe. They also care about health, including options with low oil, less salt, or fewer allergens. Many travellers enjoy food that reflects local culture, such as local specialties or dishes from well-known local brands. Some also like hands-on experiences like learning to cook or picking vegetables. These food preferences are both practical and emotional.

The Festival ontology (Figure 6) shows that tourists are interested in cultural and emotional experiences. They enjoy learning about traditional customs and ethnic minority life. Festivals that include music, dance, fireworks, or food events are especially popular. These experiences help travellers feel connected to the place and its people.

Figure 5. Ontology of Food



Figure 6. Ontology of Festival



4.2. Knowledge Analysis

This study has not yet completed the full analysis stage. However, the ontology results give a clear direction for the next step. In the future, the research will use the task–inference–domain model to better understand what elderly tourists want and how to plan travel products for them.

For example, in the Food domain, tourists may want meals that are healthy, light, or familiar. This means travel planners need to offer food options that are safe and comfortable. In the Festival domain, elderly tourists may prefer events that are calm, meaningful, and easy to join. This shows the need for well-timed, small-group cultural activities.

5. Discussion and Implications

5.1. Discussion

This study employed ontology to express Chinese elderly tourists' travel reviews. Revealing clear thematic — Food and Festival. Seniors expressed strong interest in clean, light meals, meal variety, and group dining formats, reflecting preferences for health, comfort, and social interaction. In the festival domain, they valued traditional rituals, ethnic celebrations, and community participation, indicating a desire for emotionally engaging and culturally immersive experiences.

The findings of this study indicate that elderly tourists are not only seeking more temperate climates during the winter but also seeking meaningful social and cultural experiences. Their interests align closely with two pillars of Thailand's 5F soft power strategy: Food and Festival. Chiang Mai possesses competitive advantages in both areas, yet existing travel services remain generalized and not fully responsive to senior needs. This discrepancy presents an opportunity for travel agencies to better capture the growing "migratory bird" segment from China.

5.2. Academic and practical implications

5.2.1. Academic implications

The present study demonstrates that domestic user-generated content (UGC) can serve as a proxy for infer outbound tourism demand. By applying ontology to express data, we identified latent senior preferences that reflect broader demands without relying solely on surveys. The methodology also offers a practical framework for tourism research targeting aging demographics in emerging markets.

5.2.2. Practical implications

It is recommended that Chiang Mai travel agencies consider aligning their services to better align with the expectations of the elderly. This includes developing slow-paced, group-friendly itineraries; providing health-conscious meals; integrating local cultural festivals or culinary workshops; and ensuring language and mobility support. These improvements can enhance comfort, safety, and cultural connection—key factors for this demographic.

5.3. Limitations of this study and suggestions for future research

This study is ongoing, with the analysis focusing on identifying the core activities of Chinese elderly tourists. Particularly in the domains of food and festival which based on domestic review data. These findings offer important insights into the travel demands of the senior.

The subsequent phase of research will entail the correlation of the ascertained core activities with the service offerings of Chiang Mai travel agencies. This matching will serve as the foundation for the SWOT-TOWS analysis, to consider internal strengths and weaknesses, and external opportunities and threats. Consequently, strategies will be developed. Although exploratory, the present findings provide a focused direction for subsequent analysis and contribute to a deeper understanding of how to adapt tourism services to meet the needs of the Chinese senior winter travel segment.

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Theme: Business Management and organizational innovation

Segmenting U.S. tourists to Cuba: Exploring the motivational needs of potential tourists (paper#172)

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Abstract:

With the recent improvements of relations with Cuba, US citizens are now allowed to travel to Cuba for purposes other than tourism. To comprehend this potential market, potential tourists from three major diverse US cities were surveyed on their motivations to travel (to Cuba). The motivations were then factor analyzed and segmented based on the resulting factors: (1) family togetherness and nostalgia, (2) pleasure-seeking, and (3) natural environment. The resulting segments will help future marketers of Cuban tourism to address this new market.

Keywords: Cuba, segmentation, heritage, motivation, tourism, marketing, nostalgia

1. Introduction

Since trade and travel embargoes with Cuba were enacted in the early 1960s, there has been an inability of most United States Citizens to travel to Cuba for tourism or other purposes (Hingtgen et al., 2015). However, since the recent improvement of diplomatic relations between the United States and Cuba (December 2014), travel by a US citizen for the purpose of tourism will likely become a reality in the future (Acevedo et al., 2017; Fullerton et al., 2019). When this happens, as many as 10 million Americans a year are expected to visit Cuba (Wetherall, 2015). Tourism marketers will benefit if they can understand why US travelers are motivated to travel to Cuba. Researchers and marketers have noted that one of the most effective ways to predict tourism behavior is through the motivations that drive tourists to travel (Johns & Gyimóthy, 2002; Knollenberg et al., 2020; Park & Yoon, 2009). Tourism researchers can use these motivations to identify tourist segments thus marketers can focus on different unique segments when enticing tourists to Cuba. Additionally, results of this study can help travel agencies in the US identify the motivational needs for each sand and sun destination tourist segment. Lastly, there has been little research on to US travelers' motivations to travel to Cuba. Hence, the goal of this study is to identify potential US tourists' motivations to travel to Cuba and segment the potential Cuba destination market using the above motivations.

2. Literature Review

2.1. Tourism in Cuba and Immigration to the United States

Cuba was a major tourist hub in the Caribbean from 1930 to 1959 (Salinas et al., 2018). From 1950-1959, over one-third of all tourists to the Caribbean came to Cuba (Hinch, 1990). After Fidel Castro came to power in 1959, tourism in Cuba decreased from 350,000 tourists in 1958 to only 3,000 tourists annually in 1968 (Berman, 1994; Jayawardena, 2003). The new regime in Cuba helped to fuel a large-scale migration to the United States. For the years from 1960 to 1970, Cubans in the United States increased from 79,000 to 439,000 people. The emi-gration from Cuba to U.S. continued to increase and by 2016, there were over 1.27 million Cu-ban immigrants in the United States (Batalova & Zong, 2017).

Up until the fall of the former Soviet Union in the late 1980's, Cuba had placed a small emphasis on tourism. Once Cuba lost their primary trade partner (Soviet Union), Cuba began to see the benefits of tourism to their depleted economy (Gonzalez et al., 2014; Jayawardena, 2003). Between 1992 (460,000) and 1993 (600,000) Cuba experienced a 30% increase in foreign tourists (Berman, 1994). By 2010, Cuba was receiving about 2.5 million tourists in a single year. Since 2015, the increase of tourists from the United States (1.5 million people in 2017) helped to increase the yearly tourist output to 4.7 million people in 2017, making Cuba the sec-ond most visited destination in the Caribbean (Gonzalez et al., 2014; Sesin, 2018; Whitefield, 2017). In addition to US tourists, tourists from countries such as Mexico, Canada, Europe, China, Japan and South America travel to Cuba each year. Canada provides a substantial portion of travelers to Cuba with an excess of 1 million tourists per year (Thomas & Kitterlin-lynch, 2015). With the increase of tourism to Cuba, and the decreased restrictions of US citizens to travel to the island, Cuba has worked to diversify its tourism product by adding hotels, international flights and golf courses. There were about 19,000 hotel rooms available in Cuba in 1993, compared with 58,434 rooms (334 hotels) in 2012. Of the 334 hotels, over 70% are located on the coastline, appealing to the sun and sand consumers (Berman, 1994; Thomas & Kitterlin-lynch, 2015). These increased offerings intend to attract higher income consumers from the US, Japan, China and Canada (Canally & Carmichael, 2011; Thomas & Kitterlin-lynch, 2015).

2.2 Cuba as a cultural heritage destination

The definition of heritage includes linkages to the past and present. One's heritage can be passed down from one generation to the next (Nyaupane et al., 2006). As stated above, more than 1.2 million Cuban immigrants resided in the United States in 2016. Many of these immigrants have had children which now claim Cuban ancestry. For example, almost one million people in the Miami metropolitan area (Miami, Fort Lauderdale, West Palm Beach) claim Cuban ancestry (Ennis, Rios-Vargas and Albert, 2011). Many of these Cuban immigrants and those with Cuban ancestry would have an interest in visiting Cuba and experiencing aspects of their Cuban heritage

(Salinas Chavez et al., 2018). For those that originated in Cuba, there may be a sense of nostalgia for them, a longing for their homeland and a remembrance of what life was like growing up in Cuba. For those old enough to remember, this longing (nostalgia) may in-clude a desire remember what life what like in Cuba before communism (1959) (Rubio, 2006; Tuma, 2017).

2.3 Cuba and Sun and Sand Destinations

Cuba has over 6,000 km of coastline in the Caribbean containing over 300 sand beaches (Jayawardena, 2003). Many tourists spend time along Cuba's coastline for lounging in the sun, sailing, canoeing, diving, swimming, and surfing (McClanahan, 2018; Roman, 2018). Over 70% of the hotels in Cuba are located along this expansive coastline (Roman, 2018; Thomas & Kitterlin-lynch, 2015). Additionally, Cuba has over 300 days per year of sunny weather and an average temperature of 77˚F annually (Howard, 2018). Thus, Cuba's destination image is that of a 'Sun and Sand' destination and travel brochures and marketing focus on this niche tourism product (Alegre & Cladera, 2006; Babb, 2011; Calderón García et al., 2004; Ogden, 2015; Prebensen et al., 2010).

3. Methodology

3.1 Research methods

Prior studies have utilized travel motivations to cluster Korean rural tourists (Park & Yoon, 2009; Song, 2005), Chinese tourists (Chen et al., 2014; Li et al., 2009; Prayag et al., 2015), festival attendees (Formica & Uysal, 1998), international tourists to Ecuador (López-Guzmán et al., 2017), Japanese overseas travelers (Cha et al., 1995), Portuguese rural tourists (Almeida et al., 2014), international tourists to Australia (Laesser et al., 2006), and European senior tourists (Alén et al., 2017; Boksberger & Laesser, 2009). These studies suggested that the resulting segments can be used by marketers to appeal to different target markets based on their travel motivations. Thus, an online survey was created to identify the motivations for US tourists who plan to visit Cuba in the future. The motivational items in this study represented social, nature, and leisure/sun motivation, some of the primary push and pull motivations listed in previous sand/sun destination studies (Alegre et al., 2011; Manfredo et al., 1996; Pesonen et al., 2011; Prebensen et al., 2010).

Data in the study was analyzed utilizing SPSS Version 23. A factor analysis was conducted for the eleven motivational items. A PCA (principal component analysis) with varimax rotation method was selected to determine relevant motivational dimensions for potential Cuban tourists (from the United States). This factor analysis was implemented because it greatly reduces correlation among the motivational variables (for a cluster analysis) (Formica & Uysal, 1998; Johns & Gyimóthy, 2002). Eigenvalues were used to define relevant factors and all factors with

eigenvalues of less than one were eliminated. Additionally, all items with a factor loading above 0.4 were kept and those with a loading below 0.4 were discarded. Furthermore, any item with a cross-loading on two or more factors (with factor loadings greater than 0.4) was removed (Hair et al., 2009). The remaining items (7) were factor analyzed again, utilizing the varimax rotation procedure mentioned above.

A k-means cluster analysis was subsequently performed using standardized values for each of the resulting factors. This cluster method is often used in tourism studies because the k-means clustering procedure yields results that are less prone to data outliers and less prone to the inclusion of extraneous or inappropriate variables (Formica & Uysal, 1998; Hair et al., 2009). The k-means cluster analysis can be validated by viewing the iteration history of the analysis. If the change in cluster centers converges at zero before 10 iterations, the model is stabilized. An ANOVA was used to identify differences among the clusters (across each factor). This is also an indicator of a valid cluster model. If each of the F-values in the ANOVA are high and significant ($P \leq 0.001$), then each of the clusters are significantly different (across each factor) (Gaskin, 2015). After identifying multiple unique clusters, the differences among each cluster in demographics (age, marital status, and gender), city location (New York, Los Angeles, Miami), and past visitation to the Caribbean were outlined. Differences among each cluster was indicated via chi-square test.

3.2. Data Collection

A digital survey was designed to determine the motivations for US tourists who desire to travel to Cuba in the future. The motivational items in this study represented social, nature, and leisure/sun motivation, some of the primary push and pull motivations listed in previous sand/sun destination studies (Alegre et al. 2011; Pesonen et al. 2011; Prebensen et al. 2010; Manfredo et al. 1996). Qualtrics was employed to disseminate the questionnaire to chat forums and internet websites which garnered respondents in three major cities in the United States. The first 75 respondents in these cities (Miami, New York City, and Los Angeles) could access and complete the survey. Consequently, 75 respondents from each of New York, Los Angeles, and Miami in the US completed the survey (a total of 225 adult responses). The three cities were selected based on several factors including the number of Hispanic residents, the number of res-idents of Cuban origin, and the existence of an international airport with one-stop or direct flights to Cuba. New York City and Los Angeles have the largest number of residents of His-panic origin in the United States (2.34 million and 1.84 million respectively) (Ennis et al., 2011). Of the metropolitan areas with residents of Cuban ancestry, almost one-million people in the Miami metropolitan area claim Cuban ancestry, second is the New York Metropolitan area with 135,391 people claiming Cuban ancestry and fourth is Los Angeles with 49,702 people claiming Cuban ancestry (Ennis et al., 2011).

The survey included 11 motivational items utilizing a five-point Likert scale ranging from '1 = strongly disagree' to '5 = strongly agree.' Motivational items used to describe the needs of sand and sun tourists were adapted for the study. These motivational items comprised family-related motivations including 'To visit friends and relatives,' pleasure-seeking motivations such as 'To enjoy the sun and beach,' and nature/outdoors-related motivation i.e. 'to ob-serve nature.' These items were adapted as a result of a review on the literature on tourist motivational needs for sand and sun destinations (Kozak, 2002; Manfredo et al., 1996; Merwe et al., 2011; Molera & Albaladejo, 2007; Prebensen et al., 2010; Yoon & Uysal, 2005). The survey also comprised demographic data including age, location, marital status, and gender.

4. Results

4.1. Profile of the respondents

The respondent gender included 46.2% (n=104) male, and 53.8% (n=121) were female. Regarding age, 42.2% (n=94) were between 24-34 years old, 21.1% (n=47) were between 35-44 years of age, 18.4% (n=41) were between 18-24 years of age, 10.3% (n=23) were between 45-54 years old, 6.3% (n=14) were between 55-64, and 1.8% (n=4) were over 65 years of age. Those who identified as single included 69.8% (n=157) of respondents while 30.2% (n=68) were married/ coupled (see table 1). As mentioned above, 75 respondents hailed from three cit-ies in the USA including Los Angels, New York City, and Miami. Of the 225 cases in this study, 38 (16.9%) indicated Cuban heritage (28 from Miami, 6 from Los Angeles, and 4 from New York City).

Table 1. Potential Tourist to Cuba Demographic Information by Cluster

Profile of Potential Cuban Tourists	Cluster 1: Fantasy Tourists n = 37 (16.4%)	Cluster 2: Outdoor Pleasure Seekers n=149 (66.2%)	Cluster 3: Nostalgia and Heritage Tourists n=39 (17.3%)	Total: n = 225	χ2 test (χ2 p-value)
Gender					1.858 (0.395)
Male	20 (54.1%)	69 (46.3%)	15 (38.5%)	104 (46.2%)	
Female	17 (45.9%)	80 (53.7%)	24 (61.5%)	121 (53.8%)	
Age Group					21.256 (0.019)*
18-24	6 (16.2%)	22 (15.0%)	13 (33.3%)	41 (18.4%)	
25-34	12 (32.4%)	67 (45.6%)	15 (38.5%)	94 (42.2%)	
35-44	10 (27.0%)	31 (21.1%)	6 (15.4%)	47 (21.1%)	
45-54	3 (8.1%)	20 (13.6%)	0 (0.0%)	23 (10.3%)	
55-64	4 (10.8%)	6 (4.1%)	4 (10.3%)	14 (6.3%)	
65+	2 (5.4%)	1 (0.7%)	1 (2.6%)	4 (1.8%)	
Marital Status					13.467 (0.001)*
Single	18 (48.6%)	105 (70.5%)	34 (87.2%)	157 (69.8%)	
Married/Coupled	19 (51.4%)	44 (29.5%)	5 (12.8%)	68 (30.2%)	

Profile of Potential Cuban Tourists	Cluster 1: Fantasy Tourists n = 37 (16.4%)	Cluster 2: Outdoor Pleasure Seekers n=149 (66.2%)	Cluster 3: Nostalgia and Heritage Tourists n=39 (17.3%)	Total: n = 225	χ2 test (χ2 p-value)
Location (City)					41.671 (0.000)*
Los Angeles, CA	20 (54.1%)	50 (33.6%)	5 (12.8%)	75 (33.3%)	
New York, NY	4 (10.8%)	64 (43.0%)	7 (17.9%)	75 (33.3%)	
Miami, FL	13 (35.1%)	35 (23.5%)	27 (69.2%)	75 (33.3%)	
Past Caribbean Traveler?					9.879 (0.007)*
Yes	22 (59.5%)	55 (37.2%)	23 (59.0%)	100 (44.6%)	
No	15 (40.5%)	93 (62.8%)	16 (41.0%)	124 (55.4%)	
Note: Starred values indicate when the differences between the clusters' means are statistically significant i.e. $p < 0.05$.					

4.2. Results of PCA factor analysis

In order to conduct the factor analysis of the motivational items, a PCA (Principal component analysis) with varimax rotation was utilized to discover the motivational factors for potential tourists to Cuba. This study used factor loadings equal to or above 0.50, and eigenvalues equal to or above 1.0. The first dimension labeled 'family togetherness' explained 25.92% of the total variance. The second dimension labeled 'natural environment' accounted for 21.83% of the variance. The third dimension labeled 'pleasure-seeking' explained 17.44% of the variance. Lastly, the results of the factor analysis explained at least 61.2% of the total variance (see table 2) (Hair et al., 2009).

Table 2. Results of factor analysis of potential Cuba Visitor Motivations

Motivation factors and items	Factor Loading	Eigenvalue	Variance Explained
Factor 1: Family Togetherness and Nostalgia		1.814	25.92%
To visit friends and relatives	0.929		
To spend family time in a nostalgic tourist destination	0.920		
Factor 2: Natural Environment		1.528	21.83%
To get back to nature	0.842		
To observe nature	0.816		
Factor 3: Pleasure-Seeking		1.221	17.44%
For leisure and adventure	0.656		
To enjoy the sun and beach	0.638		
For recreation and attractions	0.663		
	Total variance explained:		65.19%

4.3. Results of K-means cluster analysis

After determining the three factors via the PCA (pleasure seeking, natural environment, family togetherness), a k-means cluster analysis was employed using standardized values for each of the factors identified in the PCA. This cluster analysis resulted in a three-cluster solution that was validated by a convergent solution within 10 iterations (7 iterations) (Gaskin, 2015; Hair et al., 2009). The results of ANOVA tests show (see table 3) that the three motivational factors helped to differentiate the three clusters identified in the k-means cluster analysis ($p < 0.01$). Segmentation results were further validated because each of the F-values in the ANOVA were high and each of the clusters were significantly different (across each factor) (Gaskin, 2015). See the table below for travel motivation means (averages) amongst each cluster. Table 3 indicates significant differences exist between the three clusters ($P \leq 0.001$).

Table 3. Cuba Travel Motivation Factor Means Among Clusters

Factor	Cluster 1: Fantasy Tourists	Cluster 2: Outdoor Pleasure-Seekers	Cluster 3: Nostalgia and Heritage Tourists	Total Mean	F-Value
	n=37 (16.4%)	n=149 (66.2%)	n=39 (17.3%)		
Family Togetherness/Nostalgia	1.30	1.25	4.03	1.74	521.06*
Natural Environment	2.77	3.92	3.36	3.57	40.10*
Pleasure-Seeking	4.22	4.73	4.63	4.64	51.17*
		Starred values indicate significant differences between the three clusters $p < 0.05$.			

5. Discussion and Implications

5.1 Discussion

Cluster 1 (Fantasy Tourists) corresponds to 16.4% of the sample. These tourists scored high on the pleasure-seeking factor, but low on the natural environment and family togetherness factors. This group of potential travelers to Cuba includes singles (48.6%) and couples (51.4%). This group desires a romantic getaway at a sun and sand destination. As mentioned above, over 70% of Cuba's hotel properties are located along its 6000km coastline (Thomas & Kitterlin-lynch, 2015). The sun and sand destination tourist is motivated by warm temperatures (good climate), sunny weather, and the relaxing nature of the ocean sounds and breezes (Prebensen et al., 2010; Rittichainuwat, 2008). Some of the items scored strongly in this segment includes the motivations 'to enjoy sun and beach,' and 'for leisure.' This group is not in-terested in visiting

family or friends in Cuba or does not list this as a motivating factor. Nature's attractions such as bird watching, and natural park exploration are not a high priority for this group. Almost 90% of this group (89.2%) are from Los Angeles or Miami, with only 10.8% from New York. Close to 60% of this group has travelled to the Caribbean in the past (see table 1).

Cluster 2 (Outdoor Pleasure-Seekers) corresponds to 66.2% of the sample. This group showed a strong desire to explore the outdoors, both on the beach/sea as well as the natural sur-roundings of Cuba. Some of the items scored strongly in this segment includes the motivations 'to enjoy sun and beach, 'to get back to nature,' and 'for recreation and attractions.' Many sun and sand tourists are interested in exploring nature and value the beauty of nature (Prebensen et al., 2010; Rittichainuwat, 2008). Cuba has over 300 sand beaches for sailing, surfing, canoeing and diving. In addition to its beaches, Cuba also has numerous major natural parks for freshwa-ter fishing and bird watching (Jayawardena, 2003). Those that are in cluster 2 are interested in many of the above activities. One prior motivational study identified 'nature-tourists' as a sig-nificant cluster of tourists in Australia (Lang & O'leary, 1997). That no other study has found nature/beach tourists to be a significant cluster is significant and a testimony to the diverse po-tential nature experiences along with expansive beaches in Cuba. In terms of potential tourists, 76.6% of this group are from Los Angeles or New York, with only 23.4% from Miami (closest major city in the US to Cuba). Only 37.2% of this group has travelled to the Caribbean in the past (see table 1).

Cluster 3 (Heritage and Nostalgia Tourists) are visiting friends/relatives that live in Cuba. Almost 70% of these potential tourists are living in Miami (less than 100 miles from main-land Cuba), where the population of those with Cuban heritage is 54% (Sesin, 2014). For those in Miami with close ties to Cuba, the normalization of relations with Cuba is particularly important. As seen in table 1, almost 72% of these travelers are between 18-34 years old, are 61.5% female, and almost 60% have travelled to the Caribbean before. Additionally, all 27 of the potential tourists in this segment from Miami had Cuban heritage (5 out 6 Cuban heritage from Los Angeles and 4 out 7 Cuban heritage from New York). Some of the items scored strongly in this segment includes the motivations 'to enjoy sun and beach, 'to visit friends and relatives' and 'to spend family time in a nostalgic tourist destination.' Many of these Cuban-Americans have friends/family that live at or near the coastline in Cuba. Other studies have named family-related clusters for various ethnic groups, particularly Korean travelers (Park & Yoon, 2009; Song, 2005). Furthermore, two previous motivational studies utilizing cluster analysis found that those seeking family time are also motivated to find relaxation (Cha et al., 1995; S. C. Jang et al., 2002). The cluster identified by Cha et al., (1995) is similar to the one found for potential tourists to Cuba as sun/sand motivation is often associated with relaxation (Connell, 2006).

5.2 Academic and practical implications

The results of this study are becoming more and more relevant to tourism marketers as the United States continues to improve relations with one of our closest neighbors. Cuba is now seeing an excess of more than half a million US travelers on cruise lines (via around 350 sailings). This is contributing to the rapidly increasing $2.2 billion Cuban travel market. Cruise companies make more than $780 million in annual revenue via these trips to Cuba (Taylor, 2018). All of this revenue and travel to Cuba is due to a high demand to travel to this new and emerging market (Souza, 2017; Stieghorst, 2017). Multiple airlines are offering direct flights to Cuba via 5 different cities in the United States (Latkova et al., 2018; Zhang, 2016). These flights were the first direct commercial flights from the US to Cuba in 50 years (Latkova et al., 2018).

This study utilized leisure motivation theory (Recreation Experience Preference Scale) to help to explain why potential US travelers are motivated to travel to Cuba. In addition, push pull-theory was instrumental in explaining the motives for choosing to travel to a sun and sand destination (Cuba). Push motivations (adventure, family togetherness) explained why people wish to take a trip while pull motivations (natural environment, beaches) explains how people are pulled towards their Cuba destination choice (Dann, 1996). In addition, novelty-seeking theory helped to explain why pleasure-seekers would select Cuba as their destination of choice. When tourists perceive future experiences in Cuba to be new, unfamiliar, exciting, and full of adventure, these experiences will appear novel to the potential tourist and they will be more likely to select Cuba as their sun and sand destination (Jang & Feng, 2007).

5.3. Limitations of this study and suggestions for future research

The current study segmented the motivations of potential tourists to Cuba residing in US cities including Los Angeles, New York, and Miami. While the current study may represent potential travelers from urban areas, the study did not address motivations to travel to Cuba among potential travelers from rural areas. One reason for this is only 12% of the more than 50 million Latinos in the United States reside in rural areas (George, 2012). Still, future studies could include potential travelers from both urban and rural locations. US travelers from rural locations would likely not fall into cluster 3 – visiting friends/relatives in Cuba.

Lastly the rate at which relations between the United States and Cuba improve over time will affect whether or not potential travelers to Cuba will be allowed to travel to the country for the purpose of tourism As of now the cruise industry is reaping the benefits of the improved relations between Cuba and the U S Free independent travel has still not become a reality as travel is still restricted to specific reasons including education and visiting family When free independent travel is allowed in Cuba future studies can investigate experiences of these tourists and their intension to return in the future.

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Use of AI among Generation Z students: an exploratory study on the reasons for its use and its implication: A comparative study on the Philippines and Vietnam (Paper#173)

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Abstract:

While AI can enhance learning, excessive dependence may hinder skill acquisition, and inhibit the development of analytical and critical thinking skills. This study will provide insights into students' perceptions of AI and inform universities on preparing them for a technology-driven future. Using a qualitative method, 35 participants from the Philippines and Vietnam were interviewed with regards to their use of AI. The objectives of this study includes ascertaining how students leverage the use of AI in their study, assess their perception on the use of AI, determine how the academe should prepare the students for a technology-driven workplace and compare the perspective of hospitality and tourism students on the use of AI in the Philippines and Vietnam.

The results shows that 3 main themes emerged as the major concerns of the participants. These are the use and acceptance of AI, wherein most of the participants believe that since AI is the way for the future, it should be gradually introduced in schools where its functions, benefits and limitations are openly discussed. Second is the ethical concern is one of the most pressing issues in the use of Chat GPT and similar software's. The participants believe that this tools should be utilized to support learning but not to replace the efforts of the students. The third theme is its future use, since the development of these software's are recognized as a major technological shift that influences future work and education, knowledge on its use can be a competitive advantage for future graduates.

A comparison of the students of both countries shows culture plays a major role in the adoption of this technology, including the type of university they belong to. Acceptance and approval of the professors is also a major factor in the use of this software's as well as institutional factors. The data from the research as well as from literature shows the need for further education and training for both faculty and students, ethical discussions and institutional guidance are needed to ensure the ethical use of AI in education.

Keywords: Artificial intelligence, Chat GPT, ethical concern, Innovation-Decision Process

The Impact of Congruency between Real-time Scarcity Messages and Social Proof in OTAs on Consumer Perceived Credibility and Deceptiveness: Mediating Roles of FOMO and Consumer Persuasion Knowledge (CPK) (Paper#146)

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Abstract:

This study investigates how real-time scarcity and social proof cues in online accommodation bookings influence consumer perceptions. Using a dual-pathway framework, we examine whether real-time updates enhance credibility through fear of missing out or increase perceived deception via consumer persuasion knowledge. Expected results may offer implications for marketing strategies.

Keywords: Scarcity, Social Proof, Fear of Missing Out (FOMO), Consumer Persuasion Knowledge (CPK), Elaboration Likelihood Model (ELM), Real-time Information

1. Introduction

Online travel agencies (OTAs) frequently employ scarcity and social proof cues to increase bookings (Teubner & Graul, 2020). Prior research has predominantly focused on static scarcity messages such as "Only 5 rooms left" and their effects on willingness to pay, purchase intentions, and perceived credibility (e.g., Song, Noone, & Han, 2019; Huang et al., 2020; Song, Choi, & Moon, 2021). However, static messages can create informational asymmetries, as consumers are unable to verify real-time availability, potentially leading to skepticism and perceptions of deception.

To address this limitation, the present study investigates dynamic, real-time scarcity messages that update instantaneously based on actual booking data and user activity. Despite technological advancements enabling such features, its impact remains underexplored. These dynamic cues have the potential to reduce informational asymmetry, enhance transparency, and build consumer trust by facilitating informed decision-making rather than impulsive responses.

Grounded in the Elaboration Likelihood Model (ELM), this research examines how real-time scarcity information on OTAs influences consumers' perceptions of credibility and potential deceptiveness through two experimental studies:

- Study 1 examines the interaction effect of scarcity message type and real-time presence (absence vs. static vs. dynamic) on perceived credibility and deception, mediated by Fear of Missing Out (FOMO) and Consumer Persuasion Knowledge (CPK).
- Study 2 investigates whether the consistency between real-time scarcity messages and social proof cues enhances perceived credibility and purchase intention. It also explores whether inconsistency between these cues increases perceived deception and leads to decision deferral.

The expected findings aim to inform future research on ethical digital persuasion by emphasizing the importance of balancing marketing effectiveness with transparency. This study is expected to contribute to the development of a more trustworthy and sustainable digital commerce ecosystem by identifying conditions under which real-time persuasive cues are perceived as either credible or deceptive. The anticipated results may offer practical implications for OTAs seeking to optimize persuasive strategies without compromising consumer trust.

2. Literature Review

2.1. Scarcity and Social Proof in Consumer Decision-Making

Scarcity and social proof are persuasive cues commonly employed by online travel agencies (OTAs) and e-commerce platforms to influence consumer behavior. Scarcity cues— "Only 5 rooms left" —signal limited availability, creating a sense of urgency. This often triggers fear of missing out (FOMO) and prompts consumers to make quick purchasing decisions (Kim, Choi, & Tanford, 2020). Prior research has demonstrated that scarcity messages effectively motivate consumers to act swiftly in order to secure scarce resources.

In contrast, social proof cues—such as "100+ bought" or "500+ viewed today"—highlight the popularity of a product or service based on others' behavior. According to social proof theory, consumers interpret these indicators as signals of quality and high demand, which helps reduce uncertainty in the decision-making process (Teubner & Graul, 2020). While scarcity functions by creating a sense of urgency, social proof fosters trust by providing validation through collective behavior.

2.2. Fear of Missing Out (FOMO), Consumer Persuasion Knowledge (CPK), and Information Processing

Fear of Missing Out (FOMO) refers to the anxiety associated with the possibility of missing rewarding experiences that others are enjoying (Przybylski et al., 2013). In the context of digital commerce, scarcity messages often evoke FOMO by signaling limited product availability. Research has shown that heightened FOMO can drive impulsive decision-making, as consumers

are motivated to act quickly to secure opportunities before they disappear (Zhang et al., 2022). On OTA platforms, real-time scarcity updates may intensify FOMO, thereby enhancing both the perceived credibility of the message and consumers' purchase intentions.

While FOMO leads to increased purchase intentions, Consumer Persuasion Knowledge (CPK) works in the opposite direction. CPK refers to consumers' ability to recognize and understand the persuasive intent behind marketing tactics (Friestad & Wright, 1994). Elevated levels of CPK often lead to increased skepticism and prompt consumers to critically evaluate marketing claims, especially when scarcity cues appear artificial or manipulated (Campbell & Kirmani, 2000; Costa Filho et al., 2023). For instance, when real-time updates are inconsistent with scarcity messages (e.g., the number of available rooms remains unchanged across multiple searches), CPK is likely to be activated, resulting in heightened perceptions of deception and a greater likelihood of decision deferral.

Additionally, Cue Consistency Theory posits that persuasion effectiveness is heightened when multiple cues are aligned. Thus, consistency between real-time scarcity and social proof cues is expected to elevate perceptions of FOMO, thereby increasing perceived credibility. In contrast, inconsistency is expected to heighten CPK, resulting in greater perceptions of deception.

The Elaboration Likelihood Model (ELM) offers a framework for understanding how FOMO and CPK influence consumers' information processing routes. FOMO typically triggers peripheral route processing, where consumers rely on heuristics. This enhances perceived message credibility and leads to fast decision making. Conversely, CPK stimulates central route processing, encouraging a more systematic evaluation of the message itself and its consistency with social proof cues. This results in increased perceptions of deceptiveness (Aguirre-Rodriguez, 2013).

Based on the ELM, this research utilizes a dual-pathway framework to examine the effects of real-time messages along with congruity between the messages and social proof cues. Altogether, theoretical perspectives discussed above provide a conceptual foundation for the hypotheses of this study.

2.3. Research Hypotheses Development

Drawing on the theoretical foundation and prior research, two studies will be conducted to test the following hypotheses. A conceptual framework is provided in Figure 1.

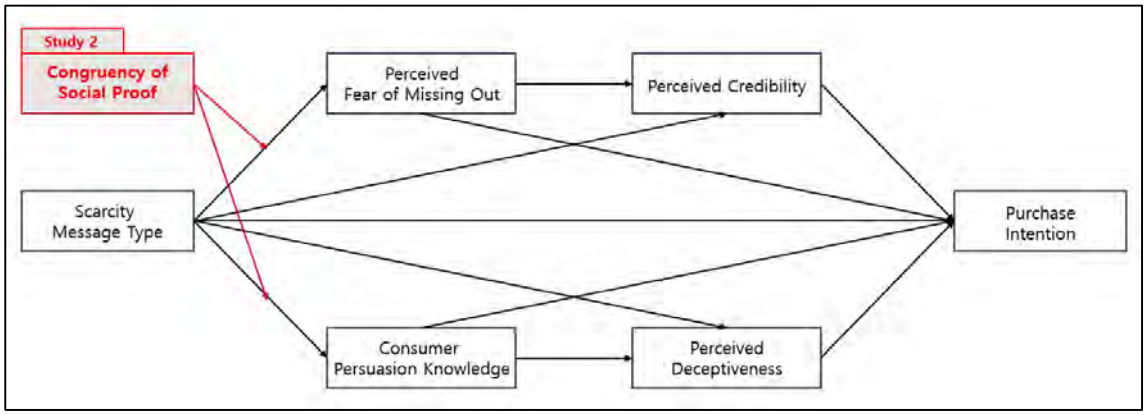
Study 1: Scarcity and Real-Time Information Moderation Effects

- H1: When scarcity messages are dynamically updated in real-time, it strengthens the relationship between scarcity appeals and perceived credibility via FOMO.
- H2: When scarcity messages remain static, it strengthens the relationship between scarcity appeals and perceived deceptiveness via CPK.

Study 2: Social Proof and Real-Time Information Consistency Effects

- H3: When real-time scarcity information is consistent with social proof cues, it strengthens the relationship between FOMO and perceived credibility, leading to higher purchase intent.
- H4: When real-time scarcity information is inconsistent with social proof cues, it strengthens the relationship between CPK and perceived deceptiveness, leading to decision deferral.

Figure 1. Conceptual Framework



3. Methodology

3.1. Research Design

This research utilizes a quantitative experimental design, consisting of two controlled studies, to examine the effects of real-time scarcity information on consumer perceptions and decision-making processes. The primary objective is to explore how different forms of scarcity messaging influence perceived credibility and deceptiveness, as well as the underlying psychological mechanisms such as fear of missing out (FOMO) and Consumer Persuasion Knowledge (CPK).

Study 1 adopts a three-group between-subjects design to investigate the impact of varying scarcity message types on consumer responses. The study aims to determine how these message types influence perceived credibility and deceptiveness, with FOMO and CPK set as mediating variables. Participants are randomly assigned to one of three groups:

- A control group with absence of scarcity messages
- An experimental group exposed to a dynamic (real-time) scarcity message
- Another experimental group exposed to a static scarcity message.

Study 2 builds upon the findings of Study 1 by incorporating an additional layer of complexity through the manipulation of consistency between social proof cues and real-time scarcity information. Using a two-group between-subjects design, this study examines how the consistency as opposed to inconsistency of these cues moderates the relationship between scarcity messaging and consumer evaluations, particularly in terms of credibility, deceptiveness, and purchase intentions.

Across both studies, the independent and moderating variables—scarcity message type, real-time information presence, and social proof alignment are manipulated in an experimental design. The dependent variables (perceived credibility, perceived deceptiveness, and purchase intent) and mediating variables (FOMO, CPK) are measured using a 7-point Likert scale adapted from prior research: perceived credibility (Flanagin & Metzger, 2007), perceived deceptiveness (Darke & Ritchie, 2007), purchase intent (Dodds, Monroe, & Grewal, 1991), FOMO (Przybylski et al., 2013), and CPK (Friestad & Wright, 1994).

3.2. Data collection

Participants will be recruited via online research platforms such as Prolific or Amazon Mechanical Turk (MTurk), which offer access to a diverse and demographically varied sample. Inclusion criteria will require participants to have prior experience with online travel bookings in the past 12 months to ensure ecological validity. A pilot test for both studies will be conducted to determine feasibility and check for issues beforehand. Based on the pilot test and power analysis, a target sample size for both study 1 and 2 will be determined.

For both studies, participants will be randomly assigned to experimental conditions based on manipulated variables, such as scarcity message type and cue consistency. Each participant will interact with a simulated online travel agency (OTA) booking interface designed to closely resemble commercial OTA platforms. The interface will present systematically varied stimuli, including real-time scarcity indicators and social proof messages, depending on the assigned condition. Following the simulation, participants will complete a structured questionnaire measuring key variables: perceived credibility, perceived deceptiveness, purchase intention, FOMO, and CPK.

The study methods will be reviewed and approved by the university's Institutional Review Board (IRB), and informed consent will be obtained from all participants.

4. Results

4.1. Expected Results

As this is an ongoing research, the experiments have not yet been conducted. Therefore, this section reports expected results based on the theoretical framework. As illustrated in Figure 2, real-time scarcity messages are expected to significantly increase FOMO and boost perceived credibility. Notably, static scarcity is expected to elicit the highest levels of CPK, potentially due to its clarity and familiarity. Deceptiveness perception is anticipated to show a contrasting pattern. Static scarcity leads to the highest perceived deceptiveness, while real-time scarcity is associated with the lowest deceptiveness. Overall, through greater trust and less suspicion, real-time scarcity is expected to enhance purchase intent.

Figure 3 demonstrates the effect of consistency between dynamic scarcity message and social proof cues on perceived FOMO and related outcomes. It is anticipated that when social proof is consistent, FOMO and credibility are highest, while perceptions of CPK and deceptiveness remain low. In contrast, inconsistent social proof leads to reduced FOMO and credibility, but higher CPK and deceptiveness. This suggests that consistent messaging enhances urgency and trust, while inconsistency may increase skepticism and perceived manipulation.

Figure 2. Expected results of study 1

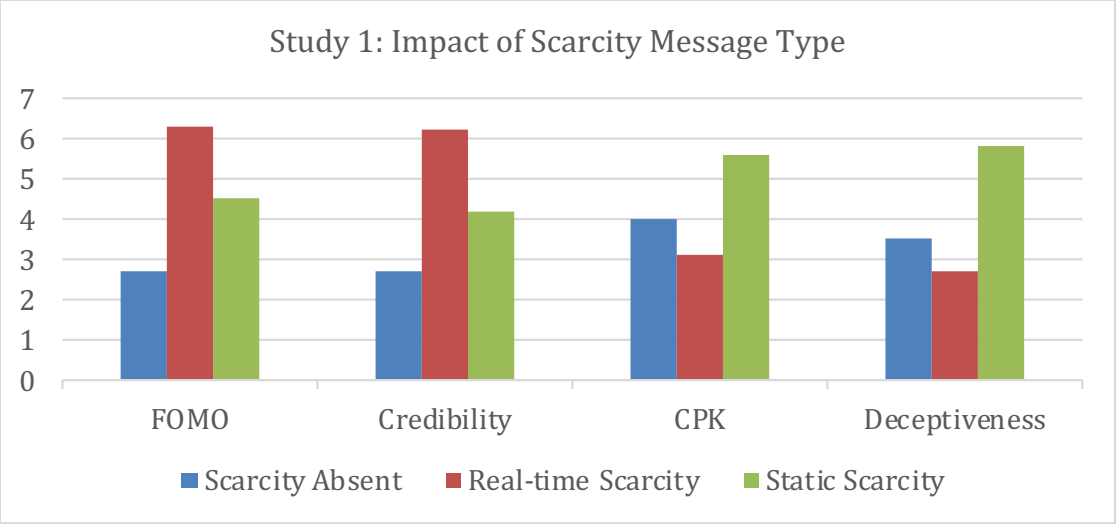
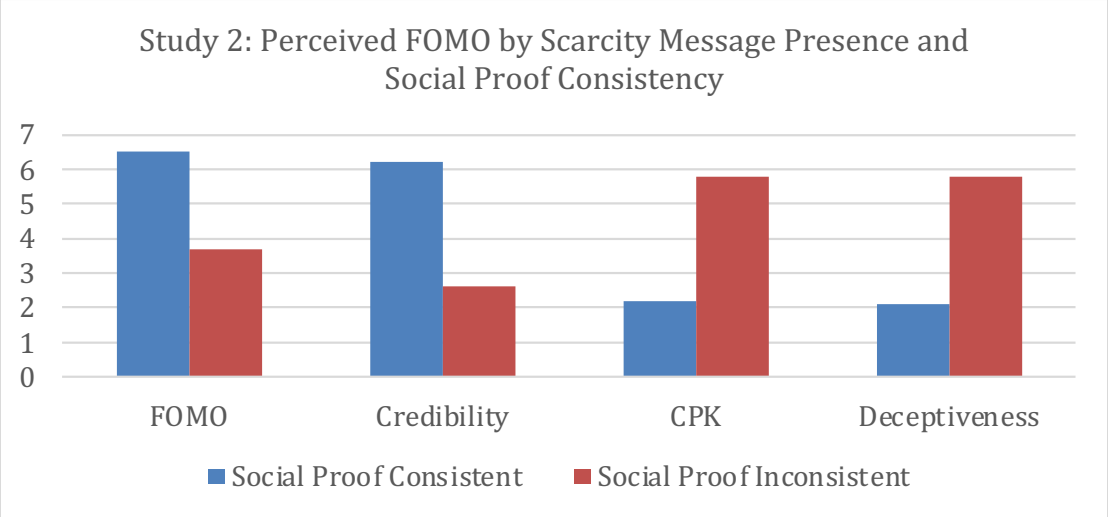


Figure 3. Expected results of study 2



5. Discussion and Implications

5.1. Academic and practical implications

The present study contributes to the literature on consumer persuasion by elucidating the interactive effects of real-time scarcity messages and social proof cues within online booking environments. By extending frameworks such as the ELM, the findings demonstrate that dynamic scarcity messages can enhance or undermine perceived credibility depending on their consistency with accompanying social cues. This research advances theoretical understanding by identifying FOMO and CPK as underlying psychological mechanisms in response to real-time messages.

From a practical standpoint, these insights offer actionable guidance for OTAs and e-commerce platforms. Specifically, the results suggest that aligning scarcity claims with social proof cues for consistency can foster perceptions of authenticity and reduce consumer skepticism. Marketers are advised to design persuasive elements that maintain consistency to strengthen user trust and enhance decision-making outcomes.

5.2. Limitations

While the current study focuses on online hotel booking scenarios, its generalizability to other domains remains to be tested. Future research could investigate how real-time scarcity messaging operates across different sectors such as restaurant reservation, event ticketing, car rental services, etc. Additionally, variables such as brand equity, user familiarity, and previous purchase experience may moderate the observed effects, representing important areas for further exploration. Methodologically, incorporating further measures such as eye-tracking or clickstream analysis could complement self-reported data and yield deeper insights into consumer decision-making processes.

5.3. Acknowledgements

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Entrepreneurial Personality and Airbnb Success: The moderation effect of Superhost (Paper#068)

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Abstract:

This study explores how Airbnb hosts' personality traits—neuroticism and agreeableness—influence listing survival. Using deep learning-based NLP, we analyze host descriptions and examine Superhost status as a moderator. Results aim to enrich gig economy entrepreneurship research and provide practical implications for host success.

Keywords: Personality Traits, Airbnb, Sharing Economy, Listing Survival, Superhost, Tourism Entrepreneurship

1. Introduction

The development of the sharing economy has had a transformative impact on the global tourism and hospitality industry, leading to the emergence of many sharing platforms, the most prominent of which is Airbnb. The birth of Airbnb provides alternative accommodation options, and creates opportunities for tourism entrepreneurs (Oskam & Boswijk, 2016). Unlike traditional hotels, Airbnb hosts are both entrepreneurs (owners) and service providers, which means they are responsible for operating the house and simultaneously need to interact with guests and deliver the quality of service (Maese, 2014). However, the success of hosts is not only affected by external situational factors and related to their personality traits. Previous studies have emphasized the key role of personality in entrepreneurial decisions and long-term business success (Zhao & Seibert, 2006), but there are still few studies on how different personality traits interact to affect the survival of Airbnb's business. In addition, the few existing studies mainly focused on agreeableness and extraversion, among other personality traits (Li & Gao, 2025). Therefore, this study will initially examine the impact of neuroticism and agreeableness on listing survival. Moreover, we specifically will introduce the Superhost status as a moderating variable to assess the effect of professional recognition in the context of gig economy. The findings will enrich the understanding of the mechanism of the influence of personality-driven entrepreneurial outcomes and put forward practical significance for hospitality and tourism entrepreneurship under the gig economy.

2. Literature Review

2.1 Neuroticism and Listing Survival

According to the trait theory of personality, stable personality traits affect many aspects of an individual, including behavior, decision-making, and interpersonal interaction (Costa & Paul, 1996). The Five-Factor Model (FFM) categorized these traits as openness, conscientiousness, extraversion, agreeableness, and neuroticism. The accommodation industry has always been considered to be centered on interpersonal interaction, hence personality traits are considered to be an important factor in entrepreneurial success (Barrick & Mount, 1991). Neuroticism is defined as emotional instability and high sensitivity to stress, which usually has a negative impact on the sustainability of a business (Zhao & Seibert, 2006; Presenza et al., 2023). In the context of Airbnb, highly neurotic hosts may become anxious due to the unpredictability of guest behavior, demand fluctuations, and service problems, which may lead to unstable decision-making and reduce the survival rate of listings. Therefore, we propose the following hypothesis:

H1: Higher levels of neuroticism will reduce the survival rate of Airbnb listings.

2.2 Agreeableness and Listing Survival

In contrast, agreeableness reflects the characteristics of warmth, trust, and thoughtfulness, which are essential for service-oriented industries. Individuals with high agreeableness tend to build strong interpersonal relationships and are able to effectively manage interactions with guests (Digman, 1990). In the context of the sharing economy, since hosts need to interact frequently with guests, hosts with higher agreeableness are more likely to provide memorable stays and thus gain better word-of-mouth (Oliveira et al., 2023). Previous research has shown that in customer service positions, higher agreeableness is positively correlated with customer satisfaction and long-term business sustainability (Shuqair & Mattila, 2021; Froehle, 2006). Since Airbnb's success depends heavily on maintaining good customer relationships, hosts with higher agreeableness are more likely to improve guest satisfaction and thus increase the survival rate of listings (Fan et al., 2023). Therefore, we propose the following hypothesis:

H2: Higher levels of agreeableness are positively correlated with the survival rate of Airbnb listings.

Although neuroticism may have a negative impact on business performance, agreeableness can play a buffering role. This is because highly agreeable individuals are better at managing emotions, seeking social support, and maintaining positive interpersonal relationships under stress (Luczywek, 2007). According to the Affective Events Theory, neurotic individuals are more likely to react negatively under stress, while individuals with high agreeableness are more likely to prioritize easing relationships and resolving conflicts (Weiss & Cropanzano, 1996). In the operating environment of Airbnb, although highly neurotic hosts may be emotionally unstable, if with higher agreeableness, they can maintain the operation of the listing by effectively managing social interactions. Therefore, agreeableness is expected to weaken the adverse effect of neuroticism on listing survival. Therefore, we propose the following hypothesis:

H3: Agreeableness will weaken the relationship between neuroticism and listing survival rate.

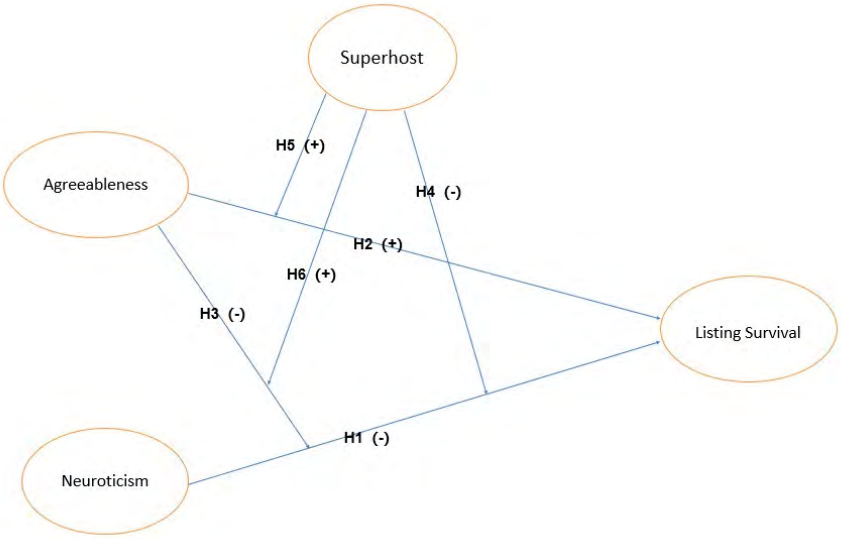
2.3 Moderating effect of Superhost

Previous studies have confirmed that professional recognition can provide validation, which is beneficial for neurotic hosts to manage emotions and maintain listing operations (Matthews & Whiteman, 2003). On the Airbnb platform, the Superhost status can increase the visibility and trust of the listing, which may buffer the negative impact of neuroticism while amplifying the positive effect of agreeableness (Li & Gao, 2025). For high-agreeable hosts who excel in interacting with guests, this status may further strengthen their advantages and increase the booking rate of the listing. In addition, the Superhost status may strengthen the moderating effect of agreeableness in alleviating the negative impact of neuroticism.

H4: Superhost status weakens the negative impact of neuroticism on listing survival rate.

H5: Superhost status enhances the positive impact of agreeableness on listing survival rate.

H6: Superhost status strengthens the moderating role of agreeableness in alleviating the impact of neuroticism on listing survival



3. Methodology

3.1. Measurement

This study will use a natural language processing (NLP) model based on deep learning to analyze the personality traits of Airbnb hosts from the text in their self-descriptions, explore the impact of neuroticism and agreeableness on the survival rate of listings, and set Superhost status as a moderating factor. The dataset will be collected through web scraping from January 2025 to December 2026, obtaining Airbnb hosts' self-description texts, listing information, and relevant data from the Airbnb platform. Besides, Hong Kong will be chosen as research cite, which is a developed international city with expensive local hotel room rates.

3.2. Data collection

3.2.1 Dependent Variable: Listing Survival Rate

Listing survival will be measured in two ways. First, a binary variable is constructed to indicate whether a host has exited the market. If all of a host's listings are removed from the platform, they will be classified as exiting (coded as 1); if at least one listing still exists, they will be classified as still operating (coded as 0). Second, an exit time variable is introduced to record the number of months a listing remains active before being removed using censored survival data. This two-way approach can ensure a comprehensive understanding of how long Airbnb hosts stay in business.

3.2.2 Independent Variables: Personality Traits

Neuroticism and Agreeableness will be extracted through a deep learning classification model, following the framework of Li & Gao (2025) and the Big Five Personality Inventory (BFI-2). First, text preprocessing includes word segmentation, tokenization, and data cleaning. Subsequently, the text will be converted into a vector representation using GloVe word embedding, and then analyzed using sentence and document embedding techniques combined with Mairesse language features. Specifically, the model will use a seven-layer convolutional neural network (CNN) trained on stream-of-consciousness articles and reddit data to classify personality traits. Finally, a multi-layer perceptron (MLP) classifier will be used to predict the host's neuroticism and agreeableness with high accuracy.

3.2.3 Moderating and Control Variables

Superhost status (1 = Superhost, 0 = non-Superhost) represents service quality and trust. Superhost status may buffer the negative effect of neuroticism by increasing exposure and bookings, while reinforcing the positive effect of agreeableness by increasing guest loyalty. Control variables include listing price, number of reviews, ratings, host experience, number of listings, response time, and Airbnb listing density in Hong Kong to account for differences in competition intensity and business strategies.

4. Expected Results

This study will provide insights into how neuroticism and agreeableness in personality traits affect the success of Airbnb hosts, which enriches the existing literature on tourism entrepreneurship under the sharing economy. For Airbnb and similar platforms, the findings can inspire them to formulate targeted support initiatives and provide constructive guidances for hosts. Besides, the results offer policymakers some valuable suggestions in tourism-based cities such as Hong Kong about non-traditional accommodation industries.

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Leveraging Technology to Optimize Key Performance Indicators: A Framework for Front Office Operations in Boutique Hotels of Metro Manila (Paper#169)

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Abstract:

The objective of the research was to determine KPIs essential for measuring boutique hotels' excellence and to explore the metrics via the guest cycle and through the lenses of operational challenges (efficiency, technology integration, guest satisfaction, and sustainability) to analyze the metrics. This also highlights the gap concerning KPIs of boutique hotels, as well as how the hotel keeps improving to meet guests' needs.

The technology integration was particularly noteworthy in that technology was indeed found to improve efficiency, although various operational challenges had negatively impacted guest satisfaction with the digital services offered during their stay. This study aimed to bridge this gap by presenting a thorough analysis of KPIs and their effects on boutique hotel performance.

Keywords: Key Performance Indicators (KPIs), Boutique Hotels, Technology, Guest Satisfaction, Operational Efficiency

1. Introduction

Technology has played a major role in the hospitality sector, and the convergence of technology in the hospitality industry has led us towards many new types of hotels and determined whole new customer experiences. A 2018 report published by Deloitte found that 80% of hotel guests expect a significant level of technology integration during their stay. This trend is even more evident in the boutique hotel market, where technology has become a crucial competitive advantage in delivering individualized and seamless experiences for guests.

This study filled a research gap regarding the role of technology integration in creating operational efficiency and providing guest satisfaction in the context of a boutique hotel. Prior studies have mainly studied technology adoption at the level of the larger hotel chain, and the unique challenges and opportunities available to smaller independently owned boutique properties have been previously overlooked. This research aims to establish an in-depth model that holistically explores whether and how KPIs affect different phases of the guest cycle (Echeverri & Skål, 2023), what role technology plays in this process. From a practical viewpoint,

the findings may help boutique hotel managers extract their figures-based insights to maintain their technology investments and improve broad operational and service excellence.
This research objectives were designed to do the following:

1. Identify and analyze essential key performance indicators (KPIs) relevant to boutique hotel quality measurement with a focus on technology integration KPIs.
2. Examine the impact of these technological integration KPIs on each of the essential stages of the guest cycle (Pre-Arrival, Arrival, Guest Stay, Departure, & Post-Departure).
3. Identify operational challenges related to technology integration in boutique hotel front office operations. From a tourism research perspective, these can also shed deeper insights into how boutique hotels can utilize technology as a focal point for improved operational functions and an elevated quality of service provision throughout the guest journey.

The research objectives may allow boutique hotels to adopt technology for improved customer satisfaction and operational excellence, with particular emphasis on technology integration. These insights and strategies can improve the operational efficiency, customer satisfaction, and overall performance of boutique hotel management in a competitive market.

2. Literature Review

This study identified a significant gap in the literature regarding the understanding of KPIs in the boutique hotel sector. Existing literature extensively analyzed and evaluated KPIs and their role on operational efficiency and guest satisfaction in large hotel chains, but very few researches were executed to examine the distinctive attributes and needs of boutique hotels.

Although many studies have considered classic performance measures like revenue per available room (RevPAR), the study found that KPIs of boutique hotels could vary drastically from those of larger full-service hotels due to their different approach and ethos of focusing more on guest experiences rather than just service. Additionally, there has been little exploration into how KPIs correlate with guest experience in boutique hotels, despite how much guest satisfaction contributes to the success of the hospitality industry.

Previous studies have identified these gaps, which is why an objective of this study was to help to fill this gap by building a comprehensive framework from key performance indicators (KPIs) to guests' experiences during different phases of guests' life-cycle, namely not only pre-arrival, arrival, in-house or post-departure but also post-departure post-experience life.

The study additionally aimed to determine the notable challenges that boutique hotels encounter in employing technology to improve operational efficiency and guest satisfaction.

Regarding measurement scales, the study adopted a mix of existing scales that are already validated in previous research in the hospitality and tourism literature, as well as the development of new scales tailored to the specific context of boutique hotels, as prescribed by the characteristics and operational requirements derived from the literature review. Even if this was

a new topic, there was a foundation of existing best practices in the field to build upon, and the niche nature of the boutique hotel segment would help operationalize the findings.

3. Methodology

3.1. Measurement

The study employed a quantitative research design, utilizing a combination of survey questionnaires and documentation review to collect data. The survey questionnaires were distributed to both front office staff/managers and hotel guests to gather their perspectives on the impact of KPIs on operational performance and guest satisfaction.

3.2. Data collection

A structured questionnaire comprising a combination of Likert scale questions, multiple choice questions, and open-ended questions were used for the data collection. Through this, the respondents were able to provide quantitative data. The front office staff/managers were asked to answer indirectly in a survey about their perceptions of operational processes, challenges, and technology integration in the front office, while the guests answered about their satisfaction with different aspects of their front office interaction like check-in/check-out, staff interactions, and overall service experience, etc.

Alongside the survey data, the researchers also reviewed relevant documentation (e.g., front office standard operating procedures, training manuals, guest feedback records, and internal reports). Descriptive statistics were used to summarize responses and include frequencies, means, and percentages to give an overview of the KPIs and operational performance. Correlation and regression analyses were used to determine the relationships between the KPIs, guest satisfaction, and operational efficiency. Data were analyzed by the researcher through statistical software packages (SPSS or Excel).

The findings were discussed, focusing on lessons learned. Front office employees generally agreed with one another that the hotel's KPIs had at least a moderate impact on the satisfaction levels of hotel guests before their arrival, upon their arrival, throughout their stay, during their departure, and after they had departed. The most highly rated KPIs were tied to the efficiency and accuracy of the check-in/check-out processes, front office staff responsiveness, and integration of technology solutions in the front office.

More specifically, the study revealed challenges for technology integration, including technical malfunctions and guest-facing technology that compromises the front office experience overall. The front office staff were moderately satisfied with the technology solutions' ease of use, functionality but mentioned that operational issues affected the guest satisfaction on the digital services.

The discussion highlighted how bringing technology into the fold aids in streamlining operations and enhancing guest experience in boutique properties. Based on the study, the transformative potential of technology can result in a tremendous boost in productivity, but this must be balanced by good implementation and effective change management that can enable seamless integration and user buy-in.

Findings from the study emphasized that boutique hotels must strive to continuously optimize the guest journey, utilizing technology to drive operational excellence and provide personalized and memorable experiences to their guests. They offered valuable insights in bloodless literature personalized for boutique hotel managers to improve performance and reinforce competitiveness in the market.

4. Results

The quantitative research design used to systematically examine the impacts of key performance indicators (KPIs) on the operational performance of front office management and hotel guests in boutique hotels is outlined in this study. The goal is to measure relationships and determine the effect of certain KPIs through statistical methods. Methods: The study uses a descriptive and correlational research structure to examine current indicator practices in the front office and assess associations between key measures and hotels performance indicators.

The design of the questionnaire was established by conducting a thorough review of the literature identifying existing research, theories, and industry best practices on front office operations and KPI's in boutique hotels. Through this phase, we laid a strong theoretical framework, making sure that our survey questions were based on sound theories and spanned the complex nature of hospitality.

The Quantitative Research of the study involves a cross-sectional survey design. Data will be collected through structured questionnaires distributed to front office managers and staff in a sample of boutique hotels. The questionnaire will include closed-ended questions to measure variables such as guest satisfaction rates, check-in/check-out efficiency, and operational processes.

This study was engaged in a diverse group of respondents, including front office employees/managers and guests, that provided comprehensive insights into the dynamics and experiences within boutique hotels. By soliciting input from both the service providers (front office employees and management) and the recipients (guests), this research aimed to offer a holistic perspective on the operational and experiential aspects of boutique hotel establishments to better understand their impact on guest satisfaction and overall excellence.

4.1. Profile of the respondents

The respondents for this study included the following:

1. Front Office Staff

The profile of Front office employees in boutique hotels in the Makati and Manila area were typically experienced in front office operations and reservations. They have a background in the hospitality industry and skills in areas like food and beverage operations. FO employees working in this area have portfolios that include work related to customer service or guest relations. This includes front office staff members, such as front desk agents, managers, concierge, guest service representatives, and reservation agents. Their insights and perspectives were valuable in understanding the daily operations, challenges, and practices related to KPIs and operational efficiency in the front office.

2. Guests:

The guest respondents were described as a typical profile of "hip travelers" who enjoy personalized service, unique designs, and intimate settings. These guests often want to get the most out of their stay, immersing themselves in the local culture, art, and food scene. They target boutique hotels for unique, stylish looks and enticing amenities that help make a trip memorable. The feedback and experiences provided during these interactions were i nvaluable in measuring guest satisfaction, understanding how guests perceived services in the front of the house, and ensuring that operational processes were functioning effectively. To ensure a representative sample of guests, random sampling or systematic sampling was used.

The survey tools include a combination of Likert scale and multiple choice collecting quantitative data regarding perceptions on front office operations and guest satisfaction. It is obtained through a questionnaire that measures the perception of the impact that some performance indicators have over others on efficiency. 2 separate survey questionnaires will be manufactured for both Hotel guests and Front Office Staff.

1. Surveys/Questionnaires for Front Office Staff

A customized survey instrument was used to gather data from front office staff. The survey included questions related to their perceptions about operational processes during the guest cycle, challenges, and technology integration. The survey used was a combination of Likert scale questions and multiple-choice questions,

2. Surveys/Questionnaires for Guests:

Guest surveys/questionnaires were used to collect data on guest satisfaction levels, their perceptions of front office services during the guest cycle, and their satisfaction and experiences in the boutique hotel. The survey included questions about their check-in and check-out experiences, staff interactions, reservation management, and overall satisfaction with the front office operations. The researcher used a 4-Likert Scale to determine the respondents' perceptions, satisfaction, loyalty, intention to visit, and overall efficiency and operational performance.

Data Gathering Procedure

For the research process, the data collection process involved the distribution of surveys/ questionnaires and printed QR codes to the identified participants in the hotel. For front office staff/managers, QR codes for the surveys were provided and administered electronically and in-person, based on the hotel's preference and convenience. The participants were provided with clear instructions on how to scan and complete the surveys, and their responses were anonymized to ensure confidentiality. The questionnaire includes Likert-scale items, multiple-choice questions, and other rating scales to capture quantitative measures of the KPIs and performance metrics.

Statistical Treatment Data

The data gathered in this study were subjected to the following statistical treatment: Percentage and Frequency. This was used for problems 1 and 2, to identify the demographic profile of the students according to their age, year level/organization, and place of origin.

The percentage formula is:

$$Percentage = \frac{f}{N} x\ 100$$

Where,

% = Percent
F = Frequency
N = Number of Population

Weighted Mean. This was used to answer problem 3, to determine the level of the perceived lack of political neutrality of the respondents.

The formulas used were as follows:

$$\bar{x} = \frac{\Sigma wx}{N}$$

Where,

= is the mean and is read as "X-bar"
x = is the sum of the scores or measure
N = is the Number of cases

Likert Scale. This was used to define the range used in the survey and answer problem 3. It was also used to interpret the mean scores and the weighted mean. This includes a weight range of:

Scale	Range	Verbal Interpretation
1	1.00-1.80	Strongly Disagree
2	1.81-2.60	Disagree
3	2.61-3.40	Neutral
4	3.41-4.20	Agree
5	4.21-5.00	Strongly Agree

Standard Deviation. This was used to answer problem 3. It is abbreviated as SD and denoted by 'σ' and it talks about the value and how much it has deviated from the mean value.

Where, $s = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}(x_i - \bar{x})^2}$

s = Sample standard deviation

$\bar{x}$ = Arithmetic means of the observations

Data Analysis

Relevant statistical methods were used to analyze the data that had been collected. We summarized responses using descriptive statistics such as frequencies, means, and percentages, giving an overview of the KPIs and operational performance. To discover relations between KPIs, guest satisfaction, and operational efficiency, inferential statistics (correlation analysis and regression analysis) were used. Data analysis was done using statistical software tools like SPSS or Excel.

4.2. Results of Data Analysis

The study presented the results of the data analysis through various tables and figures to effectively communicate the key findings. Here are some examples:

Table 1. Frequency Table of Age Group among Front Office Staff

This table shows the age distribution of the front office staff respondents, with the majority (76.92%) being in the 20-29 years old age group.

Table 1. Frequency Table of Age Group among Front Officers

Age Grouping	Frequency	Percentage
20-29	10	76.92%
30-39	3	23.08%
Grand Total	13	100.00%

Table 2. Frequency Distribution Table for Gender among Front Office Staff
This table displays the gender breakdown of the front office staff respondents, with a predominance of female participants (76.92%).

Table 2. Frequency Distribution Table for Gender among Front Office Employees

Gender	Frequency	Percentage
Female	10	76.92%
Male	3	23.08%
Grand Total	13	100.00%

Table 7. Frequency Distribution Table for Age Group among Tourists / Guests
This table provides the age profile of the guest respondents, with the 25-34 years old age group representing the largest segment (56.72%).

Table 7. Frequency Distribution Table for Age Group among Tourists / Guests

Age	Frequency	Percentage
20-24 years old	15	22.39%
25-34 years old	38	56.72%
35-44 years old	11	16.42%
45-54 years old	2	2.99%
55 years and above	1	1.49%
Grand Total	67	100.00%



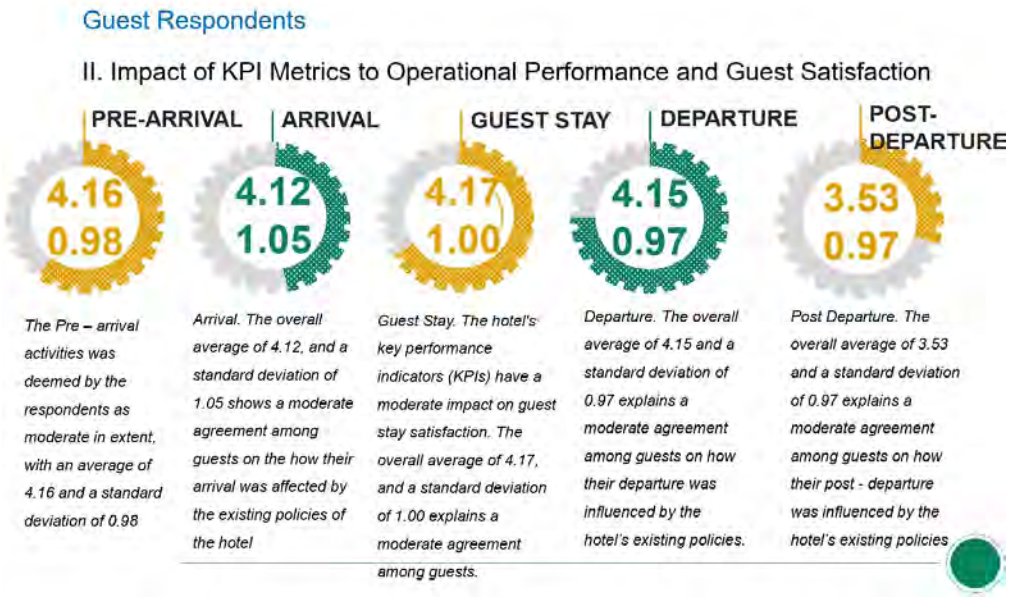
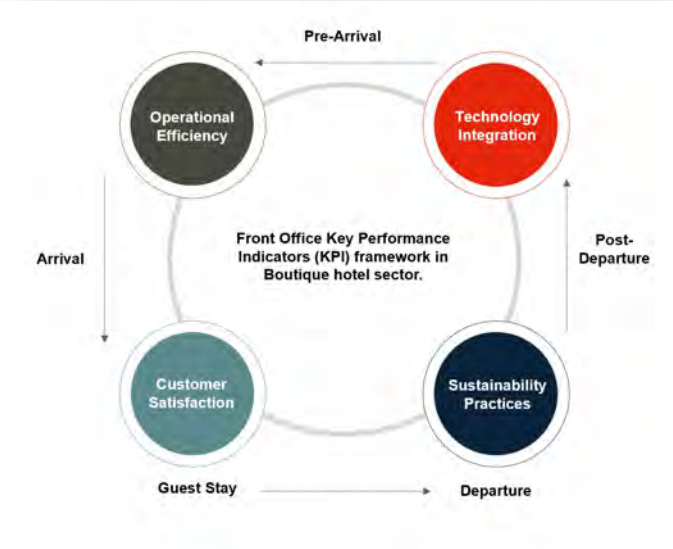


Figure 2. Theoretical Framework of the Study

This figure illustrates the conceptual framework underlying the study, highlighting the key constructs and their relationships.



Figure 3. Research Paradigm
This diagram depicts the research paradigm, outlining the inputs, process, and expected outputs of the study.



The use of these tables and figures allows the study to communicate the demographic characteristics of the respondents, as well as the quantitative findings regarding the impact of KPIs and the challenges faced by the boutique hotels. This visual representation of the data facilitates a better understanding of the study's results and supports the discussions and conclusions drawn by the researchers.1

5. Discussion and Implications

5.1. Discussion

The results of this study can help hotel managers make better decisions centering on KPIs with a direct relationship with operations performance metrics and guest satisfaction levels. The outcomes can be further compared and contrasted with past research in the field of hospitality to illuminate with specificity the unique traits of boutique hotels and isolate the specific challenges within that market segment.

Similar to studies such as Kandampully and Suhartanto (2003) and Dominici and Guzzo (2010), the moderate impact of the KPIs on different stages of the guest cycle as perceived by both front office personnel and guests. The performance drivers– service quality and satisfaction are found to be core elements from the studies in hospitality management.

The technology integration challenges identified in this study complement findings by Bayramzadeh (2021) and Shen (2010), who acknowledged that technology can introduce improvements in efficiency and guest experiences across multiple industries — especially hospitality. Yet, if technology is to be effectively woven into operations and ultimately improve the guest experience, hospitality companies need to tackle some significant operational challenges, according to the study.

While most of the studies were conducted on larger hotel chains, this study went much deeper to examine the unique nuances and challenges experienced by boutique hotels. As pinpointed by McIntosh (2005) and Khosravi (2014), the focus on personalized service, unique design, and local authenticity highlights the importance for boutique hotels of striking the right balance between operational efficiency and guest-centric experiences.

Thus, the findings of this study indicate that boutique hotels should proceed carefully regarding the high tech versus high touch balance as Salomann (2007) and Wale (2015) indicated. In this niche segment, it is essential to digitize processes to make them efficient but keep the human warmth to create a memorable experience for the guest, leading to increased satisfaction and loyalty.

5.2. Academic and practical implications

This study fills a gap in the existing literature by highlighting KPIs and their shears in directing boutique hotel operations. This research aims to provide both scholars and practitioners with *a model for sustained effort and clarity* of ambition in what can seem like an overwhelmingly complex and ever-expanding hospitality environment.

In practical terms, the outcomes and recommendations of this study can provide knowledge for the strategic decision-making of boutique hotel managers. When you know the truly critical KPIs, the critical operational challenges, and the critical negative guest perceptions, hotel leaders can spend the time to understand which investments to make, cause targeted changes to be made, and create marketing and service strategies that build positive guest experiences that lead to sustained competitive advantage long-term.

5.3. Limitations of this study and suggestions for future research

While this study offers valuable insights, it is not without limitations. The research was conducted in a specific geographic region (Metro Manila), and the findings may not be fully gen*eralizable to boutique hotels in other locations. Expanding the sc*ope of the study to include a broader sample of boutique hotels, both within the Philippines and internationally, could provide a more comprehensive understanding of the industry.

Additionally, the study focused primarily on quantitative data collected through surveys. Incorporating qualitative methods, such as in-depth interviews or focus groups, could yield deeper insights into the nuanced experiences and perspectives of both hotel staff and guests.

Future research could also explore the long-term impact of the COVID-19 pandemic on the boutique hotel industry, examining how the crisis has influenced guest preferences, operational strategies, and the adoption of technology solutions. Longitudinal studies tracking the evolution of KPIs and their relationship with performance metrics could further enhance the understanding of this dynamic sector.

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Enhancing the Generalization Ability of the RoBERTa Model with LLM – Application to Travel Reviews (Paper#163)

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Abstract:

Our goal is to assess whether models can detect mismatches between review content and ratings in Google Map reviews under clean data and enhanced generalization. We optimize sentiment classification (BERT Family) and use LLM-generated data to improve weak labels (relatively few samples), achieving 90%+ accuracy for reliable review analysis.

Keywords: Tourism Review, AI, NLP, BERT, LLM

1. Introduction

With the rapid growth of online platforms, user reviews have become abundant and influential. However, mismatches between review text and ratings can distort information and mislead consumers (He et al., 2022). Removing such inconsistencies ensures reliable information and feedback. Tourism sentiment classification often uses LSTM (Puh & Bagić Babac, 2023), but the dominance of positive reviews (Ameur et al., 2023) causes overfitting, limiting generalization.
This study employs BERT-family models and LLMs (Zhao et al., 2023) to generate weak labels, improving robustness and generalization. To test cross-platform performance, we compiled reviews from ten top-rated New York hotels (per Time Out's "25 Best Hotels in NYC for 2025").

2. Literature Review

2.1. BERT for Sentiment Classification

BERT (Devlin et al., 2019) is a Transformer-based pre-trained model using bidirectional context to enhance NLU, with variants improving efficiency and performance (Devlin et al., 2019).
BERT Family:

(1) RoBERTa (Liu et al., 2019): Trained longer with larger batches; removes NSP.
(2) ALBERT (Lan et al., 2019): Uses parameter sharing and factorized embeddings.
(3) DeBERTa (He et al., 2020): Adds relative position encoding and disentangled attention.

2.2. LLM-T3Q-qwen2.5-14b-v1.0-e3

Qwen2.5 is a high-performance LLM series trained on 18T tokens (Hui et al., 2024). T3Q-qwen2.5-14b-v1.0-e3, a post-trained variant, ranked 1st among sub-32B models (Mar 28, 2025).

2.3. Performance of Machine Learning on Hotel Review Data

Prior work used three sentiment classes—Positive, Neutral, Negative—with up to 89% accuracy (Puh & Bagić Babac, 2023), but lacked BERT models, imbalance handling, or data augmentation.

3. Methodology

3.1. Dataset: TripAdvisor Hotel Review Dataset

We use the TripAdvisor Hotel Review dataset (Alam et al., 2016), containing 20,491 reviews with 1–5-star ratings.

Ratings were re-encoded into three classes (Çeliktuğ, 2018):

(1) Negative: 1–2 stars
(2) Neutral: 3 stars
(3) Positive: 4–5 stars

The data is imbalanced: 16% negative, 10% neutral, 74% positive.

We split it into 80% training, 10% validation, and 10% testing (Riyadi et al., 2024) for consistent evaluation.

3.2. Dataset: Cross-Platform Validation Dataset

To assess cross-platform generalization, we collected 1,500 Google Maps reviews covering 10 popular New York City hotels (Table 1). For each hotel, 150 reviews were randomly sampled to build a diverse validation set.

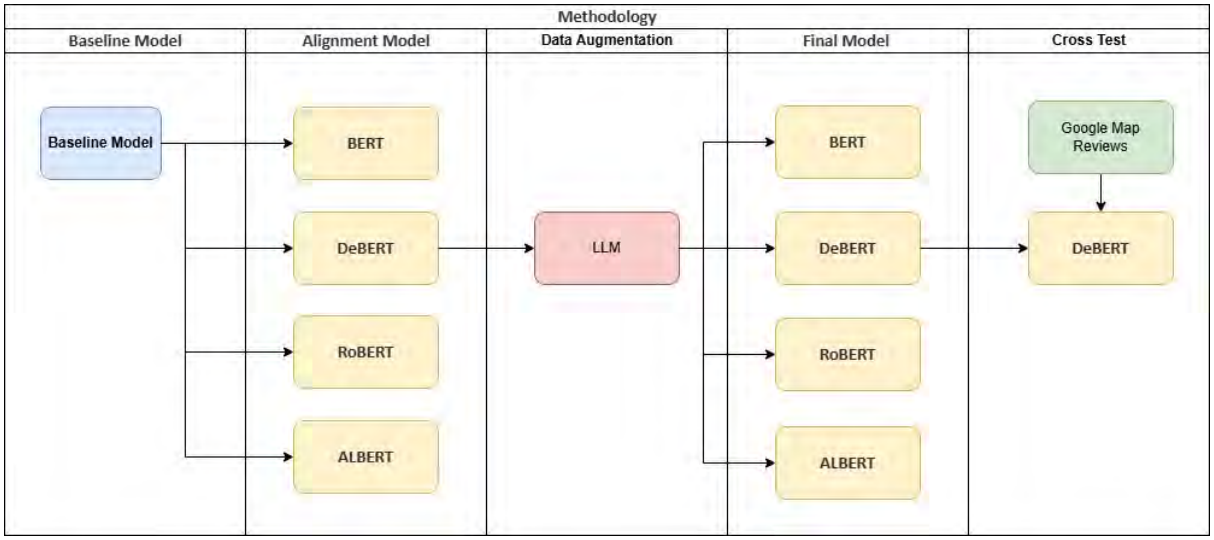
Table 1. 10 popular hotels in New York City

Hotel
The Wall Street Hotel
The Carlyle, A Rosewood Hotel
Lotte New York Palace
The Pierre
Thompson Central Park New York
Mandarin Oriental New York
The Beekman, a Thompson Hotel
1 Hotel Brooklyn Bridge
The Ritz-Carlton, New York NoMad
The Peninsula New York

3.3. Methodology

This study includes five key experimental steps, focusing on model selection, class imbalance mitigation, and generalization improvement through LLM-based data augmentation. (Figure 1)

Figure 1. Methodology



(1) Baseline Model and Hyperparameter Optimization (Experiment 1)
Baseline model tuning optimized sequence length and dropout (Table 2).

(2) Training the Alignment Model (Experiment 2)
We compared four BERT-family models; DeBERTa performed best and was selected as the confidence model (Table 3). To address imbalance, we augmented DeBERTa-predicted Class 0 samples toward a 40:20:40 distribution.

(3) LLM-Based Data Augmentation
Using LLM-based paraphrasing, we generated 13,128 semantically consistent Class 0 samples, enhancing diversity and balancing the dataset.

(4) Data Filtering and Standardization
We filtered augmented data with a 0.9 confidence threshold, keeping 4,718 samples. These were combined with original data, and all experiments used this standardized DeBERTa-labeled set.

(5) Final Model Training and Comparison (Experiment 3)
We compared original and augmented training across BERT models on an unseen test set, then tested all models on cross-platform data to assess transferability.

4. Results

4.1. Baseline and Hyperparameter Selection

Figure 2 Baseline and Hyperparameter Selection

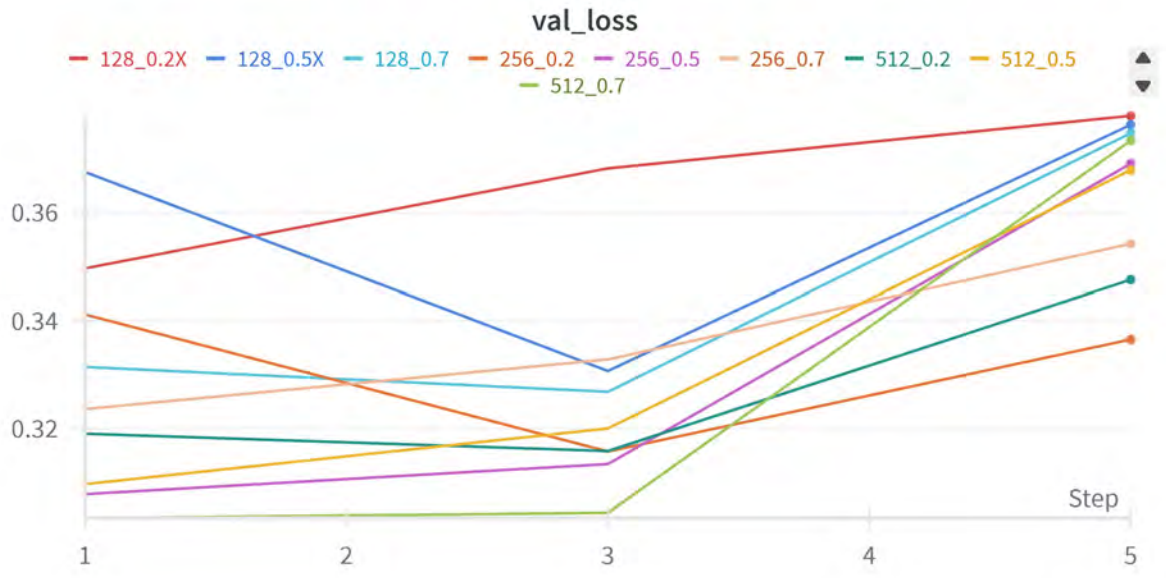


Table 2. Experiment 1

(Sequence length + dropout)	Val Loss
128 + 0.2	0.377
128 + 0.5	0.376
128 + 0.7	0.374
256 + 0.2	0.336
256 + 0.5	0.369
256 + 0.7	0.354
512 + 0.2	0.347
512 + 0.5	0.367
512 + 0.7	0.373

The best performance was achieved with sequence length = 256 and dropout rate = 0.2 (Figure 2). These were used in all subsequent experiments.

4.2. BERT Variant Comparison

Figure 3. BERT Variant Comparison validation loss

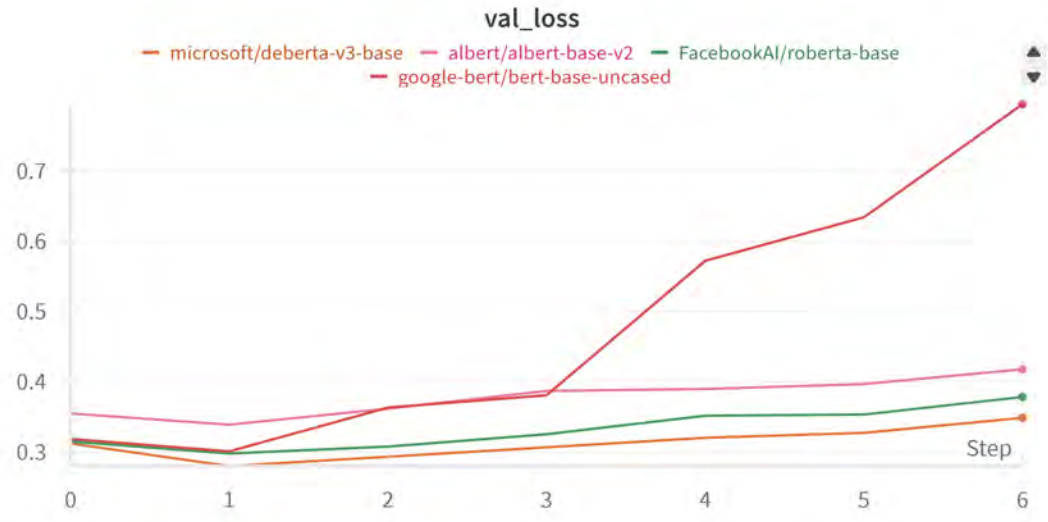


Figure 4. BERT Variant Comparison validation accuracy

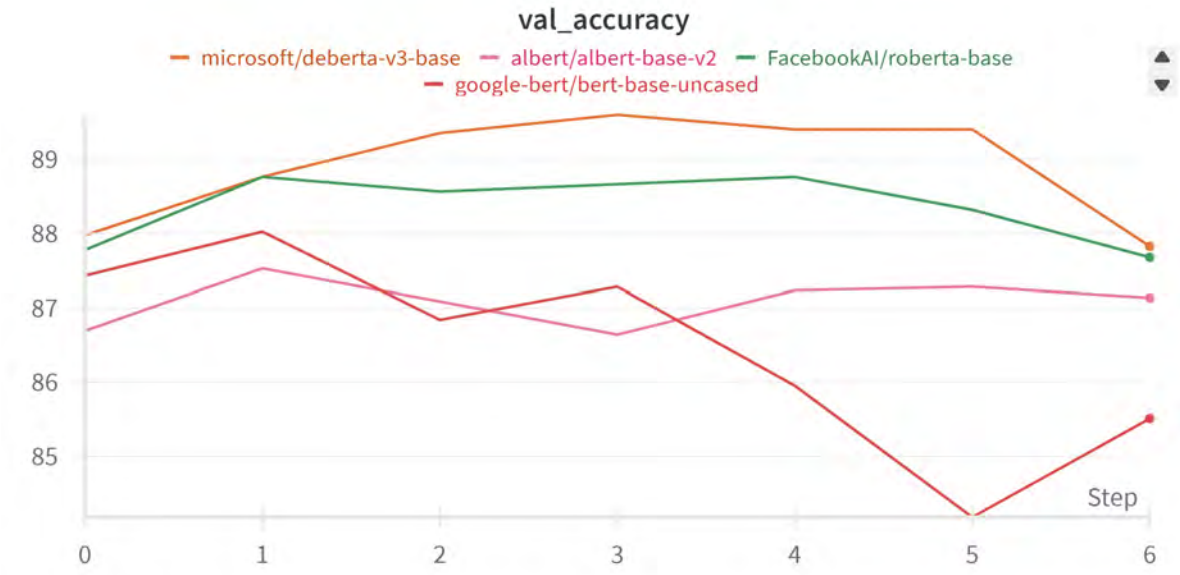


Table 3. Experiment 2

Model	Val Loss	Val Accuracy
BERT	0.300	87%
ALBERT	0.338	87%
RoBERTa	0.297	88%
DeBERTa	0.276	89%

We compared four BERT models on TripAdvisor; DeBERTa had the best results (Fig. 3–4, Table 4) and was chosen as the alignment model.

4.3. Effect of Data Augmentation

After LLM-based augmentation, RoBERTa showed slight improvement and remained the most accurate. BERT and ALBERT dropped slightly, likely due to semantic sensitivity. RoBERTa was chosen as the final model.

Table 4. Experiment 3

Model	TripAdvisor
BERT	90%
BERT + Augmentation	89%
ALBERT	90%
ALBERT + Augmentation	91%
RoBERTa	92%
RoBERTa + Augmentation	91%
DeBERTa	90%
DeBERTa + Augmentation	93%

4.4 Cross-Platform Evaluation

To further evaluate cross-platform generalization, the trained RoBERTa model was tested on external reviews from Google Maps. After LLM-based data augmentation, classification accuracy improved from 81% to 89%, demonstrating the effectiveness of the augmentation strategy in enhancing model performance on heterogeneous data sources.

5. Discussion and Implications

5.1. Discussion

Traditional methods like down sampling address imbalance but risk information loss, while oversampling is challenging for text.

We use LLM-based augmentation with confidence filtering to enhance minority class quality and diversity, improving accuracy and generalization on imbalanced data.

5.2. Academic and practical implications

(1) Learning and Augmentation in Low-Resource Settings

BERT performs well on small datasets but overfits; LLM-based augmentation reduces bias and enhances performance.

(2) Cross-Platform Generalization

Models generalize across platforms, enabling consistent sentiment analysis of tourism reviews.

(3) Applications in Review Filtering, Experience Optimization, and Digital Transformation

Tourism platforms face review overload and inconsistent quality. Our model provides automated filtering to enhance review credibility by aligning content with ratings, improving decision-making for users and offering businesses actionable feedback to optimize services and customer satisfaction. This study also highlights NLP systems' role in digital transformation, enabling review processing, sentiment tracking, and trend analysis across OTA platforms, hotel systems, and customer service tools.

5.3. Limitations of this study and suggestions for future research

(1) Technical and Design Constraints

Only base BERT models and basic prompts were used; future work may use larger models and advanced prompting.

(2) Context and Cultural Limitations

The model was trained on English reviews; cross-lingual methods are needed for broader cultural adaptability.

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Incremental Revenue Opportunities from Ancillary Offerings of Luxury Hotels (Paper#197)

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Abstract:

This study explores how presenting heritage information influences guest behavior towards ancillary services in luxury hotels. It examines the impact of heritage on perceived convenience, brand loyalty, and price, and how these mediate perceived value and purchase intention. Integrating heritage into the Luxury Value Model provides a framework for understanding customer decisions and enhancing hospitality strategies.

Keywords: Ancillary services, Heritage, luxury hotels, Luxury Value Model.



Theme: Tourist Experience and Consumer Behavior

Heavy vs. Light Consumers of Hanwoo (Korean Beef): What Drives the Difference? (Paper#141)

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Abstract:

This study investigates differences in Hanwoo selection attributes, consumer attitudes, and willingness to pay a premium between heavy and light consumers. Based on consumption frequency, t-tests revealed that heavy consumers prioritize public quality cues, show more favorable attitudes, and are more willing to pay, whereas light consumers are more price-sensitive. These findings highlight the importance of consumer segmentation and provide strategic implications for premium marketing in the Korean beef industry.

Keywords: Hanwoo selection attributes, consumer attitudes, willingness to pay a premium, consumption frequency, market segmentation, premium strategy.

1. Introduction

Hanwoo is highly preferred by Korean consumers and maintains a dominant market position despite its relatively higher price compared to imported beef (Kim & Boyd, 2004). This is attributed to Hanwoo's unique flavor and high-quality attributes, which significantly contribute to consumer satisfaction and preference (Shin et al., 2021).

Meanwhile, the Hanwoo industry is facing intensified competition from imported beef due to Free Trade Agreements (FTAs), highlighting the importance of understanding consumer choice factors and developing appropriate marketing strategies. In the past five years, numerous studies have investigated the selection attributes influencing Hanwoo purchasing decisions, with taste and quality emerging as the most critical factors. Attributes such as safety and brand have also been identified as important factors (Choi et al., 2021). However, some studies suggest that consumers prioritize visually confirmable quality cues (e.g., marbling, grading) and directly experienced attributes (e.g., taste, juiciness) over cognitive cues such as brand names or certification marks (Kim, 2019). Moreover, findings from other product categories suggest that consumers with higher levels of trust and satisfaction are more likely to pay a premium for Hanwoo (Jung & Shin, 2019).

In line with these findings, Kim and Chung (2017) emphasized that consumers selecting beef restaurants prioritize taste and meat quality, which implicitly includes marbling characteristics associated with premium beef such as Hanwoo. The study also highlighted that consumers with higher income and age levels show a greater willingness to pay for high-quality domestic beef, indicating that price sensitivity diminishes when superior quality attributes are perceived. This suggests that the premium positioning of Hanwoo is well aligned with consumer expectations, especially among quality-conscious segments.

Complementing this, Kim et al (2009) analyzed consumer involvement in beef selection attributes and its impact on purchase intentions. Their findings revealed that consumers with higher involvement in selection attributes such as safety, freshness, and origin display a stronger preference for domestic beef. While the study did not directly measure willingness to pay a premium, it indicated that consumers prioritizing intrinsic quality factors are more likely to favor domestic options over imported alternatives. This underscores the importance of leveraging intrinsic cues to strengthen consumer engagement and loyalty in the Hanwoo market.

While previous research has provided valuable insights into the effects of Hanwoo selection attributes on consumer perception and behavioral intentions, there is still a lack of understanding regarding differences among consumer segments. In particular, both academic and practical interest lies in how selection criteria and willingness to pay vary between frequent and infrequent Hanwoo purchasers. This study aims to segment the Hanwoo market and propose differentiated marketing strategies—such as premium positioning for heavy consumers and value-for-money approaches for light consumers—thereby contributing to the academic discourse on Hanwoo consumption behavior.

2. Literature Review

2.1. Hanwoo(Korean Beef) Selection Attributes

According to the study by Choi et al. (2021), consumers who purchase Hanwoo perceive taste and meat quality as the most critical attributes, with hygiene and safety also recognized as important considerations. These findings suggest that Hanwoo consumers are particularly sensitive to the freshness and flavor of the meat and place a high value on hygiene and safety, which are directly associated with health concerns. Meanwhile, factors such as Hanwoo branding and aging period tend to be regarded as relatively less important.

In a study using conjoint analysis, Kim et al. (2019) examined customers of Hanwoo specialty restaurants and identified the relative importance of attributes in the following order: price per person, taste, cleanliness, and meat quality. This implies that the strong premium image associated with Hanwoo may lead to less differentiation among individual brands, with visible quality cues—such as marbling and grading—playing a decisive role in consumer purchasing decisions. Consistently, consumers have demonstrated a strong preference for high-grade Hanwoo (Grade 1++), particularly favoring cuts with abundant intramuscular fat (marbling) (Kim & Boyd, 2004).

2.2. Consumer Attitudes

Consumer attitude refers to a consumer's overall evaluation or belief about a specific product and serves as a key psychological factor influencing both purchase intention and behavioral intention. A positive attitude toward Hanwoo enhances consumer satisfaction and repurchase intention, which may in turn increase their willingness to pay for high-quality products (Kim & Kim, 2020).

Jung and Shin (2019), in a study on fair trade coffee, found that favorable consumer attitudes significantly increased willingness to pay a price premium. These findings may also apply to premium food products such as Hanwoo, suggesting that consumers with higher levels of trust and emotional attachment are more likely to pay an additional cost.

2.3. Hanwoo Consumer and Willingness to Pay a Premium

In consumer research, purchase frequency has been a key criterion for market segmentation, facilitating the analysis of behavioral differences and the development of targeted marketing strategies (Wansink & Park, 2000). Previous studies have primarily employed cluster analysis and simple mean comparisons to examine differences based on purchase frequency, while more recent research has integrated these methods to enhance the precision of consumer segmentation (Ruangthammakit & Wongsurawat, 2018).

The distinction between high-frequency users (Heavy Consumers, HC) and low-frequency users (Light Consumers, LC) has been extensively examined across various food industries. Wansink and Park (2000), for example, segmented soup consumers into three groups (non-users, light users, and heavy users) and analyzed their demographic and psychological characteristics. The study found that heavy users are not a homogeneous group of high-volume consumers; rather, they consist of subgroups with distinct behavioral profiles. Among them, some were identified as innovative and proactive (the "Dynamo" group), while others were more traditional and home-oriented (the "Traditionalist" group), demonstrating different patterns in purchasing behavior and information use.

Similar patterns have emerged in other food categories. Ruangthammakit and Wongsurawat (2018) reported that high-frequency yogurt consumers possessed greater health-related knowledge and exhibited a stronger interest in the product category than their low-frequency counterparts. Likewise, in a study on wine consumption, Goldsmith and d'Hauteville (1998) found that heavy users had more product knowledge, showed higher levels of innovation, and were more likely to act as opinion leaders. These findings suggest that high-frequency consumers are not only more active buyers but also more knowledgeable, brand-loyal, and open to innovation.

Han and Min (2020) analyzed dining-out behavior in South Korea and segmented consumers into heavy and light users based on meal frequency. They emphasized that traditional segmentation based solely on purchase frequency is insufficient to capture the full complexity

of consumer behavior and underscored the importance of incorporating lifestyle and motivational factors. Specifically, they suggested that increasing visitation among light users may require strategies such as price promotions and special menu offerings, while fostering loyalty among heavy users demands premium service enhancements.

Lee et al. (2016) further reported that the Hanwoo and imported beef markets are clearly differentiated, with Hanwoo enthusiasts consistently prioritizing brand and quality assurance, even at a higher price.

Synthesizing these findings, it becomes evident that segmentation based on purchase frequency captures not only differences in purchase volume but also in psychological traits, product involvement, brand loyalty, and information use. This segmentation framework forms the basis for distinguishing heavy from light consumers.

Recent studies have emphasized that consumers' willingness to pay a premium (WTP) for livestock products is not solely based on intrinsic quality factors such as taste and freshness, but also significantly influenced by social preferences. According to Jang, Park, and Woo (2019), Korean consumers consider environmental benefits, animal welfare, and the fair income of livestock farmers when purchasing certified livestock products. Although their study primarily focused on eco-friendly and animal welfare-certified livestock products, the findings suggest that consumers perceive added social value in domestically produced beef, including Hanwoo, and are willing to pay a premium for products that align with their ethical and social concerns. Specifically, the study confirmed that a meaningful portion of the price premium for certified beef is explained by consumers' social preferences, highlighting that purchasing decisions are shaped not only by personal satisfaction but also by the perceived social impact of their choices (Jang et al., 2019).

Within this context, consumer involvement in beef selection attributes and their preferences emerge as key constructs in understanding consumer segmentation. Consumer involvement reflects the degree of attention and importance consumers place on product characteristics such as safety, freshness, and origin, which in turn influence their purchase intentions (Kim et al., 2009). Given the competitive landscape intensified by the resumption of U.S. beef imports, understanding these factors is crucial for the Hanwoo market. The study by Kim et al. (2009) found that consumers with higher involvement in beef selection attributes tend to exhibit stronger intentions to purchase domestic beef, while consumers with lower involvement showed a higher tendency to purchase imported beef, particularly U.S. beef. Although the study did not directly measure willingness to pay a premium, its findings suggest that consumers who prioritize intrinsic attributes such as safety and freshness are more inclined toward domestic beef choices, whereas price-sensitive or less involved consumers may favor imported alternatives. This highlights the importance of emphasizing quality attributes and building trust to appeal to consumers with higher involvement in beef selection (Kim et al., 2009).

Therefore, understanding the characteristics of both HC and LC segments is essential for developing differentiated strategies, ranging from premium positioning to value-based offerings. Based on this theoretical framework, the present study addresses the following research question:

"Do major Hanwoo consumer groups (HC) and non-consumer groups (LC) differ in their perceptions of Hanwoo selection attributes, consumer attitudes, and willingness to pay a premium?" To investigate this, the study classified consumer segments based on Hanwoo purchase frequency and conducted mean comparisons across key variables.

3. Methodology

3.1. Measurement

The survey items in this study were developed based on previous research, with four sub-dimensions established to measure Hanwoo selection attributes. First, public selection attributes included items that assess the extent to which consumers consider objectively certified quality information—such as Hanwoo grading and marbling—as important. Second, sensory selection attributes measured evaluations of sensory qualities, including taste, flavor, and texture. Third, cognitive selection attributes captured trust-based cognitive factors, such as perceptions of the Hanwoo brand, safety, and aging period. Lastly, price attributes assessed consumer perceptions regarding the cost of Hanwoo.

The items for each dimension were adapted from Na (2023) and Na and Han (2024), with minor modifications to fit the context of this study. In addition, consumer attitudes toward Hanwoo were measured using five items assessing overall favorability and preference, while willingness to pay a premium was evaluated using three items capturing recognition of Hanwoo's premium value and willingness to incur additional costs.

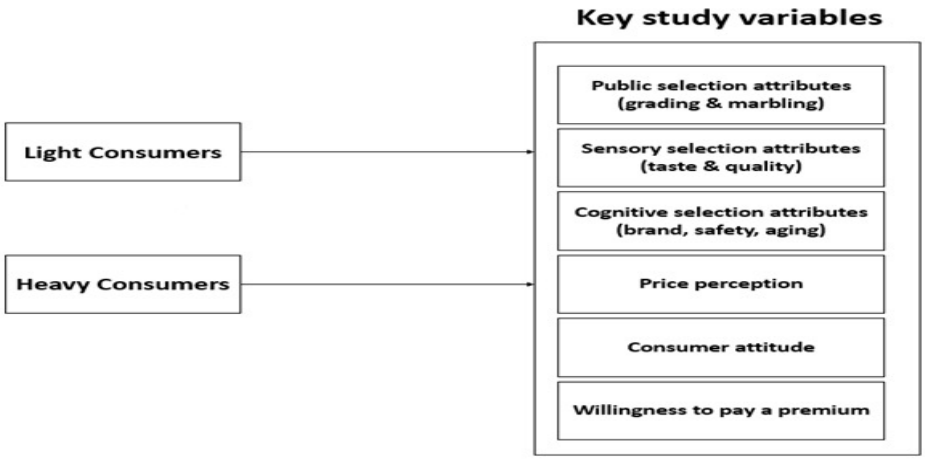
To assess Hanwoo consumption patterns, one additional item—adapted from the Korea Rural Economic Institute (2020)—was included to measure average purchase frequency. This item was used to classify respondents as heavy consumers (HC) or light consumers (LC). All survey items were measured using a five-point Likert scale.

Prior to analysis, the collected data were coded and analyzed using SPSS (Statistical Package for the Social Sciences) version 22.0. Frequency analysis was conducted to examine general Hanwoo consumption characteristics. In addition, independent samples t-tests were performed to compare differences in Hanwoo selection attribute evaluations, consumer attitudes, and willingness to pay a premium between the HC and LC groups.

Accordingly, the conceptual framework of this study is illustrated in Figure 1, which outlines the research design and the hypothesized relationships among the key variables. Based on prior literature and the structure of the current study, Hanwoo consumption frequency was used to segment respondents into heavy and light consumer groups. The framework presents how

these consumer segments differ in their evaluations of selection attributes—comprising public, sensory, cognitive, and price dimensions—as well as in their overall consumer attitudes and willingness to pay a premium. The model reflects the research objective of identifying significant group differences through independent samples t-tests and offers a visual summary of the study's analytical structure.

Figure 1. Conceptual model comparing heavy and light Hanwoo consumers on key selection attributes and outcomes.



3.2. Data collection

To achieve the objectives of this study, the target population was defined as consumers with prior experience in purchasing Hanwoo. A convenience sampling method was employed, and the sample was limited to consumers residing in Seoul, Incheon, and Gyeonggi Province. Data were collected through an online survey administered via Google Forms.

Prior to the main survey, a pretest was conducted with 30 respondents between August 22 and August 29, 2022, to assess the validity of the survey items. Based on the results, necessary modifications were made to the questionnaire prior to the main survey. The main survey was conducted between September 1 and September 15, 2022, yielding a total of 324 responses. After reviewing the responses for reliability and consistency, 44 cases were excluded due to insufficient or inconsistent answers, resulting in 280 valid responses for analysis.

4. Results

4.1. Profile of the respondents

A frequency analysis was conducted to examine the Hanwoo consumption patterns of the survey participants. The results showed that 5.0% of respondents consumed Hanwoo two to three times per week, while 11.4% reported consuming it once per week. Additionally, 20.7% consumed it once every two weeks, and 29.6% reported purchasing it once per month. The largest proportion, 33.2%, consumed Hanwoo less frequently than once per month, as shown in Table 1.

Based on these findings, the study applied a consumer segmentation criterion adapted from previous research to classify participants into two distinct groups. Respondents who reported consuming Hanwoo at least once every two weeks—including those who consumed it two to three times per week, once per week, or once every two weeks—were categorized as Heavy Consumers (HC). In contrast, those who consumed Hanwoo once per month or less were classified as Light Consumers (LC).

Table. Frequency of Hanwoo Purchases Among Respondents

Purchase frequency	Frequency (n)	Percentage (%)
2–3 times per week	14	5.00
Once per week	32	11.43
Once every two weeks	58	20.71
Once per month	83	29.64
Less than once per month	93	33.21

Note. N = 280. Responses were based on self-reported Hanwoo purchase frequency.

4.2. Analysis Results

4.2.1 Heavy Consumers (HC) and Light Consumers (LC) based on their Hanwoo consumption frequency

In this study, consumers were classified into Heavy Consumers (HC) and Light Consumers (LC) based on their Hanwoo consumption frequency. The means and standard deviations of Hanwoo selection attributes (public, sensory, cognitive, and price), consumer attitudes, and willingness to pay a premium were compared between the two groups, as shown in Table 2.

Table 2. Descriptive Statistics for HC (Heavy Consumers) and LC (Light Consumers) of Hanwoo

Variable	Consumption Group	N	Mean	SD
Public selection attributes (grading & marbling)	HC (Heavy Consumer)	104	3.888	0.599
	LC (Light Consumer)	176	3.728	0.576
Sensory selection attributes (taste & quality)	HC (Heavy Consumer)	104	4.077	0.552
	LC (Light Consumer)	176	4.004	0.505
Cognitive selection attributes (brand, safety, aging)	HC (Heavy Consumer)	104	3.289	0.695
	LC (Light Consumer)	176	3.203	0.687
Price perception	HC (Heavy Consumer)	104	3.135	0.860
	LC (Light Consumer)	176	3.369	0.994
Consumer attitude	HC (Heavy Consumer)	104	3.810	0.679
	LC (Light Consumer)	176	3.592	0.668
Willingness to pay a premium	HC (Heavy Consumer)	104	3.340	0.893
	LC (Light Consumer)	176	3.006	0.875

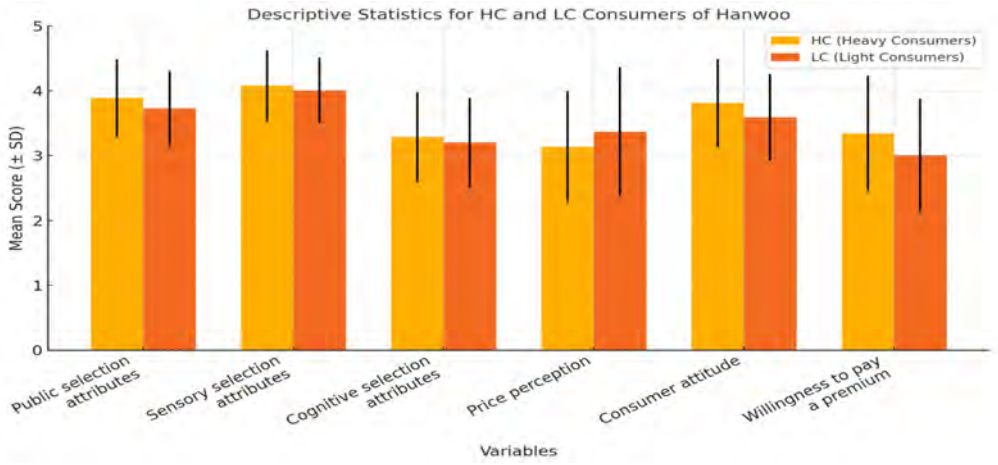
Note. Variables were measured on a five-point Likert scale. HC = consumers who purchase Hanwoo at least once every two weeks; LC = consumers who purchase Hanwoo once a month or less. N = 280.

The results of the analysis, which examined whether significant differences exist between them, are presented in Table 3.

The results indicate that the HC (Heavy Consumer) group exhibited higher mean scores than the LC (Light Consumer) group across multiple selection attributes, including public selection attributes (grading and marbling), sensory selection attributes (taste and quality), and cognitive selection attributes (brand, safety, and aging period). In addition, HC consumers reported higher levels of consumer attitude and willingness to pay a premium. However, while the HC group showed higher mean scores in sensory and cognitive attributes, these differences were not statistically significant ($p > .05$).

In contrast, the HC group showed a lower mean score for price perception compared to the LC group, suggesting that HC consumers are relatively less sensitive to price. This difference was statistically significant ($p = .046$), indicating that frequent Hanwoo consumers are less likely to base their purchasing decisions on price considerations and instead place greater emphasis on quality-related factors.

Figure 2. Comparison between Heavy and Light Consumers of Hanwoo (Mean ± SD)



Accordingly, Figure 2 visually presents the descriptive statistics of the key variables for both HC and LC groups. The bar chart illustrates the mean scores and standard deviations of six major factors: public, sensory, cognitive, and price selection attributes, as well as consumer attitude and willingness to pay a premium. As shown in the figure, heavy consumers consistently exhibited higher mean scores across most attributes. Statistically significant differences were found in public selection, consumer attitude, willingness to pay, and price perception, while sensory and cognitive attributes showed descriptive differences without statistical significance. The error bars reflect the standard deviations for each group, providing additional clarity regarding the variability and reliability of the observed means.

4.2.2 Independent Samples t-Test Results Between HC and LC Groups

The results of the independent samples t-test, conducted to examine differences in Hanwoo selection attributes, consumer attitudes, and willingness to pay a premium based on consumption frequency, are presented in Table 3.

Table 3. Results of Levene's Test and Independent Samples t-Test for Hanwoo Selection Attributes, Consumer Attitudes, and Willingness to Pay a Premium

Variable	Levene's Test (F)	Levene's Test (p)	t-Test (p-value)
Public selection attributes (grading and marbling)	0.595	0.441	0.028*
Sensory selection attributes (taste and quality)	5.145	0.024	0.270
Cognitive selection attributes (brand, safety, aging)	0.316	0.575	0.316
Price perception	8.660	0.004	0.039*
Consumer attitude	0.193	0.661	0.009**
Willingness to pay a premium	0.942	0.333	0.002**

*p < .05, **p < .01.

Note. Levene's Test was used to assess equality of variances. t-Test (p-values) indicate group differences between HC and LC. *p < .05.

The results of the independent samples t-test revealed statistically significant differences between the two groups in public selection attributes (grading and marbling), price perception, consumer attitude, and willingness to pay a premium. Specifically, heavy consumers scored higher in public selection attributes (p = .028), exhibited more favorable consumer attitudes (p = .009), and demonstrated a significantly greater willingness to pay a premium (p = .002). In contrast, they reported lower sensitivity to price compared to light consumers (p = .039).

On the other hand, no statistically significant differences were observed in sensory selection attributes (taste and quality) and cognitive selection attributes (brand, safety, and aging period) (p > .05). This suggests that both groups perceive taste, quality, and brand-related factors similarly, regardless of their consumption frequency.

5. Discussion and Implications

5.1. Discussion

This study segmented consumers into Heavy Consumers (HC) and Light Consumers (LC) based on their Hanwoo consumption frequency and analyzed differences in their evaluations of Hanwoo selection attributes, consumer attitudes, and willingness to pay a premium.

The results revealed statistically significant differences between the two groups in public selection attributes, price perception, consumer attitude, and willingness to pay a premium. Specifically, HC consumers scored higher in public selection attributes (grading and marbling), evaluated Hanwoo more favorably in terms of consumer attitude, and showed a significantly greater willingness to pay a premium. Additionally, they reported lower sensitivity to price compared to LC consumers, indicating that frequent Hanwoo consumers may place greater value on the intrinsic eating experience rather than cost considerations.

On the other hand, no statistically significant differences were observed in sensory selection attributes (taste and quality) and cognitive selection attributes (brand, safety, and aging period). Although HC consumers tended to show numerically higher mean scores across these attributes, the differences were not statistically significant. This suggests that both heavy and light consumers generally share similar perceptions regarding taste, brand recognition, and product certification.

5.2. Academic and practical implications

This study offers meaningful academic and practical insights for the Hanwoo beef industry and consumer research.

From a practical standpoint, the findings suggest that marketing strategies should emphasize sensory appeal and intrinsic product quality, particularly for heavy consumers. Since this group places greater importance on quality-related experiences and is less sensitive to price, promotional messaging could highlight flavor, tenderness, and overall eating satisfaction. Furthermore, branding efforts might benefit from focusing on enhancing perceived eating quality rather than relying solely on official grading systems or certifications.

For light consumers, who exhibited higher price sensitivity, strategies such as limited-time discounts, smaller portion packaging, or introductory product bundles may help reduce psychological and financial barriers to purchase. Although LC consumers displayed lower mean scores in consumer attitude and willingness to pay a premium, statistically significant differences were observed, suggesting that targeted communication that builds emotional connection and conveys added value could be effective in stimulating demand.

From an academic perspective, this study confirms the usefulness of behavioral segmentation based on consumption frequency in the context of premium food products. The results further highlight that sensory perception and price sensitivity—rather than grading or branding—are more salient factors distinguishing consumer segments. These findings contribute to refining segmentation models in food marketing and offer a foundation for future research on consumer experience and perceived value in premium meat consumption.

5.3. Limitations of this study and suggestions for future research

While this study contributes to understanding Hanwoo consumer segmentation and the impact of selection attributes on consumer attitudes and willingness to pay a premium, several limitations should be acknowledged and addressed in future research.

First, this study compared only two consumer groups—HC and LC—based on purchase frequency. However, a more detailed and multi-layered segmentation approach may provide richer insights. For instance, incorporating additional frequency categories or examining differences based on purchasing channels (e.g., supermarkets, butcher shops, online platforms) could yield more nuanced findings.

Second, psychological factors such as health consciousness and environmental values warrant further exploration in relation to Hanwoo selection attributes and purchasing decisions. While this study primarily focused on behavioral variables (i.e., purchase frequency), future research could investigate how individual values, attitudes, and lifestyles influence Hanwoo consumption patterns, thereby enhancing segmentation strategies.

Third, the sample in this study was limited to specific regions and consumer groups. To improve the generalizability of the findings, future research should include a more diverse sample. Incorporating demographic variables such as age, income, and occupation may allow for a more refined analysis of consumer characteristics and behaviors within the Hanwoo market.

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Robot Color and Perceived Social Warmth in Service Encounters (Paper#056)

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Abstract:

Colors are known to influence consumer perceptions. This study examines how robot color affects perceived social warmth, as service robots are increasingly common in the service industry. Experimental findings reveal that white robots are perceived as warmer than metallic ones due to material inferences.

Keywords: Service Robot, Color, Social Warmth, Embodied Cognition

1. Introduction

The hospitality industry is rapidly integrating service robots. However, consumer acceptance remains a significant challenge, with consumers expressing hesitation toward robot interactions in service settings (Guan et al., 2022). How might the robot's color improve consumer responses?

Color plays a critical role in shaping consumers' perceptions (Siamionava et al., 2018). However, little is known about how the color of service robots influences consumer perceptions in hospitality contexts. Without this understanding, it may be difficult for hospitality managers to implement robots effectively, leading to low consumer acceptance.

The widespread adoption of white and metallic robots in hotels and restaurants (Liberman-Pincu et al., 2023) prompts important questions about their psychological impact. Drawing on color-in-context theory (Elliot & Maier, 2012), we posit that white and metallic convey specific meanings when applied to robots due to consumers' inference of surface materials. A white robot may be perceived as having a plastic surface, evoking a sense of warmth, whereas a metallic robot might feel cooler.

2. Literature Review

The marketing literature distinguishes between referential meanings (societal associations) and embodied meanings (biological responses) of colors (Labrecque & Milne, 2012). According to color-in-context theory, color meanings are contextually dependent, influenced by learned associations, biological responses, or both (Elliot & Maier, 2012). For instance, while green typically signifies health and nature (Hemphill, 1996), it becomes unappealing in coffee due to contextual misalignment (Noseworthy et al., 2018). These examples underscore the necessity of empirically testing color effects in specific contexts. Service robots present a complex context for color perceptions, with past research providing limited insights into color interpretation when applied to these interactive agents (Elliot & Maier, 2012).

We apply color-in-context theory to propose that white robots are perceived as socially warmer than metallic robots based on referential meaning. Visual cues can evoke material inferences linked to thermal properties (Baek et al., 2018). Materials with high-temperature resistance (e.g., plastic, wood) are perceived as warmer, while those with low-temperature resistance (e.g., metal, glass) are perceived as colder (Wastiels et al., 2012). Although thermal properties are typically experienced through physical sensations, people can form similar inferences visually (Wastiels et al., 2013). In the context of robots, a white-colored surface may evoke associations with plastic (warm), while a metallic surface may evoke associations with metal (cold). Research on embodied metaphor shows that physical sensations like warmth can translate into social perceptions such as friendliness (Baek et al., 2018). Therefore, we hypothesize:

H1. White robots are perceived as warmer than metallic robots.
H2. Material inferences mediate the effect of the robot's color on perceived warmth.

3. Methodology

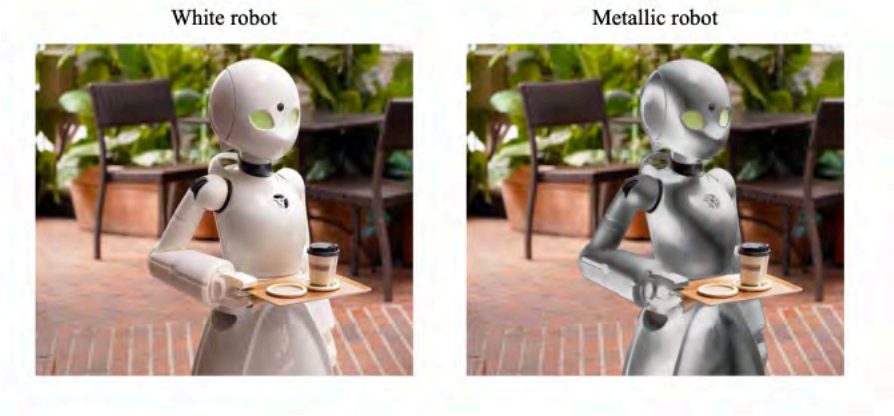
3.1. Design and sampling

To test the hypotheses, we conducted a one-factor (color: white vs. metallic) between-subjects experiment. A total of 115 U.S. adult consumers recruited through Amazon Mechanical Turk (MTurk) participated in the study.

3.2. Procedure and measurements

Participants were instructed to imagine being at a café offering robotic service. They were then randomly shown one of two images of a service robot used to manipulate its color (see Figure 1).

Figure 1. Experimental Stimuli.

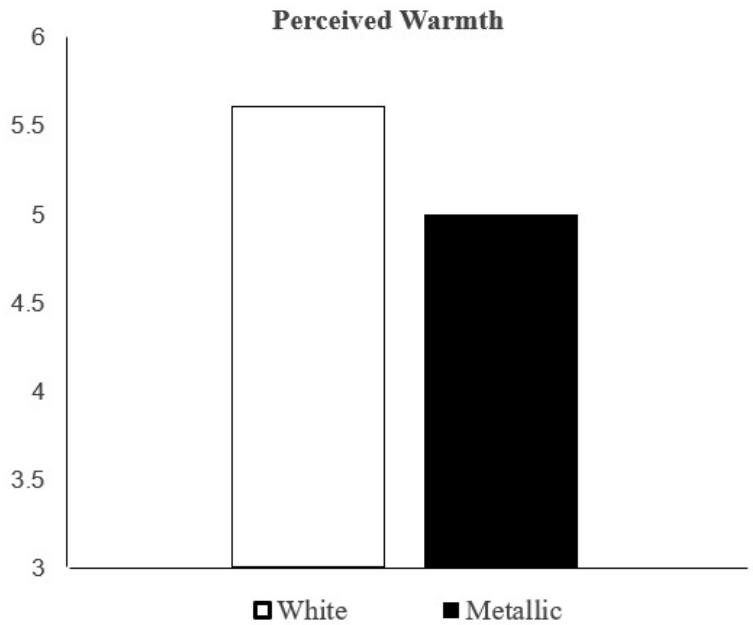


Perceived warmth was assessed by measuring participants' beliefs about the service robot's traits of warm, kind, and generous (1 = not at all, 7 = very much), adapted from Aaker et al. (2010). Material inference was measured by asking them to indicate the extent to which they thought the robot's surface material was metal, wood, plastic, and glass (1 = definitely no, 4 = not sure, 7 = definitely yes; wood and glass options were included to conceal the research purpose).

4. Results

Results from a one-way ANOVA on perceived warmth showed that the white robot was perceived to be warmer than the metallic robot (M_{white} = 5.61, $M_{metallic}$ = 4.99; $F(1, 113)$ = 4.91, $p < 0.05$), as depicted in Figure 2. Therefore, H1 was supported.

Figure 2. The impact of robot color on perceived warmth.



A mediation analysis was conducted using Macro PROCESS model 4 (Hayes, 2017), with robot color as the independent variable, perceived warmth as the dependent variable, and plastic inference and metal inference as the two mediators. The bootstrapping results showed that plastic inference mediated the impact of robot color on perceived warmth (indirect effect = 0.4889, 95% CI = [0.2222, 0.8197]). Metal inference mediated the impact of robot color on perceived warmth (indirect effect = -0.4230, 95% CI = [-0.7569, -0.1792]). Hence, H2 was supported.

5. Discussion and Implications

With the rapid development of AI-driven service robots, there is an urgent need to understand how to optimize robot design to enhance consumer acceptance of these new service agents (Huang & Liu, 2022). Although robot color is a highly salient visual element, it has received limited attention in hospitality research. Through an experimental study, this research demonstrates that robot color affects perceptions of warmth, with white robots being perceived as warmer than metallic robots.

5.1. Theoretical implications

The current research builds on prior research about robot color (Liberman-Pincu et al., 2023) by examining how color affects perceived warmth. We found that white robots are thought to be plastic, giving a warmer impression, while metallic ones evoke a cooler, metal association. These findings enhance the understanding of color perception in robots, showing that interpretations differ in robotic service settings.

5.2. Practical implications

This research provides important insights for hospitality practitioners seeking to increase consumer acceptance of service robots. Since the color of robots affects perceptions of warmth, businesses should consider using white colors for service robots in environments where approachability and emotional connections are essential, such as hotels, restaurants, and customer service roles.

5.3. Limitations and future research

First, this research used an online scenario-based experiment with under 200 participants, which may limit the generalizability of the findings. Future studies could replicate these findings with a larger, more diverse sample or employ interviews for deeper insights. Second, the study focused on food delivery in restaurants. Future research should investigate different service contexts (e.g., hotels) and task types (e.g., concierge service).

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Active Aging Experiences through the Narratives of Senior Workers in Food Service Enterprises (Paper#140)

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Abstract:

This study uses narrative analysis to explore the experiences of senior workers (aged 60+) employed for over two years in food service enterprises. It examines aging, employment, and active aging as meaningful context. Findings highlight the positive impact of senior employment on identity and well-being, suggesting its value in promoting active aging and expanding support programs.

Keywords: Active aging, Active Senior, Narrative analysis, Elderly employment and support program, Senior business

1. Introduction

In South Korea, the proportion of older adults (aged 65 and over) increased from 7.2% in 2000 to 14.3% in 2018 and reached 20.3% in 2025. This demographic shift led Korea to be officially classified as a super-aged society (Statistics Korea, 2016). By 2060, it is projected that older adults will comprise 41% of the total population (18.54 million people), and the average life expectancy will approach 90 years (Statistics Korea, 2016).

Global population aging has emerged as one of the most demographic challenges as well.

The worldwide proportion of people aged 60 and over is growing faster than any other age group. Between 1970 and 2025, a growth in older persons of some 694 million or 223 percent is expected. In 2025, there will be a total of about 1.2 billion people over the age of 60. By 2050 there will be 2 billion with 80 percent of them living in developing countries (WHO, 2002). As a figure 1, the population pyramid will be replaced with a more cylinder-like structure over time. As life expectancy continues to increase, we have entered the era of Homo Hundred (United Nations, 2009). Accordingly, the world now faces challenges related to the economic burden of rapid population aging and the long-term sustainability of its social welfare system.

In line with these societal changes, the senior business industry has been increasingly activated and expanded the influence of active seniors. It has been extending beyond housing products, digital devices, food services, and tourism industries specifically designed for older adults. Among those, the food service sector accounts for the second-largest share (23.4%) of the senior business industry (Lee et al., 2014). The market size grew from 6.4 trillion (in KRW) in 2012 to 17.6 trillion (in KRW) in 2020, with an average annual growth rate of approximately 13.5%.

However, despite this constant growth, there has been little research examining the lived experiences of senior workers employed in the food enterprises. Existing studies have only concentrated on policy effectiveness and program administration, while in-depth investigations into how older workers experience their work and daily lives are still lacking. Furthermore, government-led welfare programs for older adults were narrowly defined just for providing basic needs to older adults. It is uniform and constrained in its structure.

As a result, this study explores and articulates the life stories of senior employees working in food service enterprises, with the aim of examining how they perceive the aging process and active aging. The findings aim to contribute to sustainable policies for senior workers.

2. Literature Review

2.1. Active aging

Active aging is the process of optimizing opportunities for health, participation and security to enhance quality of life as people age. And the word 'active' refers to continuing participation in social, economic, cultural, spiritual and civic affairs, not just the ability to be physically active or to participate in the labor force. It aims to extend healthy life expectancy and quality of life for all people as they age and supports allowing older adults to realize their potential for physical, social, and mental well-being (WHO, 2002). So, the Active Aging model defines health, social participation, and security as key determinants of aging well, advocating for policies that enable older adults to maintain autonomy and engagement.

World Health Organization (WHO) identifies the key determinants that influence the quality of life and active participation of older adults. At the core are six interrelated domains: economic determinants, social determinants, physical environment, personal determinants, behavioural determinants, and health and social services. These factors interact dynamically to shape the conditions for active ageing. Moreover, the entire framework is embedded within the broader contexts of gender and culture, which mediate how each determinant operates. The WHO emphasizes that promoting active ageing requires a holistic approach that supports autonomy, health, and participation throughout the life course.

Figure 2. The determinants of Active Aging



According to the definition provided by the Active Aging Consortium in Asia Pacific (ACAP, n.d.), active aging incorporates contents of both productive aging and successful aging. So, the active aging policies should create optimal environments for older adults by actively encouraging their social participation, supporting individual efforts to maintain health, and establishing social policies to ensure safety and security in later life.

Similarly, Japan has been using active aging approaches are framed within the General Principles Concerning Measures for an Aged Society. According to the policies of Japan, the active aging policy should be implemented as follows. First, reviewing conventional stereotypes about older adults. Second, emphasizing preventive preparation. Third, revitalizing the functions of local communities. Fourth, applying gender equality perspectives. Fifth, utilizing advanced technologies in medical care, welfare, and information and communications.

The Successful Aging Theory (Rowe & Kahn, 1997) emphasizes minimizing disease, preserving functional capacity, and sustaining social participation. The Productive Aging Theory (Butler & Gleason, 1985) highlights the continued contributions of older individuals to society through work, volunteering, and caregiving, stressing the value of engagement beyond economic necessity. Collectively, these models underscore structured employment as a key mechanism for fostering autonomy, psychological resilience, and social integration. It is meant to convey a more inclusive message than "healthy ageing" and to recognize the factors in addition to health care that affect how individuals and populations age (Kalache and Kickbusch, 1997).

Existing theories have primarily understood aging in terms of social contribution, focusing on aspects such as health and economic activity. While related theories have long existed, they often emphasized productivity rather than subjective experience or identity in later life.

3. Methodology.

3.1. Narrative analysis

This study employed narrative analysis, which aims to understand storied experiences. This approach is grounded in an understanding of experience over time and in context. Narrative analysis is a methodology that investigates experience as a story, with a deep respect for lived experience as a central source of knowledge and understanding in the study of human lives (Clandinin & Connelly, 2000). It is based on the premise that each individual's experience is different, unique, and distinctive. Furthermore, narrative analysis should describe how experiences, accumulated over time and influencing others, are transformed through the passage of time (Clandinin & Murphy, 2009). It is applied through the three-dimensional narrative inquiry space (Clandinin & Connelly, 2000). This framework requires that participants' experience-based stories be interpreted in an integrated way across three dimensions: temporality, sociality, and place (Dewey, 1938).

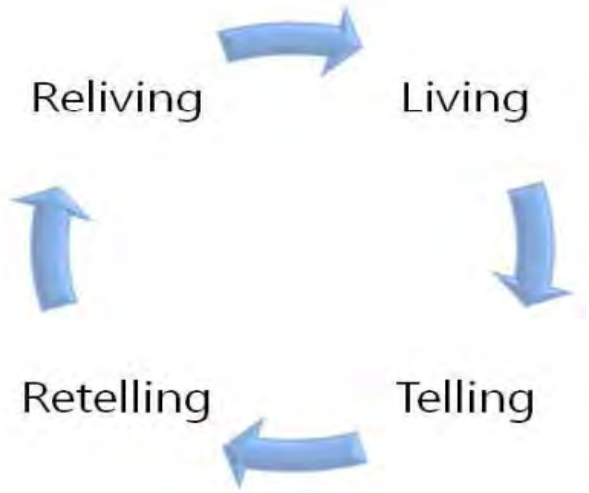
In addition, in narrative analysis, the term 'research puzzles' is used instead of research questions. This distinction reflects the purpose of narrative analysis, to explore and understand individual human experiences. It is not possible to produce definitive answers in narrative anlysis(Hong, 2015).

This analytic approach contributes to understanding the social reality of individuals by insightfully exploring the meaning of experience within its context. It also supports the qualitative turn (Alasuutari, 2010).

According to the original framework of Clandinin and Connelly (1988), narrative analysis is recommended to be conducted through the following procedures. First, entering the field, Second, being present in the field, Third, composing field texts, Fourth, moving from field texts to research texts, and last writing research texts. Each stage is not fixed and can be constructed in accordance with the specific context of each study. It is because all studies don't follow the same procedure, and each stage can interact with others.

Clandinin and Connelly (1988) described each participant, researcher and teacher, as engaged in living, telling, retelling, and reliving their stories as the narrative analysis proceeds. Therefore, narrative analysis is also recommended to proceed in accordance with that flow. The process is illustrated in the below figure.

Figure 3. The process of Narrative Analysis



As a result, in this study, it adopted a five-phase procedure, excluding the being in the field stage.

3.2. Data collection

A list of food service enterprises employing senior workers are working was received from the Korea Senior Human Resources Development Institute (KSHRDI) through Freedom of Information (FOI). Participants were adopted by direct contact with them.

Each interview lasted an average of over 70 minutes and was conducted at least twice with a one-week interval. When additional clarification was needed, follow-up interviews were conducted by phone or through additional in-person meetings. And the places of interview were selected either at participants' workplaces or near their residences to help establish rapport with them. Topics evolved dynamically, maintaining a flexible structure, using semi-structured, open-ended questions to allow unrestricted responses. All interviews were audio-recorded with consent and all interview trans-scripts and field were analyzed to conceptualize the impact of employment on aging perceptions.

4. Results

4.1. Profile of the respondents

Before initiating interviews, the purpose and full process of the study were fully informed to explain to each participant. Only those who voluntarily agreed to participate were selected for the research. Prior to the interviews, participants signed a consent form for the collection and use of personal information by hand, both of which were securely stored.

The first participant was adopted through purposive sampling, and the second participant was recruited using snowball sampling. The participants' names were used either as pseudonyms or real names based on their informed consent. The first participant chose to be referred to by the pseudonym 'Eun-hye' which she created herself. The second participant expressed that it was an honor to take part in the study, so she wanted that her real name be used. Accordingly, she is referred to by her actual name, 'Young-hee.'

The first participant, Eun-hye aged 63, who has worked for two years in a cafeteria located at a local public library.

She resides in Gwacheon, Gyeonggi-do, with her husband and a son, who is in his 30s. Her husband retired after 38 years of service as a national civil servant. She spent those years as a full-time homemaker. While assisting with infection prevention and control (IPC) activities during the COVID-19 pandemic, she discovered a sense of enjoyment in working for the first time. This experience led her to obtain a caregiver certification and begin working at current cafeteria through the recommendation of friends.

The second participant aged 65, who has worked for three years in a senior café located at a community welfare center.

She was born in Seoul and has two daughters. She currently resides in Gwacheon, Gyeonggi-do, with her husband. After graduating from high school, she married at a young age and spent most of her life as a full-time homemaker. Despite undergoing ovarian cancer surgery in 2007 and cataract surgery in 2024, she has made a fully recovery. Now she is functionally and physically capable of participating in the workforce as a senior worker.

4.2. Results of analysis

All words which are selected as a meaning-making themes are based on participant's narratives and reconstructed in the field text and context. The transcribed interviews were highlighted according to the identified narrative themes and cross-validated by a peer with prior experience in qualitative research.

1. Experiences Prior to Becoming Senior Workers

1) A Life Where Family Took Precedence Over Self

The participants' narratives revealed that their early and middle adulthood was deeply rooted in fulfilling family-centered roles, consistent with traditional Confucian gender norms that positioned women primarily as wives, mothers, and caregivers. These cultural expectations not only shaped their daily lives but also influenced their perceptions of self and agency. Both participants reflected on their long-standing roles as full-time homemakers, emphasizing marriage, childcare, and support of their husbands as central life obligations (Clandinin & Connelly, 2000).

For instance, Eun-hye described a lifetime of economic dependence on her husband, noting that she refrained from expressing personal financial needs out of concern for appearing burdensome:

"I felt financially restricted. My husband managed everything profitable. Sometimes, even when I needed something, I didn't say it because I didn't want to sound needy."

Likewise, Young-hee told a similar experience, expressing limited engagement with financial planning or autonomy:

"I wasn't independent financially. We never had savings for retirement or anything. I just assumed my husband would take care of it all."

These testimonies illustrate the normalization of economic dependence and emotional silence within a cultural framework that prioritized the family unit over individual autonomy (Riessman, 2008). The participants did not view domestic labor as a transitional phase, but rather as a lifelong role. As Eun-hye stated:

"I was a housewife, so I did what a housewife usually does. Like managing the household, raising the kids with my husband. That was everything."

In Young-hee's case, her husband's disapproval prevented her from re-entering the workforce, reflecting the persistence of patriarchal constraints:

"The biggest reason I can't work was my husband. He said, 'How much could you earn doing that?' He had such old-fashioned thinking and wouldn't allow it."

Such narratives underscore the relational and socio-cultural dimensions of identity construction over time (Clandinin, 2013), revealing how traditional gendered expectations and family structures restricted women's access to independence and shaped their trajectories well into later life.

2) A Life Marked by Recognition and Belonging

Participants described their initial entry into the workforce as senior employees through personal recommendations, often facilitated by senior employment programs. Although the nature of the policy limited working hours to approximately four hours per day to accommodate a larger number of participants, both women expressed that the experience of working significantly contributed to their sense of vitality and agency.

Eun-hye emphasized that her work experiences brought her enjoyment and energy:

"I enjoy working. I am doing it with a joyful mind. I actually prefer busy days because time passes quickly. It gives me more vitality. Since I started working, I feel more active and energetic. Even at home, I move faster. I feel mentally upgraded."

Similarly, Young-hee highlighted the psychological and emotional value of having a workplace at her age:

"Working at the café is really fun. It's rewarding to have a job even as I grow older. I always want to do more. It feels good to have a place to go in the morning and a role to fulfill. I feel recognized, and it gives me purpose."

Both narratives illustrate how having a job allowed them to see themselves as capable individuals, contrasting sharply with their previous lives as full-time homemakers. The psychological effect of employment, particularly the shift in self-perception and social role, was especially meaningful when viewed against their earlier life trajectories centered solely around domestic responsibilities.

Despite the limited pay due to restricted working hours, the participants expressed that earning even a small amount of income helped them feel more autonomous and emotionally stable:

Eun-hye: "I feel confident because I'm working. When I come back home from work, I feel comfortable."

Young-hee added: "Even earning a little, but it is on my own. So, it makes me feel proud. I can do what I want with it. It gives me a sense of ease and independence. That's a really good feeling."

Moreover, the workplace offered opportunities for social connection and community engagement. Eun-hye described it as "a small society," where she met new people and adjusted to different working styles. Young-hee also noted that working enabled her to exchange information with coworkers from different areas and to engage in more proactive social behavior than typical homemakers.

These stories demonstrate that employment served not only as a financial activity but as a source of recognition, agency, and renewed identity—essential components of active aging as defined in contemporary gerontological theories (Clandinin & Connelly, 2000; Rowe & Kahn, 1997).

2. Experiences of Active Aging After becoming Senior Workers

The participants engaged consistently in physical and social activities, reflecting the multidimensional nature of active aging. These activities not only supported their physical health but also contributed to their social connectedness and personal development.

Eun-hye described her active lifestyle by saying, "I has been playing a tennis for two years, learned a bit of golf, went to the gym, did some hiking and pilates as well."

Similarly, Young-hee shared her experiences like the following: "I played tennis for over ten years. I also did bowling, jazz dance, aerobics, swimming, line dancing, and worked out at the gym. I even walked barefoot along the walking road of the library."

Furthermore, both participants actively maintained social networks through regular gatherings and hobby groups.

Eun-hye explained: "I regularly meet friends. We take turns choosing the meeting place, and when we meet, we talk about memories. I also go to couple gatherings with my husband, and we always try to find good places to eat."

Young-hee said: "I have an elementary school classmates' group and about five or six other groups. I'm in two guitar clubs that practice performances, and the school classmates' group meets every three months. I also go gatherings with younger close friends every two months."

Their social involvement was closely tied to a strong enthusiasm for learning.

Young-hee noted: "I wanted to learn baking, makeup, and fashion. I even tried making jokbal and pressed pork at home. I just enjoy learning new things. I'm curious about everything I have yet to learn."

Smilarly, Eun-hye told: "Yes, learning. I sometimes wish I had studied things like this earlier. I feel like I could do so many things now."

This pursuit of personal growth extended to professional development. Eun-hye obtained a caregiver certification after assisting with infection prevention during the COVID-19 pandemic. Young-hee earned a barista certification to work in the café now. These accomplishments illustrate how both women engaged in skill development that went beyond the expectations typically associated with older adults.

Moreover, these experiences contributed to a younger perceived age, reinforcing their self-image as active and capable individuals.

Young-hee stated: "I definitely feel like I could pass for someone in their fifties. I feel even more capable than others my age."

Eun-hye shared a similar sentiment: "I feel like I'm in my late fifties. Coming to work keeps me active and positive. I see older colleagues still working, and that makes me feel even younger."

Notably, Eun-hye demonstrated a reflective awareness of the aging process. She expressed it as follows: "I never really thought of myself as a senior. I don't particularly feel like I've aged."

In summary, their narratives illustrate how sustained physical activity, social participation, and lifelong learning form an integrated experience of active aging. Their lives challenge conventional views of old age and demonstrate the vitality and agency that can persist well into later life.

5. Discussion and Implications

5.1. Discussion

This study extends the discourse on active aging by foregrounding the lived experiences of senior workers in food service enterprises. While prior research has largely focused on policy effectiveness (Kim & Park, 2020), this study highlights how later-life employment fosters psychosocial well-being, identity affirmation, and social connectedness. Participants' narratives support theoretical frameworks such as successful aging (Rowe & Kahn, 1997), revealing that work is not merely economic activity but a means of active participation and self-actualization. These findings align with earlier studies showing that employment can enhance well-being and extend working life expectancy (Chen et al., 2017; OECD, 2021). Importantly, identity emerged as a narrative construction, shaped through daily work and recognition, suggesting that future aging policies must go beyond functional health and incorporate the subjective, storied dimensions of aging.

5.2. Academic and practical implications

This study contributes to the practice and theory of active aging by illustrating how employment of senior workers serves as a meaningful context in which aging individuals construct, negotiate, and reaffirm their sense of identity. Through participants' lived stories, the research reveals that work is not merely a response to economic need, but a narrative space for self-actualization in later life. These findings foreground the subjective and storied dimensions of aging, expanding theoretical frameworks by challenging conventional models that emphasize productivity or health alone. By adopting narrative inquiry, the study captures the temporal, relational, and contextual nature of aging, and deepens academic discourse on how aging individuals reframe their experiences through work.

Practically, the study underscores the importance of designing age-friendly enterprises that value older workers not only for their labor, but as meaning-seeking individuals. It highlights the need for flexible job structures, inclusive environments, and opportunities for personal growth, suggesting that active aging policies must address psychosocial as well as physical and economic needs. Together, these insights advocate for a more holistic approach to aging in the workplace.

5.3. Limitations of this study and suggestions for future research

While this study offers meaningful insights into the narratives of senior workers, several limitations should be noted. A major challenge involved participant recruitment, as many older adults showed reluctance toward audio recording, requiring more time and effort to build trust. Additionally, due to age-related physical and cognitive fatigue, participants often found it difficult to engage in long or repeated interviews, which are central to narrative inquiry. This limited the depth and continuity of some data. Future research should place greater emphasis on rapport-building prior to data collection, especially with older populations. Informal meetings or shorter preliminary visits may help reduce recording-related anxiety. Researchers might also consider alternative methods—such as written reflections or oral accounts without recording—to accommodate participants' comfort. These adjustments can enhance participation and improve the quality of narrative data in studies on aging.

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Exploring the influence of museum experienscape on advocacy behaviour using the Stimulus-Organism-Response (Paper#041)

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Abstract

This study aims to explore the impact of visitors' perception of museum experienscape on affective image and emotional attachment and to examine the mediating effects of affective image and emotional attachment on the relationship between visitors' perceptions of experienscape and their advocacy behaviour. A self-administered survey was developed and the target samples were visitors who visited two major museums in Hong Kong. By using the stimulus–organism–response approach, result shows significant direct and indirect relationships amongst the aforementioned constructs.

Keywords: Experienscape, Affective image, Emotional attachment, Advocacy behaviour, Stimulus-organism-response, Museum

1. Introduction

Museums are increasingly becoming important for tourism, bringing local employment benefits and opportunities for historical preservation and heritage promotion and serving as an attraction for outsiders (Vareiro et al., 2020). Inherently, museums provide an informal learning environment, with the quality of the museum experience dependent on such variables as the

exhibition presentation, visitor services and collection of cultural artifacts (Forrest, 2013; Zou et al., 2022). The experienscape of museums, denoting the physical environment and service interactions occurring within a space, could play a role in shaping visitors' perceived experience and subsequent behaviours. The importance of exhibition diversity, museum signage, museum management and availability of information sources have increased visitors' museum experience (Forrest, 2013; Vareiro et al., 2020).

Local and international visitors use museum attractions and visitations as another platform to learn the culture and history of destinations (Zou et al., 2022). Despite the potential of experienscape in advancing museum knowledge, only a few studies have explored how physical, cultural and social stimuli impact visitors' emotions and the subsequent impact on their behaviours. The current study draws on the stimulus–organism–response framework (Mehrabian & Russell, 1974) and proposes that museum experienscape acts as a stimulus to influence visitors' internal states (emotional attachment towards and affective image of the museum), thereby inducing a response of their advocacy behaviours.

Thus, this study aims to: (1) explore the impact of visitors' perception of museum experienscape on affective image and emotional attachment and (2) examine the direct and mediating effects of affective image and emotional attachment on the relationship between visitors' perceptions of experienscape and their advocacy behaviour. The contribution of this study could provide new insights with attractions/destination marketers for future marketing and promotional planning to attract future visitors.

2. Literature Review

2.1. Experienscape

Experienscape refers to the environment where consumers, employees and other stakeholders interact when a service is produced, delivered and consumed; and includes the sensory, functional, social, natural and cultural stimuli within the environment (Pizam & Tasci, 2019). The physical surrounding, where service interactions occur, has a significant influence on consumers, impacting their sensations, understanding and communication with a place, and behavioural decisions (Rosenbaum & Massiah, 2011). Zou et al. (2022) suggested that museums can render visitors with a transformative experience. Each museum delivers its message to its society and visitors, thereby triggering markedly in-depth meaning (Moreno Gil et al., 2019).

2.2. Affective image

The affective image of a museum refers to the feelings aroused by the place, reflecting the emotional response of individuals to the destination (Moreno Gil & Ritchie, 2009). The quality of the visitation experience, museum general appearance and museum shop were found to form visitors' cognitive image of museums, thereby affecting their affective image (Moreno Gil & Ritchie, 2009). Rozendaal and Schifferstein (2010) suggested that aesthetic simulation of a place can make individuals feel pleasant. In this sense, when visitors are fascinated with the affective image of museums, they will experience positive emotions (e.g. happiness, pleasure)

and emotionally bond with museums. Arguably, a rich and meaningful museum experienscape may stimulate profound feelings or emotions in visitors towards the place, leading to behavioural reactions (Vaughan, 2001).

2.3. Emotional attachment

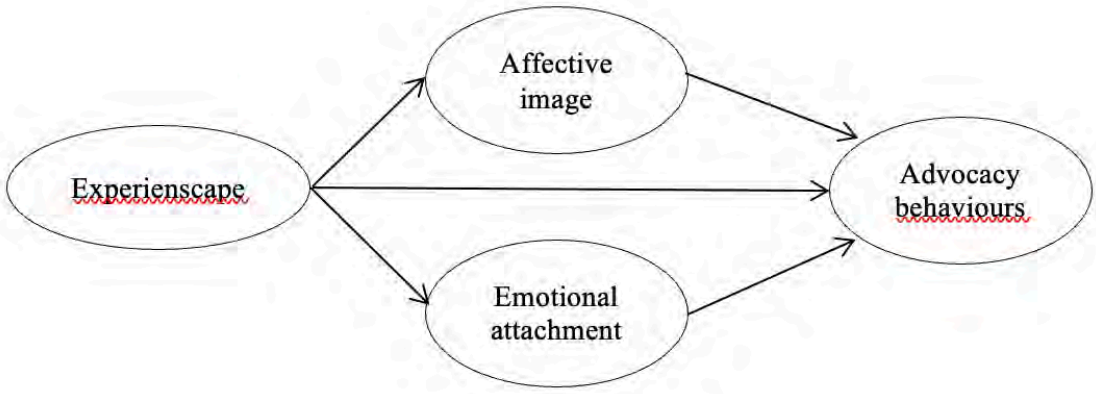
Emotional attachment denotes the dynamics and bonding between individuals and entities, such as other individuals, destinations and brands (Huang et al., 2017). A customer's experience can facilitate forming an emotional attachment with a location, which induces consumer's loyalty towards the entity (Hyun & Kim, 2014). Within the context of museums, Asan and Daskin (2024) identified that attachment towards museums lead to visitors' intention to recommend the destination.

2.4. Advocacy behaviours

Customers' advocacy behaviours reflect their loyalty towards and support of a service organisation and include such actions as promoting the organisation through word-of-mouth and defending the firm (Hyun & Kim, 2014). These behaviours are crucial for a firm's ongoing success because customers can help maintain a positive brand image and attract new visitors via referrals (Hyun & Kim, 2014).

This study's conceptual model (see Figure 1) is proposed based on the literature review.

Figure 1. The conceptual model



3. Methodology

3.1. Research design and sampling approach

This cross-sectional study uses a quantitative approach. The target population is local and non-local visitors who visit museums in Hong Kong. A self-administered questionnaire was deployed at two museums (i.e. M+ and Hong Kong Palace Museum) located in Hong Kong's West Kowloon Cultural District. The Hong Kong Palace Museum features artifacts showcasing historical Chinese arts and culture, whilst M+ is an art museum that displays contemporary visual art, design and architecture. The two museums could create an immersive experience for visitors/tourists, connecting them with Hong Kong and contributing to the sustainability of its tourism development.

3.2. Data collection procedures and data analysis

A convenience sampling approach was adopted to determine the freshest experience of the visitors and ensure the respondents visited the museum at the time of participation in our survey. Two research assistants invited visitors to participate in the survey at the museum exit after completing their visit. A total of 385 valid responses were collected for data analysis. Several statistical techniques were used for data analysis, such as descriptive analysis, confirmatory factor analysis and structural equation modelling.

4. Results

4.1. Relationship between experienscape, affective image, emotional attachment and advocacy behaviours

Table 1 shows the structural equation modelling results on the direct impact of experienscape on affective image and emotional attachment, and of affective image and emotional attachment on advocacy behaviours. The results in Table 1 indicate that experienscape is positively associated with affective image (β = 0.780, t-value = 29.990) and emotional attachment (β = 0.869, t-value = 62.248). Thereafter, the two internal states are able to predict advocacy behaviours, with emotional attachment (β = 0.674, t-value = 12.587) demonstrating higher explanatory power than affective image (β = 0.220, t-value = 3.956).

Table 1. Path coefficients (direct impacts)

Parameter	Estimate	t-values
Experienscape → Affective image	0.780	29.990*
Experienscape → Emotional attachment	0.869	62.248*
Affective image → Advocacy behaviours	0.220	3.956*
Emotional attachment → Advocacy behaviours	0.674	12.587*

* $p < 0.001$

4.2. Direct and indirect relationships between experienscape, affective image, emotional attachment and advocacy behaviours

Table 2 shows the indirect impact of experienscape on advocacy behaviours through affective image and emotional attachment. Results indicate that experienscape is indirectly positively associated with advocacy behaviours through both variables, reflecting the complementary mediating effects of affective image and emotional attachment. Note that emotional attachment has a higher mediatory power (β = 0.586, t-value = 12.126) than affective image (β = 0.171, t-value = 3.725).

Table 2. Path coefficients (indirect impacts)

Parameter	Estimate	t-values
Experienscape → Emotional attachment → Advocacy behaviours	0.586	12.126*
Experienscape → Affective image → Advocacy behaviours	0.171	3.725*

* $p < 0.001$

5. Discussion and Implications

5.1. Discussion

The results indicate that experienscape has a direct positive impact on individuals, particularly in terms of their affective image of the museum and their emotional attachment towards the museum. These findings concur with Kim and Lee (2022). Experienscape also indirectly impacts advocacy behaviours via affective image and emotional attachment. Particularly, emotional attachment plays a strong mediating role in the experienscape–advocacy behaviours relationship. These findings underscore the importance of emotional attachment in museum experience and its role in encouraging visitors' advocacy behaviours towards the museum. Furthermore, this study contributes to extending an understanding of the affective nature of museum experiences (Varutti, 2022). Museum curators should emphasise the dimensions contributing to emotional attachment.

5.2. Academic and practical implications

For academic implications, this study integrates key constructs, namely, experienscape, affective image, emotional attachment and advocacy behaviours, with the stimulus–organism–response approach. The results show that experienscape positively influences visitors' perceptions of affective image and emotional attachment, thereby increasing their advocacy behaviours. Furthermore, affective image and emotional attachment play important mediating roles in the relationship between experienscape and advocacy behaviours. Accordingly, inducing positive affective image and emotional attachment during museum visits could increase the level of visitors' advocacy behaviours.

For practical implications, museum operators should maintain good quality museum appearance (e.g. displays, shops, lights and sound and traffic and flow) and service delivery (e.g. interaction with frontline staff, ticketing and communication) to visitors. A positive experienscape could increase the level of affective image and emotional attachment towards museums. During museum visits, a close bonding of visitors between affective image and emotional attachment should be developed (Lam & Tavitiyaman, 2025). Presenting relevant content induces visitors' learning of society and culture and attaches to their emotion and arousal. Consequently, visitors' advocacy behaviours in terms of visitors' loyalty and behavioural intention could be commended.

5.3. Limitations of this study and suggestions for future research

Several limitations were found in this study. Firstly, only two museums were selected for this investigation. Future research could further include other types of museums so that the insights into the findings could be significantly comprehensive. Secondly, data were collected during Summer 2024. Accordingly, extending the period of data collection could cover visitors with various demographics.

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High tech or high touch? An exploration of smart service experiences in luxury hotels (Paper#050)

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Keywords: Smart service experience; Smart service; Smart hotel; Luxury hotel; Macau

1. Introduction

The fourth industrial revolution has catalyzed a wave of innovations, fundamentally transforming the service industry, reshaping customer experiences, and elevating smart services to a prominent research topic in recent years (Kim & Han, 2020; Prentice et al., 2020; Yang et al., 2021; Wang, 2022). Both academics and industry practitioners in hospitality and tourism recognize that the emergence and evolution of technology significantly influence the provision and delivery of services (Shin, 2015). Scholars have addressed the need to define the term "smart services" and investigating their impact on customer experience and satisfaction (Wünderlich et al., 2015). Implementing smart services requires more than just the acquisition and deployment of advanced technologies. Gretzel et al. (2015) emphasized that the core of smart services lies in the collection, integration, and analysis of customer information through interconnected technologies, with the goal of delivering a seamless and personalized customer experience. Kabadayi, Ali, Choi, Joosten, and Lu (2019) developed a conceptual framework for smart service experiences, proposing that such experiences are defined by customers' subjective responses to smart services and are influenced by various factors, including customer empowerment, seamless experience, accuracy of service delivery, privacy and security, and overall enjoyment.

Numerous scholars have explored the dimensions of smart services, as well as the opportunities and challenges they present to the industry (Rodriguez-Mizuna, Marcos, Zalama, Gómez-García-Bermejo, Gordaliza, 2015; Kim & Han, 2020; Touni, Magdy, 2020). However, it is noteworthy that some research findings reveal customers have mixed feelings about using smart services. For instance, Chi et al. (2021) examined AI and discovered that customers remain skeptical of social robots and do not fully embrace technology-assisted services. To develop a more comprehensive understanding of these issues, this study aims to: (1) identify the smart services

implemented by luxury hotels in Macau, and (2) explore how hotel guests perceive and evaluate the smart services provided from room booking to hotel departure.

2. Methodology

Service quality and customer satisfaction are pivotal measures of a hotel's success. Traditionally, luxury hotels have relied on human-to-human interactions to create a superior guest experience (Dubois, Czellar, Laurent, 2005). This exploratory research delves into the smart service experiences of guests who stayed at high-end smart hotels in Macau. The hotels included in this study are MGM Cotai, MGM Macau, Wynn Palace, Wynn, Morpheus, Macau Roosevelt, Legend Palace Hotel, Studio City Hotel, and Nüwa. An interview guide was meticulously developed and pilot tested to refine the questions. Participants for the interviews were recruited through personal networking and the snowball technique.

A total of 15 interviews were conducted, each lasting an average of 30-40 minutes. Among the interviewees, 11 were female and 4 were male, with ages ranging from 19 to 43. The vast majority of participants hold a bachelor's degree or higher, with only one participant having graduated from high school.

3. Findings

3.1. Services provided by smart hotels

A typical guest cycle in a hotel begins with inquiry and reservation, followed by arrival, stay, departure, and concludes with post-departure interactions. This study discovered that the majority of luxury hotels in Macau offer smart services primarily during the room reservation and hotel stay stages. The technologies commonly employed include AI, smart tablets, smart cards, smart technology, smart TVs, and mobile apps. Hotels such as Wynn Palace, Wynn Resorts Macau, MGM Cotai, MGM Macau, Studio City Hotel, and Nüwa have developed mobile apps or WeChat apps to facilitate convenient room reservations, access to member information and exclusive services, instant customer inquiries via live chat, e-wallet and e-voucher usage, and the display of the latest news and marketing promotions. Many participants appreciated these e-services as they allowed them to effortlessly check room rates for specific dates or periods anytime and anywhere, enabling price comparisons with other service providers and informed decision-making for room reservations.

Participants also expressed that during their hotel stay, they enjoyed using various smart services within their rooms and while engaging in leisure activities at the hotel. Guests at MGM Cotai, Wynn Palace, Wynn Resorts Macau, Morpheus Hotel, Macau Roosevelt, Studio City Hotel, and Nüwa could use smart tablets or smart TVs to easily control different in-room amenities. Integrated resorts in Macau, such as Wynn Resort Macau, Wynn Palace, Studio City Hotel, Nüwa, MGM Cotai, and Morpheus Hotel, are complex establishments with diverse hospitality and gaming facilities. To help guests navigate these expansive premises, electronic directory boards are placed in various zones. These machines display floor maps on touchscreens and recommend the best routes to specific destinations.

Interestingly, the findings suggested that smart services were relatively underutilized during the check-in and check-out processes; these services were typically provided by hotel employees to maintain a personal touch. One participant stated:

"In terms of privacy and security, I prefer conventional service when checking into my room. When front desk agents handle the registration, they can perform a security check and verify identification through the presented ID card. If guests are allowed to scan their ID cards to complete the registration, I feel the hotel might be less secure." (P5)

Another participant shared the same viewpoint and added:

"Person-to-person contact creates a warm welcome that a cold machine simply cannot replicate. When I interact with human staff at the front desk, I can sense their enthusiasm and genuineness." (P8)

3.2. Perception and evaluation of smart services

Overall, most interviewees expressed positive feelings toward the use of smart services. Notably, younger interviewees were more welcoming and open to new technologies. Smart services enhanced their hotel stay by bringing joy and pleasure.

When asked to specifically describe their perception of smart hotels and their services, interviewees commonly used favorable words and phrases such as modern, cutting-edge, and efficient. They also associated smart services with simplicity, flexibility, diversity, and sustainability. For example, one participant shared his dining experience and stated:

"It is incredibly convenient to read the e-menu, check the prices of dishes, and place an order simply by scanning a QR code at a restaurant. Traditional paper menus generate waste every year. Many hotel restaurants are going green and becoming more environmentally friendly. Using electronic menus and sustainable ingredients aligns with their goals and helps enhance this image in the minds of customers!" (P2)

Just like with regular services, achieving zero mistakes is nearly impossible. A few participants expressed frustration due to technology errors in service delivery or unclear instructions for the next steps. Hotels need to develop a well-thought-out plan to effectively and efficiently address and recover from smart service failures.

4. Conclusion

This study delves into the smart services offered by luxury hotels in Macau, alongside the perceptions and evaluations of hotel guests. The findings indicate that the majority of hotel guests benefit from and appreciate smart services during room reservations and their stay,

owing to the convenience and personalization afforded by the technology. Only a small number of guests experience frustration when encountering technological issues. It is anticipated that technologies will continue to serve as a catalyst for the advancement and transformation of service operations and experiences. It is imperative for researchers and industry practitioners to further investigate methods for identifying and rectifying smart service failures, particularly when customers interact with technology independently at certain touchpoints. The interviewees in this study are millennials and Gen Z. To develop a more comprehensive understanding of hotel guests across different age groups, a potential research direction is to study Gen X and baby boomer guests and compare their perspectives with those of younger generations.

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Enhancing Tourist Experiences in Bangkok: A Case Study of Freshmen Students Applying Design Thinking (Paper#198)

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Abstract:

This paper presents a case study exploring how freshmen students from a Tourism and Service Innovation course used Design Thinking to address real-world problems such as safety, security, and transportation and develop solutions for tourists in Bangkok. As a result, this study highlights Design Thinking's effectiveness in promoting creativity and practical problem-solving among freshmen.

Keywords: Tourism, Design Thinking, Tourist Experience, Bangkok

1. Introduction

Bangkok, Thailand, is among the world's most popular tourist destinations, attracting millions of international visitors annually (MasterCard, 2019). In 2024, Bangkok was the world's top tourism city with 32.4 million international visitors according to Euromonitor International's Top 100 City Destinations Index 2024 (O'Hare, 2024). Tourism significantly contributes to Thailand's economy, accounting for approximately 20% of the nation's GDP and supporting millions of local jobs (Tourism Authority of Thailand, 2020; World Travel & Tourism Council [WTTC], 2021). Ensuring a positive visitor experience is crucial, yet tourists frequently face various difficulties, notably concerning safety, security, and comfort during their stay (Lew, 2014), which would negatively impact visitor satisfaction and overall tourism growth (Pizam & Mansfeld, 2006). Therefore, addressing these issues from tourism industry would benefit students who just entered Tourism program for the first year.

Brown (2018) and Dede (2010) pointed out that currently, educational institutes have integrated experiential learning methods such as Design Thinking to empower students to develop innovative solutions to real-world problems. This study investigates how freshmen students enrolled in a Tourism and Service Innovation class utilized Design Thinking processes to identify and creatively solve tourist-related problems in Bangkok.

During the semester, the instructor divided 55 students into 11 groups and assigned them to investigate tourists' experience and problems during their time in Bangkok. Each group selected one destination among various famous destinations in Bangkok and went there to empathize with both international and domestic tourists. Students collaboratively engaged in

brainstorming to identify tourists' pain points and defined the root problems using Point-Of-View and How-Might-We statements then ideate the solutions. After that, each group built their prototypes and test with their classmates to refine practical solutions.

This study not only illustrates innovative student-led solutions but also demonstrates the educational value and effectiveness of employing Design Thinking in tourism education (Gretzel & Jamal, 2009).

2. Literature Review

Design Thinking is a human-centered methodology that emphasizes empathy, creativity, and iterative prototyping in problem-solving (Brown & Wyatt, 2010). Originating in product design, it is increasingly applied within educational settings, especially in tourism and hospitality education. Previous research found that Design Thinking is an effective tool to foster student's creativity, critical thinking, and practical skills (Razzouk & Shute, 2012; Tussyadiah, 2014).

Several studies demonstrated successful applications of Design Thinking in tourism education and effectively addressing visitor experience issues (Carlgren et al., 2016; Stickdorn & Schneider, 2011). However, limited attention has been given to freshmen-level students, representing a notable gap this study seeks to address. By integrating theory with practical application, this research contributes to both tourism education and the broader discussion on innovative implications.

3. Methodology

This study involved 55 freshmen students enrolled in a Tourism and Service Innovation course at a university in Bangkok. The students were divided into 11 groups of five members each. During the semester every group engaged in the Design Thinking approach, which includes five phases namely empathize, define, ideate, prototype, and test (Stanford d.school, 2018).

Students gained empathy by interviewing with tourists and observing their behaviors at Bangkok's popular attractions such as China Town Yaowarat Road, Bangkok Art and Culture Center, Asiatique The Riverfront, and Chatuchak Park. Tourists were purposively selected based on their characters of "Extreme Users" specified by each group such as elder tourists, family with infants, or first time visitors, in order to focus on finding paint points from each extreme cases. Based on the data collected, each group discussed and written their Point-Of-View and How-Might-We statements to identify the root problems. The ideation phase involved brainstorming session facilitated by the instructor. The outcomes from each group were developed into prototypes and tested internally by their classmates due to logistical limitations. Feedbacks were given to each group by peers and the instructor using "I Like - I Wish - I Wonder" guidelines within the classroom.

4. Results

Through the Design Thinking process, students identified significant issues affecting tourists in Bangkok. For example, one group addressed crucial transportation problem where tourists got lost in the train station during their way to the destination. This group created a mobile application which provides directions inside the train stations and guides tourists to the correct platform or exit. Another group founded tourists' safety concerns at Chatuchak Park due to insufficient nighttime lighting. Students thus proposed a wearable light with an integrated SOS function available for tourists to borrow before entering the park and return at the exit. The other group tackled comfort issues caused by Bangkok's hot climate at Asiatique The Riverfront. This group designed a cooling water sprinkler system to be installed at Asiatique The Riverfront to enhance visitors' comfort during the hot days in Bangkok

Prototypes were tested by peers. Feedbacks were given to refine their ideas by classmates and the instructor for further improvement. Among the innovations, the wearable safety light device received the highest positive feedback, highlighting its practicality and innovation. This study demonstrated significant engagement and effective problem-solving by freshmen students.

5. Discussion and Implications

Findings indicated that freshmen students can effectively applied Design Thinking to address complex tourism-related challenges. This educational approach not only promoted student engagement but also encouraged creativity and innovation for real-world problem-solving. Students also demonstrated significant growth in understanding and identifying problems facing tourists in Bangkok. Although direct testing with tourists was limited, structured peer evaluations provided meaningful feedback, significantly enhancing prototype improvement.

In conclusion, this case study underscores the benefits of applying Design Thinking into freshmen-level tourism education. The innovative solutions developed demonstrate significant potential for young generation to improve the tourist experience in Bangkok. Future studies should include broader testing with actual tourists to validate the prototypes. Academic sectors are recommended to consider Design Thinking as a key strategy for integrating practical skills development into curricula.

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Designing an AI-Powered Interactive Menu for Personalised Culinary Experiences in Aotearoa (Paper#044)

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Abstract:

This working paper examines the potential of Artificial Intelligence (AI) to deliver Personalised Nutrition in Aotearoa's Hospitality sector. It presents a conceptual model linking AI-driven personalisation, operational efficiency, and regenerative tourism values to support guest wellbeing and sustainable hospitality practices in a culturally specific context.

Keywords: Artificial Intelligence, Personalised Nutrition, Hospitality, Regenerative Tourism, Guest Wellbeing, Aotearoa

1. Introduction

Food plays a critical role in human physical and mental health, providing not only the necessary energy for bodily functions but also promoting joy, friendship, and social connections. However, not all foods offer the same health benefits, as the human body processes different nutrients in varied ways. According to the World Health Organization (WHO), non-communicable diseases such as cardiovascular diseases and diabetes account for 71% of all global deaths, despite being largely preventable through effective interventions targeting unhealthy diets. This underscores the necessity for maintaining a well-balanced and nutritious diet (WHO, 2024).

The integration of Artificial Intelligence (AI) within the hospitality industry offers significant opportunities to enhance guest experiences through personalised culinary services that prioritise nutrition and wellbeing. As modern travellers increasingly seek health-conscious lifestyles, the demand for tailored meal options that meet specific dietary requirements and health goals has surged (Gami et al., 2024). AI-driven technologies enable the creation of personalised nutrition experiences by analysing guest preferences, dietary restrictions, and health data to provide tailored meal suggestions (Limketkai et al., 2021).

2. Literature Review

Aotearoa's culinary landscape is diverse, characterised by a blend of traditional Māori cuisine, Pacific influences, and contemporary gastronomy that embraces local and seasonal ingredients. The country has a strong farm-to-table culture, with an emphasis on sustainable and fresh produce, particularly seafood, lamb, and dairy products. Indigenous culinary practices play a significant role, with the traditional Māori hāngī (earth oven) technique offering a unique dining experience that reflects cultural heritage and the concept of manaakitanga (hospitality). The hāngī is often used for celebrations and special events, symbolising community, sharing, and respect for the land (Richardson, 2024). The hospitality sector leverages this culinary diversity to create unique guest experiences, offering menus that celebrate local ingredients and support Aotearoa's strong focus on sustainability. Hotels, restaurants, and event venues frequently showcase traditional dishes such as hāngī and modern fusion cuisine that highlights the country's vibrant food culture. There is also a growing trend towards health-conscious dining, with increasing demand for plant-based, gluten-free, and other specialised dietary options (Tourism New Zealand, 2024).

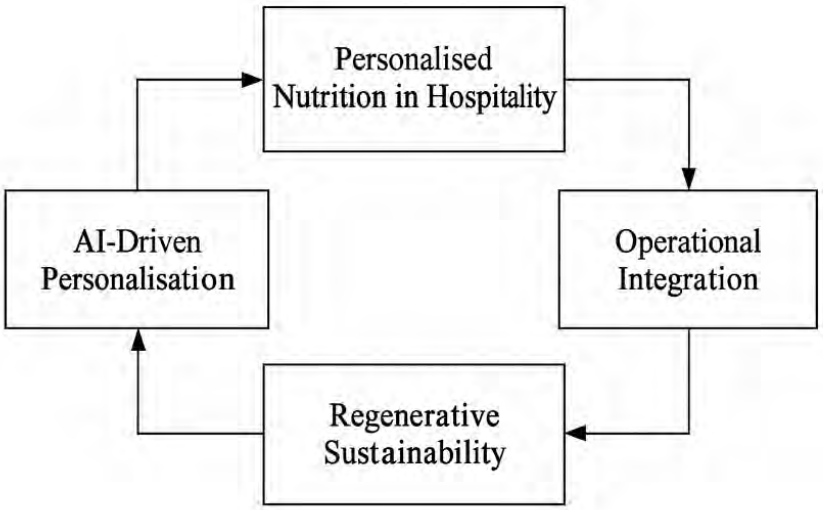
The development and application of AI in the hospitality industry have evolved rapidly, with technologies now supporting a range of functions from guest service automation to operational efficiency improvements. AI-driven systems are widely used for personalised marketing, predictive maintenance, and dynamic pricing strategies, enhancing both guest satisfaction and business performance (Wang, 2024). In culinary contexts, AI applications include smart kitchen management systems, automated food preparation, and data-driven menu engineering, which enable hospitality businesses to offer customised dining experiences while optimising kitchen operations (Prasad et al., 2025).

The research focuses on four primary dimensions: AI-driven personalisation of nutrition, operational benefits of AI in culinary management, the development of interactive digital menus, and broader impacts on sustainable hospitality practices (Prasad et al., 2025). By leveraging machine learning algorithms, predictive analytics, and data-driven insights, hospitality providers can analyse guest preferences, dietary restrictions, and health data to design bespoke meal options (Norfarah & Samsudin, 2024). Tools such as AI-powered menu planning systems, nutrition analysis software, and digital health apps facilitate accurate nutritional information provision, enabling guests to make informed food choices that align with their wellbeing objectives (Gami et al., 2024).

A unique aspect of this study is the proposed development of an interactive digital menu that incorporates AI-driven personalisation. This menu will allow guests to filter menu items by dietary preferences, display detailed nutritional information, and offer tailored meal suggestions based on individual health data. The use of AI for personalised nutrition is not only seen in hospitality but also in clinical settings where digital technology helps monitor diet intake and provide real-time nutrition feedback (Limketkai et al., 2021). An example of such technology is the EU-funded project "PROTEIN–personalized nutrition for healthy living," which uses AI to generate personalised meal plans considering user profiles, expert nutrition recommendations, and a curated database of meal options (Stefanidis et al., 2022).

This paper proposes a conceptual model (Figure 1) for understanding how AI-driven personalised nutrition might support wellbeing-focused and regenerative hospitality practices in Aotearoa.

Figure 1. Research framework



3. Methodology

This research employs a mixed-methods approach to comprehensively explore the impact of AI-powered personalised nutrition on guest experiences and hospitality operations in Aotearoa. The methodology is designed to examine both user experience and organisational implementation across a range of hospitality contexts. The quantitative component will involve surveys with guests who use the interactive digital menu. The survey will measure satisfaction levels, ease of use, and the influence of personalised nutrition information on dining choices. Nutritional outcomes, including self-reported adherence to dietary recommendations and perceived meal quality, will also be analysed.

The qualitative component consists of in-depth interviews with hospitality professionals and chefs to gain insights into operational efficiencies, challenges, and best practices related to AI integration. These interviews will explore how AI technologies affect kitchen workflows, staff training, and ethical considerations such as privacy and data security. Additionally, case studies of Aotearoa-based hospitality businesses that have adopted AI-driven menu systems will be conducted to document implementation processes and evaluate effectiveness in real-world settings.

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Parental perceptions of event implementation and the effectiveness of activities for reducing school meal food waste in Chungcheongbuk-do, South Korea (Paper#136)

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Abstract:

This study examined parental perceptions of food waste reduction events and activities in school meals. An online survey in November 2024 revealed that parents were generally unaware of such events. However, they recognized the effectiveness of activities like meal plans that consider student preferences in reducing food waste.

Keywords: Parent, School meals, Food waste reduction, Sustainability

1. Introduction

Reducing food waste in school meals is a crucial activity for promoting a sustainable dietary lifestyle. Since parents influence students' dietary behaviors, their interest in and guidance on food waste reduction in school meals can play a substantial role in enhancing its effectiveness. Furthermore, identifying the effectiveness of various food waste reduction activities is essential for prioritizing and implementing the most impactful initiatives. This study aimed to investigate parental perceptions of events and activities designed to reduce food waste in school meals in Chungcheongbuk-do, South Korea.

2. Literature Review

2.1. Parents' influence on children's dietary behaviors

Parents' perceptions of dietary issues play a crucial role in shaping their children's dietary behaviors. Research has shown that parents significantly influence their children's dietary behaviors by modeling dietary beliefs and behaviors (Lazarou, Kalavana, & Matalas, 2008). Furthermore, parental dietary behaviors affect children's dietary behaviors, with this influence being mediated through changes in the home food environment (Larsen et al., 2015).

2.2. Status of events and activities to reduce school meal food waste

In South Korea, school meal programs implement various events, such as implementing 'No Leftovers Day' and 'Plant-Based Diet Day,' as well as other activities aimed at reducing food waste. According to a study by Choi and Lee (2019), many schools were implementing activities to reduce food waste in school meals, such as implementing 'No Leftovers Day', sending school newsletters about food waste reduction activities to students and family, decreasing soup portion, teaching students on food waste reduction, and providing incentives to classes with low amount of plate waste. In addition, most school meal programs implement a 'Plant-Based Diet Day' once or twice a month (Yu, 2023). A plant-based diet is suitable for addressing the climate crisis because it has lower carbon emissions and requires less land compared to meat (Rémésy & Fardet, 2015).

3. Methodology

3.1. Measurement

An online survey was conducted in November 2024 among parents of students attending three schools—one elementary, one middle, and one high school—located in Chungcheongbuk-do. Parents of students in the selected classes received access links and QR codes via official documents. The survey included questions on parental awareness of 'No Leftovers Day' and 'Plant-Based Diet Day,' perceptions of the effectiveness of various food waste reduction activities in school meals, and general demographic information.

3.2. Data collection

A convenience sample of one class per school was chosen with the cooperation of the Chungcheongbuk-do Office of Education. A total of 101 responses were collected (37 from elementary school parents and 64 from middle and high school parents) and used for the final analysis.

3.3. Statistical analyses

The data were analyzed by dividing the participants into two groups: elementary school parents and middle/high school parents. Statistical analyses were performed using SPSS (version 27.0, SPSS Inc., Chicago, IL, USA). Differences in distribution were determined using Fisher's exact test, and mean differences were analyzed using t-tests. Statistical significance was set at $\alpha < 0.05$.

4. Results

4.1. Profile of the respondents

Among the surveyed parents, 90.1% were female. The majority (80.2%) were between 40 and 49 years old, followed by those aged 30–39 (9.9%) and 50–59 (9.9%) (Table 1). The age of elementary school parents was significantly lower than that of middle and high school parents ($p = 0.008$). The gender distribution of the students was nearly equal, with 50.5% being female and 49.5% being male.

Table 1. General characteristics of responded parents

Classification	Total (n = 101)	Elementary school (n = 37)	Middle and high school (n = 64)	*p*
		n (%)		
Gender				
Male	10 (9.9)	4 (10.8)	6 (9.4)	1.000
Female	91 (90.1)	33 (89.2)	58 (90.6)	
Age (years)				
30~39	10 (9.9)	8 (21.6)	2 (3.1)	0.008**
40~49	81 (80.2)	27 (73.0)	54 (84.4)	
50~59	10 (9.9)	2 (5.4)	8 (12.5)	
Gender of students				
Male	50 (49.5)	19 (51.4)	31 (48.4)	0.838
Female	51 (50.5)	18 (48.6)	33 (51.6)	

Note. P-value by Fisher's exact test.
**p < .005.

4.2. Results of the analysis of awareness status for the implemented events

Parental awareness of the implementation of 'No Leftovers Day' as part of events to reduce food waste in school meals is shown in Table 2. Regarding awareness of the 'No Leftovers Day' event, approximately one-third (27.7%) of parents reported that they were 'did not know at all' or 'did not know' about its implementation. Meanwhile, 45.6% of parents recognized that the event was highly or somewhat beneficial for improving dietary habits. The most preferred frequency for implementing " No Leftovers Day " was once a week (44.6%), while 6.9% of respondents considered it unnecessary.

Parental awareness of the implementation of 'Plant-Based Diet Day' as part of events to reduce food waste in school meals is shown in Table 3. For the 'Plant-Based Diet Day' event, more than half of the parents (54.5%) were either 'did not know at all' or 'did not know' of its implementation. Only 15.9% of parents perceived it as highly or somewhat effective in reducing food waste. The most preferred frequency for 'Plant-based Diet Day' was once a month (44.6%), while 13.9% of respondents considered it unnecessary.

Table 2. Parental awareness of the implementation of 'No Leftovers Day' as part of events to reduce food waste in school meals

Classification	Total (n = 101)	Elementary school (n = 37)	Middle and high school (n = 64)	*p*
	n (%)			
Awareness of the event				
Did not know at all	7 (6.9)	4 (10.8)	3 (4.7)	
Did not know	22 (20.8)	6 (16.2)	16 (25.0)	
Neutral	21 (21.8)	11 (29.7)	10 (15.6)	0.131
Knew well	33 (32.7)	8 (21.6)	25 (39.1)	
Knew very well	18 (17.8)	8 (21.6)	10 (15.6)	
Benefits of improving dietary habits				
Strongly disagree	5 (5.0)	1 (2.7)	4 (6.3)	
Disagree	19 (18.8)	5 (13.5)	14 (21.9)	
Neutral	31 (30.7)	13 (35.1)	18 (28.1)	0.599
Agree	32 (31.7)	11 (29.7)	21 (32.8)	
Strongly agree	14 (13.9)	7 (18.9)	7 (10.9)	
Frequency of preferred implementation				
Once a day	8 (7.9)	1 (2.7)	7 (10.9)	
Twice a week	18 (17.8)	7 (18.9)	11 (17.2)	
Once a week	45 (44.6)	16 (43.2)	29 (45.3)	0.508
Once a month	23 (22.8)	11 (29.7)	12 (18.8)	
Not needed	7 (6.9)	2 (5.4)	5 (7.8)	

Note. P-value by Fisher's exact test.

Table 3. Parental awareness of the implementation of 'Plant-Based Diet Day' as part of events to reduce food waste in school meals

Classification	Total (n = 101)	Elementary school (n = 37)	Middle and high school (n = 64)	*p*
	n (%)			
Awareness of the event				
Did not know at all	23 (22.8)	10 (27.0)	13 (20.3)	
Did not know	32 (31.7)	10 (27.0)	22 (34.4)	
Neutral	25 (24.8)	9 (24.3)	16 (25.0)	0.449
Knew well	15 (14.9)	4 (10.8)	11 (17.2)	
Knew very well	6 (5.9)	4 (10.8)	2 (3.1)	

Classification	Total (n = 101)	Elementary school (n = 37)	Middle and high school (n = 64)	*p*
	n (%)			
Effectiveness of food waste reduction				
Strongly disagree	19 (18.8)	7 (18.9)	12 (18.8)	
Disagree	26 (25.7)	11 (29.7)	15 (23.4)	
Neutral	36 (35.6)	11 (29.7)	25 (39.1)	0.699
Agree	15 (14.9)	5 (13.5)	10 (15.6)	
Strongly agree	5 (5.0)	3 (8.1)	2 (3.1)	
Frequency of preferred implementation				
Once a week	31 (30.7)	11 (29.7)	20 (31.3)	
Once a month	45 (44.6)	15 (40.5)	30 (46.9)	
Once a semester	8 (7.9)	5 (13.5)	3 (4.7)	0.636
Once a year	3 (3.0)	1 (2.7)	2 (3.1)	
Not needed	14 (13.9)	5 (13.5)	9 (14.1)	

Note. P-value by Fisher's exact test.

4.3. Results of the analysis of parental awareness regarding the effectiveness of activities to reduce food waste in school meals

Parental awareness of the effectiveness of activities to reduce food waste in school meals is shown in Table 4. Among various food waste reduction activities in school meals, the most highly rated in terms of effectiveness was 'providing meal plans and cooking methods that reflect student preferences' (4.50 out of 5.00). Other highly rated activities included 'food waste reduction campaigns and reward programs' (4.43), 'implementing No Leftovers Day' (4.38), 'integrating home-based dietary education' (4.34), 'cooperation among school community members' (4.34). 'accurate portioning for each student' (4.32), 'linking school curriculum with school meal programs' (4.31), 'friendly attitude of food service staff' (4.26), and 'self-service meal distribution' (4.14). There were no significant differences between elementary and middle/high school parents in their perceptions of the effectiveness of these activities.

Table 4. Parental awareness of the effectiveness of activities to reduce food waste in school meals

Classification	Total (n = 101)	Elementary school (n = 37)	Middle and high school (n = 64)	*p*
	M (SD)			
Providing meal plans and cooking methods that reflect student preferences	4.50 (0.50)	4.43 (0.50)	4.55 (0.50)	0.272
Accurate portioning for each student	4.32 (0.94)	4.49 (0.65)	4.22 (1.06)	0.168

Classification	Total (n = 101)	Elementary school (n = 37)	Middle and high school (n = 64)	*p*
		M (SD)		
Self-service meal distribution	4.14 (0.98)	4.03 (1.09)	4.20 (0.91)	0.387
Implementing No Leftovers Day	4.38 (0.77)	4.38 (0.64)	4.38 (0.85)	0.983
Friendly attitude of food service staff'	4.26 (0.92)	4.24 (0.83)	4.27 (0.98)	0.907
Linking school curriculum with school meal programs	4.31 (0.80)	4.24 (0.72)	4.34 (0.84)	0.544
Integrating home-based dietary education	4.34 (0.80)	4.43 (0.65)	4.28 (0.88)	0.365
Food waste reduction campaigns and reward programs	4.43 (0.65)	4.46 (0.65)	4.41 (0.66)	0.695
Cooperation among school community members	4.34 (0.91)	4.32 (0.75)	4.34 (1.00)	0.918

Note. P-value by t-test. 5-point scale (1: not effective at all ~ 5: very effective).

5. Discussion and Implications

5.1. Discussion

Most school meal programs in South Korea implement a 'No Leftovers Day' once a week (Yoon, Song, & Lee, 2014) and a 'Plant-Based Diet Day' once or twice a month (Yu, 2023). However, this study found that parents had a low level of awareness regarding the implementation of 'No Leftovers Day' and 'Plant-Based Diet Day' as part of food waste reduction events in school meals. Increasing parents' interest in such events could contribute to greater students' participation in food waste reduction events.

Parents perceived that the most effective activity for reducing food waste in school meals was 'providing meal plans and cooking methods that reflect students' preferences.' In a study by Choi and Lee (2019) targeting nutrition teachers or school dietitians, the highest priorities for reducing food waste were improving students' awareness of environmental protection, teachers' mealtime guidance, education on appropriate portion sizes, and menu improvements utilizing various cooking methods. This indicates a difference in perception between parents and nutrition teachers or school dietitians. However, both groups recognized that providing meal plans and cooking methods that reflect students' preferences is an effective strategy for reducing food waste.

Reducing food waste in school meals is a crucial step for lowering carbon emissions and promoting a sustainable dietary lifestyle. Therefore, it is necessary to develop policy measures that ensure the provision of meal plans and cooking methods that reflect students' preferences.

5.2. Academic and practical implications

Overall, parents in Chungcheongbuk-do were not well informed about food waste reduction events implemented in school meals. To enhance parental awareness, schools should actively promote and educate parents about these initiatives, facilitating better guidance at home. Parents recognized the high effectiveness of various food waste reduction activities, particularly the strategy of providing meal plans that consider students' preferences. Therefore, schools should prioritize and focus on implementing highly effective activities. These efforts are expected to contribute to the advancement of sustainable school meal programs.

5.3. Limitations of this study and suggestions for future research

This study is limited in that it was conducted only in Chungcheongbuk-do and involved a relatively small sample size. However, to date, no studies have explicitly investigated parents' awareness of reducing food waste in school meals. The significance of this study lies in identifying the current level of parental awareness regarding school meal food waste reduction events and activities, highlighting the need for efforts to raise awareness among parents. Future research should be conducted on a national scale with a larger sample size.

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Can social media induce gastronomic tourists to sustainable consumption? (Paper#180)

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Abstract:

This paper assesses the impacts of social media-induced gastronomic tourists on sustainable consumption behavior. The results from 936 international tourists revealed that social media influencers-induced gastronomic tourists impacted sustainable perceptions and sustainable consumption behavior. Interestingly, the results of this study determine the guidelines of influencer marketing applications to facilitate tourists' sustainable consumption behaviors through social media-induced gastronomic tourism, which is highly beneficial to tourism destination management organizations in achieving UNSDGs 8 and 12.

Keywords: Social media influencers, Sustainable consumption behavior, Perception of sustain-ability

The Relationships between Occupational Stigma, Career Commitment, and Quiet Quitting of Frontline Employees in the Context of the Hotel Industry (Paper#089)

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Abstract:

This study aims to discuss and examine the relationships between occupational stigma, career commitment, and quiet quitting of frontline employees in the context of the hotel industry. A structured questionnaire and convenience sampling were used to collect data. A total of 121 valid questionnaires were obtained finally. The results of this study indicate that occupational stigma negatively affects career commitment and positively affects quiet quitting. Furthermore, career commitment negatively affects quiet quitting. This study also provides management implications and suggestions for future research directions.

Keywords: Occupational Stigma, Career Commitment, Quiet Quitting, Hotel, Frontline Employee

1. Introduction

Stigma is a social construct shaped by society. The labels linked to stigma vary based on societal norms, and the attributes, behaviors, or groups that are stigmatized can evolve over time and differ across various social contexts (Major & O'Brien, 2005). The study of stigma has its roots in Erving Goffman's influential work, "Stigma: Notes on the Management of Spoiled Identity" (1963), which has inspired a considerable amount of subsequent research (Bos et al., 2013; Pescosolido & Martin, 2015; Tyler & Slater, 2018). Goffman (1963) defined stigma as a deeply discrediting characteristic that causes an individual to be seen not as a whole and typical person but rather as tainted or inadequate.

Despite the extensive research on stigma related to gender, ethnicity, medical care, and crime, there remains a significant gap in studies focusing on stigma within the tourism and hospitality sector. Early research on stigma in tourism and hospitality was primarily conducted from anthropological, ethnographic, and medical perspectives and was published in academic journals outside of these fields (e.g., Brennan, 2004; Colocousis, 2012; Mason, 2014). A review of the literature on stigma within the tourism and hospitality sector indicates that the first study was conducted by Wildes (2005). This study explored how the awareness of stigma among catering service staff influences their intentions to stay in their jobs and to recommend others for employment. In a subsequent study, Wildes (2007) further examined how internal service quality impacts the relationship between the occupational stigma experienced by catering

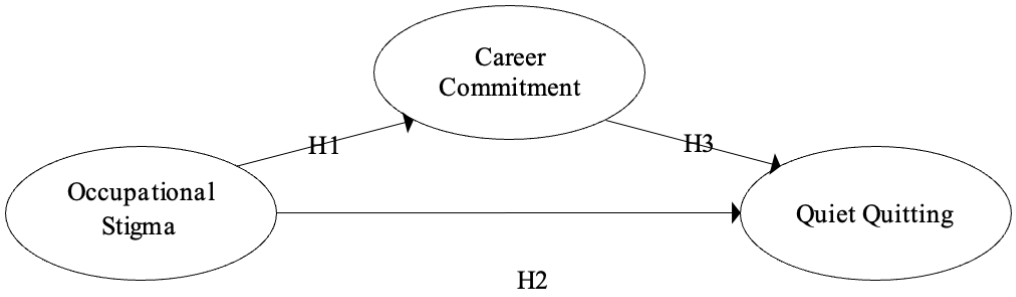
service staff and their behavioral intentions, including retention and referral. Moufakkir (2015) conducted interviews with Moroccan tourists visiting Amsterdam, Netherlands, to explore the impact of stigma on their travel experiences in Europe. Shigihara (2018) employed ethnographic fieldwork and in-depth interviews to examine how restaurant employees cope with their feelings of occupational stigma.

During this period, research associated with stigma remained limited. It is possible that stigma has gained attention because findings from other fields are increasingly being taken seriously within the tourism and hospitality industry. The concept of stigma can effectively illuminate various phenomena within the tourism and hospitality sectors, leading to a significant increase in published research on the topic (e.g., Gajić et al., 2022; Kusluvan et al., 2022; Li et al., 2020; Li et al., 2021; Lv et al., 2023; Mejia et al., 2021; Moufakkir, 2020; Wang et al., 2020; Wen et al., 2022; Xiang et al., 2022; Xu et al., 2023). Research on stigma in the tourism and hospitality sectors has revealed limited studies specifically focused on the occupational stigma frontline employees in the hotel industry face. Career commitment is a key variable in the context of organizational behavior (Blau et al., 1993). In addition, quiet quitting is gaining increasing attention from academia and industry (Galanis et al., 2023). This study aims to discuss and examine the relationships between occupational stigma, career commitment, and quiet quitting of frontline employees in the context of the hotel industry.

3. Methodology

The research framework is depicted in Figure 1. Perceived occupational stigma was measured using a 5-item scale from Schaubroeck et al. (2018). Career commitment was assessed using the career commitment subscale from the general index of work commitment developed by Blau et al. (1993), which contains 11 items. Quiet quitting was evaluated using the quiet quitting scale (QQS) proposed by Galanis et al. (2023). This scale includes three components: detachment, lack of initiative, and lack of motivation, with 4, 3, and 3 items, respectively. These measurements relied on a five-point Likert scale, ranging from "strongly disagree" to "strongly agree." Our respondents were frontline employees in the hotel industry in Taiwan. A structured questionnaire and convenience sampling were used to collect data.

Figure 1. Theoretical Framework



4. Results

A total of 121 valid questionnaires were collected for this study. Of the respondents, the majority were female (n=83, 68.60%) and held a college or university degree (n=98, 80.99%). Partial least square structural equation modeling was used to test our theoretical framework. The findings indicate that occupational stigma significantly and negatively impacts career commitment (β=-0.382, p<0.05) and significantly and positively affects quiet quitting (β=0.402, p<0.05). Additionally, career commitment (β=-0.508, p<0.05) is shown to have negative effects on quiet quitting. Occupational stigma can also indirectly influence quiet quitting by affecting career commitment (β=0.194, p<0.05). This study also provides management implications and suggestions for future research directions.

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The Role of Lifestyle Segmentation in Consumer Decision Making on Food, Restaurants and Travel Choices (Paper#061)

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Abstract:

This study examines how lifestyle-based consumer segmentation influences food, restaurant and travel choices. Factor analysis identified seven lifestyle factors, and cluster analysis segmented consumers into seven groups. The findings provide insights to restaurants, food or travel businesses to develop targeted marketing strategies based on consumers' lifestyles.

Keywords: Consumer behavior, Lifestyle, Cluster analysis



Theme: Sustainability and Market Factors in Hospitality and Tourism

The Effects of Gluten-Free Bakery Product Attributes on Perceived Value and Repetitive Purchase Behavior (Paper#135)

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Abstract:

This study investigates the impact of gluten-free bakery product attributes on perceived value and repetitive purchase behavior using a mixed-method approach. A qualitative study was first conducted to derive sub-factors of gluten-free bakery product attributes through in-depth interviews with consumers who had experience purchasing gluten-free bakery products. Subsequently, a quantitative study was performed to examine the relationships between these product attributes, perceived value, and repetitive purchase behavior. The survey data collected from 323 valid responses were analyzed using exploratory factor analysis (EFA), reliability analysis, correlation analysis, and multiple regression analysis.

The results of the quantitative analysis redefined the five qualitative categories into Health Trustworthiness, Sensory Diversity, Taste Trustworthiness, Nutritional Adjustability, and Differentiation. Multiple regression analysis revealed that Taste Trustworthiness, Health Trustworthiness, Differentiation, and Nutritional Adjustability had a significant impact on Functional Value, whereas Sensory Diversity did not. Nutritional Adjustability, Taste Trustworthiness, and Sensory Diversity significantly influenced Social Value, while Health Trustworthiness and Differentiation did not. Furthermore, Functional Value had a greater impact on Repetitive Purchase Behavior than Social Value, suggesting that consumers prioritize product quality, freshness, and taste over social aspects when making purchasing decisions.

This study provides both academic and practical implications. Academically, it contributes to consumer research in the bakery and gluten-free industries by applying a sequential exploratory mixed-method approach, offering a theoretical foundation for future studies on gluten-free bakery product attributes and consumer behavior. Practically, it highlights key product attributes—taste, health benefits, and differentiation—that influence consumer trust and purchasing behavior. It suggests that bakery businesses should focus on functional benefits (e.g., product quality and price-value ratio) rather than social value to enhance long-term consumer engagement.

Despite its contributions, this study has some limitations. The research was conducted in Seoul and Gyeonggi Province, which may not fully represent nationwide or international market trends. Future studies should expand the geographical scope or conduct cross-cultural comparisons to provide broader insights. Additionally, the study focused on consumers with prior purchasing experience; further research should include potential consumers to better understand non-buyers' perceptions and barriers to purchasing gluten-free bakery products. Lastly, future research should incorporate variables such as consumer attitudes, price sensitivity, and dietary lifestyles to enhance the understanding of consumer preferences and behavior in the gluten-free bakery market.

However, the study has limitations. It was conducted in Seoul and Gyeonggi Province, limiting its generalizability to broader markets. Additionally, it focused on consumers with prior purchasing experience, excluding potential consumers who may have different perceptions and barriers. Future research should expand geographical scope, analyze non-buyers, and incorporate factors such as consumer attitudes, price sensitivity, and dietary lifestyles to gain deeper insights into consumer behavior in the gluten-free bakery market.

Keywords: Gluten-free bakery, Perceived value, Repetitive purchase behavior

1. Introduction

As the dietary lifestyle of the Korean people becomes more simplified and Westernized, the consumption of grains including rice is decreasing, while the consumption of wheat is on the rise (Lim, 2023). The majority of people experience digestive discomfort after consuming wheat-based foods, which may suggest a high prevalence of celiac disease or gluten intolerance (Hahm et al., 2019). With the recent rise in health awareness, not only individuals with celiac disease but also general consumers are actively consuming gluten-free foods for weight loss and other health benefits. Gluten-free diets are known to offer various health advantages, such as increased energy levels, improved digestion, and alleviation of symptoms related to digestive disorders including lactose intolerance (aT Korea Agro-Fisheries & Food Trade Corporation, 2022). As the gluten-free trend continues, the bakery market has seen a growing number of products made with plant-based ingredients. These plant-based breads are rich in dietary fiber and offer the added benefit of being suitable for consumers with gluten allergies (aT Food Information Statistics System, 2022).

Despite the continuous growth of the gluten-free market and the bakery industry, prior domestic research has predominantly focused on the culinary science aspects of bakery products using gluten-free ingredients. In contrast, there is a lack of quantitative research addressing consumer perspectives on gluten-free bakery products.

This study aims to identify the sub-factors of product attributes in gluten-free bakeries and to examine the effects of these attributes on perceived value and repetitive purchase behavior. Through a mixed-methods approach, this study seeks to provide in-depth insights into gluten-free bakery product attributes, offering foundational data for the expanding gluten-free market and practical implications for product development and marketing strategies within the bakery industry.

2. Literature Review

2.1. Gluten-Free Bakery

Gluten is a type of insoluble protein that is formed by the combination of glutenin and gliadin, which are found in wheat, barley, and oats. It is not soluble in water and does not dissolve easily (Biesiekierski, 2017).

Gluten can cause digestive disorders such as diarrhea or abdominal pain in individuals with certain sensitivities, posing a particularly dangerous allergic risk for those with celiac disease. Celiac disease is a hereditary allergic disorder of the digestive system characterized by chronic digestive disturbances caused by sensitivity to gluten, wherein gluten proteins attack the lining of the small intestine, triggering an antibody response in the body. Damage to the intestinal lining can impair the absorption of essential nutrients, potentially leading to conditions such as anemia and osteoporosis, as well as serious complications like diabetes, autoimmune thyroid disorders, and small intestine cancer (U.S. Food and Drug Administration, 2023).

Gluten-free foods are products specifically developed for certain consumers, such as individuals who have sensitivities to gluten or those suffering from celiac disease, which is characterized by the absence of enzymes required for gluten digestion (Gallagher, 2009).

The higher the awareness and the more positive the attitude toward gluten-free foods, the greater the interest in a healthy diet, the more frequent the experience of digestive issues after consuming gluten-containing foods, and the more experience with dietary control for weight management, the higher the purchase intention for gluten-free foods (Jin & Kim, 2015). The global market size of gluten-free food by category shows that bakery products account for the highest proportion at 38.3%, followed by cereals (31.1%), confectionery (10.5%), convenience foods (9.6%), pasta (7.1%), and baby food (3.4%). Notably, bakery products are expected to have the highest annual growth rate of 10.5% (aT Korea Agro-Fisheries & Food Trade Corporation, 2022).

According to Kim (2015), in a study on consumer awareness of the rice bakery, the most common reason for purchasing rice bread was “because it is nutritious”, accounting for 38.5%.

2.2. Product Attributes

Product attributes can be expressed as unique characteristics or levels based on the product itself, and the components of a product are key factors influencing consumers' choices and purchase decisions (Jung, 2019).

Ha (2022) defined gluten-free bakery products as a type of functional bakery product and classified their attributes into taste, price, health orientation, and diversity.

2.3. Repetitve Purchase Behavior

Lee (2015) stated that purchasing behavior can be broadly classified into short-term transactional purchases and continuous purchases, the latter of which can lead to repeat purchases or customer loyalty.

Ha (2022) defined continuous purchase intention as the extent to which consumers prioritize a sustainable intention to repurchase even after making a purchase, considering it a key factor in purchasing decisions while maintaining a long-term relationship with the consumer.

2.4. Prior Studies

The relationship between gluten-free bakery product attributes and perceived value is as follows: Among the selection attributes of functional bakery products, product characteristics had a significant effect on perceived value (Kim, 2012). In addition, among the functional product attributes of bakery specialty stores, healthiness, quality, and variety significantly influenced functional value, whereas originality did not show a significant effect (Lee, 2023).

The relationship between gluten-free bakery product attributes and repetitive purchase behavior is as follows: Taste, price, and health orientation among the functional product attributes of bakery products were found to have a significant effect on repurchase intention, whereas variety did not show a significant effect (Ha, 2022). In addition, quality, healthiness, and originality among the functional product attributes of bakery specialty stores significantly influenced continuous purchase behavior, while variety did not have a significant effect (Lee, 2023). Among the attributes of organic bakery products, health safety, environmental friendliness, and taste significantly affected repurchase intention, whereas product quality and accessibility were found to have no significant effect (Lee, 2023).

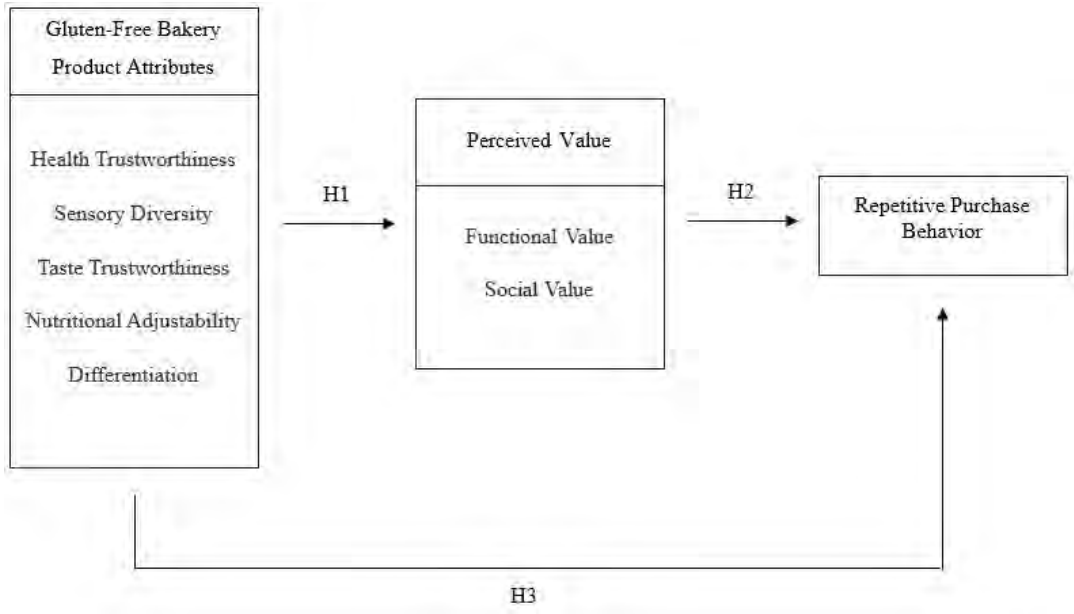
The relationship between perceived value and repetitive purchase behavior is as follows: Among personal consumption values of consumers who purchase gluten-free processed foods, functional and emotional values had a positive effect on attitude, which in turn positively influenced purchase intention (Jeong et al., 2017). The purchasing motivation for rice-based bakery products was found to significantly influence purchasing behavior through perceived value, in the order of quality value and functional value (Lim, 2018). Perceived value based on the functional product attributes of bakery specialty stores was classified into functional and emotional values, both of which had a significant effect on continuous purchase behavior (Lee, 2023).

Despite the growing interest in gluten-free products and the expansion of the market, existing studies have primarily focused on functional or organic bakery products, and quantitative research specifically targeting gluten-free bakery products remains highly limited. Moreover, most prior research has not quantitatively analyzed the structural relationships between product attributes, perceived value, and continuous purchase behavior, but has instead been confined to culinary science aspects or health-oriented consumer attitudes. In particular, empirical studies exploring how consumers perceive the attributes of gluten-free bakery products and how such perceptions influence perceived value and continuous purchase behavior are notably lacking. Accordingly, this study aims to address this research gap by identifying the sub-factors of gluten-free bakery product attributes and examining their effects on perceived value and continuous purchase behavior through a mixed-methods approach.

2.5. Conceptual Framework

The conceptual framework of this study is presented in Figure 1.

Figure 1. Conceptual framework of the effects of gluten-free bakery product attributes on perceived value and repetitive purchase behavior



3. Methodology

This study employed a mixed-methods approach, combining qualitative and quantitative research methods to provide a comprehensive understanding of consumer perceptions and behavioral patterns toward gluten-free bakery products. Qualitative research was applied in the exploratory phase to identify sub-factors of gluten-free bakery product attributes, and quantitative research was subsequently conducted to test the hypothesized relationships among product attributes, perceived value, and repetitive purchase behavior.

3.1. Measurement

First, the qualitative research methods are as follows: To gain insights into consumer perceptions and preferences regarding gluten-free bakery products, in-depth interviews were conducted with consumers who had purchased gluten-free bakery products. The in-depth interview questions designed to identify the product attribute factors of gluten-free bakeries were developed with reference to the previous studies of Jin and Kim (2015) and Lim (2019).

The interview questions were as follows: "What image comes to mind when you think of bakery products made with gluten-free ingredients?", "What is your perception of using gluten-free ingredients?", "Why do you think gluten-free products are considered important in the bakery industry?", "Are you willing to continue purchasing gluten-free bakery products?". The collected qualitative data were then transcribed and coded using the MAXQDA software program for systematic analysis. Based on the qualitative findings, sub-factors of product attributes were identified and categorized to establish a foundation for subsequent quantitative research.

Second, the quantitative research methods are as follows: Based on the sub-factors of gluten-free bakery product attributes derived from the qualitative phase and previous studies on bakery products, a structured survey was developed using a 5-point Likert scale. The collected survey data were utilized for empirical analysis using the SPSS 22.0 statistical program. Frequency analysis was conducted to examine the demographic characteristics of the sample, and exploratory factor analysis (EFA) was performed to verify the validity of the variables. The five categories derived from the qualitative research—Healthy, Diverse, Tasty, Diet, and Unique—were renamed based on the results of exploratory factor analysis in the quantitative research as "Health Trustworthiness," "Sensory Diversity," "Taste Trustworthiness," "Nutrition Adjustability," and "Differentiation," respectively. Additionally, the reliability of the measurement items was assessed using Cronbach's Alpha and correlation analysis was conducted to examine the relationships between variables. Multiple regression analysis was performed to analyze the impact of gluten-free bakery product attributes on perceived value. Furthermore, simple regression analysis was conducted to examine the effect of perceived value on repetitive purchase behavior.

3.2. Data collection

First, the data collection procedure for the qualitative study was as follows: the participants consisted of nine consumers in their 20s to 60s and older who had experience purchasing gluten-free bakery products in the Seoul and Gyeonggi regions. One-on-one in-depth interviews were conducted using a semi-structured format. Interviews were carried out until data saturation was reached, and the data collection took place from June 1 to June 5, 2024. All interview sessions were audio-recorded for documentation and analysis purposes.

Second, the data collection procedure for the quantitative study was as follows: the survey targeted consumers in their 20s to 60s and older who had experience purchasing gluten-free bakery products in the Seoul and Gyeonggi regions. The survey was administered using the online survey platform Embrain.

A preliminary survey was conducted from July 1 to July 3, 2024, and a total of 50 responses were collected. The main survey was conducted from July 8 to July 15, 2024, during which 300 responses were gathered. After excluding 27 responses deemed invalid, a final dataset of 323 valid responses was used for empirical analysis.

4. Results

4.1. Profile of the respondents

The demographic characteristics of the study participants are as follows: The gender distribution of the sample group consisted of 34.7% males and 65.3% females, indicating a higher proportion of females than males. In terms of age, 30.7% of participants were in their 20s, 21.1% were in their 30s, 15.4% were in their 40s, 17.0% were in their 50s, and 15.8% were 60 years or older. Regarding marital status, 51.4% of participants were single, while 48.6% were married. The highest proportion of respondents had a monthly average income of 2 million to less than 3 million KRW 27.0%, whereas the lowest proportion was in the 4 million to less than 5 million KRW category 10.5%.

4.2. Results of analysis

The results of the multiple regression analysis conducted to examine whether the product attributes of gluten-free bakeries have a significant impact on the functional value of perceived value are as follows: The regression model was statistically significant ($F = 94.102$, $p < .001$), with an explanatory power of $R^2 = 59.7\%$ (Adjusted $R^2 = 59.1\%$). The Durbin-Watson statistic was 2.016, indicating that the model was appropriate, as the value was close to 2. Taste Trustworthiness, Health Trustworthiness, Differentiation, and Nutritional Adjustability were found to have a significant impact on functional value in order, whereas Sensory Diversity did not show a significant effect. Based on the standardized coefficients, Taste Trustworthiness ($\beta = .387$), Health Trustworthiness ($\beta = .235$), Differentiation ($\beta = .221$), and Nutrition Adjustability ($\beta = .088$) were found to have the greatest influence on functional value, in that order.

Table 1. The Impact of Gluten-Free Bakery Product Attributes on Functional Value

	Unstandardized Coefficients		Standardized Coefficients	t	p	Collinearity Statistics	
	B	S.E.	β			Tolerance	VIF
(Constant)	.020	.183		.110	.913		
Health Trustworthiness	.271	.049	.235	5.479	p < .001***	.690	1.448
Sensory Diversity	.091	.051	.087	1.775	.077	.523	1.911
Taste Trustworthiness	.351	.042	.387	8.276	p < .001***	.582	1.718
Nutrition Adjustability	.062	.029	.088	2.125	.034*	.747	1.339
Differentiation	.234	.049	.221	4.814	p < .001***	.603	1.659

Note. R=.773, R^2=.597, Adjusted R^2=.591, F=94.102, p < .001, Durbin-Watson =2.016
*p<.05, ***p<.001

The results of the multiple regression analysis conducted to examine whether the product attributes of gluten-free bakeries have a significant impact on the social value of perceived value are as follows: The regression model was statistically significant (F = 27.064, p < .001), with an explanatory power of R^2 = 29.9% (Adjusted R^2 = 28.8%). The Durbin-Watson statistic was 1.794, which is close to 2, indicating that the model was appropriate. Nutritional Adjustability, Taste Trustworthiness, and Sensory Diversity were found to have a significant impact on Social Value in order, whereas Health Trustworthiness and Differentiation did not show a significant effect. Based on the standardized coefficients, Nutrition Adjustability (β = .242), Taste Trustworthiness (β = .180), and Sensory Diversity (β = .171) were found to have the greatest influence on social value, in that order.

Table 2. The Impact of Gluten-Free Bakery Product Attributes on Social Value

	Unstandardized Coefficients		Standardized Coefficients	t	p	Collinearity Statistics	
	B	S.E.	β			Tolerance	VIF
(Constant)	-.608	.343		-1.772	.077		
Health Trustworthiness	.133	.093	.081	1.431	.153	.690	1.448
Sensory Diversity	.252	.096	.171	2.635	.009**	.523	1.911
Taste Trustworthiness	.233	.080	.180	2.928	.004**	.582	1.718
Nutrition Adjustability	.243	.055	.242	4.444	p < .001***	.747	1.339
Differentiation	.086	.091	.057	.940	.348	.603	1.659

Note. R=.547, R^2=.299, Adjusted R^2=.288, F=27.064, p < .001, Durbin-Watson =1.794
**p<.01, ***p<.001

The results of the simple regression analysis conducted to verify whether perceived value has a significant impact on repetitive purchase behavior are as follows: The regression model was statistically significant (F = 154.986, p < .001), with an explanatory power of R^2 = 49.2% (Adjusted R^2 = 48.9%). The Durbin-Watson statistic was 2.233, which is close to 2, indicating that the model was appropriate. Functional Value was found to have a greater impact on Repetitive Purchase Behavior than Social Value.

Table 3. The Impact of Perceived Value on Repetitive Purchase Behavior

	Unstandardized Coefficients		Standardized Coefficients	t	p
	B	S.E.	β		
(Constant)	.719	.163		4.414	.000
Functional Value	.660	.051	.592	13.000	p < .001***
Social Value	.147	.036	.187	4.115	p < .001***

Note. R=.701, R^2=.492, Adjusted R^2=.489, F=154.986, p < .001, Durbin-Watson =2.233
***p<.001

5. Discussion and Implications

5.1. Discussion

This study investigated the impact of gluten-free bakery product attributes on perceived value and repetitive purchase behavior through a mixed-method approach. The qualitative research identified five key product attributes—Healthy, Diverse, Tasty, Diet, and Unique—which were later refined through exploratory factor analysis into Health Trustworthiness, Sensory Diversity, Taste Trustworthiness, Nutritional Adjustability, and Differentiation in the quantitative research. The findings provide meaningful insights into consumer perceptions and purchasing behavior in the gluten-free bakery market.

First, Taste Trustworthiness, Health Trustworthiness, Differentiation, and Nutritional Adjustability significantly influenced Functional Value, whereas Sensory Diversity did not. These results suggest that when purchasing gluten-free bakery products, consumers prioritize taste, quality, creativity, uniqueness, and functional benefits such as health and nutrition over factors like the frequency of new product development or the visual and sensory elements of the product.

Second, Nutritional Adjustability, Taste Trustworthiness, and Sensory Diversity significantly impacted Social Value, while Health Trustworthiness and Differentiation did not. These results indicate that when purchasing gluten-free bakery products, consumers do not perceive health and nutritional aspects, product originality, or ingredient characteristics as having a signifi cant impact on expressing social status or success. Furthermore, Nutritional Adjustability was found to have the least impact on Functional Value, while having the greatest impact on Social Value. These results suggest that consumers already perceive gluten-free bakery products as inherently healthy, which may explain why the Nutritional Adjustability factor did not have a significant impact on Functional Value, as considerations such as calorie and fat content or weight control were less influential. However, the Nutritional Adjustability factor appears to be closely related to consumers' social status and image, making it the most influential factor in Social Value.

Finally, Functional Value was found to have a greater impact on Repetitive Purchase Behavior than Social Value. These results indicate that when purchasing gluten-free bakery products, consumers prioritize functional aspects such as price-value ratio, product quality, freshness, and taste over expressing social status.

5.2. Academic and practical implications

The academic implications of this study are summarized as follows:
First, Previous studies have primarily focused on consumer research regarding the selection and product attributes of general and functional bakeries, or on culinary science research utilizing gluten-free ingredients. In contrast, there has been a lack of consumer research specifically addressing the product attributes of gluten-free bakeries. To fill this research gap, the present study employed a sequential exploratory mixed methods design. Specifically, qualitative research was conducted to identify sub-factors of gluten-free bakery product attributes, and these were used to formulate and test hypotheses through quantitative research grounded in prior literature.

Second, this study applied a sequential exploratory mixed methods approach to systematically identify the sub-factors of gluten-free bakery product attributes and empirically analyze their influence on perceived value and repetitive purchase behavior. The findings provide a theoretical framework for understanding consumer behavior in the functional bakery market particularly in the gluten-free segment and may serve as foundational data for developing effective marketing strategies and product development in the relevant industries.

Third, by deriving product attributes based on consumers' actual experiences and perceptions through qualitative research, this study distinguishes itself from existing research that primarily focuses on general bakery attributes or the culinary science of gluten-free ingredients. This consumer-centered and integrative perspective offers meaningful insights into the gluten-free bakery market and contributes to establishing a theoretical basis for future related research.

The practical implications of this study are summarized as follows:

First, The findings indicate that consumers prioritize functional attributes such as taste trustworthiness, health trustworthiness, nutritional adjustability, and differentiation over sensory diversity. These attributes were found to have a significant impact on functional value. In contrast, health trustworthiness and differentiation did not significantly influence social value, suggesting that consumers do not associate the health and nutritional aspects of gluten-free products with social status or success. Therefore, marketing strategies should focus on enhancing consumer trust in the health and nutritional benefits of gluten-free products to improve long-term customer loyalty.

Second, Nutritional Adjustability, which includes factors such as weight control, calorie content, and fat content, had the least impact on functional value but the greatest impact on social value. This suggests that consumers perceive gluten-free bakery products not only for their functional benefits but also as a reflection of social status and personal image. Therefore, the bakery industry can maximize social value by positioning gluten-free bakery products as symbols of a healthy lifestyle.

Third, Sensory Diversity was found to have no significant effect on Repetitive Purchase Behavior. To address this, it is necessary to focus on enhancing sensory elements when developing gluten-free bakery products. This can be achieved by utilizing a variety of ingredients to expand the product range, increasing the frequency of new product launches, and improving visual appeal, aroma, and overall presentation of the products. By strengthening these aspects, it may be possible to better encourage continued consumer purchasing behavior.

Finally, Functional Value had a greater influence on Repetitive Purchase Behavior than social value, indicating that consumers place more importance on factors such as price-value ratio, product quality, freshness, and taste. Accordingly, the bakery industry should focus on continuously developing high-quality, fresh, and flavorful products while implementing competitive pricing strategies to encourage long-term consumer engagement.

5.3. Limitations of this study and suggestions for future research

The limitations of this study and directions for future research are as follows:
First, the study was conducted with consumers in Seoul and Gyeonggi Province, which may not fully represent nationwide or international gluten-free market trends. Therefore, future studies should expand the geographical scope to include different regions or conduct cross-cultural comparisons to provide more comprehensive insights into gluten-free market dynamics.

Second, this study targeted consumers who had prior experience purchasing gluten-free bakery products. However, conducting an additional survey that includes consumers without purchasing experience would allow for an in-depth analysis of preferences among potential consumers and their reasons for not purchasing gluten-free bakery products. This extended approach could reveal important insights into differences in consumer perceptions and provide practical implications for bakery businesses aiming to diversify marketing strategies.

Finally, this study primarily focused on product attributes, perceived value, and repetitive purchase behavior. However, future research should incorporate additional variables such as consumer attitudes, price sensitivity, and dietary lifestyles to provide more comprehensive and practical implications for the bakery industry.

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Luxury Hotel Branding through Celebrity Influencers: A Case Study on Little Red Book and TikTok (Paper #001)

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Abstract:

This paper examines how celebrity influencers shape luxury hotel branding on social media platforms, focusing on Hu Bing's promotion of Park Hyatt Auckland on Little Red Book and TikTok. Using thematic analysis of more than 600 user comments, the study explores engagement patterns, brand visibility, and message alignment. A conceptual model is proposed to clarify the relationships between influencer appeal, user engagement, and brand association in digital luxury marketing.

Keywords: Luxury Hotels, Influencer Marketing, Little Red Book, TikTok, Celebrity Influencers, Social Media Marketing

1. Introduction

The rapid growth of social media has transformed how hospitality and tourism brands communicate with potential customers. Influencers, as content creators with distinct digital identities and loyal audiences, now play a pivotal role in shaping brand perception, trust, and consumer behaviour, particularly among digitally native generations (Polat et al. 2024). Influencer marketing is widely used to generate brand awareness, enhance digital visibility, and build engagement across platforms such as Instagram, TikTok, and Little Red Book. These platforms enable influencers to promote products and destinations while maintaining a sense of authenticity and cultural relevance.

Celebrity influencers, defined as those with over one million followers, have become key figures in hospitality marketing campaigns. Their ability to extend influence beyond social media, combined with their cultural capital, makes them valuable assets in luxury branding (De Veirman et al. 2017; Gómez 2019). These figures can reduce perceived risk, boost emotional appeal, and shape travel preferences (Yetimoğlu and Uğurlu 2020). In New Zealand, luxury hotels such as Park Hyatt Auckland have adopted this strategy to reinforce their positioning in the global tourism market (New Zealand Trade and Enterprise 2022).

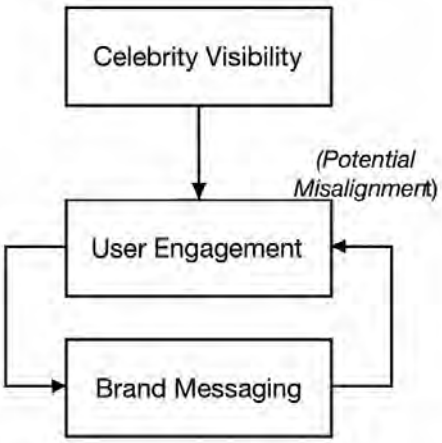
This paper examines the marketing impact of Chinese celebrity Hu Bing's digital endorsements for Park Hyatt Auckland on Little Red Book and TikTok. The research objective is to assess how effectively celebrity influencers support luxury hotel branding by analysing public engagement and brand mentions on both platforms. It also aims to explore whether celebrity presence enhances or dilutes the intended brand messaging.

2. Literature Review

Influencer marketing in hospitality has emerged as a cost effective and strategic alternative to traditional advertising, particularly when targeting Generation Y and Z travellers (Polat et al. 2024). Influencers can be classified by follower count and engagement style, ranging from nano to mega categories (Yetimoğlu and Uğurlu 2020). Celebrity influencers fall into the mega category, often enjoying recognition that predates or extends beyond their social media presence. De Veirman et al. (2017) demonstrated that follower count and brand congruence significantly influence audience perception and brand attitudes. While micro influencers often achieve higher engagement due to perceived authenticity (Alassani and Göretz 2019), celebrity influencers tend to deliver broader reach and aspirational appeal. Gómez (2019) characterises these individuals as modern cultural icons, capable of merging lifestyle presentation with subtle brand messaging.

Luxury hotel brands use influencer marketing to position themselves as aspirational and exclusive. Cotsoni (2024) illustrates how Four Seasons in Cyprus collaborated with celebrity influencers to enhance digital exposure and attract premium travellers. Similarly, luxury hotels in Auckland and Queenstown have sought to amplify their presence through collaborations with high profile personalities (New Zealand Trade and Enterprise 2022). Despite widespread use, limited empirical work has addressed the challenges of message retention in celebrity campaigns. Influencer visibility does not necessarily guarantee audience engagement with the brand itself. This paper addresses this gap by exploring how celebrity branding performs in terms of visibility and user recall. The model in Figure 1 illustrates the interaction between celebrity visibility, user engagement, and brand messaging. It highlights the potential misalignment between influencer appeal and the promotional objectives of luxury hospitality brands.

Figure 1. Conceptual Model: Celebrity Influence and Luxury Brand Engagement on Social Media



3. Methodology

This study adopts a qualitative case study approach to examine the branding impact of Hu Bing's promotion of Park Hyatt Auckland. Data were drawn from two leading Chinese social media platforms: Little Red Book and TikTok. Both are widely used among Chinese travellers and are known for lifestyle and travel content that heavily incorporates influencer marketing. A total of 219 public comments were extracted from Little Red Book and 475 from TikTok, all related to Hu Bing's posts promoting Park Hyatt Auckland. The combined dataset of 694 comments formed the basis for thematic analysis using NVivo. The comments were translated and coded using an inductive approach to identify themes relating to brand reference, i nfluencer focus, and emotional tone.

4. Findings and Implications

The thematic analysis of user comments identified three interrelated themes: aspirational lifestyle engagement, celebrity centred admiration, and limited brand association. Audience responses on both platforms focused largely on Hu Bing's appearance, personal style, and aspirational travel narrative. While the hotel was clearly tagged and present in the imagery, the majority of comments were directed toward the celebrity rather than the venue.

On Little Red Book, responses were refined and aesthetic, often using language such as "elegant," "refined," or "goals." The platform's curated tone encouraged aspirational interpretations where Park Hyatt Auckland served more as a visual backdrop than a focal point. On TikTok, engagement was more playful, conversational, and humour driven. Despite larger engagement numbers, very few TikTok comments made meaningful reference to the hotel brand. The attention remained focused on the influencer. These findings suggest that while celebrity influencers generate high visibility and engagement, the branding benefit to the hotel may be more limited than intended. The visibility is driven primarily by admiration for the influencer, with the hotel brand often reduced to a setting rather than an object of desire. This presents a challenge for marketers seeking to translate influencer campaigns into meaningful brand outcomes.

For luxury hotel managers, these insights highlight the need to select influencers whose personal brand aligns more explicitly with the hotel's identity and values. Collaborative content strategies that foreground hotel features or experiential storytelling may help to embed the brand more clearly within the promotional narrative. It is not enough to rely on tagging or product placement; message clarity and thematic relevance are essential.

From a research perspective, this study extends earlier findings on digital fame and brand congruence (De Veirman et al. 2017; Gómez 2019; Alassani and Göretz 2019), demonstrating that reach and engagement do not necessarily translate to brand effectiveness. The case highlights a subtle but important distinction between attention and influence. Future studies could investigate comparative influencer types, platform dynamics, or audience brand recall to further interrogate these dynamics in digital tourism marketing.

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Service Value over Simplicity: Guest Perceptions of Beacon Technology in China's Hotel Sector (Paper#064)

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Abstract:

This study examines Chinese hotel guests' acceptance of Bluetooth beacon technology (BBT) using the Technology Acceptance Model (TAM), focusing on perceived usefulness (PU) and perceived ease of use (PEOU). Results indicate PU significantly outweighs PEOU in driving adoption, highlighting guests' prioritization of service value over simplicity. Cluster analysis identifies three segments—Value-Driven Users, Practical Neutrals, and Privacy-Sensitive Skeptics—suggesting tailored strategies for BBT implementation. The findings emphasize functional benefits and privacy considerations in enhancing guest experiences, offering practical insights for hospitality marketers.

Keywords: Technology Acceptance Model (TAM); Beacon Technology; Cluster Analysis; Guest Loyalty; Hospitality Technology; Hotel Marketing.

1. Introduction

The Proximity Bluetooth Beacon Technology (BBT), introduced in 2013, is based on low-energy Bluetooth (BLE) and serves as a real-time positioning system. At close range, BBT can achieve centimeter-level positioning accuracy. Initially, BBT was primarily applied in the retail industry (Lin et al., 2021), facilitating precise advertising, promotional notifications, and navigation services. For instance, when customers enter a shopping mall, beacons can send personalized discount notifications to their mobile devices or help them locate specific products within the store.

Like many digital innovations, BBT was initially obscure but quickly gained popularity. Beacons can be integrated with the Internet of Things (IoT), enabling location-based personalized recommendations and notifications. They are particularly effective for indoor positioning within large facilities, offering greater accuracy than GPS tracking (Ravikumar, 2017).

BBT has gradually been adopted in the hospitality industry, primarily due to its potential to enhance guest experiences and optimize operational efficiency. One key application is its use

as a mobile room key, exemplified by Hilton Hotels' "Digital Key" and "Fun Finder travel guide" services, which allow guests to unlock their rooms via Bluetooth-enabled beacons. Additionally, hotel guests can receive real-time updates on resort facilities, local attractions, and scheduled activities. This guide integrates Wi-Fi, GPS technology, and beacon signals to offer tailored recommendations based on user preferences (Samuely, n.d.).

Beacon technology further enables location-based personalized notifications, such as room upgrade offers, promotional discounts, and sightseeing recommendations. In 2014, The James Hotels, with locations in Chicago, Miami, and New York City, launched the James Pocket Assistant, designed to function as a virtual concierge. Through this mobile application, guests could view special offers, access maps, contact the hotel, and request services (HospitalityTechnology.com, 2015).

To provide more targeted and practical insights, this study focuses on how Chinese hotel guests evaluate the acceptability of beacon technology through two key dimensions: perceived useful-ness (i.e., service value) and perceived ease of use (i.e., simplicity). By adopting a guest-centered perspective, the research aims to offer strategic decision support for hotels seeking to assess the potential value of beacon-enabled services.

Accordingly, this study addresses the following research questions:

RQ1: To what extent do perceived usefulness (PU) and perceived ease of use (PEOU) influence Chinese hotel guests' acceptance of beacon technology?

RQ2: How do different guest groups differ in their preference for service value versus simplicity in beacon-enabled hotel services?

2. Literature Review

2.1 Current Applications of Beacon Technology

Although BBT has been widely adopted in the retail industry, its potential in the hospitality sector is still emerging. One of the key drivers of BBT adoption is its impact on customer engagement and business profitability. A white paper by Coniq (2021) analyzed the financial impact of proximity marketing in the U.S. retail sector, revealing that businesses implementing Geo-loyalty strategies experienced a 9% increase in profits and a 175% growth in return on investment. The Moroccan mall case study (Lemsieh & Abarar, 2024) corroborates Coniq's (2021) findings, providing empirical evidence that Beacon technology drives substantial profit and ROI improvements - results that appear transferable to hospitality applications. At the core of Geo-loyalty marketing is location-based personalized push notifications, for which BBT serves as a crucial enabler. Notably, BBT provides more precise indoor positioning than GPS, allowing businesses to deliver highly targeted promotional content, better aligning marketing messages with consumer needs and improving purchase conversion rates (Adkar et al., 2018).

Despite BBT's advantages in precise targeting and personalized recommendations, its widespread adoption still faces technological and market challenges. Nicholas & Shapiro (2020) highlight scalability issues in BBT's real-world applications, as well as challenges related to technological standardization and consumer privacy concerns, which hinder its development as a mainstream marketing tool.

As hospitality research gradually shifts from a product-oriented approach to a consumer behavior perspective (Gursoy, 2018), the industry's marketing focus has transitioned from simple product promotion to enhancing customer experiences and understanding consumer needs. The study by Sazonov & Sazonova (2021) indicates that omnichannel marketing is becoming a dominant strategy in the broader marketing landscape, emphasizing seamless online-offline integration to achieve more precise customer engagement. BBT is considered a critical tool for enhancing omnichannel experiences, as it enables businesses to optimize personalized marketing strategies based on real-time consumer location and behavioral data, thereby strengthening customer interaction and fostering brand loyalty. Dudhane and Pitambare (2015) research shows that analyzing customer residence time and behavior patterns through BBT can significantly improve sales conversion rates.

For the hospitality industry, BBT can be used to push real-time personalized information, such as room upgrades, dining discounts, and spa offers, enhancing customer experiences and driving direct bookings and upselling opportunities, ultimately improving the hotel's overall profitability. However, the widespread adoption of BBT also raises data privacy concerns. Lin (2021) highlights that BBT relies on beacon systems requesting customer consent to collect location and behavioral data, but this explicit consent request may immediately trigger strong privacy concerns regarding personal data security. In the hospitality sector, balancing personalized marketing with data privacy protection has become a critical challenge for BBT implementation. Without transparent data policies and compliance mechanisms, hotels risk eroding customer trust and potentially violating regulations such as the General Data Protection Regulation (GDPR) or China's Personal Information Protection Law (PIPL).

2.2 Theoretical framework and hypotheses

2.2.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), proposed by Davis (1989), aims to explain users' acceptance and adoption behavior regarding new technologies. The model identifies Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) as the core factors influencing technology adoption. PU refers to whether users believe the technology can enhance efficiency or provide value, while PEOU assesses whether the technology is easy to learn and use.

Alsharida et al. (2021) conducted a systematic review of TAM-based studies on Mobile Learning from 2017 to 2020, revealing that both PU and PEOU not only directly impact users' Behavioral Intention but may also drive technology adoption by improving users' Attitudes toward the technology.

The study by Marikyan and Papagiannidis (2024) highlights that the primary goal of TAM is to clarify the process behind technology acceptance, enabling the prediction of user behavior and providing a theoretical framework for the successful implementation of technology. In the context of BBT marketing in the hotel industry, PU can be reflected in whether users perceive BBT as enhancing their hotel experience, such as through personalized recommendations or room upgrade offers. PEOU, on the other hand, concerns whether users feel that BBT notifications are non-intrusive or that they can easily control the frequency of push notifications. Accordingly, based on TAM, this study proposes the following hypotheses:
H1a: PU has a positive impact on users' willingness to accept BBT push notifications.
H1b: PEOU has a positive impact on users' willingness to accept BBT push notifications.

3. Methodology

3.1 Research Design

This study adopts a quantitative research approach, utilizing a structured questionnaire to collect data and analyze consumer acceptance of Beacon Technology (BBT) in the hotel industry, along with its influencing factors.

The dataset consists of 334 valid survey responses, collected from Chinese hotel consumers as the target population.

3.2 Data Collection

Target Population: Consumers in the Chinese hotel industry, including business travelers and leisure travelers.

Sampling Method: The study employs convenience sampling, distributing the survey through social media platforms.

Sample Overview: A total of 480 responses were collected, among which 334 were valid. The data underwent preprocessing procedures, including missing value imputation, data cleaning, and variable transformation, to ensure data quality.

3.3 Empirical Results

3.3.1 Analysis Based on the Technology Acceptance Model (TAM)

This section examines the effects of PU and PEOU on acceptance intention toward BBT, based on the TAM. The variable definitions are as follows:

To ensure consistency in data direction, all variables were subjected to reverse coding, where higher values indicate a greater level of acceptance toward BBT.

To assess the impact of PU and PEOU on customer acceptance intention, this study employs Multiple Linear Regression (Ordinary Least Squares, OLS). The regression equation is formulated as follows:

$$Adoption_Intention = \beta_0 + \beta_1 PU + \beta_2 PEOU + \epsilon (1)$$

In the regression model, β_1 and β_2 represent the regression coefficients of PU and PEOU, respectively, measuring both the direction and strength of their impact on BBT acceptance intention.

Research Hypotheses:
H1a: Perceived Usefulness (PU) has a positive impact on BBT acceptance intention ($\beta_1 > 0$, $p < 0.05$).
H1b: Perceived Ease of Use (PEOU) has a positive impact on BBT acceptance intention ($\beta_2 > 0$, $p < 0.05$).

Figure 1. Effect of PU and PEOU on Acceptance Intention

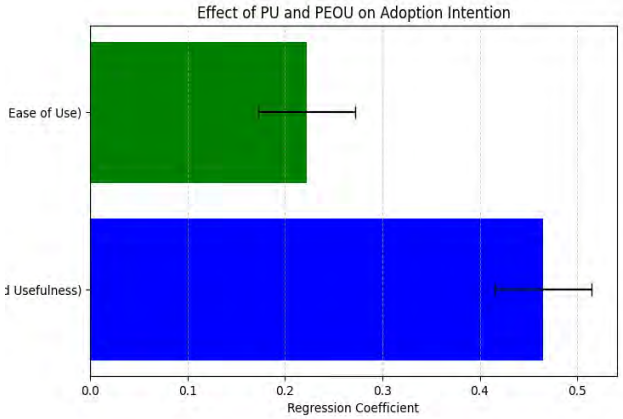


Figure 1 presents the regression coefficients and the 95% confidence intervals for PU and PEOU in relation to BBT acceptance intention . The results indicate that the regression coefficient of PU (β = 0.4651) is significantly higher than that of PEOU (β = 0.2226), and the confidence intervals for both do not include zero, confirming their statistical significance ($p < 0.001$).

This finding suggests that respondents place greater emphasis on the functional value of BBT rather than its ease of use when deciding whether to adopt the technology. This aligns with the core perspective of the TAM, which posits that users are more likely to adopt technologies that significantly enhance their service experience (Davis, 1989).

Figure 2. Comparison of PU and PEOU an Acceptance Intention

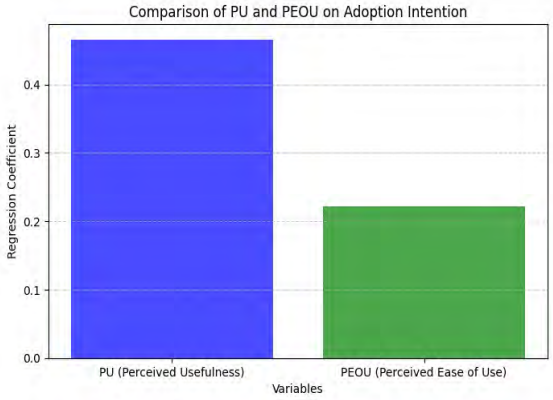


Figure 2 visually compares the relative impact of PU and PEOU on BBT acceptance intention. The results show that PU (β = 0.4651) has a much stronger influence on BBT acceptance intention than PEOU (β = 0.2226), indicating that users primarily base their adoption decisions on whether the technology provides direct service value. This conclusion suggests that hotels should emphasize how BBT enhances customer experience and delivers personalized services rather than focusing solely on its ease of use.

The R^2 value of 0.390 is moderate, indicating that PU and PEOU do not fully explain users' acceptance intentions. Other factors, such as privacy concerns and push notification frequency, may also play a role in influencing user decisions.

3.3.2 Cluster Analysis

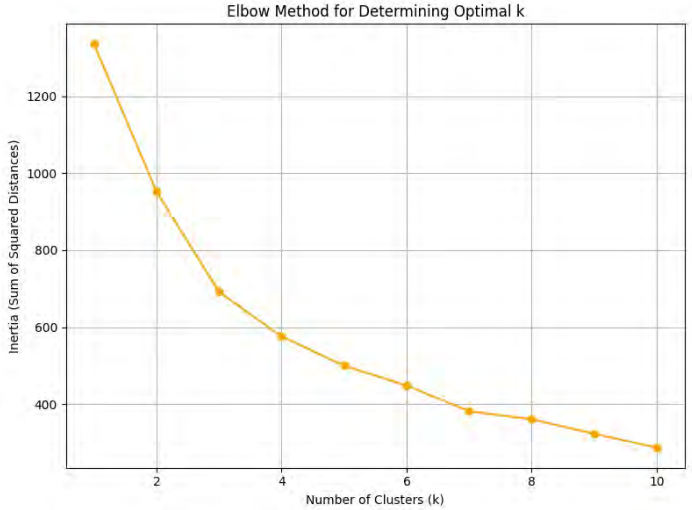
To further explore the heterogeneity in guests' responses to beacon technology, this study conducted a K-means cluster analysis using four key perceptual variables:

Perceived Usefulness (PU), Perceived Privacy Risk (PPR), Attitude Toward Using (ATU), and Behavioral Intention to Loyalty (BIL). Although privacy concern was not included as a main variable in the TAM model, it was incorporated into the clustering framework to explore perceptual differences across segments. These variables respectively represent the functional value of beacon technology, privacy concerns, attitude toward marketing, and loyalty-related behavioral intentions.

All responses (N = 334) were complete with no missing data. To ensure comparability across variables and avoid scale bias, all variables were standardized using Z-score normalization. This preprocessing step was necessary due to K-means' sensitivity to variable magnitudes.

The optimal number of clusters was determined using the Elbow Method. A plot of the within-cluster sum of squares (inertia) was generated for k values ranging from 1 to 5. The inflection point was observed at k = 3, indicating that a three-cluster solution most effectively captures meaningful variation in the dataset (see Figure 3).

Figure 3. The clustering results revealed three distinct user segments:



Cluster 0 (38.6% of respondents) demonstrated high perceived usefulness, strong behavioral intention to loyalty, low privacy concern, and a positive attitude toward personalized beacon marketing. These characteristics indicate that this group is receptive to the functional and emotional value of beacon services. Accordingly, they were labeled as **"Value-Driven Users."**

Cluster 1 (45.2% of respondents) exhibited moderate scores across all perceptual dimensions. Their responses reflect a neutral position: they neither strongly endorse nor reject beacon-enabled services. This group may be influenced by contextual factors such as marketing framing, user education, or specific usage scenarios. As such, they were categorized as **"Practical Neutrals."**

Cluster 2 (16.2% of respondents) displayed low perceived usefulness and loyalty intention, high privacy concerns, and a generally negative attitude toward personalized marketing. These respondents appear particularly sensitive to data collection risks and are less likely to adopt beacon technologies. Therefore, this segment was identified as **"Privacy-Sensitive Skeptics."**

Figure 4.

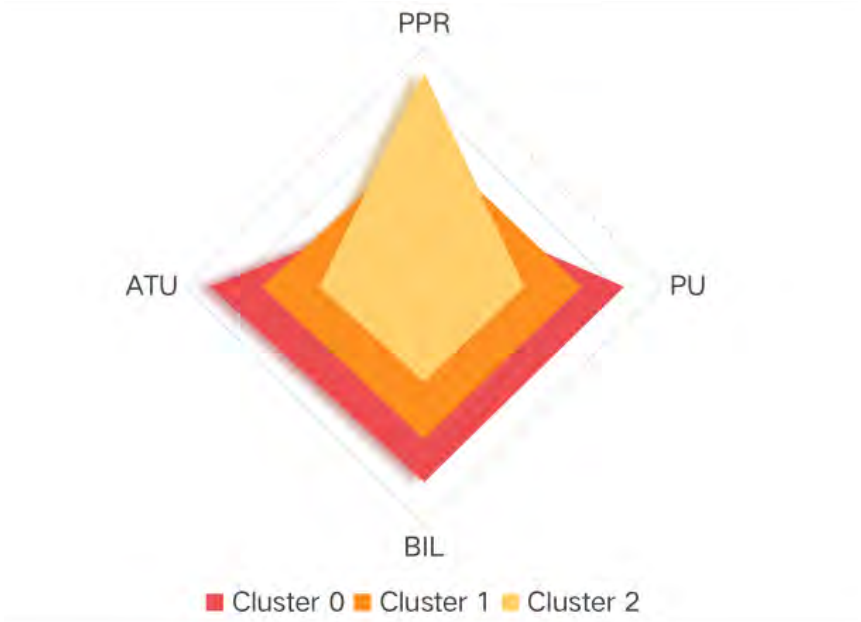


Figure 4 presents a radar chart visualization of the perceptual profiles across the four variables for each cluster. This segmentation offers critical insight into how hotels may tailor beacon-enabled service strategies to distinct user types, maximizing relevance, engagement, and acceptance.

4. Discussion and Conclusion

4.1 Theoretical Discussion on TAM Results

The findings from the TAM-based regression analysis offer valuable theoretical insights into the adoption mechanism of beacon technology. The results confirmed that both Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) positively influence acceptance intention, with PU ($\beta = 0.4651$, $p < 0.001$) demonstrating a substantially stronger effect than PEOU ($\beta = 0.2226$, $p < 0.001$).

This suggests that in the context of beacon marketing, hotel guests prioritize functional value over usability. In other words, users are more likely to accept beacon-enabled services if they believe these technologies provide concrete benefits—such as improved convenience, personalization, or service responsiveness—rather than simply being easy to use.

This finding is consistent with the original TAM framework, which posits PU as the dominant driver of adoption, especially in task-oriented or service-enhancement contexts (Davis, 1989). It also reflects the current shift in hospitality marketing, where technological solutions are evaluated not just for their novelty or simplicity, but for their ability to create meaningful guest experiences.

Interestingly, the moderate R^2 value (0.390) indicates that PU and PEOU, while important, do not fully account for acceptance intention. This highlights the potential role of additional factors such as trust, perceived privacy risk, and personalization relevance, which were further explored through cluster analysis in the following section.

4.2 Implications of Cluster-Based Segmentation

The clustering results provide critical insight into the heterogeneity of guest perceptions toward beacon technology. The segmentation reveals that not all users respond to beacon services uniformly, even when functional benefits (i.e., PU) are acknowledged. While "Value-Driven Users" (38.6%) are highly receptive to beacon-enabled personalization, "Practical Neutrals" (45.2%) demonstrate ambivalence, and "Privacy-Sensitive Skeptics" (16.2%) strongly resist adoption, primarily due to heightened privacy concerns.

These findings complement and extend the Technology Acceptance Model (TAM) results. Although TAM regression showed that PU had the strongest effect on behavioral intention, the cluster analysis indicates that high PU does not guarantee acceptance. Particularly, Cluster 2 users exhibited high PU in some cases but still refused adoption due to low perceived control and trust. This underscores the importance of emotional and ethical dimensions in technology adoption, beyond functionality or ease of use.

From a practical standpoint, the segmentation suggests that beacon marketing should be differentiated. Hotels may focus their efforts on "Value-Driven" guests with more aggressive personalization strategies. "Practical Neutrals" represent a high-potential group that could be nudged toward adoption through trial-based exposure and educational framing. Meanwhile, "Privacy-Sensitive Skeptics" require transparent opt-in designs, fine-grained data control, and brand trust-building to avoid alienation. The overall results highlight the importance of segmentation-aware beacon implementation strategies that align with diverse guest profiles.

4.3 Practical Implications for Beacon Marketing Strategy

By integrating the regression insights from TAM and the segmentation patterns identified in the cluster analysis, this section outlines a set of actionable strategies tailored to distinct guest profiles.

The findings from both the TAM regression and cluster analysis offer valuable guidance for hotels considering the implementation of beacon-enabled services. The results highlight two key takeaways: first, that perceived usefulness is the dominant driver of guest acceptance; and second, that guest perceptions are highly segmented, with distinct user groups exhibiting varying degrees of openness, skepticism, and ambivalence.

From a strategic marketing perspective, these insights suggest that a one-size-fits-all approach is insufficient. Instead, beacon-related communications and service designs should be tailored to different consumer segments:

Value-Driven Users, who actively embrace personalized marketing and perceive high utility in beacon services, are likely to develop a strong relative attitude toward the brand. When this attitude aligns with repeat behavior, it reflects what Dick and Basu (1994) define as loyalty. Hotels can deploy full-featured, proactive notification strategies. These users may respond well to real-time offers, room upgrades, and loyalty incentives embedded in the digital experience. Those categorized as Practical Neutrals, often indifferent or undecided, may respond better to trial-based nudges and low-commitment engagement. Tactics such as in-app walkthroughs, temporary opt-in offers, or gamified usage experiences can help clarify the value of beacon services without overwhelming or deterring them.

Meanwhile, Privacy-Sensitive Skeptics require an entirely different approach centered on trust-building. Transparent opt-in mechanisms, user control over data collection, and clearly communicated privacy assurances are essential. As Gefen and Straub (2003) demonstrated in their integrated model of trust and technology acceptance, trust is a critical factor in user behavior, especially in contexts involving perceived risk or uncertainty (p. 51). Rather than push-based messaging, these guests may respond better to passive, optional interactions that respect their data boundaries.

Additionally, these findings emphasize that beacon technology should not be framed merely as a technical upgrade, but as a strategic touchpoint within the broader guest journey. Marketing messages should highlight how beacon features contribute to service personalization, responsiveness, and emotional satisfaction. When positioned as part of a value-driven and guest-centric brand narrative, beacon adoption is more likely to be perceived positively and meaningfully.

In sum, hotel operators should view beacon strategy not only as a technological deployment, but as a segmentation-sensitive marketing initiative that aligns personalization with trust, relevance, and guest empowerment.

4.4 Limitations and Future Research

While this study offers meaningful insights, several limitations should be acknowledged to guide future research. One key limitation lies in the use of cross-sectional survey data, which captures guest perceptions at a single point in time. To better understand how acceptance evolves over time, future studies may consider adopting longitudinal designs, tracking behavioral changes and ongoing engagement with beacon-enabled services.

In addition, the sampling method—based on voluntary online responses—may restrict the generalizability of the results. A more diversified sample, ideally involving stratified sampling across different hotel tiers, regions, and traveler profiles, would improve the external validity of future findings.

Another consideration is the explanatory power of the model. While perceived usefulness and ease of use were significant predictors of acceptance intention, the moderate R^2 value (0.390) suggests that other factors may also play a role. Variables such as brand trust, data transparency, perceived control, and the relevance or timing of notifications could offer deeper insights into what drives or hinders user acceptance.

Beyond these methodological points, there is also room to broaden the application context. This study focuses on beacon technology within the hotel industry, but the tourism sector as a whole presents a wide array of use cases. Future research could explore how beacon systems function across the entire travel experience, including airports, scenic destinations, transportation hubs, or retail zones. These extensions may reveal how seamless digital touchpoints enhance customer journeys before, during, and after hotel stays.

As this research is contextualized within the Chinese hotel market, future cross-cultural studies could help identify universal versus region-specific factors influencing beacon technology acceptance.

Lastly, while this study incorporated privacy concern into the cluster analysis to identify perceptual segments, it did not include perceived privacy risk as a main predictor in the TAM regression model. This choice reflects a focus on functional and usability perceptions in the core model. However, privacy remains a critical factor in technology acceptance, particularly for data-driven services such as beacon marketing. Future research may extend this study by explicitly modeling privacy perceptions using frameworks such as Privacy Calculus Theory (Laufer & Wolfe, 1977), which balances perceived risks against perceived benefits. The author are currently developing a follow-up study that applies this theoretical lens to better understand how trust, control, and contextual relevance affect users' privacy-based decision-making in beacon-enabled environments.

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Analyses of hotel employees' stressors and job performance: Differences according to socio-demographic and job level characteristics (Paper#218)

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Abstract:

This study was designed to investigate hotel staff's stressors and their consequences including job performance and life satisfaction. To gain this research goal, this study conducted a survey and garnered 500 questionnaires in China using an online survey platform. More specifically, the questionnaire was drafted through meticulous literature review and pretested by four Chinese hotel staff and a hotel GM to secure content validity. Subsequently, a pilot test and a main survey were performed by adopting an online survey platform in which allow hotel staff to easily access the survey through a link or a OR code. According to a conceptual model, hotel employees' work-related stressors included 10 components including unethical practices, financial concern, job insecurity, interaction with customers, team work, supervisors' behavior, poor work environment, post pandemic-related stressors, and workplace pressure from electronic message responses. These stressors are expected to influence depression which leads to job satisfaction. Socio-demographic and job level components are likely to moderate the relationships between hotel staff' work-related stressors and depression. According to the conceptual framework, this study developed 14 hypotheses. With the exception of the two paths between unethical labor practices and financial concern, and depression, seven structural paths significantly had an impact on depression. The relationships among depression, job satisfaction, and job performance, and life satisfaction were significantly revealed. According to the results of invariance test for gender, income level, age, and job level, they uncovered that

there exists in inconsistency in accounting for the linkages between the nine stressors and depression according to the socio-demographic and job level factors. The results offer academic and industrial implications since they reveal how employees' stressors trigger job satisfaction, and the role of socio-demographic and job level factors in the relationships.

Keywords: Stressors, mental health, depression, job satisfaction, job performance, life satisfaction

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Determinants of Tax Bribe Encounters of Tourism Enterprises in Ghana and Sierra Leone (Paper#212)

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Abstract:

Corruption in tax administration hinders tourism industry growth, especially in developing economies. This study examines how accounting competence and gender impact tax bribery encounters among tourism SMEs in Ghana and Sierra Leone. Analyzing 401 tourism SMEs, we find that owners with better understanding of finance and accounting concepts are more frequently targeted for bribery. Women-led businesses face even higher probability of tax bribe requests. Our findings highlight the need for digital tax literacy, gender-sensitive policies, and institutional reforms to promote transparency in tourism-dependent and developing economies.

Keywords: Tourism enterprises, accounting competence, tax bribery, gender bias, SMEs, developing economies

1. Introduction

Corruption in tax administration poses a significant barrier to tourism industry economic development, particularly in developing economies where weak regulatory frameworks allow for discretionary enforcement (Brock & Raza, 2019; Klitgaard, 1988). Tax inspectors, who function as gatekeepers of compliance, wield considerable power, often resulting in rent-seeking behaviors that exacerbate the vulnerability of businesses to extortion. This vulnerability is especially pronounced among SMEs, which frequently lack the robust financial infrastructures found in larger firms (Djankov et al., 2010). These SMEs, crucial engines of local economic growth in the tourism industry, often become easy targets of bribery when tax officials take advantage of information asymmetries and gaps in financial transparency.

Historically, the focus in anti-corruption research has centered on macro-level institutional reforms and broad policy interventions (Mauro, 1995; Rose-Ackerman, 1999). Yet, recent literature overlooks the importance of firm-level characteristics, including financial competence and gender in mediating interactions with tax authorities (Chen, Gavious, & Yosef, 2020; Chalmers, Hay, & Khlif, 2019). Accounting competence, defined as the ability to maintain accurate financial records and a clear understanding of tax obligations, typically acts as a protective mechanism by

enhancing transparency. However, paradoxically, enhanced accounting competence can increase a firm's visibility to corrupt tax officials who might perceive these firms as more capable of managing illicit transactions (Bauhr & Grimes, 2014).

Gender dynamics introduce an additional layer of complexity. While conventional wisdom and some prior research suggest that women in business exhibit lower propensities to engage in corruption due to higher ethical standards (Swamy et al., 2001), empirical evidence is increasingly showing that women-led companies face higher risks of extortion by tax officials (Boadi & Nyarko, 2018; Breen et al., 2017). This discrepancy may be attributed to entrenched gender biases and perceptions of vulnerability, which contribute to the targeting of women-led enterprises (Alesina, Giuliano, & Nunn, 2013).

The objective of this study is to uncover factors that lead to tax bribe requests to small business in tourism by tax inspectors. More specifically, the focus is on how accounting competence and gender, along with broader institutional characteristics, determine the likelihood of tax bribery encounters in the tourism industry. Ghana and Sierra Leone serve as ideal empirical contexts due to their differing levels of institutional strength, regulatory oversight, and corruption perceptions (World Bank, 2020; Transparency International, 2019). By focusing on SMEs and micro enterprises in tourism, we provide insights into a segment of the economy that is both vital for local development and highly susceptible to corrupt practices. Furthermore, this research aims to inform policy interventions in the tourism industry that target the root causes of tax bribery by reinforcing financial literacy and gender-sensitive approaches within tax administration frameworks

2. Literature Review and Hypotheses

2.1 Accounting Competence and Corruption

Accounting competence involves not only accurate financial record-keeping but also the capacity to understand and navigate complex tax regulations (Chalmers et al., 2019). In an environment characterized by lax regulatory oversight, business with higher accounting competence are generally thought to have a better chance of complying with tax laws (Pope & Vogl, 2010). However, an emerging stream of literature argues that the a set of indicators of sophistication may inadvertently attract corruption. Tax officials might target well-prepared firms under the assumption that they can handle complex bribery arrangements, thereby perceiving these businesses as low-risk targets (Bauhr & Grimes, 2014; Braithwaite, 2005).

This phenomenon is further complicated by the role of digital tax administration systems. In several developing economies, initiatives to digitize tax administration have yielded mixed results. While e-taxation systems are designed to reduce face-to-face interactions that facilitate bribery (OECD, 2018), they sometimes fail to account for the differential capabilities of SMEs to adapt to new technologies (Gupta & Newman, 2021). As a result, firms that demonstrate higher accounting competence may paradoxically be singled out by tax officials who exploit their familiarity with digital systems to solicit bribes covertly.

Contrary to conventional wisdom, we explore the possibility that higher accounting competence might inadvertently increase exposure to bribery demands in the tourism industry. Entrepreneurs with advanced financial skills in tourism are more likely to engage directly with tax authorities and navigate complex regulatory frameworks, potentially making them more visible targets for corrupt officials seeking bribes. This perspective aligns with findings from de Soto (1989) and Fisman and Svensson (2007), who suggest that greater formalization and visibility in bureaucratic systems can increase corruption exposure. Based on the discussion we propose the following hypotheses:

H1: Tourism businesses with higher accounting competence are more likely to be approached for a tax bribe by tax inspectors.

2.2 Gender and Corruption in Tax Administration

Gender and corruption are interlinked in complex ways. Early studies posited that women tend to exhibit lower levels of corrupt behavior, attributing this to ethical differences and risk aversion (Swamy et al., 2001). However, more recent research points out that women entrepreneurs may be more vulnerable to corruption due to lower perceived political connectedness and inherent gender biases in administrative settings (Boadi & Nyarko, 2018; Breen et al., 2017). In contexts where social and cultural stereotypes persist, tax officials might assume that women-led businesses are less capable of resisting or negotiating against extortionary practices. Nguyen and Pham (2021) further reinforce this argument, showing that female entrepreneurs in emerging markets are disproportionately pressured into bribery, often facing a "bribe or die" dilemma where non-compliance threatens business survival. Thus, such cases may be prevalent in developing countries, particularly, in the African continent.

Furthermore, studies in diverse settings have demonstrated that gender discrimination in tax administration is not merely anecdotal but is often embedded within broader institutional practices that disadvantage women (Alesina et al., 2013; Terjesen, Singh, & Venkataraman, 2015). In both Ghana and Sierra Leone, where patriarchal norms continue to influence business practices, women-led tourism enterprises frequently encounter institutional hurdles that are compounded by corruption in tax administration (World Bank, 2020; Transparency International, 2019). Kim et al. (2022) extend this perspective by emphasizing that social institutions play a critical role in shaping firm bribery activities, particularly for female business owners, who are systematically targeted due to societal norms that position them as more vulnerable actors in the business ecosystem. This systemic bias ultimately discourages female entrepreneurship in tourism and undermines efforts to establish fair business environments. This discussion leads to the following hypothesis:

H2: Women-led tourism businesses are more likely to be approached for a tax bribe than those led by men.

3. Methodology

3.1. Sample and Context

This study investigates the role of accounting competence in shaping tax bribery encounters among women tourism entrepreneurs in Ghana and Sierra Leone. Utilizing data from the Women Entrepreneurs Finance Initiative (WeFi) surveys sponsored by the World Bank, which includes 508 tourism firms of which 258 were from Ghana and 250 from Sierra Leone. Of these respondents, 401 reported they were visited by a tax inspector and subsequently 96 had tax bribe encounters where the inspector requested or expected an informal gift.

Ghana and Sierra Leone were chosen due to their contrasting institutional environments. Ghana has made significant strides in combating corruption, as evidenced by its Corruption Perceptions Index (CPI) score of 43 in 2023, ranking 70th out of 180 countries (Transparency International, 2023). However, bribery remains a concern; in 2021, bribe-payers in Ghana paid an average of five bribes, totalling approximately 17.4 million bribes nationwide (UNODC, 2021). In contrast, Sierra Leone has faced more severe corruption challenges but has shown improvement over time. In 2009, 62% of respondents reported paying a bribe in the previous year (Transparency International, 2011). By 2023, Sierra Leone improved its CPI ranking to 108th, moving up 22 places since 2017 (Anti-Corruption Commission Sierra Leone, 2023). This comparison provides valuable insights into how accounting competence interacts with different governance contexts to influence bribery encounters. Additionally, both countries are strategic locations for examining women's entrepreneurship, given ongoing development initiatives aimed at empowering female business owners (World Bank, 2020).

3.2. Data, Variables and Analysis

Our dataset includes firm-level characteristics such as accounting competence, gender of the tourism business owner, firm size (SME vs. micro-business), tourism industry experience, and competition. The dependent variable in this study is tax bribe request. It is a binary measure based on the following question: Was an informal gift or payment expected or requested? Accounting competence is based on the question: How would you describe your understanding of finance and accounting concepts including notions such as net present value, financial ratios, assets and liabilities? It is measured on a 3-point scale where 1 denotes little understanding, 2 stands for fair understanding and 3 is expert understanding. Gender is also a binary variable where women are coded as 1 and men as 0. We controlled several other variables that can influence probability of tax bribe encounters. Firm age was measured as the year of founding. It is expected that whether a firm is formally registered or not may play a role in tax bribe requests. Registration was coded as 1 for registered businesses and 0 for others. Another control variable is SME status where SMEs were coded as 1 and micro enterprises were coded as 0. The tourism industry experience of the owner was measured as number of years in this line of business. Last, as our sample comes from two countries, we controlled for country effects where respondents of Ghana were entered as 1 and from Sierra Leone as 0. Because our outcome variable is binary we used logistic regression to test our hypotheses. We used weights for gender and ran a model with robust standard errors. The conceptual model in

Figure 1 is depicted below.

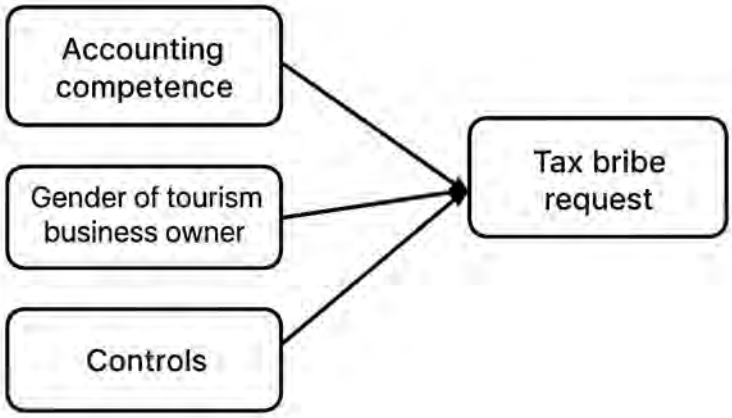


Figure 1. Conceptual Model

Controls: Registered Firm, SME Status, Industry Experience, Year Founded, Country

4.Findings

4.1. Descriptive statistics

Descriptive statistics indicate among 401 owners who have undergone tax inspections, in Ghana, 110 female business owners and 95 male business owners have experienced tax inspections, totalling 205 respondents (See Table 1). In Sierra Leone, 110 female business owners and 86 male business owners have undergone tax inspections, totalling 196 respondents. These findings indicate that in both countries, female business owners are more likely to be subject to tax inspections than their male counterparts. Specifically, in Ghana, 53.7% of female business owners have experienced tax inspections compared to 46.3% of male business owners. In Sierra Leone, 56.1% of female business owners have undergone tax inspections compared to 43.9% of male business owners. The data also highlights a higher incidence of tax bribe requests among female business owners.

Table 1. Distribution of tax inspection and tax bribe experiences among female and male business owners in Ghana and Sierra Leone.

Country	Gender	N	Tax Inspection (%)	Tax Bribe (N)
Ghana	Female	110	53.7%	32.7% (36)
	Male	95	46.3%	7.3% (7)
Sierra Leone	Female	110	56.1%	42.7% (47)
	Male	86	43.9%	9.3% (10)

Note. N = number of observations. Tax Inspection: Percentage of business owners who have undergone tax inspections. Tax Bribe: Percentage of business owners who have requested to pay a bribe during tax inspections.

These findings indicate that in both countries, female tourism business owners are more likely to undergo tax inspections than their male counterparts. As can be seen in Table 1, regarding tax bribe encounters, 32.7% of female tourism business owners in Ghana (36 out of 110) and 42.7% in Sierra Leone (47 out of 110) reported being approached to pay a bribe during tax inspections. In contrast, 7.3% of male business owners (7 out of 95) in Ghana and 9.3% (10 out of 86) in Sierra Leone reported such encounters. These statistics suggest that while female business owners are more likely to experience tax inspections, they also report much higher incidences of paying bribes during these inspections compared to their male counterparts.

As mentioned in the methodology section, 24% of the individuals (N=96) reported encountering a tax bribe request of which 79 females and 17 males. In Ghana this ratio was 47 women to 10 men. In Sierra Leone, 36 females and 7 males had tax bribe encounters. As can be seen in Table 2, the mean accounting competency score is 1.531 which shows that business owners had limited understanding of accounting and finance concepts. About 70% of the enterprises were registered firms. Approximately 22.44% of the observations are classified as SMEs and the rest were micro enterprises. The average industry experience is 12.45 years, ranging from 1 to 40 years. The mean founding year is 2007 and founding years ranged from 1969 to 2017.

Table 2. Descriptive Statistics

Variable	N	Mean	Std. Dev.	Min	Max
Tax Bribe	401	0.239	0.427	0	1
Accounting Competency	401	1.531	0.700	1	3
Registered Firm		0.700	0.458	0	1
SME	401	0.224	0.418	0	1
Industry Experience (Years)	401	12.446	7.274	1	40
Year Founded	401	2007.711	7.606	1969	2017
Ghana	401	0.451	0.498	0	1

Note. N = number of observations. Accounting competency (1=denotes little understanding, 2 fair understanding, 3= expert understanding). Tax Bribe: 0 = No, 1 = Yes. Registered Firm: 0=No; 1=Yes; SME: 1 (Micro enterprise:0). No, 1 = Yes. Ghana=1 (Sierra Leone=0).

4.2. Main results

The logistic regression analysis aimed to examine the influence of accounting competency and gender on the likelihood of encountering tax bribe requests among tourism business owners. The model included control variables such as small and medium enterprise (SME) status, industry experience, year of establishment, and country of operation.

The analysis revealed that accounting competency significantly increased the odds of encountering tax bribe requests. Specifically, for each unit increase in accounting competency, the odds of encountering a tax bribe request increased by a factor of 1.98 (95% CI [1.18, 3.29], p = 0.009) (See Table 3). This finding offers support for Hypothesis 1, suggesting that business owners with higher accounting skills are more likely to encounter tax bribe requests, possibly due to increased awareness of tax regulations and potential evasion tactics.

Gender also emerged as a significant predictor. Female business owners had 11.74 times higher odds of encountering tax bribe requests compared to their male counterparts (95% CI [5.63, 24.55], p < 0.001). This finding lends support to Hypothesis 2, indicating that women may face higher risks of tax-related corruption.

Among the control variables, SME status was marginally significant, with SME owners having 1.96 times higher odds of encountering tax bribe requests (95% CI [0.99, 3.74], p = 0.060). Industry experience, registered firm status, and year of establishment did not significantly influence the likelihood of encountering tax bribe requests. Notably, being based in Ghana significantly increased the odds of encountering tax bribe requests by a factor of 2.25 (95% CI [1.31, 3.88], p = 0.002).

These findings underscore the importance of addressing gender disparities and enhancing accounting education to mitigate tax bribe encounters. Implementing targeted training programs and awareness campaigns can empower female business owners and those with lower accounting competency, thereby reducing their vulnerability to tax bribe requests.

Table 3. Logistic Regression Analysis Predicting the Likelihood of Encountering Tax Bribe Requests

Variable	B	SE	Wald χ^2	p	Odds Ratio (OR)	95% CI for OR
Accounting Competency	0.683	0.266	6.76	0.010	1.98	[1.18, 3.29]
Gender (Female)	2.466	0.381	42.56	<0.001	11.74	[5.63, 24.55]
SME Status (Yes)	0.672	0.371	3.56	0.060	1.96	[0.99, 3.74]
Registered Firm (Yes)	-0.038	0.339	0.01	0.912	0.96	[0.49, 1.88]

Variable	B	SE	Wald χ^2	p	Odds Ratio (OR)	95% CI for OR
Industry Experience	-0.0085	0.0278	0.10	0.759	0.99	[0.94, 1.05]
Year Founded	-0.0021	0.0273	0.00	0.938	0.99	[0.95, 1.04]
Ghana (Yes)	0.811	0.278	9.47	0.002	2.26	[1.34, 3.43]

Note. B = unstandardized regression coefficient; SE = standard error; Wald χ^2 = Wald chi-square statistic; p = p-value; OR = odds ratio; CI = confidence interval.

5. Discussion, Implications and Conclusion

5.1.Discussion

The findings from this study yield several important insights for theory building in this area. First, while accounting competence is typically associated with improved transparency and regulatory compliance, our results indicate that in environments with weak governance, it can have unintended consequences. Rather than shielding tourism businesses from corrupt tax officials, financial sophistication may make them more visible targets for bribery (Bauhr & Grimes, 2014; Chalmers et al., 2019). This surprising outcome suggests that tax authorities may deliberately single out financially competent tourism enterprises, assuming they have the means to navigate and potentially conceal illicit transactions. Similar patterns have been documented in other developing markets, where tourism firms with strong financial management are often perceived as capable of handling bribery demands more efficiently, making them more vulnerable (Nguyen & Pham, 2021).

Second, the pronounced gender effect in our findings highlights the entrenched biases that persist in tax administration, particularly within tourism. Women-led tourism businesses already face numerous obstacles, from limited access to capital to entrenched gender stereotypes. Our study shows that these challenges extend to taxation, where female entrepreneurs are disproportionately subjected to extortion (Boadi & Nyarko, 2018; Breen et al., 2017). Prior research supports this finding, revealing how social institutions in emerging markets influence bribery activity in ways that unfairly burden female tourism business owners (Kim et al., 2022). These structural disadvantages point to the need for gender-sensitive reforms within tax administration. Implementing gender-balanced tax enforcement teams or offering targeted digital literacy programs for women entrepreneurs could help level the playing field (Terjesen, Singh, & Venkataraman, 2015).

Beyond the individual challenges faced by businesses, our findings underscore the broader economic consequences of corruption in tax administration, particularly in tourism-driven

economies. When bribery becomes a routine part of tax enforcement, it not only erodes public trust in government institutions but also distorts market competition. Small and medium-sized tourism enterprises—often the backbone of local economies—are disproportionately affected, as the additional financial burden of corruption stifles their growth and limits their ability to reinvest in quality service and infrastructure. This has ripple effects on job creation and overall economic development.

By identifying accounting competence and gender as key determinants of tax bribery encounters, this research study provides a foundation for informed policy interventions. A multi-faceted approach that includes financial education, gender equity initiatives, and digital transformation in tax administration is essential to reducing corruption. Specifically, training programs that improve financial literacy among small tourism operators, the adoption of gender-sensitive anti-corruption policies, and continued improvements in e-taxation systems can collectively contribute to a fairer and more transparent tax environment (Fisman & Gatti, 2002; Djankov et al., 2010).

5.2. Policy Implications and Recommendations

This study provides several policy implications. First, governments in developing economies should invest in upgrading digital tax administration systems. However, this effort must be accompanied by training programs to ensure that SMEs, particularly those led by women, can effectively use these platforms. Improved digital literacy can reduce direct interactions between tax officials and business owners, thereby diminishing the opportunities for bribery (OECD, 2018; Gupta & Newman, 2021). Second, robust institutional oversight and anti-corruption frameworks are essential for curbing bribery. Establishing independent audit bodies and enforcing strict penalties for corrupt practices can serve as deterrents.

Additionally, the development of transparent performance metrics for tax inspectors could help to reduce the discretionary power that often leads to extortion (Mauro, 1995; Rose-Ackerman, 1999). Third, given the heightened vulnerability of women-led tourism businesses, policymakers should design gender-sensitive reforms. This could include the creation of support networks and advisory services tailored for women tourism entrepreneurs, as well as initiatives aimed at diversifying the workforce within tax administration agencies. Such measures can help to combat inherent biases and provide a more equitable business environment (Alesina et al., 2013; Terjesen et al., 2015). Another factor is that financial literacy programs should be expanded to improve accounting competence among tourism SMEs.

While our findings suggest that high accounting competence may attract corrupt practices, a well-rounded approach that combines robust accounting practices with ethical training and awareness of corruption risks can empower business owners to resist extortion attempts (Chalmers et al., 2019; Pope & Vogl, 2010). Lastly, establishing monitoring and evaluation mechanisms to track the effectiveness of these reforms is critical. Regular audits, feedback mechanisms, and transparency reports can help to ensure that policy interventions are having the desired impact on reducing tax bribery encounters (Braithwaite, 2005).

5.3. Conclusion

This study sheds new light on tax bribery encounters in the tourism sector, highlighting the complex relationship between accounting competence, gender, and corruption risks in Ghana and Sierra Leone. While financial literacy is generally seen as a safeguard against mismanagement, our findings reveal that it can, paradoxically, make firms more vulnerable to bribery in weakly regulated environments. Additionally, the disproportionate targeting of women-led businesses underscores the need for gender-sensitive tax administration policies.

By integrating perspectives on financial transparency, digital tax reforms, and gender dynamics, this research offers a more comprehensive understanding of how firm-level characteristics shape corruption risks. Effective policy interventions must address not only technological and institutional gaps but also cultural biases that contribute to discrimination in tax enforcement.

Future research should explore longitudinal data to assess the long-term impact of digital tax reforms and anti-corruption strategies. Comparative studies across different regions could further enhance our understanding of these dynamics. Ultimately, promoting transparency and equity in tax systems will help create a fairer business environment for tourism SMEs, fostering sustainable economic growth.

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Theme: Culture, Community, and Social Responsibility

Literature Review on Corporate Digital Responsibility in Tourism and Hospitality Research (Paper#149)

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Abstract:

This study explores the emerging trend of Corporate Digital Responsibility (CDR) in tourism and hospitality through a systematic literature review, examining publication trends, theoretical foundations, and conceptual frameworks. It identifies research gaps, clarifies CDR's scope, and provides insights for businesses to integrate CDR into corporate policies, emphasizing ethical digital practices and future research directions.

Keywords: Corporate Digital Responsibility, Literature Review, Technology, AI responsibility

1. Introduction

The digital age has transformed tasks and enhanced performance across various fields. Technologies like artificial intelligence (AI) and big data analytics have revolutionized the business world, enabling companies to analyze large datasets to understand consumer patterns and market trends, thereby enhancing their competitive positioning (Lobschat et al., 2021). However, these technologies also introduce risks, such as data security concerns and ethical issues related to unauthorized data sharing (Lobschat et al., 2021). For instance, Marriott International's 2018 data breach highlighted critical data security issues and raised ethical concerns about consumer information protection (Veiga, 2024).

The discourse on the ethical use of digital technologies has gained momentum (Mueller, 2022). Corporations are increasingly integrating digitalization into all business operations, positioning themselves as the interface between consumers and businesses and emphasizing their responsibility to act ethically in the area of digital technologies. Given the growing interest in corporate digital responsibility (CDR), this research aims to conduct a comprehensive literature review on the topic.

2. Literature Review

2.1. Conceptualization

The concept of corporate digital responsibility (CDR) originated from computer ethics in the late 1970s to mid-1980s (Muller, 2022). Since then, various concepts have applied moral guidance to digital use, such as information ethics (Floridi, 1999). The definitions of CDR have been varied. According to Tóth and Blut (2024), CDR is "a management concept that helps firms comprehensively address the ethical challenges related to digital technology use" (p. 2). Lobschat et al. (2021) defined CDR as "the set of values and specific norms that govern an organization's judgment and choices in matters that relate specifically to digital issues" (p. 876). Despite various definitions of CDR, research has highlighted that CDR involves both managing data and technology ethically and suggests that it should go beyond creating digital assets (e.g., software or apps) to include ongoing consideration of how these assets are used and their impacts on society (Hartley et al., 2024).

2.2. CDR vs. CSR

The distinction between Corporate Digital Responsibility (CDR) and Corporate Social Responsibility (CSR) remains a contentious issue within academic discourse. Hamadi and Manzo (2021) and Lobschat et al. (2021) posit that CDR and CSR are distinct constructs, whereas Muller (2022) argues that CDR is a subset of CSR. This divergence in perspectives complicates the implementation of CDR standards within corporate frameworks, as the lack of consensus engenders ambiguity. Consequently, this ambiguity leads to inconsistent practices and poses challenges in harmonizing CDR initiatives with broader CSR strategies.

3. Methodology

We conducted a systematic literature review to assess existing research on CDR in tourism and hospitality. This approach involves systematically searching, selecting, critically evaluating, and summarizing findings from primary studies (Cook, Greengold, Ellrodt, & Weingarten, 1997). The review process followed an iterative approach, including defining relevant research terms, selecting a suitable database for article retrieval, reviewing the identified studies, conducting the analysis, and finalizing the results (Maharjan & Kato, 2024).

We used the following keywords to search the literature using the Google Scholar database to identify relevant papers. The keywords used were "Corporate Digital responsibility (CDR)", "Digital responsibility", "Digital ethics", "AI ethics", "AI responsibility", "Data ethics", "responsible AI", "responsible technology", "Data ethics", "sustainable AI", and "digital sustainability." The current paper focuses on initial exploratory results of the abovementioned research keywords.

4. Results

In this section, we examine the reviewed literature to identify annual publication trends and analyze the distribution of papers across various journals and sectors where CDR is applied or illustrated in tourism and hospitality in the past decades. We analyze yearly distribution of published papers, journal distribution, number of publications in different disciplines, theoretical backgrounds, conceptual frameworks and future research agenda.

5. Discussion and Implications

5.1. Discussion

The discussion section highlights key findings from the literature review on CDR in tourism and hospitality. It examines publication trends over the past decades, the distribution of studies across journals and disciplines, and the theoretical foundations and conceptual frameworks used. Additionally, it identifies gaps in the literature and proposes future research directions to advance the understanding and application of CDR in the field.

5.2. Academic and practical implications

This study makes significant contributions to academic discourse by providing a comprehensive literature review on Corporate Digital Responsibility (CDR), which is increasingly important in the context of accelerated technological advancements. This study will assist researchers to propose a framework for understand CDR, clarify the most current boundaries of CDR, and identify components of CDR. For companies, this study offers insights by providing possible guidelines for integrating CDR into corporate policies.

5.3. Limitations of this study and suggestions for future research

While the study provides directions for implementing CDR, practical challenges in adoption and integration within existing corporate frameworks may limit the effectiveness of our findings. Further empirical research is needed to explore these implementation barriers. Research investigates the impacts of CDR on an organization's financial performance is warrant. Due to its complex nature of CDR multidisciplinary approach would be effective to understand CDR.

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A Theoretical Framework Integrating Emotional Intelligence and the Kano Model to Enhance Service Quality in the Vietnamese Hospitality Industry (Paper#214)

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Abstract:

This study aims at developing a framework integrating Emotional Intelligence and the Kano Model to address service quality gaps in the Vietnamese hospitality. It identifies how aligning emotional competencies with customer expectations can enhance satisfaction, employee performance, and service innovation.

Keywords: Emotional Intelligence, Kano Model, Service Quality, Customer Satisfaction, Hospitality Management, Vietnam

1. Introduction

The Vietnamese hospitality industry is rapidly evolving with an increase in the competitive landscape, higher and more demanding guest expectations, and operational challenges that all impact service quality outputs and guest satisfaction (Nguyen, 2022).

Traditional quality frameworks such as SERVQUAL (Parasuraman et al., 1988) do provide a robust structure in approaching the measurement of customer perceptions across the dimensions of reliability, responsiveness, assurance, empathy, and tangibility. However, most of the quality models tend to emphasize functional service delivery and thus lack a focus on emotional and interpersonal factors that also influence the guest experience (Şahin & Işık, 2020).

Thew hospitality industry, characterized as high-contact service roles Emotional Intelligence (EI) allows employees to regulate in a stronger way stress, professionalism and ensure reliability in guest interactions (Duong et al., 2023; Miao et al., 2021) and to strengthen customer engagement allowing service providers to anticipate, respond and exceed guest expectations (Gooty et al., 2009; Park & Kim, 2021).

The Vietnamese landscape, influenced by Confucian values, strong hierarchical workplace approaches and structures, and the concept of group harmony and “saving face” (Nhung, 2014; Tan et al., 2022), leads to employees becoming hesitant in expressing their emotions and/or challenging authority, which hinders customer engagement proactiveness. EI competencies therefore become an essential aspect of employee development in enhancing service quality (Nhung, 2014; Cho & Choi, 2021). By integrating EI competencies with the Kano Model of categorization of needs, service providers can align employees’ service strategies with customer satisfaction objectives while remaining within the cultural and emotional regulation constraints (Tran et al., 2017).

Research Objectives:

- To propose a framework combining Emotional Intelligence and the Kano Model.
- To explore how EI supports service delivery aligned with differentiated guest expectations.

2. Literature Review: Theoretical Background Emotional Intelligence and Service Quality

The proposed framework establishes direct linkages between EI competencies and the three Kano Model categories, offering a structured approach to emotional engagement in service quality management.

2.1. Self-Awareness and Self-Management: Addressing Basic Needs (Dissatisfiers)

The basic needs (dissatisfiers) are a representation for the fundamental service expectations (cleanliness, safety, tidiness) which if unmet lead to customer dissatisfaction (Kano et al., 1984; Nguyen et al., 2022). Employees with higher self-awareness tend to recognize the impact of their emotional states during their service interactions which allows to ensure consistency when delivery essential service attributes (Bar-On, 2006; Goleman, 1995). Self-management on the other hand allows employees to control stress better and reduce inconsistency in service reliability and efficiency (Duong et al., 2023; Miao et al., 2021). In the Vietnamese industry context where consistency impact grandly customer satisfaction, the integration of EI training into basic service delivery procedure can alleviate dissatisfaction and improve operational efficiency (Nguyen & Nguyen, 2021).

2.2. Social Awareness and Motivation: Enhancing Performance Needs (Satisfiers)

The Performances needs are service attributes that will directly impact and influence customer satisfaction such as responsiveness, efficiency and empathy (Nguyen et al., 2022; Rabaiei et al., 2021). Ei competencies of Social Awareness and Motivation plays a strong role in answering and meeting those expectations. Employees showcasing higher level of empathy allows them to understand better guest's emotions and thus anticipate service request to respond accordingly (Zhu et al., 2021). Similarly, intrinsic motivation fosters better proactive behaviours in service which influence a higher consistency in delivering high-quality guests' interactions (Nguyen et al., 2022; Park & Kim, 2021). In Vietnamese hospitality, EI-driven service approach and adaptability is particularly important (Tan et al., 2022) and Training programs which focus on enhancing and developing emotional intelligence in high-stress service environments can allow employees to have the necessary skills needed to balance guest expectations with organizational constraints which in turn lead to a higher service outcome (Miao et al., 2021; Du et al., 2023).

2.3. Relationship Management: Driving Excitement Needs (Delighters)

Excitement needs are unexpected service elements which create customer delight and in turn lead to long-term loyalty (Kano et al., 1984; Nguyen et al., 2022). These needs include personalized services, surprise upgrades, and unique guest experiences and lies as features which will elevate a guest's emotional connection to a hospitality brand (Phan et al., 2021). Relationship management is the key competency of EI which enables employees to build lasting relationships with their guests allowing to tailor better personalize service delivery, and therefore exceeding their expectations (Goleman, 1998; Park & Kim, 2021). In the Vietnamese hospitality industry, where word-of-mouth and repeat business drive customer retention, relationship-based service quality strategies can significantly impact brand loyalty and competitive differentiation (Tran et al., 2023; Duong et al., 2023). Integrating EI-driven relationship management into the Kano Model framework ensures that customer delight is not just a byproduct of excellent service but a strategic goal (Nguyen & Nguyen, 2021).

Conclusion

This study therefore proposes a conceptual framework that integrates EI competencies with the Kano Model's customer satisfaction categories, offering a holistic approach to service quality management in the Vietnamese hospitality. By aligning self-awareness and self-management with basic needs, social awareness and motivations with performance needs, and relationship management with excitement needs, this framework provides a structured model for EI-driven service quality enhancement.

Theoretical Contribution

1. Extending the Kano Model by incorporating employee-driven emotional intelligence factors, addressing a critical gap in service quality research.
2. Bridging cultural and organizational challenges in Vietnam by adapting EI competencies to hierarchical service environments.
3. Providing a foundation for future empirical studies on EI-based service training programs and customer satisfaction outcomes.

By rethinking service quality through an EI-Kano integration, this framework offers actionable insights for hospitality managers, ensuring that service delivery aligns with both functional and emotional dimensions of guest satisfaction—a necessity for sustained competitive advantage in Vietnam's hospitality sector.

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Enhancing Historical Tourism in Military Areas through Tourism Story Visualization: A Case Research of Wing 5, Royal Thai Air Force (Paper#188)

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Abstract:

This research aims to develop innovative storytelling formats that align with historical contexts and military identities to promote culturally rich experiences, emotional connection, and meaningful engagement. Focusing on Wing 5 of the Royal Thai Air Force in Prachuap Khiri Khan, this study employed a qualitative approach to collect stories, local history, and community insights. The outcome was the creation of digital media—including e-books, videos, and tourism story visualizations—that promote cultural awareness and help diversify tourism beyond primary destinations.

Keywords: Tourism Story Visualization, Media, Military Tourism, Historical Tourism

1. Introduction

Tourism plays an important role in Thailand's economy. Thailand's plan emphasizes tourism as a strategic sector to enhance Thailand's competitiveness and promote sustainable economic growth through innovation and cultural value. (Ministry of Tourism and Sports. (2022). The push to promote travel in secondary cities has become more important than ever. To stimulate economic growth and promote sustainable tourism, Thailand has initiated efforts to encourage travel to secondary cities. (Bangkok Post, 2024). Prachuap Khiri Khan, particularly Wing 5 of the Royal Thai Air Force, holds significant historical value yet remains underrepresented in focal tourism. However, tourism in restricted areas, particularly within military area in Thailand, is still not widely practiced and the research on such areas remains limited. This research contributes to expanding knowledge of tourism in the military area, focusing on creative ways to tell the area's stories and promoting impressive experiences for visitors.

2. Literature Review

2.1. Historical Tourism

Historical tourism involves visiting sites of historical, cultural, or local significance to learn and appreciate the past. It includes activities like guided tours, exploring ruins, and archaeological visits (Department of Tourism, 2012). This type of tourism stimulates economic activity and supports national development (Wongkangwan, 2013).

2.2 Military tourism

Military tourism in Thailand includes natural, cultural, historical, and man-made attractions (Department of Tourism, 2008). Most military sites feature all four types. It serves two main purposes: public recreation and education, and organized activities for institutions and military welfare. These programs promote learning and relaxation. (Tourism Authority of Thailand, 2014).

2.3 Communication and Storytelling in Tourism Interpretive communication

Communication and Storytelling in Tourism Interpretive communication plays a key role in shaping tourists' understanding of cultural heritage (Fischnaller, 2018). Modern tourism media should evoke emotional engagement through storytelling, visual design, and interactive content (Iaffaldano & Ferrari, 2020).

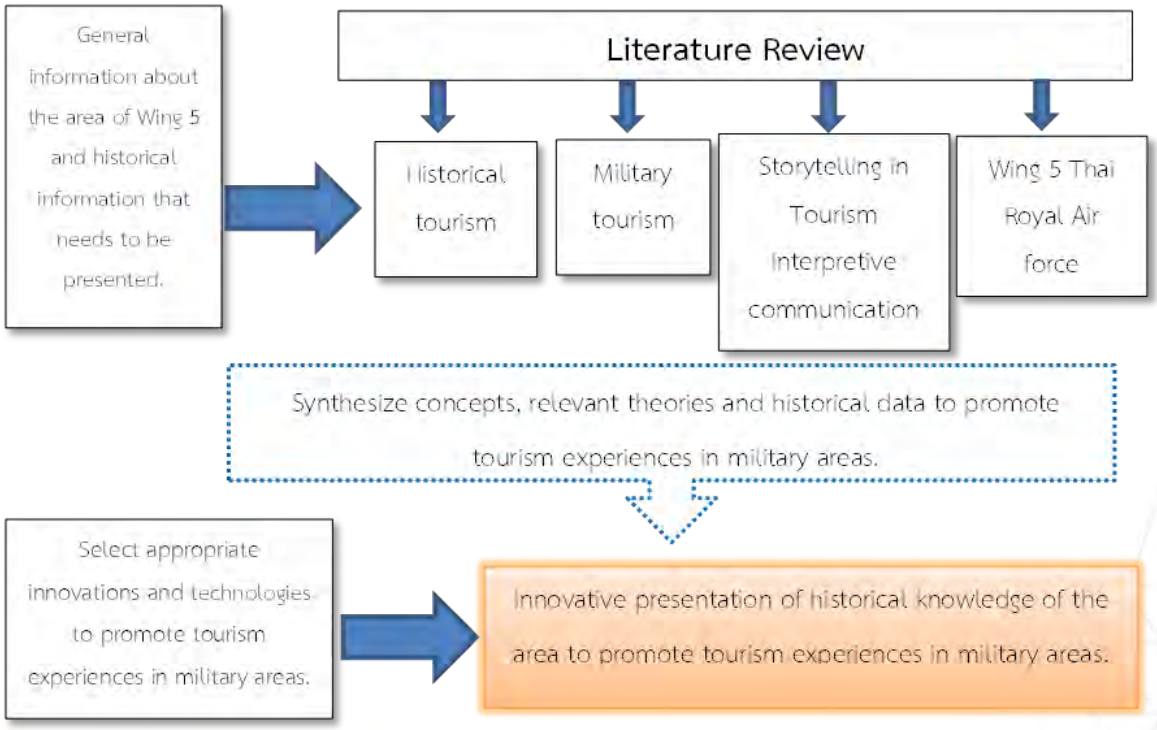
2.4 Wing 5 Thai Royal Air force

Wing 5 is located in Moo 5, Koh Lak Subdistrict, Mueang District, Prachuap Khiri Khan Province. The total area covers approximately 4,000 rai. Wing 5 was officially established on April 28, 1922 named Wing 5 to honor the bravery of past heroes who brought distinction to the unit during the Greater East Asia War in World War II.

2.5 Conceptualization

This research integrates historical content, storytelling, and media innovation to promote tourism in military areas. The conceptual framework below outlines the process for enhancing visitor engagement with the historical significance of Wing 5.

Figure 1. Conceptual Framework



3. Methodology

3.1. Measurement

Interview data were analyzed using content and domain analysis, focusing on both explicit and implicit meanings. The researcher adapted Colaizzi's (1978) method by reviewing transcripts, grouping key statements into themes, and presenting findings clearly without imposing theoretical bias. Member checking was used to validate the accuracy of interpretations.

3.2. Data collection

This qualitative research employed three data collection methods.1) Documentary research used both primary and secondary sources. 2) In-depth interviews were conducted with key informants using both open-ended and structured questions, with data recorded through notes and audio. 3) Focus group discussions, to exchange views and insights, aiming to gather targeted information relevant to the research objectives. To verify data accuracy and enhance the reliability of findings, the triangulation technique was utilized.

4. Results

4.1. Profile of the respondents

The research included 30 participants from three groups: military officers with historical knowledge and site access, local elders with insights into traditions, and tourists experienced in military-related tourism, especially at Wing 5 and nearby sites.

4.2. Results of qualitative analysis

Based on the collected opinions regarding types of media and channels for presenting local historical information to enhance military tourism experiences, participants in the brainstorming sessions collectively shown in Table 1.

Table1. The presentation format of area-based historical knowledge derived from brainstorming sessions.

Type of Media	Channel
1. Image files of tourist attractions (emphasizing beautiful photos and check-in spots)	Shared via Facebook Fanpage or Instagram
2. QR Code for downloading local historical information	Presented as QR codes on signage, linked with local businesses such as hotels or restaurants
3. E-book containing detailed historical narratives	Available on Facebook Fanpage or stored on cloud-based digital platforms for users interested in comprehensive historical content about Wing 5

Type of Media	Channel
4. Video clips (10–15 minutes) introducing tourist sites	Uploaded on YouTube and easily searchable via Google, targeting families seeking travel information
5. Concise local historical content	Shared on Twitter to reach younger audiences quickly using engaging and diverse hashtags in each post
6. Videos featuring local residents, micro-influencers, junior guides, or Wing 5 ambassadors introducing attractions	Presented on Facebook Fanpage or TikTok

Then, the researcher conducted an in-depth analysis based on focus group discussions with experts. This process was guided by a newly developed tool: the Tourism Media Innovation Canvas. (as shown in Figure 2).

Figure 2. Tourism Media Innovation Canvas



The researcher utilized the Tourism Media Innovation Canvas as a tool to develop effective media innovations that address key challenges in promoting historical tourism. The process began with identifying core pain points, such as tourists' lack of awareness of historical sites, fragmented historical information, media formats that do not align with audience preferences, and weak narrative connections between historical content, attractions, and activities. In response, the researcher defined clear value propositions focused on delivering immersive tourism experience in military area and improving access to local historical knowledge, particularly from key informants, at risk of being lost. Local needs emphasized preserving historical information,

fostering patriotism among youth, and employing modern, appealing media formats. Tourists preferred concise and visually engaging content, such as short videos, infographics, and minimal text, accessible across digital platforms. Communication experts further recommended media features like high-quality visuals, animations, QR codes, and e-books. Creating these inputs with theories of visual communication and digital storytelling, the researcher developed the Tourism Story Visualization media innovation designed to deliver interactive and engaging historical narratives through still images, animations, short videos, and downloadable e-books, thus addressing the identified issues and satisfying the needs of both local stakeholders and tourists.

5. Discussion and Implications

5.1. Discussion

The research confirms that Tourism Story Visualization and visual media can successfully convey military history in an engaging way. Results align with Fischnaller, (2018) on the importance of interpretation in historical communication. Moreover, the results are also supported by Pepe & Bournique, (2024) that social media, particularly websites and Facebook, effectively engage visitors at both historical and military sites.

5.2. Academic and practical implications

Academically, the research contributes to tourism communication and military historical site interpretation literature. The Tourism Media Innovation Canvas was introduced as a practical tool to help other regions design media that fit their context and needs. This research contributes to knowledge development in tourism and communication, offering a model for future projects in secondary tourism areas.

5.3. Limitations of this research and suggestions for future research

The research is limited to one case and qualitative feedback. Future studies should explore quantitative methods to evaluate media effectiveness and consider expanding the research model to other historical and cultural sites. Future studies should explore the potential to link the travel routes with other historical tourism sites related to the amphibious landing during World War II such as Prachuap Khiri Khan, Ranong, Chumphon, Surat Thani, Nakhon Si Thammarat, and Songkhla.

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Investigating cross-cultural analysis of tourists' collective values and sustainable tourism attitude scale (SUS-TAS) in Asian countries (Paper#205)

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Abstract:

This study examines residents' attitudes toward sustainable tourism in Japan, Thailand, and Korea using the Sustainable Tourism Attitude Scale (SUS-TAS). By integrating cultural and personal value perspectives, the research aims to provide insights for sustainable tourism policies that align with local community needs.

Keywords: Sustainable tourism, Residents' attitudes, Sustainable Tourism Attitude Scale, Tourism policy, Cross-cultural analysis

1. Introduction

The surge in inbound tourism offers substantial economic advantages, including increased revenue for local businesses, job creation, and the enhancement of infrastructure. Additionally, it fosters cultural exchange and enhances global recognition. However, this growth also poses challenges such as environmental degradation, cultural erosion, economic disparities, and pressure on infrastructure. To balance these effects, the implementation of sustainable tourism practices is crucial in preserving the positive impacts of tourism while mitigating its adverse consequences, ensuring that destinations remain attractive and viable for future generations.

Sustainable tourism has recently gained significant attention. In order to effectively promote sustainable tourism policies, it is essential to evaluate the attitudes of residents in tourism cities towards sustainable tourism. The Sustainable Tourism Attitude Scale (SUS-TAS) serves as a robust and validated tool for assessing residents' attitude of sustainable tourism development (Choi and Sirakaya, 2005; Hsu et al., 2020). This evaluation is a key to understand the local communities' acceptance and needs for sustainable practices within their environments.

The present study aims to investigate residents' attitudes toward sustainable tourism in prominent Asian tourist destinations, including Japan, Thailand, and Korea. The goal is to bring valuable insights into formulating of sustainable tourism strategies that align with the expectations and well-being of local communities.

2. Literature Review

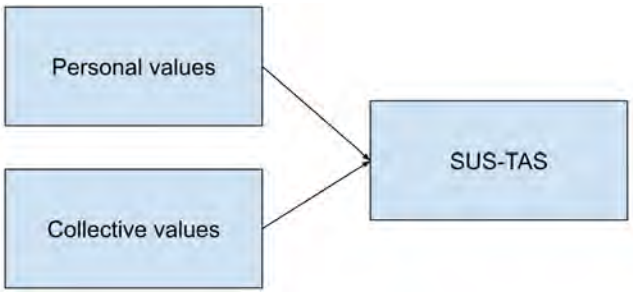
Choi and Sirakaya (2005) developed the Sustainable Tourism Attitude Scale (SUS-TAS) as a novel approach to incorporate sustainable tourism principles. After the pretesting phase, a 51-item scale assessing residents' attitudes toward sustainable community tourism was distributed to 800 households in a small tourism community in Texas (Choi and Shirakaya, 2005). This scale emphasizes the importance of resident involvement in tourism planning and management. Hsu et al. (2020) tested the cross-cultural validity of SUS-TAS in an Eastern island context. Through competing model analysis, the seven-factor correlated model was validated as the most effective measurement model for the Chinese version of the SUS-TAS applied in Taiwan's archipelagos (Hsu et al., 2020).

This paper utilizes the both aspects of value that are collective cultural and personal value and the theories, the two different perspectives support to understand the regional contexts of residents's sustainable tourism attitude (Schwartz, 1992; Minkov & Hofstede, 2012; Klasing, 2013). Thus, the present study aims to extend the understanding of sustainable tourism to other countries and validate the SUS-TAS cross-culturally among Korea, Japan and Thailand.

3. Methodology

Initially, a pre-survey was conducted to develop the survey items, followed by a main survey in which the items were refined based on the pre-survey results. Subsequently, an internet-based survey was conducted with the residents in targeted tourism cities Seoul, Tokyo and Bangkok. We will collect a minimum number of samples 100 per country from 1 September 2024 to 30 September 2024. The questionnaire consists of two parts. The first part concerns the SUS-TAS relevant items, including seven variables: environmental sustainability, perceived social cost, perceived economic benefits, community participation, long-term planning, visitor satisfaction, and community-centered economy. The second part is the respondents' socio-demographics. The ANOVA test is conducted to analyze the relationship between socio-demographics and variables collected in the study. In addition, the Structured Equation Modeling is designed to test the relationship between personal values, collective values, and SUS-TAS. The model framework of the study is represented in the Figure 1. below.

Figure 1. The model framework for assessing personal values, collective values, and SUS-TAS



4. Results

The study investigated the relationship between personal and collective values and SUS-TAS in Korea, Japan, and Thailand. The survey is currently in progress and will be analyzed further. The expected results imply the importance of local municipalities and tourism destinations in managing tourism to remain attractive and viable for future generations. The pre-survey was conducted as an online survey using the Google survey form.

A descriptive summary of the sample is presented in Table 1. The respondents were predominantly male (75%) and relatively well-educated (more than two-thirds had at least master degree). In Table 2, 43.7% of the sample were full time employees; 62.5% of the sample had lived in Japan. 2 respondents were associated with tourism industry especially to the hotel industry. The preliminary results on collective values, personal values, SUS-TAS, and environmentally friendly behavioral intention will be summarized.

Table 1. Descriptive summary of respondents

Sociodemographics	**N**	**%**
Age (N=16)		
20-29	6	37.5
30-39	7	43.7
40-49	1	6.3
50-59	2	12.5
60-69	-	-
70 or more	-	-
Gender (N=16)		
Male	12	75
Female	4	25
Others	-	-
Educational background (N=16)		
Primary school diploma or less	-	-
Middle school diploma	-	-

High school diploma	-	-
Associate's degress	-	-
Undergraduate degree	-	-
Master's degree	10	62.5
Doctoral degree	6	37.5
Employment (N=16)		
Part time	-	-
Full time	7	43.7
Full-time homemaker	-	-
Students	8	50
Retired	1	6.3
Not currently employed	-	-
Annual income (N=16)		
Under $19,999	7	43.7
$20,000 – 39,999	-	-
$40,000 – 59,999	2	12.5
$60,000 – 79,999	4	25
$80,000 – 99,999	2	12.5
$100,000 or more	1	6.3
Place of residence (N=16)		
Japan	10	62.5
Korea	5	31.2
Thailand	1	6.3
Length of residence (N=16)		
Less than 1 year	2	12.5
1 to 3 years	5	31.2
4 to 6 years	3	18.8
7 to 9 years	2	12.5
10 to 15 years	-	-
16 years or more	4	25
Associated tourism industry (N=16)		
Yes	14	87.5
No	2	12.5

5. Discussion and Implications

The study investigated the relationship between personal and collective values and SUS-TAS in Korea, Japan, and Thailand. As preliminary research exploring the cross-cultural aspects in sustainable tourism, the survey is currently in progress and will be analyzed further. The expected results imply the importance of local municipalities and tourism destinations in managing tourism to remain attractive and viable for future generations.

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Factors Affecting Consumer Satisfaction in Food Delivery Applications in Bulacan (Paper#191)

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Abstract:

This study aimed to identify the factors influencing consumer satisfaction among food delivery application users in Bulacan. A Pearson product-moment correlation coefficient was utilized. An online survey was conducted to gather data, and 540 respondents participated. Results revealed that control, convenience, and behavioral intention are predictors of satisfaction in food delivery applications, while technology does not significantly predict the users' satisfaction in food delivery applications. The researchers suggest conducting the study in another setting with a broader set of respondents.

1. Introduction

Since the pandemic started, restaurants have experimented with new ways to stay in business while improving customer service. The outbreak has affected many food establishments, and food sales through online platforms have increased (Sukanya Sirikeratikul, 2020). Due to the increasing number of customers searching for different food options, the demand for food delivery services has grown significantly. This growth was expected to contribute to the industry's 19% annual growth rate in 2020 (Apornrath Phoonphongphiphat, Nikkei, 2020).

Food delivery applications have been widely used in various industries since its introduction. Its continuous improvement was necessary to ensure its continued success. The benefits the applications offer mostly draw new users of food delivery applications. These food delivery

applications give consumers practically any food and beverages they want to buy, just with the swipe of a finger. Consumers can contact a restaurant to place an order with a single touch on their smartphones. Customers can search for nearby restaurants, view their menus, and order desired food or drinks (Kpoor, A.P.; Vij, 2018).

Various elements, including simplicity of use, navigational design, and expected performance, influence customer satisfaction. Several research, for example, have looked at the elements that influence customers' first application acceptance throughout the early stages of using food delivery applications (Peng, K.-F. et al. 2014)

The researchers conducted this study to determine the factors affecting consumer satisfaction in using food delivery applications in Bulacan. This study aimed to know what factors contributed to consumer satisfaction in Bulacan. The result of this study can determine whether food delivery operators such as GrabFood, OrderMo, FoodPanda, and food establishments should continue using such methods of selling food. These factors that affect the satisfaction of consumers can provide information to the food delivery services and operators on what they can improve in terms of their services, applications, and delivery services.

This study aimed to know the factors affecting consumer satisfaction in using food delivery applications in Bulacan. Specifically, it intends to answer the following questions:

1. What is the demographic profile of the respondents?
    a. Age
    b. Gender
2. How can the following customer satisfaction factors on food delivery applications be described?
    a. perceived control
    b. convenience
    c. technology anxiety
    d. behavioral intention
3. How is customer satisfaction with food delivery applications described?
4. Which factor significantly predicts customer satisfaction?
    a. perceived control
    b. convenience
    c. technology anxiety
    d. behavioral intention

5. Is there a significant relationship between customer satisfaction with food delivery applications and the factors namely:
    a. perceived control
    b. convenience
    c. technology anxiety
    d. behavioral intention

2. Literature Review

2.1. Food delivery application

A food delivery application was an innovative and convenient channel, downloadable as a smartphone mobile application, that allowed smartphone users to order and pay for food from a wide array of restaurants; the food was typically delivered to the customer's doorsteps without any physical interaction with the restaurant and its staff (Alalwan, A.A, 2020).

Due to social-distancing protocol and people's fear of infection, the COVID-19 pandemic has increased the demand for food delivery services. As a result, 2020 was the beginning of the golden period of food delivery, particularly for the top four aggregators: Grab Food, GET, Line Man, and FoodPanda. The pandemic has also accelerated the emergence of new players. For example, Robinhood was marketed as a "Thai food delivery service for Thai people," aiming "to help society" by offering lower costs and faster payouts using online banking payment methods. As a result, rivalry in the increasingly profitable food delivery business showed no signs of abating (Vincent, V.V., 2020).

Food delivery applications, a developing online-to-offline mobile technology, provide a channel between catering firms and customers by integrating online orders and offline delivery services. Food delivery applications can be divided into two types (Ray et al., 2019). First are the restaurants themselves, and second are third-party intermediate services such as Uber Eats, Zomato, Ele. me Meituan Waimai, and Baidu Waimai. Food Delivery Platform is an example of e-commerce in which food is ordered online and delivered. Much of the restaurant business has turned to this strategy to reach their clients more effectively while expanding their market penetration. The conventional model for food delivery is when a person orders food online by contacting a restaurant; the restaurant cooks their order while the client waits, and the restaurant then delivers it to the consumer (Hirschberg et al., 2016).

Control

Kimes (2011) concluded in her study that one of the most compelling reasons for customers to embrace online ordering was control. Furthermore, according to (Noone et al., 2012), providing consumers real-time information about their meals improves their perceptions of control. Similarly, when using mobile applications for food ordering and delivery, customers have more control over what they want and when and where they want it delivered, giving them greater control (Noone et al., 2012). Allowing customers to choose their payment method was another technique to increase their perceived control. However, it is important to recognize that these higher levels of control may not appeal to all customers, particularly those who desire human interaction (Kimes, 2011).

As interactive technology in mobile applications has grown, consumers have become more engaged, involved, and in control. Consumers may conduct various online actions with just one click by utilizing food-ordering applications, such as gathering current information about restaurants and menus, comparing alternatives, following order progress and delivery, selecting the proper mode of payment, and leaving ratings and feedback. (Yang et al., 2017; Carlson et al., 2019).

Convenience

According to a study conducted by Chrome Data Analytics, the most important factor driving online food delivery applications was convenience, followed by pricing. Consumers do not need to leave their homes or travel to find and purchase food online. This issue also plays a significant part in pushing consumers to use online food services, as improper convenience becomes a massive deterrent to consumers going out and purchasing meals. Convenience gives consumers a sense of control and authority over what they buy, and it also aids in choosing products from a vast range on the internet. It was also as safe as traditional ways of ordering, and gaining better prices pushed consumers to buy food online (Rathore & Chaudhary, 2018).

Adoption of food delivery applications can benefit both customers and businesses. Delivery applications use location information systems to provide details about food delivery vendors in the nearby area the consumer desires. The benefits of the delivery applications are their usefulness and convenience, in that they offer a wider range of options than fliers and that ordering becomes simple (Ko, 2016).

Technology anxiety

Technologically anxious customers believe that the food ordering style undermines family values; thus, they choose the dine-out style. The optimization procedure was critical because a rise in technological concern raised the anticipated future of food applications while decreasing satisfaction behavior. Customers who fear technology are less inclined to utilize or promote it. Online sites minimize technical anxiety by making them more user-friendly and guaranteeing that purchases are accepted and delivered at the specified location and time (M. Senthil et al., 2020).

Satisfaction

Consumer satisfaction necessitates an authentic consumer experience, and because the consumer would purchase the product or service again if satisfied, a satisfied customer significantly impacts demand (Korea Productivity Center, 2011). Consumers can effectively and quickly access a broad selection of restaurants at a time and place that is convenient for them by utilizing such applications. This technology could provide a competitive edge for restaurants by improving accuracy, boosting efficiency, and overcoming issues like miscommunications, traffic, and delayed delivery (Algharabat et al., 2017; Marriott et al., 2017). This statement is verified by Amoroso et al. (2017), who advised that if a client was happy with their experience with a food delivery application, they should be loyal to such application and intend to use them again.

Behavioral intentions

Customers consider the utility of items or services when purchasing them, and customers who are satisfied with their purchases have fewer complaints, repurchase them, and are more likely to promote them to others (Korea Productivity Center, 2011).

The consumer has a reuse intention if he or she uses a good or service more than twice and intends to notify other buyers about the experience through communication with friends and

colleagues, recommendations, or a social network service (SNS) (Choi & Choi, 2011). Customer retention is more than the idea of customer satisfaction; the purpose of reuse was a key element of understanding it. It is not a notion that can be grasped solely on a single element of conduct or attitude (Choi, 2014). It is feasible to generate long-term demand if a consumer becomes a frequent customer because of increasing repurchase intention (Park, 2011). Behavioral intention is also a type of buying intention that may be used to predict client purchasing behavior. This will influence an individual's decision to adopt or not adopt online food delivery (Ji, 2014). According to Yeo et al. (2017), consumers who want to restrict human connection with others may strongly desire to embrace the online system, particularly those customers who have had a poor experience with frontline employees or sales professionals. (Katawetawaraks & Wang, 2011; Collier & Kimes, 2013).

Consumer satisfaction

According to the National Customer Satisfaction Index (NCSI, 2011) assessment, customer satisfaction is the most influential factor on the demand curve of products or services, not quality, which represents engineering requirements. Furthermore, customer happiness necessitates a genuine consumer experience. Customer satisfaction significantly impacts demand because the client is likely to purchase the product or service again if satisfied (Korea Productivity Center, 2011).

The competition for customers was higher in the food delivery market due to overcrowding. Attracting consumers through marketing does not guarantee the success of the business. Ensuring customer satisfaction and satisfying existing customers has become the most critical business goal to increase revenue and expand the customer base. Satisfaction was a cumulative feeling developed after multiple uses of an application and after multiple interactions with service providers. It was evident that the greater the number of customers, the more likely they are to purchase the product or service again. Customers who are completely satisfied and happy are hidden treasures, and keeping them delighted is the key to retaining them as frequent customers. In food delivery applications, satisfaction is defined as the user's pleasure from using a food delivery application (Chotigo, J.; Kadono, Y, 2021). Food delivery applications play a huge role in customer experience and satisfaction through many factors such as food availability, rating by other customers, payment mode, and human interaction (Kwong & Shiun-Yi, 2017).

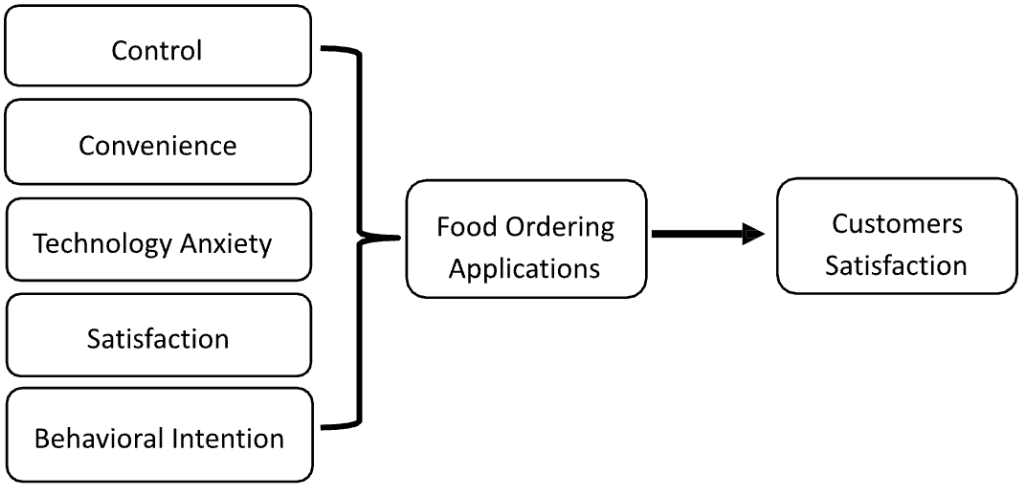
According to the Food Trends Report commissioned by a regional (ASEAN) food delivery portal, in the year 2020, the food delivery industry generated P55 billion in gross sales. One-third of all foods consumed by Filipinos were purchased from restaurants, while the other two-thirds were prepared at home. Fifty percent of clients determined what they wanted to eat based on what they saw on the application. Subscriptions to meal delivery aggregators like Grab Food and Food Panda have surged 61 percent in the previous year (Masigan, 2021).

2.2. Conceptualization

The study explained the factors affecting customer satisfaction when using food delivery applications. The key component of this paradigm was behavioral intent; behavioral intentions are impacted by the attitude about the likelihood that the activity will result in the expected outcome, as well as the subjective assessment of the risks and advantages of that outcome (LaMorte, 2019). The researchers' assumption was based on the Theory of Planned Behavior and the Theory of Reasoned Action, which are specific factors that affect customer satisfaction in food delivery orders.

The model below shows the factors affecting customer satisfaction on ordering food delivery applications. This model attempts to measure the various aspects of consumer satisfaction through food ordering applications. This method can help researchers identify the factors that can be improved upon when deciding to use or not use these applications. The above-mentioned theories also indicate the factors that may be addressed by identifying where the food ordering applications fall short regarding user satisfaction.

Figure 1. Conceptual Framework



3. Methodology

The researcher used a descriptive quantitative research design to determine the factors that affected consumer satisfaction in using food delivery applications in Bulacan. It strives to characterize a population, event, or phenomenon methodically and precisely. It can answer the following questions: what, where, when, and how.

The questionnaire was adapted from Customer Perceptions of Electronic Food Ordering by Sheryl E. Kimes (2011) and modified to fit the needs of the present study. The adapted instruments have five variables with an even number of scale items per variable. The researcher decided to add additional items to the satisfaction and behavioral intention section, and the researcher simplified some terms to make it easier for the respondents to understand when answering the questionnaire. They used a 4-point Likert scale. The questions mainly focused

on the factors affecting consumer satisfaction in using food delivery applications. The survey consists of 20 questions, and it indicates how satisfied individuals are with each statement by choosing a number from 4-1, which corresponds to strongly agree, agree, disagree, and strongly disagree. The researcher chose this instrument since it can measure consumer satisfaction regarding control, convenience, technology anxiety, and behavioral intentions when using food delivery applications. A criterion section was added to determine whether the respondents use or have used food delivery applications. If a respondent answered that he or she is not using or has not used food delivery applications, the survey will end in that section. It will not proceed to the questions that measure satisfaction with food delivery applications. To know the Gender and Age of the respondents, the researcher also included a demographic profile such as Gender and Age.

Participants of the Study

The researchers designated the users of food delivery applications in Bulacan as study participants. They were picked because they have more significant expertise and exposure to this type of technology and are familiar with this ordering platform.

	NO. OF RESPONDENTS
Total Respondents	540
Respondents Using Food Delivery Applications	400
Respondents Not Using Food Delivery Applications	140

Data and Gathering Procedure

The researchers collected the information through an online survey. The researchers used questionnaires to measure the level of satisfaction of the consumers and the possible factors that contributed to the satisfaction of consumers in using the food delivery applications. Participants should be able to complete the questionnaire correctly in 10 minutes. They distributed the questionnaires online, and the purpose of the study will be described in the online form. After the researchers had finished and gathered all the completed questionnaires, they proceeded to tally and encode the results.

Sampling Techniques

To identify the ideal sample size for the study, the researchers used Slovin's formula. $n = \frac{N}{1+Ne^2}$

$$n = \frac{3{,}708{,}890}{1 + 3{,}708{,}890(0.05)^2}$$

$$n = 399.96 \; or \; 400$$

According to the Philippines Statistics Authority census, Bulacan had a total population of 3,708,890 as of May 1, 2020. Through this formula, the researchers get the desired sample size of 400 participants from the total population in Bulacan.

In administering the survey, the researchers randomly picked the respondents available in the province of Bulacan and utilized a convenient sampling method. Convenience sampling was defined as the researchers finding out the whole population of Bulacan and narrowing it down to the research participants who were randomly picked and who were available to answer the survey.
The researcher used convenience sampling to collect data from anybody willing to participate in a study, accessible or otherwise easily available to the research (Wienclaw, 2019). These samples frequently consist of contentious convenience samples (Ashraf & Merunka, 2017; Zhao, 2020) or individuals with whom the organization's researchers have a relationship or are eager to do their surveys (Landers & Behrend, 2015).

4. Results

Table 1. Frequency and Percentage Distribution of Respondents according to Age

Age	Frequency	Percentage
Below 18 years old	32	8.0
18 – 25 years old	332	83.0
26 – 33 years old	21	5.25
34 – 41 years old	7	1.75
42 – 49 years old	3	0.75
50 years old and above	5	1.25
Total	400	100.0

Table 1 showcases the distribution of respondents according to their Age. 32 (8.0 %) respondents are below 18 years old, 332 (83.0 %) are 18-25 years old, 21 (5.25%) are 26-33 years old, seven (1.75%) are 34-41 years old, three (0.75%) are 42-49 years old, and five (1.25%) are 50 years old and above.

Table 2. Frequency and Percentage Distribution of Respondents according to Gender

Gender	Frequency	Percentage
Male	157	39.3
Female	243	60.8
Total	400	100

Table 2 presents the demographic profile of the respondents in terms of Gender. Among the 400 participants, 157 (39.3%) are males and 243 (60.8%) are females.

Table 3. Mean and Standard Deviation Interpretation for Respondents Level of Control, Convenience, Technology Anxiety, and Behavioural Intention Food Delivery Applications

	Inventory Score			
	N	M	SD	Interpretation
Control	400	3.30	.484	Very High
Convenience	400	3.54	.420	Very High
Technology Anxiety	400	2.25	.697	Low
Behavioral Intention	400	3.23	.511	Strong Intention

Table 3 presents the mean and standard deviation of the respondent's perceived level of control, convenience, technological anxiety, behavioral intention, and satisfaction with food delivery applications. The results show that the respondents have a very high level of perceived control (M= 3.30, SD = .484, N = 400) and perceived convenience (M = 3.54, SD = .420, N = 400) in using food delivery applications. The findings also show that the respondents have low technology anxiety (M = 2.25, SD = .697, N = 400). Moreover, the results reveal that the respondents have strong behavioral intentions when using food delivery applications.

Table 4. Mean and Standard Deviation Interpretation for Respondents' Level of Satisfaction on Food Delivery Applications

	Inventory Score			
	N	M	SD	Interpretation
Satisfaction	400	3.43	.445	Very Satisfied

Table 4 presents the mean and standard deviation of the respondent's perceived level of satisfaction with food delivery applications. The results show that the respondents are very satisfied (M = 3.43, SD = .445, N = 400) using food delivery applications.

Table 5. Pearson R Product-Moment Coefficient Table for Perceived Control and Satisfaction on Food Delivery Applications

Variable	Statistical Treatment	Satisfaction
Control	Pearson Correlation	.552
	Sig.	.000
	N	400

A Pearson product-moment correlation coefficient was computed to assess the relationship between perceived control and satisfaction in using food delivery applications. It was found that there is a significant relationship between the two variables, r=.552, N=400, p< 0.001. A moderate positive relationship was also found between the respondents' perceived control and satisfaction. Therefore, if the users' level of control of the food delivery applications increases, their satisfaction also increases. Similarly, if the users' level of control of the food delivery applications decreases, their satisfaction also decreases. This is conclusive since the results showed a moderate positive significant relationship.

Table 6. Pearson R Product-Moment Coefficient Table for Perceived Convenience and Satisfaction on Food Delivery Applications

Variable	Statistical Treatment	Satisfaction
Convenience	Pearson Correlation	.595
	Sig.	.000
	N	400

The Pearson product-moment correlation coefficient was computed to assess and determine the relationship between convenience and satisfaction in food delivery applications. The result implies a significant relationship between the two variables, r =.595, N= 400, p< 0.001. There is a moderate positive significant relationship between the two variables. Hence, if the level of convenience increases, the users' satisfaction also increases. Likewise, if the level of convenience decreases, the satisfaction of users of food delivery applications decreases as the variables are found to have a moderate positive relationship.

Table 7. Pearson R Product-Moment Coefficient Table for Technology Anxiety and Satisfaction on Food Delivery Applications

Variable	Statistical Treatment	Satisfaction
Technology Anxiety	Pearson Correlation	-.102
	Sig.	.042
	N	400

Table 7 shows the Pearson product-moment correlation coefficient computation to determine the relationship between technology anxiety and satisfaction in food delivery applications. The results reveal that there is a significant relationship between the variables, r = -.102, N= 400, p=0.042. In addition, the result shows a very weak negative relationship between technology anxiety and satisfaction. Consequently, users' satisfaction with food delivery applications decreases if technology anxiety increases. Similarly, users' satisfaction with food delivery applications increases if technology anxiety decreases. This is conclusive since the results show a very weak negative significant relationship.

Table 8. Pearson R Product-Moment Coefficient Table for Behavioral Intention and Satisfaction on Food Delivery Applications

Variable	Statistical Treatment	Satisfaction
Behavioral Intention	Pearson Correlation	.567
	Sig.	.000
	N	400

A Pearson product-moment correlation coefficient was computed to assess the relationship between perceived control and satisfaction in food delivery applications. It was found that there is a significant relationship between the two variables, r=.567, N=400, p< 0.001. A moderate positive significant relationship was also found to exist between the respondent's perceived control and satisfaction. Therefore, if the users' behavioral intention on food delivery applications increases, their satisfaction also increases. Similarly, if the user's behavioral intention on food delivery applications decreases, their satisfaction also decreases. This is conclusive since the results show a moderate positive significant relationship.

Table 9. Regression Analysis of Perceived Control, Convenience, Technology Anxiety, and Behavioral Intention in Predicting the Users' Satisfaction

	df	SS	MS	F	p	R2
Regression	4	38.394	9.598	92.963	.000	.485
Residual	395	40.784	.103			
Total	399	79.178				

Multiple regression analysis was used to determine whether control, convenience, technology anxiety, and behavioral intention can significantly predict users' satisfaction with food delivery applications. It was found that these four factors, when combined, significantly predict the users' satisfaction [F (4, 395) = 92.963, p<.001] with R2 = .485.

Table 10. Coefficients in Regression Analysis in Satisfaction of Food Delivery Applications

	Unstandardized Coefficients			
	B	Std. Error	t	P
(Constant)	.751	.162	4.637	.000
Control	.215	. 042	5.188	.000
Convenience	.340	.048	7.068	.000
Technology Anxiety	-.016	.023	-.689	.491
Behavioral Intention	.249	.039	6.460	.000

Results revealed that control (b = .215, p .001), convenience (b = .340, p .001), and behavioral intention (b = .249, p .001) are predictors of satisfaction with food delivery applications. In contrast, technology anxiety (b = -.016, p = .491) does not significantly predict users' satisfaction with food delivery applications. This means that the three factors, namely control, convenience, and behavioral intention, significantly affect users' satisfaction with food delivery applications. However, one factor, specifically technology anxiety, does not significantly affect users' satisfaction with food delivery applications.

5. Discussion and Implications

5.1. Discussion

Based on the findings, the researchers concluded:

1. The results show that the respondents have a very high level of perceived control and perceived convenience in using food delivery applications. The findings also show that the respondents have low technology anxiety. Moreover, the results reveal that the respondents have strong behavioral intentions and are very satisfied with using food delivery applications.
2. A moderate positive relationship exists between the respondent's perceived control and satisfaction.
3. There is a moderate positive significant relationship between perceived convenience and satisfaction.
4. The result shows a very weak negative relationship between technology anxiety and satisfaction.
5. A moderate positive relationship was also found between the respondent's perceived control and satisfaction.
6. The study found that the four factors—control, convenience, technology anxiety, and behavioral intention—significantly predict users' satisfaction with using food delivery applications.
7. The results revealed that control, convenience, and behavioral intention are predictors of satisfaction in food delivery applications, while technology does not significantly predict users' satisfaction in these applications.

5.2. Academic and practical implications

Based on the findings of the gathered and interpreted data from the survey and the conclusions drawn from it by the researchers, the following recommendations were made:

1. Food delivery application operators should continuously focus on retaining and improving control, convenience, technology anxiety, behavioral intentions, and satisfaction to satisfy customers' needs when using food delivery applications.
2. Food delivery application operators can use all the study's results to improve their application specifications and better use the applications.
3. Since the researchers used online questionnaires, it is recommended that future researchers try a different data-gathering method. Furthermore, future researchers could do the study again with a different or broader set of respondents and in a different setting.

5.3. Limitations of this study and suggestions for future research

This study has determined the factors affecting consumer satisfaction with food delivery applications in Bulacan. Bulacan includes several food delivery applications used by various restaurants and small businesses that provide food and beverages. OrderMo, FoodPanda, and GrabFood are the area's most popular and often-used applications. Because people utilize food delivery applications often, and Bulacan has a population of 3,708,890, the chosen location has many potential respondents.

The participants are the residents and users of food delivery applications in Bulacan. The survey was given and limited only to people 18 and above and did not include other provinces or locations. The study only requires 400 participants who use a food delivery application, and any participants who do not use such applications will be excluded. This study determined how satisfied consumers are with food delivery applications. The satisfaction of consumers may vary under different circumstances. Therefore, these findings help service providers work on those factors to fill the gaps and make possible improvements.

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Crafting Culture: The Role of Traditional Arts and Crafts in Baliwag's Tourism Industry (Paper#190)

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Abstract:

This study explored the role of traditional arts and crafts on Baliwag's tourism, understanding its cultural significance, techniques, and preservation. Interviews with artisans and officials highlighted crafts like buntal hats, bone-inlay furniture, karo making and pottery in shaping identity and engaging tourists. Findings emphasized their role in heritage preservation and tourism development.

Keywords: Traditional Arts and Crafts; Cultural Significance; Artistic Techniques; Culture Preservation; Tourist Engagement; Artisans.

1. Introduction

Traditional arts and crafts play a vital role in preserving cultural heritage, showcasing the creativity and craftsmanship of artisans. Various regions, including Central Luzon, are known for their unique crafts, such as buntal hat weaving and bone-inlay furniture making, which serve as cultural symbols and attract tourists. Handicraft tourism has gained global recognition for sustaining local traditions, as seen in Kyrgyzstan and Vietnam (Ngomane, 2023). The Philippines follows this trend through government initiatives led by the Department of Tourism (DOT) and the Department of Trade and Industry (DTI), which promote indigenous crafts via trade fairs and digital marketing strategies (PRNewswire, 2021). The role of traditional arts and crafts in tourism extends beyond mere artistic expression, as they serve as cultural assets that strengthen heritage preservation, fosters community development and sustains cultural identity (Christiani et al., 2022). In Baliwag, traditional arts and crafts such as the buntal hat and imbute or

bone-inlay furniture serve as key cultural symbols, attracting tourists while preserving local heritage (Beksultanova et al., 2021; Bo et al., 2021). The integration of these crafts into local heritage initiatives highlights the town's rich traditions and reinforces its cultural identity. However, balancing authenticity and commercialization remains a crucial challenge, as tourism-driven demand can sometimes compromise cultural integrity (Prasiasa et al., 2023). By effectively integrating traditional arts and crafts into tourism strategies, Baliwag can strengthen its cultural legacy, enhance tourist engagement, and support its artisans in a rapidly evolving tourism landscape.

2. Literature Review

2.1. Traditional Arts and Crafts in Cultural Heritage

According to UNESCO, traditional craftsmanship played an important part of cultural heritage. It recognizes traditional craftsmanship as a form of intangible cultural heritage in shaping community identity and empowering people. These art forms serve as a connection to history, offering reminders of ancestors and their journeys. Traditional artists play a key role in keeping these art forms alive, ensuring that future generations can learn from and be inspired by the traditions of their ancestors (Obat, 2023).

The Kapampangan Traveller (2018) indicated that promoting local traditional arts and crafts can enhance tourist interest and engagement. Festivals and events highlighting traditional crafts, such as the Buntal Festival, provide visitors with immersive experiences that deepen their understanding of the local culture. By making these crafts more visible and accessible to tourists, the town can foster a greater appreciation for its cultural heritage.

The traditional arts and crafts of Baliwag are renowned for their intricate bone and wood inlay techniques, producing exquisite furniture pieces such as aparadors and comoda, often featuring kamagong and narra wood with intricate decorative patterns. This time- consuming and detailed craftsmanship passed down through generations, has become a hallmark of Baliwag's cultural heritage (Salcedo Auctions, 2022).

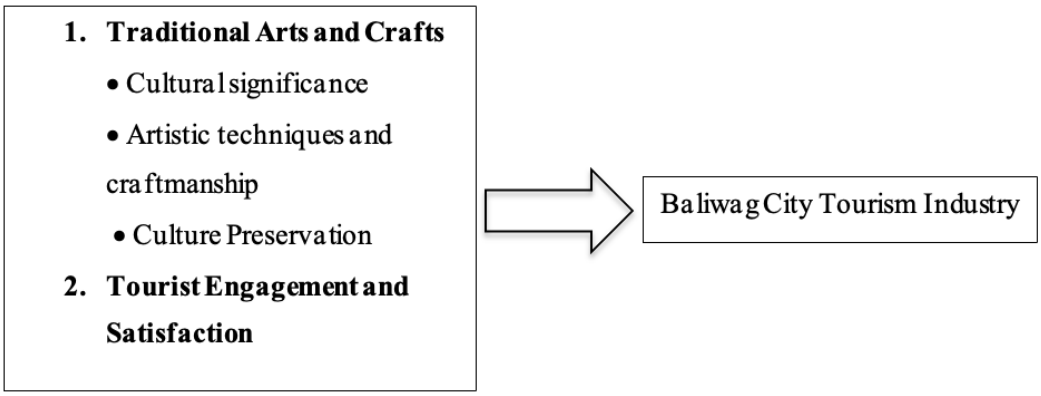
Baliwag, a progressive municipality in Bulacan held its 290-year- old Holy Week Procession (Cruz, 2023) where thousands of devotees attend Baliwag, Bulacan's Lenten Procession featuring life-sized images on decorated carriages called caroza depicting Christ's life. Behind this grand event are families who take care of the artifacts that responsible for preserving these religious images which called camareros. Their dedication ensures that these cultural and religious symbols are kept for future generations. (Tulad, 2024).

Aside from Lenten Procession, Baliwag is famous for its fine, closely woven buntal hats or balibuntal which long history dating back to the Spanish colonial era, peaked in the 1910s and thrived even after the war. The buntal hats, or hats, are made from buntal, derived from coconut husks (Guevarra, 2015). It symbolizes the town, celebrated through the annual Buntal Festival every May (MuseongBaliwag, 2022). The Buntal Festival also highlights the promotion

of intricate using carabao bone and wood inlay furniture known as imbute, which effectively draw tourists and enhances the town's cultural heritage (Central Luzon Balita, 2022; Turismo ng Baliwag, 2022). This craft involves incorporating traditional patterns into furniture, preserving the old designs commonly seen in Philippine furniture.

In the Philippines, pottery has existed since the Neolithic period, showing its historical importance. Despite modernization, Filipino potters continue to use traditional methods while adapting to current demands. This balance between tradition and innovation helps preserve the cultural identity of the craft (Reyes, 2021). Pottery making in Baliwag has been a long-standing tradition, passed down through generations. It involves shaping clay into functional or decorative objects that are hardened through firing, creating ceramics. This craft is both practical and artistic, reflecting the culture of the community where it is practiced (Artchive, 2024).

2.2. Conceptualization



3. Methodology

3.1. Measurement

The researchers used a descriptive qualitative research design to explore the cultural heritage of Baliwag's traditional arts and crafts and their role in the tourism industry. This study was conducted in Baliwag City, focusing on four (4) artisans specializing in traditional arts and crafts, including buntal hat weaving, pottery, karo making, and bone-inlay furniture. Additionally, the head of the Department of Tourism (DoT) Baliwag and an employee from the Archives and Records Office were also involved.

3.2. Data collection

A purposive sampling method was utilized in this study, which involved interviews with artisans and local government officials who are knowledgeable about traditional arts and crafts. Data was gathered using a self-made questionnaire. The study used thematic analysis to examine the qualitative data collected from interviews.

4. Results

4.1. Profile of the respondents

The study included four (4) local artisans, each specializing in buntal hat weaving, pottery, karo making, or bone-inlay furniture, along with one (1) official from the Municipal Department of Tourism (DoT) office, one (1) official from the Archives and Records of Baliwag.

4.2. Results

This study reveals that Baliwag's traditional arts and crafts are vital to the town's cultural identity and economic vitality, as they not only preserve the skills, traditions, and values passed down through generations but also serve as key attractions for tourists. The research, which involved local artisans specializing in buntal hat weaving, pottery, karo-making, and bone- inlay furniture, shows that these crafts stand out due to their specialized techniques—such as the customization seen in Baliwag pottery and the meticulous process of shaping carabao rib bones for imbute designs—setting them apart from mass-produced items in other regions. However, significant challenges, including the scarcity and rising cost of essential raw materials and the declining interest of younger generations amid modern distractions, threaten the continuity of these traditions. In response, local government initiatives, such as integrating traditional arts into the public-school curriculum through programs like "Tuklas Aral" and organizing heritage tours, have been implemented to foster cultural pride and ensure the sustainability of Baliwag's rich heritage.

Themes

4.2.1. Cultural Significance of Baliwag's Traditional Arts and Crafts

The responses highlighted that Baliwag's traditional traditional arts and crafts are more than just creative expressions—they are living legacies that preserve cultural identity, historical continuity, and local pride. Craft making encouraged artisans to engage with local knowledge and contributed significantly to their commitment to sustaining local development and heritage (Kouhia et al., 2021). Each craft, from buntal hat weaving and imbute-making to pottery and karo construction, reflects the ingenuity, patience, and dedication of Baliwagenyos, showcasing generations of skill passed down through time. These crafts serve as symbols of perseverance and craftsmanship, with buntal hats requiring weeks of meticulous work, imbute furniture being highly sought after by antique collectors, and processional floats playing a central role in the country's longest Holy Week procession. Beyond cultural preservation, they also provide artisans with a sustainable livelihood, allowing their work to reach different parts of the country. However, modernization and shifting interests pose challenges to their continuity, making it essential to pass these traditions on to younger generations. Traditional traditional arts and crafts require continuous improvement and preservation by future generations to sustain their development (Zhu,2023). Despite these obstacles, artisans take immense pride in their craft, emphasizing that once learned, these skills are never forgotten. Their work is not just about making products—it is about keeping Baliwag's heritage alive, ensuring that its unique traditions continue to shape the town's identity for generations to come.

4.2.2. Artistic Techniques and Craftsmanship

The findings suggest that Baliwag's artistic techniques and craftsmanship are defined by specialization, customization, and meticulous attention to detail. Pottery artisans, for instance, create unique, multi-functional pieces that stand apart from mass-produced designs, while imbute and karo makers employ labor-intensive processes—ranging from individually shaping bones into precise patterns to integrating intricate carvings and gold leaf detailing. The integration of traditional arts and crafts with modern cultural and creative design helps preserve cultural heritage while promoting innovation. This combination supports the development of cultural products and contributes to the sustainability of arts, crafts, and creative industries (Lan Jin, 2021). Additionally, the generational transfer of these traditional methods ensures that the 29 cultural authenticity and innovative spirit of Baliwag's arts and crafts continue to thrive across time.

4.2.3. Preservation of Traditional Traditional Arts and Crafts

The findings suggest that Baliwag's traditional arts and crafts are at risk due to two main challenges. First, the scarcity of important raw materials, like carabao rib bones needed for imbute, makes it harder for artisans to produce these traditional items. The scarcity of materials makes it difficult for many artisans, especially those with limited capital, to produce crafts, which in turn affects their ability to share cultural stories through their work (Leynes, 2023). Second, younger generations are showing less interest in learning these skills, largely because modern gadgets have taken over their attention. In response, the local government has started initiatives to include traditional arts and crafts in the school curriculum—such as through the "Tuklas Aral" program—to help keep these skills alive. Handicrafts positively impact students by promoting cultural and economic development in art education. They also help develop creativity, practical skills, and hands-on learning opportunities (Mahgoub et al., 2015). These measures are seen as essential for passing down Baliwag's cultural heritage to future generations.

4.2.4. Impact on Tourist Interest and Engagement

The findings show that Baliwag's traditional crafts, such as buntal hats, imbute furniture, processional floats, and pottery, are major attractions that boost tourist interest and engagement. The craft industry in Nigeria has the potential to boost tourism. Handicrafts play an important role by attracting tourists who purchase them as souvenirs, helping them remember their visit after returning home (Mukhrjee et al. 2016; Nzei, 2024). Heritage tours featuring live demonstrations of these arts not only educate visitors about Baliwag's cultural legacy but also generate positive word-of-mouth through social media and personal experiences.

5. Discussion and Implications

Baliwag's traditional arts and crafts, including buntal hat weaving, imbute furniture, and pottery, play a vital role in cultural tourism and heritage preservation. Skilled artisans use intricate techniques, such as bone inlay and detailed woodwork, distinguishing Baliwag's craftsmanship. However, challenges like scarce raw materials and declining youth interest threaten these traditions. Modernization and digital distractions reduce young artisans' engagement, risking gradual decline. Ensuring sustainability through education and resource management is crucial to preserving these crafts and maintaining Baliwag's identity as a center of artistry and heritage. Baliwag's traditional crafts thrive through tourism, festivals, and digital promotion. Tourist's value buntal hats, imbute furniture, pottery, and karo for their authenticity. Social media and influencers further boost visibility, increasing demand and economic opportunities while preserving the town's rich artistic heritage. Preserving Baliwag's crafts requires government support, including school programs like "Tuklas Aral" and financial grants. Modernizing designs and using sustainable materials attract younger consumers and expand markets, ensuring these traditions endure.

5.2. Academic and practical implications

To preserve Baliwag's traditional arts, efforts should focus on workshops, sustainable material sourcing, and government support. Artisans should be provided with grants, training, and platforms to market their work. Integrating crafts into tourism and modernizing designs while maintaining authenticity can also drive cultural preservation and economic growth.

5.3. Limitations of this study and suggestions for future research

Future research could explore the impact of modernization on traditional crafts, consumer behavior, and government support effectiveness. Studies on digital marketing's influence on cultural heritage and comparisons with other regions may offer valuable insights to further enhance the preservation and promotion of Baliwag's arts and crafts.



Imbute or bone-inlay furniture



Karo or Caroza
Sources: Karo Baliwag Facebook Page and Turismo ng Baliwag Facebook Page



Buntal Hat Weaving and Festival
Source: Turismo ng Baliwag Facebook Page

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Mortality salience induced by caring: Exploring the healing effect of leisure tourism for informal hospice caregivers (Paper#209)

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Abstract:

Informal hospice caregivers are under tremendous pressure due to heavy workloads and death-reminding characteristics of service. To understand the healing effect of travel for caregivers, in-depth interviews will be conducted with informal hospice caregivers in HK. Tourism participation is expected to alleviate carers' existential anxiety caused by caring-related mortality salience.

Keywords: Hospice care, Informal caregivers, Leisure tourism, Mortality salience, Existential anxiety, Benefits of tourism.

Introduction

Informal care is caring delivered by informal caregivers who usually include a spouse, parent, child, relative, friend or other non-kin individuals of the care recipient, in contrasting with formal paid care from medical institutions or medical professionals (Hunter-Jones et al., 2023; Oh et al., 2024). As the population ages, the demand for informal care is rapidly increasing and informal caregiving is increasingly recognized as a significant public health issue that imposes substantial pressure and burden on caregivers (Crooks et al., 2017; Lindt et al., 2020). Research indicates that many informal caregivers experience feelings of overload and significant stress (Lindt et al., 2020). The role of an informal caregiver often renders individuals physically and emotionally vulnerable (Whitmore et al., 2015). Furthermore, caring for patients with severe symptoms is linked to lower subjective wellbeing among caregivers and greater barriers to leisure participation (Chiu et al., 2020). Hospice caregivers, in particular, are responsible for patients with advanced illnesses and deteriorating health trajectories, which exacerbates stress and can lead to physical and mental health impairments (Washington et al., 2015; Wilder et al., 2008). Therefore, it is crucial to identify strategies that informal hospice caregivers can employ to protect their health and wellbeing. Leisure engagement has been recognized as an

effective coping strategy and form of self-care for caregivers, as it alleviates stress and fosters feelings of enjoyment, pleasure, support and belonging, thereby enhancing their wellbeing (Chiu et al., 2020; Losada et al., 2020; Schuz et al., 2015). Informal hospice caregivers have a significant need for respite care, with tourism being one potential intervention (Hunter-Jones et al., 2023). However, participation rates in respite tourism are notably low in reality (Hunter-Jones et al., 2023). Therefore, it is urgently necessary to examine the therapeutic effects of tourism for informal hospice caregivers and to explore how travel experiences can mitigate the existential anxiety induced by hospice care.

Numerous studies on informal caregivers focus on their roles, burdens, and the impact of caregiving across various disease contexts (Chiao et al., 2015; Lindt et al., 2020; Whitmore et al., 2015). Caregivers often experience depression and anxiety due to factors such as heavy workloads, reduced leisure time, diminished social activities, and social isolation (Losada et al., 2020). However, the effects of mortality salience on hospice caregivers and strategies for managing mortality-induced anxiety are rarely examined which are essential for ensuring the health and wellbeing of hospice caregivers. More research is needed in this area because caregivers and care recipients form a dyad, and the wellbeing of caregivers directly influences the individuals they care for (Whitmore et al., 2015). Some scholars have examined the constraints and barriers to tourism participation for caregivers, as well as the shared travel experiences of caregivers and their patients (Gladwell & Bedini, 2004; Hunter-Jones et al., 2023; Lehto et al., 2018). Additionally, research has examined hospice care and the role of tourism and hospitality in enhancing care for both patients and caregivers (Chiu et al., 2020; Hunter-Jones et al., 2023). Despite these efforts, studies investigating the effects of leisure and tourism participation on alleviating caregivers' depression and stress often ignore the effect of mortality salience on hospice caregivers, whose mortality fear/anxiety may significantly influence their mental health and caregiving effectiveness (Menzies et al., 2019).

Additionally, research on informal hospice caregivers and tourism has predominantly been conducted in Western contexts (Hunter-Jones et al., 2020; Hunter-Jones et al., 2023). Given the diversity in hospice care policies and caregiving practices worldwide, there is an urgent need to understand the impact of leisure travel as an intervention of mortality-induced anxiety and stress among hospice carers in non-Western cultural settings. This research aims to answer the following two questions: First, what are the effects of caregiving-associated mortality salience on hospice caregivers? Second, how do leisure tourism experiences influence the existential anxiety of hospice caregivers?

Methodology

This research employs a constructivist paradigm to explore how hospice caregivers perceive and experience the effects of mortality salience, as well as the function of travel experiences in managing death anxiety. Taking Hong Kong as the study case, data will be collected through in-depth interviews with informal hospice carers who have participated in leisure tourism.

Participants will be recruited using convenience and snowball sampling methods, encompassing hospice care volunteers, social workers from hospices or social organizations, and family caregivers for the terminally ill patients or bereaved families. Informal caregivers from diverse backgrounds are included to account for variations in care intensity and their relationships with the care recipients. Thematic analysis will be used to disclose the effects of mortality salience on hospice caregivers and to elucidate how tourism experiences influence their existential anxiety, quality of life and overall wellbeing.

Results

The results of the thematic analysis are expected to focus on two main aspects. The first aspect examines the effects of mortality salience associated with care giving among hospice caregivers. It is expected that themes such as mortality reminders, time perspective, existential angst/anxiety, and defense mechanisms will emerge. The second aspect reveals the impact of leisure tourism experience on hospice caregivers. Themes related to tourism benefits, defensive styles, and transformative travel experience are expected to be identified.

Discussion and Implications

Previous studies have extensively documented the negative impacts of hospice care giving on caregivers' mental and physical health. However, there is a scarcity of research focusing on the effects of mortality salience on informal hospice caregivers and the potential function of leisure tourism in alleviating their existential anxiety. Unlike most of the research taking a restorative perspective, this study innovatively adopted the terror management theory perspectives to look into informal hospice caregivers, and bridging knowledge on tourism, health care and medics. Practically, this study aims to provide valuable insights for healthcare departments and policymakers to enhance the health and wellbeing of informal hospice caregivers. By improving their rights and welfare, this study seeks to contribute to the sustainability of national health systems and the overall wellbeing of the aging population and their caregivers.

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Unlocking Cultural Capital: Traditional Chinese Medicine as a Catalyst for Value Innovation in Medical Tourism (Paper#023)

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Abstract:

This study explores the integration of Traditional Chinese Medicine (TCM) in medical tourism, highlighting its cultural significance and benefits for healthcare and tourism. Through systematic review, we identify opportunities for value innovation, addressing challenges in validation and quality control.

Keywords: Medical tourism, Traditional Chinese Medicine

1. Introduction

Imagine a journey where healing transcends physical well-being, immersing travelers in ancient traditions intertwined with modern healthcare services. Traditional Chinese Medicine (TCM), a UNESCO-recognized cultural gem, is redefining the boundaries of medical tourism.

This integration not only capitalizes on TCM's therapeutic richness but also serves as a beacon of value innovation in the industry.Forecasts from the China Institute of Expatriate Tourism Research predict China's outbound tourism to skyrocket to 228 million by 2030, driven by innovative policies and international outreach like the Belt and Road initiative. Within this burgeoning sector, TCM stands out as a pivotal element, poised to enhance both the economic landscape and cultural exchange.

This study delves into the seamless fusion of TCM and tourism, addressing an academic void with fresh perspectives on this synergy. By scrutinizing current practices and identifying key growth drivers, we not only chart the present terrain but also lay down a roadmap for future explorations of TCM as a strategic differentiator in the global market.

Research Objectives:

1. Assess the current state of TCM within medical tourism.
2. Uncover factors driving the popularity and practices of TCM in tourism.
3. Propose future research directions and policy guidelines for enhanced TCM integration in global tourism frameworks.

2. Methodology

2.1. Measurement

This research utilizes a mixed-methods approach, comprising both qualitative and quantitative data collection methods.The start of this evaluation occurred in March 2024. The authors developed a comprehensive strategy to provide a thorough overview, based on the aims of the previously mentioned study. We conducted a search for studies on "medical tourism," "Chinese medicine," and "China medicines" in the databases of Scopus, Web of Science, Science Direct, Pubmed, and Google Scholar as of June 2024.We evaluate and include preliminary selected publications based on the relevance and duplication of the title and summary. We exclude the following to meet the study's objective: The study does not pertain to the domains of "Chinese medicine or medical tourism".

2.2. Data collection

The initial findings cover numerous papers on food and Chinese medicine, sparking debate about whether diet is part of medical tourism. Experts argue it should include health tourism, focusing on nutrition and lifestyle rather than just medical treatment. The concept of "Homology of medicine and food(藥食同源)" in TCM views food as nourishment and healing. Chinese medical tourism uses special diets and medicines for health benefits. The authors excluded non-relevant studies, including those on wildlife trade not linked to tourism, and compiled 32 relevant articles. The study follows the PRISMA criteria, using qualitative data and systematic evaluations.

Table 1. Search Items employed to collect the articles about the MT&TCM

Search Items employed to collect the articles about the MT&TCM

Database	Search terms(queries)
WOS	TITLE-ABS-KEY-AllFIELDS (*Medical tourism *AND*Traditional Chinese Medicine*;*Medical tourism *AND*Traditional Chinese Medical*
Science Direct	TITLE-ABS-KEY -AllFIELDS(*Medical tourism *AND*Traditional Chinese Medicine*;*Medical tourism *AND*Traditional Chinese Medical*
Scopus	TITLE-ABS-KEY-AllFIELDS (*Medical tourism *AND*Traditional Chinese Medicine*;*Medical tourism *AND*Traditional Chinese
Pubmed	TITLE-ABS-KEY-AllFIELDS (*Medical tourism *AND*Traditional Chinese Medicine*;*Medical tourism *AND*Traditional Chinese Medical*
Google scholar	TITLE-ABS-KEY-AllFIELDS (*Medical tourism *AND*Traditional Chinese Medicine*;*Medical tourism *AND*Traditional Chinese Medical*

Figure 1. PRISMA flow diagram of study selection

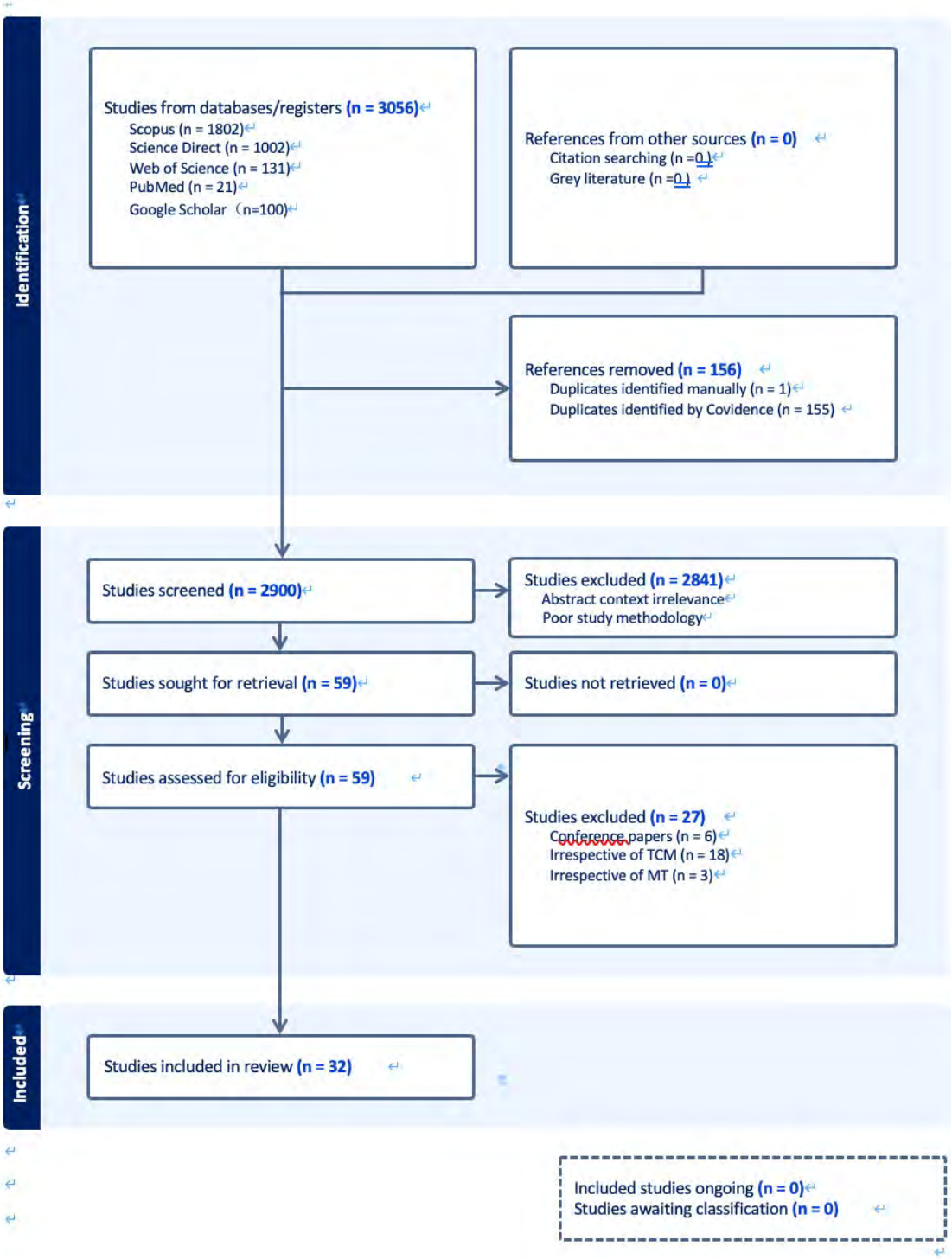


Table 2. Classification and details of previous literatures.

Classification and details of previous literature

No.	Author(s)	Publication Year	Methodology	Key Research Region(s)	Research field
1	Wen, Jun; Wang, Carol Chunfeng; Goh, Edmund; Su, Zhaohui; Ying, Tianyu;	2022	MM	Asia	Tourism&Management
2	Li, Huahua; Du, Yingying; Xue, Tao; Jenkins, Carson Lewis;	2023	MM	Asia	Tourism&Management
3	TOSUN, Nurperihan; DEMİR, Yaşar; SAĞLIK, Erkan;	2020	MM	Asia	Tourism
4	Ying, Tianyu; Wen, Jun; Tan, Xiaoyuan;	2020	QL	Asia	Tourism
5	Yu, Ji Yun; Ko, Tae Gyou;	2012	QT	Asia	Tourism
6	Islam, Nazrul;	2014	MM	Asia	Tourism
7	Jiang, Lei; Wu, Huazhang; Song, Yang;	2022	MM	Asia	Tourism&Management
8	Wilco, Chan Wai Hung; Luo, Jim; Zhang, Carol; Kuo, Andy;	2022	QL	Asia	Tourism
9	Wang, Lei; Jia, Hao-Xiang; Cheng, Su-Juan; Wong, Philip Pong Weng;	2023	QT	Asia、Africa	Environmental&Social psychology
10	Sun, Sunny; Zhong, Lina; Law, Rob; Li, Xiaonan; Deng, Baolin; Yang, Liyu;	2022	MM	Asia	Tourism
11	Xu, Shaogui; Zuo, Yifan; Law, Rob; Zhang, Mu; Han, Jiayu; Li, Gaopeng; Meng, Juewei;	2022	MM	Asia	Tourism
12	Huang, Liyuan; Xu, Honggang;	2014	QL	Asia	Tourism
13	Perfetto, Ralph; Dholakia, Nikhilesh;	2010	QL	North America	Management
14	Lam, Ching - Chi Cindia; Da Cros, Hilary; Vong, Tze Ngai Louis;	2011	MM	Asia	Tourism
15	Heung, Vincent CS; Kucukusta, Deniz;	2013	MM	Asia	Tourism
16	Wen, Jun; Wang, Carol Chunfeng; Kozak, Metin;	2021	QL	Asia	Tourism
17	Xu, Erping; Liu, Baoguang; Bai, Ming; Liu, Yalin; Li, Yucheng; Wang, Baoying; Chen, Yiheng; Xie, Miao; Dong, Ying;	2023	QL	Asia	Medical Science&Tourism
18	Zhang, Xizi; Wall, William P; Hughes, Kate;	2018	QL	Asia	Tourism&Management
19	Zhong, Lina; Deng, Baolin;	2019	QL	Asia	Tourism
20	Ziping, YU;	2019	MM	Asia	Tourism
21	Huipeng, Zhang;	2024	QL	Asia	Social medicine&Health management
22	Li, Jingjing; Gong, Qing; Zhang, Han; Zhou, Jingjing; Wang, Ao;	2024	MM	Asia	Tourism
23	Kim, JH; Hu, FL; Wen, J; Hou, HF	2023	MM	Asia	Tourism&Management
24	Liu, Chang-xiao	2021	QL	Asia	Medical science
25	Zhang, Qiu; Wu, Chuyun; Ai, Xinrong; Huang, Mandong; Zheng, Baifeng; Li, Yiling; Zhang, Shuli; Yao, Liqing; Wang, Jiangyue; Tang, Yingying	2023	MM	Asia	Tourism&Management
26	France, H.	2022	MM	North America	Medical science
27	Tan, Y.Y.; Omar, R.	2022	QL	Asia	Management
28	Ng, T.K.C.; Lo, M.F.; Fong, B.Y.F.	2022	MM	Asia	Medical science
29	Li, Z.-Y.; Li, H.-Y.; Zhang, X.-B.; Zhang, Z.-J.; Mu, J.; Zhao, Y.-C.; Song, P.; Huang, L.-Q.	2021	QL	Asia	Medical science
30	Farrington, R.; Musgrave, I.; Nash, C.; Byard, R.W.	2018	MM	Asia	Medical science
31	Cyranoski D	2018	QL	Global	Medical science
32	Song, HakJun; You, Geun-Jun; Reisinger, Yvette; Lee, Choong-Ki; Lee, Seung-Kon	2014	QT	Asia	Tourism

Note:QL.=Quanlitative,QT=Quantitative,MM=Mixed Method

3. Results

3.1. Release period

It is worth mentioning that the years 2022 and 2023 show a significant increase in research activity focused on Traditional Chinese Medicine (TCM) and medical tourism. During this period, more than 40% of articles on these topics were accepted and published. This trend can be ascribed to the extensive use of Traditional Chinese Medicine (TCM) during the COVID-19 pandemic, especially with the global distribution of treatments such as Lianhua Qingwen

capsules by foreign students. China has established several beneficial policies to promote Traditional Chinese Medicine (TCM) since the start of the epidemic. These policies have had a good impact on the TCM industry in the A-share stock market, leading to tremendous growth and prospects in this field.Similarly, the economic foundation dictates the superstructure. The growing popularity and commercialization of traditional Chinese medicine has stimulated academic research in various allied disciplines, such as traditional Chinese medicine and medical tourism.

Table 3. Number of articles in which traditional Chinese medicine and medical tourism research has published in different year.

Number of articles in which traditional Chinese medicine and medical tourism research has published in different year

Rank	Year of publications	Number of articles	Percentage (%)
1	2022	8	25.0%
2	2023	5	15.6%
3	2014	3	9.4%
4	2018	3	9.4%
5	2021	3	9.4%
6	2019	2	6.3%
7	2020	2	6.3%
8	2024	2	6.3%
9	2010	1	3.1%
10	2011	1	3.1%
11	2012	1	3.1%
12	2013	1	3.1%
	Total	32	100%

3.2. Primary source publishers and disciplines

Prominent academic journals such as Tourism Management and Nature have published noteworthy research on the topic of "Traditional Chinese Medicine and Medical Tourism," highlighting the scholarly focus on tourism and its management. Nevertheless, our study uncovers a significant variation in the journals where the publications are found.Each of the chosen papers originated from a distinct journal. Upon analysing the data provided by the publishers, we discovered that Taylor & Francis has the biggest number of publishers focusing on this topic, comprising 28% of the total. Elsevier has a market share of 18.8%, followed by Emerald group with a market share of 9.4%. These publishers, with their diverse subject coverage and extensive academic resources, play a crucial role in advancing academic communication and development, as well as facilitating the global distribution and sharing of information.

Table 4 Publishers in which traditional Chinese medicine and medical tourism research research has most frequently appeared.

Publishers in which traditional Chinese medicine and medical tourism research has most frequently appeared.

Rank	Publisher's name	No.of articles	Percentage (%)
1	Taylor & Francis	9	28.1%
2	Elsevier	6	18.8%
3	Emerald Group Publishing Limited	3	9.4%
4	Clausius Scientific Press	2	6.3%
5	MDPI	2	6.3%
6	AIBPM Publisher	1	3.1%
6	Frontiers Media	1	3.1%
	Others	9	25.00%
	Total number of publishers	15	
	Total number of articles reviewed	32	

3.3 Main practice and practical application (type of treatment and service)

Traditional Chinese Medicine (TCM) serves as an important indicator of China's potential in the tourism industry, representing a unique cultural heritage that enhances the medical tourism experience.We performed an analytical examination of thirty-two academic papers on Traditional Chinese Medicine (TCM) and medical tourism to ascertain the prevalence and categories of TCM's practical applications referenced in these studies. This study offers profound insights into the current discourse regarding the integration of traditional Chinese medicine (TCM) within the realm of medical tourism. An analytical assessment indicates that the majority of research articles addressing the intersection of Traditional Chinese Medicine (TCM) and medical tourism closely link TCM-focused medical tourism with health tourism, emphasizing its significance in preventive and health maintenance. Nonetheless, a statistical examination of practical applications indicates a heightened focus on TCM modalities. This includes herbal remedies, health supplements pertaining to Traditional Chinese Medicine (TCM), and TCM diagnostic and therapeutic methods such as acupuncture, massage therapy, and physical therapy.

Table 5 Types of Chinese medicine practice in which the research was most frequently mentioned.

Types of Chinese medicine practice in which the research was most frequently mentioned.

Rank	Types of Traditional Chinese Medicine Practice	Number of mentioned	Percentage (%)
1	**Chinese medicine** (Such as Chinese medicine decoction, Chinese patent medicine, Chinese herbal extract, health products, herbs)	143	49.14%
2	**TCM diagnosis and treatment** (such as bee therapy, acupuncture, moxibustion, cupping, massage, etc.)	84	28.87%
3	**TCM tourism program** (Traditional Chinese medicine health tour, traditional Chinese medicine characteristic rural tourism, traditional Chinese medicine Museum tour, traditional Chinese medicine planting base tour)	23	7.90%
4	**TCM health exercises** (such as Tai Chi, Qigong, eight Jin, Daoyin, Kung fu)	11	3.78%
5	**TCM herbal food** (such as angelica, ginger, mutton soup)	11	3.78%
6	**Lifestyle and nutrition counseling** (e.g. meditation, massage, aromatherapy, diet counseling)	8	2.75%
7	**TCM culture heritage** (Huangdi's Inner Classic, Treatise on Febrile and Miscellaneous Diseases, Yin and Yang five elements, zang-fu meridians)	6	2.06%
8	**TCM herbal tea** (such as herbal tea, three root tea)	4	1.37%
9	**TCM herbal wine** (such as deer antler wine, tiger bone wine, three whip wine)	1	0.34%
	Total number of mentioned	291	100.00%

4. Discussion and Implications

Discuss your findings by comparing those of previous studies. Address academic and practical implications. Conclude with some directions for future research or practice, and any limitations of this study.

4.1. Discussion

In comparison to Western-dominated medical tourism, TCM offers a unique blend, placing China at a strategic advantage on the global stage (Yu & Ko, 2012). This integration enhances cross-cultural communication and augments tourism offerings beyond mere health benefits to include cultural education (Wen et al., 2021).

4.2. Academic and practical implications

Academically, this study contributes significantly to the understanding of TCM's role in medical tourism and suggests a need for a cohesive theoretical framework. Practically, it underscores the potential economic benefits for countries that leverage TCM as part of their tourism strategy (Heung & Kucukusta, 2012).

4.3. Limitations of this study and suggestions for future research

The study is limited by the scope of literature reviewed, highlighting the necessity for longitudinal and cross-cultural studies to fully comprehend TCM's impact and acceptance. Future research should address the regulatory aspects and scientific validation processes to enhance the credibility and applicability of TCM in global markets (Zhang, 2023).

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The relationship between hospitality interns' information literacy self-efficacy and technology application (Paper #053)

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Abstract:

The purpose of this study was to examine the self-efficacy of information literacy and technology application among the interns of university students in hospitality and tourism management.

Keywords: Information Technology, Information Literacy, Self-efficacy, Theory of Planned Behavior, Students

1. Introduction

Information literacy plays a crucial role in shaping the new generation. It enriches individuals' their intellectual knowledge, problem solving skills, and living standard. In the digital era, information literacy, facilitated through information technology (IT), has become even more important. The main aim of this study is to examine the self-efficacy of technology-based information literacy and the learning and usage behaviors of IT among the students who are studying the hospitality and tourism management. The findings provide valuable insight for university educator in designing the course curricula and contents to enhance students' advanced information literacy skills.

2. Literature Review

2.1. Information literacy and self-efficacy

According to the Association for College and Research Libraries (2000), information literacy refers to a set individuals' abilities to find, apply, and evaluate information, and continue a lifelong learning. This study employs Kurbanoğlu et al.'s (2004) Information Literacy

Self-efficacy Scale, based on the Bloom's taxonomy (Forehand, 2010), to assess students' IT literacy across three levels. The basic level involves finding and describing information, the intermediate is related to interpreting and adopting information, while the advance level focuses synthesizing and criticizing the information.

Apart from information literacy, the self-efficacy of individuals is another key determinant. Self-efficacy refers to an individual's confidence and belief in their ability to successfully complete tasks or achieve goals in specific situations (Bandura, 1977). Therefore, self-efficacy affects individuals' perseverance, resilience, life-long learning and motivation (Alqurash, 2016; Rahman et al., 2023).

2.2. Theory of planned behaviors

According to Ajzen's (1991) Theory of Planned Behavior (TPB), specific behaviors are shaped by behavioral intention, influenced by attitude, subjective norms, and perceived behavioral control. First, attitude shape behavioral intention. Students who see information literacy as beneficial for academic or career success are more likely to develop IT-related skills. Second, perceived behavioral control affects engagement—students with confidence in their IT abilities are more likely to continue improving. Lastly, subjective norms, such as peer, teacher, and industry expectations, act as external influences that motivate students to enhance their IT literacy skills. These factors collectively drive students' willingness to develop information literacy. From literature, TPB, is widely adopted in studying students' learning behaviors of IT (Mohr, S., & Kühl, 2021; Rahmat, et al., 2022). Therefore, TPB is suitable in this study.

3. Methodology

A purposive sampling method was used to select the sample, which consisted of 121 undergraduate students majoring in hospitality and tourism-related programs, including 20 males and 101 female participants. All respondents were interns in the hospitality industry. Two questionnaires were employed for data collection. The first scale was a modified version of the information literacy self-efficacy scale developed by Kurbanoğlu et al. (2004), which included three dimensions: intermediate information literacy skills, basic information literacy skills, and advanced information literacy skills. The second scale was a modified version of the Technology Application Scale developed by Tseng et al. (2011), which included four main dimensions: technology usage attitude, technology control perception, technology subjective norm, and technology usage intention.

4. Results

4.1. Relationships information literacy self-efficacy and technology application

The relationships between self-efficacy in information literacy and the factors influencing intention and actual usage of information literacy are found. The data is categorized according to three different levels of self-efficacy in information literacy: basic, intermediate, and advanced. For the self-efficacy of the basic literacy, there is a robust positive correlation with attitudes

(r = 0.34, p < 0.001), a moderate positive correlation with behavioural control (r = 0.28, p < 0.01), a strong positive correlation with subjective norms (r = 0.32, p < 0.001), and a moderate positive correlation with intention (r = 0.30, p < 0.01). In the case of the self-efficacy of intermediate literacy, a weak positive correlation is observed with attitudes (r = 0.22, p < 0.05), a strong positive correlation with behavioural control (r = 0.31, p < 0.001), a weak positive correlation with subjective norms (r = 0.16, p > .05), and a very weak positive correlation with intention (r = 0.10, p > .05). For the self-efficacy of advanced literacy, there is a very strong positive correlation with attitudes (r = 0.50, p < 0.001), a strong positive correlation with behavioural control (r = 0.34, p < 0.001), a moderate positive correlation with subjective norms (r = 0.40, p < 0.001), and a moderate positive correlation with intention (r = 0.40, p < 0.001).

These findings suggest that the self-efficacy of advanced literacy exerts the strongest positive influence on all factors that influencing intention and subsequently the intention of technology-based information literacy. The self-efficacy of basic literacy exhibits positive correlations across all aspects, despite the effects are weaker than advanced level. In contrast, the self-efficacy of intermediate literacy has a negligible effect on intention, but significant correlations with behavioural control and attitude.

4.2. Predicting technology application by information literacy self-efficacy

The predictive relationships between self-efficacy of information literacy and technology application are examined across four key aspects: attitudes, behavioural control, subjective norms, and intention. For attitudes, the self-efficacy of the advanced information literacy significantly predicts technology usage, with a Beta of 0.50 (t = 6.27, p < 0.001) and an Adjusted R^2 of 0.24. For behavioural control, the self-efficacies for both advanced and intermediate levels of information literacy are significant predictors, with advanced showing a Beta of 0.25 (t = 2.65, p < 0.01) and intermediate showing a Beta of 0.21 (t = 2.18, p < 0.05), contributing to an Adjusted R^2 of 0.13. Regarding subjective norms, the self-efficacy of advanced information literacy also predicts technology usage with a Beta of 0.40 (t = 4.77, p < 0.001) and an Adjusted R^2 of 0.15. Lastly, for intention, the self-efficacy of advanced information literacy again plays a significant role, with a Beta of 0.40 (t = 4.77, p < 0.001) and an Adjusted R^2 of 0.15. Overall, these findings suggest that the self-efficacy of the advanced information literacy is the most significant predictor of technology application.

5. Discussion and Implications

The self-efficacy of advanced information literacy can significantly predict students' technology application. High intention is needed to acquire the self-efficacy and mastering advanced skills. However, the self-efficacy of basic information literacy lacks significant relationship, while the self-efficacy of advance information literacy significant related to technology usage intention. It implied that the basic computer usage task is so simple that requires minimal skills and effort; hence, students do not need to deliberately or intentionally to use the knowledge. When the usage is getting harder, efforts are needed. Subsequently, attitudes, perceived behavioural control and subject norms matter.

To enhance students' technology-based information literacy and self-efficacy, university educators should consider three key aspects. First, fostering a positive attitude toward advanced computer use through real-life applications and hands-on software experience. Second, strengthening subjective norms by increasing industry engagement, such as co-teaching or guest lectures, to highlight the career relevance of advanced skills. Third, enhancing perceived behavioral control by designing assessments that are challenging yet manageable, gradually building students' confidence. Additionally, educators should ensure continuity in technology-based literacy across subjects and regularly update course design and assessments to keep teaching relevant and effective.

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Regenerative tourism through urban lightings and heritage development for nighttime tourism in Old Town Bangkok, Thailand (Paper#055)

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Abstract:

This study aims to showcase how urban lighting can develop nighttime tourism, enabling communities and ecosystems to evolve, renew, and restore economic, social, cultural, spiritual, and ecological development in Old Town Bangkok, Thailand. This study applied a three-phase methodological approach from a participatory study, in-depth interviews, and a social listening research platform. The findings reveal the subjective perceptions of residents, international tourists, and lighting experts, indicating the opportunities for generative tourism through a unique lighting design.

Keywords: Regenerative tourism, Urban lighting, Heritage development, Night-time tourism



Theme: Digital Technology, Innovation, and Future Tourism

Value determinants of Artificial Intelligence (AI) among Hospitality Students in Asia (Paper#219)

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Abstract:

This paper investigates the attitudes of hospitality college students in Southeast Asia towards artificial intelligence (AI). The results show that hospitality college students generally hold a positive attitude toward AI, recognizing its ability to enhance convenience in daily life, improve efficiency in learning and work. Value perceptions of AI are shaped by perceived control when using AI and negative effect of perceived limitations. The aim is to raise awareness about recent developments in AI and urge educators to prepare for a wider application of digital tools which prepare students for the future workforce.

Keywords: Artificial intelligence; attitudes; Asian students; hospitality

1. Introduction

Over the last few years, especially after the pandemic, artificial intelligence (AI) has emerged as a transformative force, reshaping various aspects of our lives. Its influence is now impacting higher education, promising to revolutionize traditional teaching and learning methods. AI refers to the development of computers that can perform tasks that are normally associated with human intelligence (Ertel, 2018) and encompasses a wide array of functions such as problem-solving, language understanding, visual perception, and decision-making. In the context of education, AI presents an exceptional opportunity to tailor learning experiences to individual needs, providing personalized pathways for students to explore and master their academic pursuits (Alam, 2021). The integration of AI in higher education stands out as a beacon of innovation, holding the potential to produce sustainable growth in students' learning experiences (Ouyang & Jiao, 2021), foster retention (Chen et al., 2020), strengthen academic motivation (Yilmaz & Yilmaz, 2023), increase academic performance (Zhou, 2023), promote self-directed learning skills (Lasfeto & Ulfa, 2023), support language learning (Crompton & Burke, 2023), and develop problem-solving skills (Zhang & Zhu, 2022).

In addition to other factors, students' personal perceptions and attitudes play essential roles in the successful implementation of AI in higher education. Studies have constantly shown that students' learning experiences are greatly affected by their beliefs about using or engaging with technologies in their educational practices (Akinoso, 2023; Zulaiha & Triana, 2023). As active participants in the learning process, students show preferences for technological applications that correspond with their attitudes and strategies for learning (Abdelrady & Akram, 2022; Guo et al., 2023). This alignment stems from a desire to improve their educational experience via the effective incorporation of technology (Akram et al., 2022; Linardatos & Apostolou, 2023). On the other hand, individuals with a negative attitude toward technology are less likely to be interested in technology-driven learning and hold negative views of tech-based resources, hindering their abilities to effectively incorporate technology into their learning (Akram, Yingxiu, et al., 2021a; Y. Wang, 2023). Therefore, individuals' willingness and ability to use AI in education are key factors that determine how well the technology is integrated. Furthermore, the debut of new technology requires a thorough examination of individuals' attitudes toward it and the elements that shape those perceptions (Makumane, 2023). In terms of AI in higher education, examining students' perspectives is a critical step in understanding the dynamics of their relationship with this new technology.

The purpose of this study is to examine Asian hospitality students' value perceptions of AI. Specifically, it seeks to conduct a comparative analysis of these perceptions based on students' majors, academic progression (upper vs. lower division), and gender. Additionally, the study will explore students' attitudes toward AI, perceived limitations, and concerns regarding its integration into the academic learning environment. This study is significant because cultural differences can also greatly influence attitudes toward technology in the educational process. Diverse cultures exhibit different policies regarding and accessibility toward digital technologies (Akram & Yang, 2021), leading to gaps in digital competences such as computational thinking and AI literacy between people of different backgrounds (Kayalar, 2016; Savicki, 2023). These differences can result in distinct ways of interacting with technology, which can influence people's attitudes, perceptions, and beliefs (Vargo et al., 2021).

2. Literature Review

Jdaitawi et al., (2024) did a study about the factors affecting college students' willingness to use AI. This study aimed at investigating the factors affecting students' willingness to use AI. A quantitative study method was used, with the survey questionnaire technique. The sample of this study consisted of 330 university students in Jordan. The participants were from different colleges and majors. The results of the study revealed that perceived usefulness, ease of use, perceived enjoyment, time and psychological risks, social influence and task technology fit significantly influenced willingness of the students to use AI systems in their learning environment.

Examining individuals' attitudes is crucial to determining the success rate of newly introduced technology. Several theories have been developed to investigate and explain the reasons that lead users to embrace, reject, or continue to use a new technology (Venkatesh & Davis, 2000; Venkatesh et al., 2003). The technology acceptance model (TAM) is a widely recognized theoretical framework that helps explain users' intentions and attitudes to use technology (see Figure 1).

Previous studies have been conducted on AI literacy among university students to understand their knowledge, attitudes, and competencies regarding AI. These studies show that students generally possess a moderate level of AI literacy, characterized by a basic understanding of AI concepts and an awareness of its societal impacts (Yang, 2022).

it is crucial to emphasize that Ongoing assessments of AI literacy levels among university students are essential to adapt teaching strategies and content that align with technological advancements and labor market demands, ensuring that our education system remains relevant and effective (Hong & Kim, 2020; Kim & Lee, 2022).

Kim et al. (2022) investigated the perceptions and level of AI literacy among university students, the amount of AI-related education they have received, and the factors influencing their learning of AI. A survey was conducted with 112 students, and some were also interviewed. The results revealed that while there was a strong interest in AI and AI education, self-evaluated AI literacy was low, with significant variation by age. Additionally, the proportion of respondents who had received AI-related education was lower than expected, with several factors influencing this result.

Li and Lee (2024a) conducted an online survey with 177 students from various departments at a Chinese university in Korea. The results show that Korean universities recognize the personal implications of AI for students' academic disciplines and future careers. They also acknowledge the significance of AI education, irrespective of students' current majors. Additionally, the findings indicate that prior exposure to AI education significantly influences the perceived importance of AI convergence education.

2.1. Perceived Usefulness

Perceived usefulness (PU) refers to the extent to which individuals believe that using a specific technology will enhance their ability to accomplish their work (Davis, 1989). Students who perceive technological applications as useful in their studies are more likely to integrate them into their educational practices (Akram, Aslam, et al., 2021).

Sudaryanto et al., (2023) research aims to determine the effect of technology readiness, digital competence, perceived usefulness, and ease of use on college accounting students' artificial intelligence technology adoption. This study uses quantitative methods using a questionnaire

with 44 items. The research uses convenience sampling technique, in which the research has a sample of 152 respondents from accounting students studying at universities in West Jakarta, Indonesia. The research method used the Partial Least Square Path Modeling (PLS-PM) approach to analyze the collected data. The findings revealed that perceived ease of use and usefulness significantly affect artificial intelligence technology adoption. However, digital competence and technology readiness did not affect artificial intelligence technology adoption. Professionals in the accounting field believe artificial intelligence will have a significant role in the future. Accounting students need to prepare themselves for when learning artificial intelligence becomes a must.

Previous studies have shown that users perceiving a new technology as useful or easy to use are more likely to adopt it; also, a positive effect of perceived ease of use on the perceived usefulness of a new technology was verified (Chin & Todd, 1995; Nikou & Economides, 2017).

2.2. Perceived Ease of Use

Perceived ease of use (PEOU) refers to a user's comfort and ease with using technology (Davis, 1989). It influences students' behavioral predisposition of ultimate use (Sathye et al., 2018). Several studies provide evidence that PEOU plays a key role in shaping users' attitudes and behavioral intention toward use of technology (e.g., Al-Hattami, 2023; Elfeky & Elbyaly, 2023). Algerafi et al., (2023) investigated factors influencing Chinese college students' intention to adopt AI. The purpose of the study was to evaluate Chinese higher education students' intentions to adopt AI-based robots for educational purposes. Based on the TAM3 model, the current study proposes 14 hypotheses to evaluate students' intention to adopt AI-based robots in education. The students' data were collected and analyzed using PLS-SEM. The study findings revealed that 12 hypotheses were accepted and two were rejected. The results indicate that students were willing to accept AI-based robots in their education. However, the findings also revealed an insignificant influence of job relevance and robot anxiety on perceived usefulness and ease of use, respectively.

2.3. Attitudes toward Use

A growing body of research supports the idea that users' attitudes toward system usage (AU) strongly influence their behavioral intentions, which ultimately affect their behavior (Al-Mamary, 2022; Yang et al., 2022). Lee et al., (2024) did a study about Ai literacy among university students in Korea. The results revealed that the participants had average knowledge about AI. However, they exhibited high confidence in using general AI technology for functional or competency-based applications but showed lower confidence in computer coding-related tasks. Most respondents expressed a positive attitude towards AI technology and were optimistic about its future. However, they showed a low agreement rate with the potential negative outcomes associated with AI. These findings suggest that students perceive AI positively and its potential to transform various fields. Interestingly, students with prior AI learning experience exhibited greater knowledge about AI, better comprehension of AI-related articles, and a stronger

ability to articulate their opinions on AI. However, they also expressed concerns about AI surpassing human intelligence and posing threats to human survival. These concerns highlight the need for a balanced approach to AI education that addresses the potential ethical and existential risks associated with AI while promoting responsible AI usage.

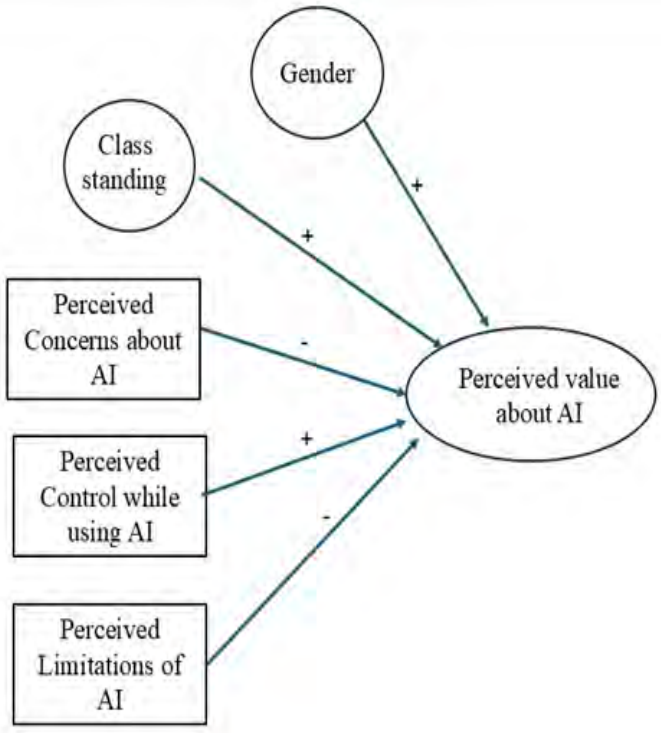
2.4. Gender and class rank

Frechette, S.R. (2024) investigates college students' perceptions of artificial intelligence (AI). The study analyzed four independent variables; age, gender, school, and employment to predict students' level of readiness to adopt AI within an educational setting. Using an instrument with two constructs, data was collected from a diverse, multicultural group of students within a community college in the northeastern U.S. The findings showed that age, gender, and school are significant predictors of readiness, while employment was not a significant predictor. Additionally, the findings showed no significant interaction effect between age and employment on readiness.

Hajam & Gahir (2024) examined gender differences in relation to attitudes towards AI and discovered that there was no statistically significant difference in attitudes toward AI between male and female university students. There finding is consistent with other research conducted by Schepman & Rodway (2022) and Sindermann et al. (2022). The findings of these studies suggest that gender does not play a significant role in determining attitudes toward AI among college students.

2.5. Conceptualization

Figure 1. The Proposed Model



Hypotheses

H1: Perceived control while using AI will have a positive effect on value perceptions about AI

H2: Perceived limitations associated with AI will have a negative effect on value perceptions about AI.

H3: Perceived concerns associated with AI will have a negative effect on value perceptions about AI.

H4: Perceived Male students will have greater value perceptions about AI than female students.

H5: Perceived Upper division students will have greater value perceptions about AI than lower-division students.

3. Methodology

The research methodology for this study involves the use of a survey-based approach to gather insights from hospitality programs in Southeast Asia. A structured questionnaire was designed to generate quantitative responses, addressing various aspects of AI integration in college teaching, learning and students' future careers. The data was collected from a survey questionnaire email to faculty with an online Qualtrics link for students to participate. The surveys were done during the Spring 2025 semester. The surveys began with a consent form, the participants were informed that the survey was entirely anonymous. The questionnaire is divided into two parts: Section I collects socio-demographic information, then Section II explores various constructs related to the study regarding the student's agreement with perception statements, utilizing a 5-point Likert-type scale. In this scale, 1 signifies strong disagreement (SD), and 5 signifies strong agreement (SA). Students' perspectives on awareness and understanding of AI, experience and usage of AI, attitudes towards AI and their future expectations of AI were explored. The collected data underwent quantitative analysis, employing statistical measures to provide a comprehensive understanding of the students' opinions. Students completed 78 surveys, participants voluntarily took part in the study, with guarantees of the confidentiality of their data by recording the data without any personal identifiers. Subsequently, data from the collected responses were extracted from the database, and statistical analysis was performed using SPSS version 28.

4. Results

The sample consisted of eighty Hospitality and Tourism students from different countries from Asia. About 72% of the sample were female. Most of the students (86%) were between 18 and 23 years of age. The sample was also skewed towards lower division students with 77% in the first or second year of college.

Scales

Factor analysis was used to check the dimensionality of the variables. Varimax rotation provided four dimensions. The items in these four dimensions were combined to create composite variables for analysis. Items with cross-loadings were eliminated. The four variables that emerged were: perceived value, perceived concerns, perceived limitations, and perceived control with respect to AI. Cronbach alpha values exceeded 0.90.

Analysis

The hypotheses were tested with multiple regression with value perceptions about AI as the dependent variable and perceived concerns, perceived limitations, and perceived control as independent variables. In addition, two dummy variables gender (female and male) and class standing (lower-division and upper-division) were also included as independent variables.

The regression model was significant (adjusted r-square = .588; F5,74 = 23.53, p < .001). The coefficients are shown in Table 1.

Table 1.

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.823	.433		4.209	.000
Gender	.354	.138	.204	2.562	.012
Class rank	.105	.149	.056	.704	.484
Perceived control	.609	.090	.582	6.791	.000
Perceived concerns	.106	.078	.125	1.346	.182
Perceived limitations	-.335	.086	-.359	-3.880	.000

Gender had a significant effect on value perceptions. Compared to female students, male students had a greater value perception about AI, holding other factors constant (Beta = 2.562, t = 2.562, p < .05). On the other hand, class standing did not have a significant effect on value perceptions about AI. In other words, no significant differences in value perceptions were seen between lower-division and upper-division students.

Perceived control over using AI had a significant positive effect on value perceptions of AI (beta = .582, t = 6.791, p < .001). In other words, students who felt confident in using AI had positive value perceptions. Interestingly, perceived concerns about using AI had no significant impact on value perceptions of AI. This has important implications because students at this stage are not concerned about the prospect that AI use may undermine the value of their education or open the doors to cheating.

Perceived limitations about AI had a significant negative effect on AI value perceptions (beta = -.359, t = -3.880, p < .001). This suggests that students do not perceive AI to provide infallible results.

5. Discussion and Implications

Discuss your findings by comparing those of previous studies. Address academic and practical implications. Conclude with some directions for future research or practice, and any limitations of this study.

5.1. Discussion

This study explores the attitudes and perceptions of hospitality students in Asia toward AI. While research on AI in higher education is expanding, only a small portion focuses on hospitality students and their interactions with AI tools. Our study specifically examines how hospitality students perceive AI. Universities, are still in the early stages of developing policies on AI usage for both students and faculty. Notably, student adoption of AI tools surpasses that of faculty, with many students already integrating AI into their academic work. Understanding students' attitudes and perceptions toward AI is crucial as institutions navigate AI implementation and policy development.

Hospitality students in our sample had somewhat favorable attitudes towards AI (Table 1). This is consistent with recent research findings (Kharroubi et al., 2024; Yadrovskaia et al., 2023). Positive correlation between attitudes and intentions is a core tenet of attitude theory. In the context of AI, a recent study found a strong positive correlation of college students between attitudes and AI usage (Fabro et al., 2024). Stohr et al. (2024) found positive attitudes are linked to frequency of use and familiarity. Greater familiarity would likely result in students discovering benefits as well as limitations of AI tools. These in turn would shape stronger attitudes.

From a policy perspective, results of our study suggest that students may be open to trying AI tools. There is growing evidence from recent research that students want AI tools but are constrained in their access to AI tools (Stohr et al., 2024). Universities have the opportunity to train students about the responsible use of AI. Recent surveys among students in a European university found attitudes towards AI to be more favorable among technology-oriented majors (Stohr et al., 2024). In our study, attitudes did not significantly vary between hospitality, marketing, other business majors, and non-business majors. Attitudes also did not vary significantly for lower and upper-classmen and between male and female students. Students at HBCUs are likely to be in the early stages of the adoption of AI tools, unlike students in other studies. Stohr et al. (2024) found higher usage of AI, more positive attitudes, and lower perceptions of limitations among male students.

Gender: Compared to female students, male students had a greater value perception about AI. Male students scored significantly higher than female students, indicating a higher perception of AI benefits. Men are generally more interested in technology tools and more likely to major in computer science, exposing them to AI benefits. Interestingly, the men's general knowledge about AI benefits did not translate into knowing how to leverage the tool for learning opportunities. This may reflect that knowing how to use AI in specific contexts requires some level of AI literacy (Almatrafi et al., 2024).

Students perceived limitations of AI to be somewhat low, a significant negative effect. It is speculated that positive experiences (direct and indirect) of using AI may have lowered these perceptions. Greater usage would expose students to the benefits and limitations of AI. This should be tested in future research. Female students perceived limitations of AI to be greater than male students. This could be linked with lower usage among female students.

Perceived control, students who felt confident in using AI had positive value perceptions. This construct taps into the relevant aspects of usage of AI in higher education. It is important to understand if students perceive AI to undermine the value of their education, or if AI would limit their opportunity to improve their analytical ability or hinder their problem-solving skills. This should be highly relevant for policy makers when they set guidelines for AI usage. Future research should explore underlying reasons for perceptions of concerns of using AI among different student groups. It is vital for students to understand the responsible usage of AI tools. Universities have to develop guidelines to incorporate AI in the classrooms and develop appropriate assessment that controls issues of cheating and plagiarism and promotes the ethical usage of AI tools.

It is critical for hospitality programs to effectively integrate AI in their curriculum. Students are key stakeholders in the process of developing guidelines and policies governing AI adoption and use in their institutions. Hospitality must center AI in their curriculum and research to play a critical role in shaping artificial intelligence and assuring that it benefits all of society. Hospitality programs, with their history of academic excellence and commitment to inclusivity, are uniquely positioned to address these challenges, turning them into opportunities for their students and the broader community.

5.2. Academic and practical implications

The findings provide support for integrating AI courses/modules in university education, reflecting the increasing relevance of AI for higher education. The study has implications to literature by extending it through the determined factors and their role in the willingness of students to use AI tools and the status of the factor's strengths in the perceptions of students. Regardless of the potential of AI to enhance practical learning for learners and its assistance in promoting continuous development, the majority of the studies on AI have recommended for authors to conduct additional studies to examine willingness of students to use AI in achieving their learning curriculum. This study also contributes to literature by providing insights into AI use among university hospitality students. The study provides practical suggestions for the educators and policymakers concerned with successful implementation of AI in the education field. For educators, it is imperative that educators should attend training sessions to develop their technology skills and knowledge to effectively implement AI technology in the teaching/learning activities to enhance the learning experiences and outcomes. Finally, policymakers should support financing and assist in developing and implementing appropriate AI tools and resources in the learning/teaching process. Targeted training in AI competencies can further equip students to

become champions of safe and effective adoption. After all, it is the job of academic institutions to prepare the students for the workforce, one in which AI will likely play a key role.

5.3. Limitations of this study and suggestions for future research

As with all studies, the current empirical study has some limitations. Although the sample size is sufficient (n = 78) for the current analyses, it might be considered small, and thus, more advanced analytic approaches were not implemented. Another limitation of the study's design is the cross-sectional correlational nature of the data, which does not permit the drawing of any causal conclusions. Additionally, the sampling method followed the principles of convenience sampling, which means that the results are not necessarily generalizable to the whole target population. The present study's scope and generalizability are rooted in a specific higher education context, potentially limiting the transferability of the findings to more diverse environments or student populations. Future studies can include diverse samples from different higher education university departments to gain a better picture of students' attitudes toward AI in general.

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Navigating Career Success in Hospitality: Insights into Cross-Cultural Competence from International Graduates (Paper#107)

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Abstract:

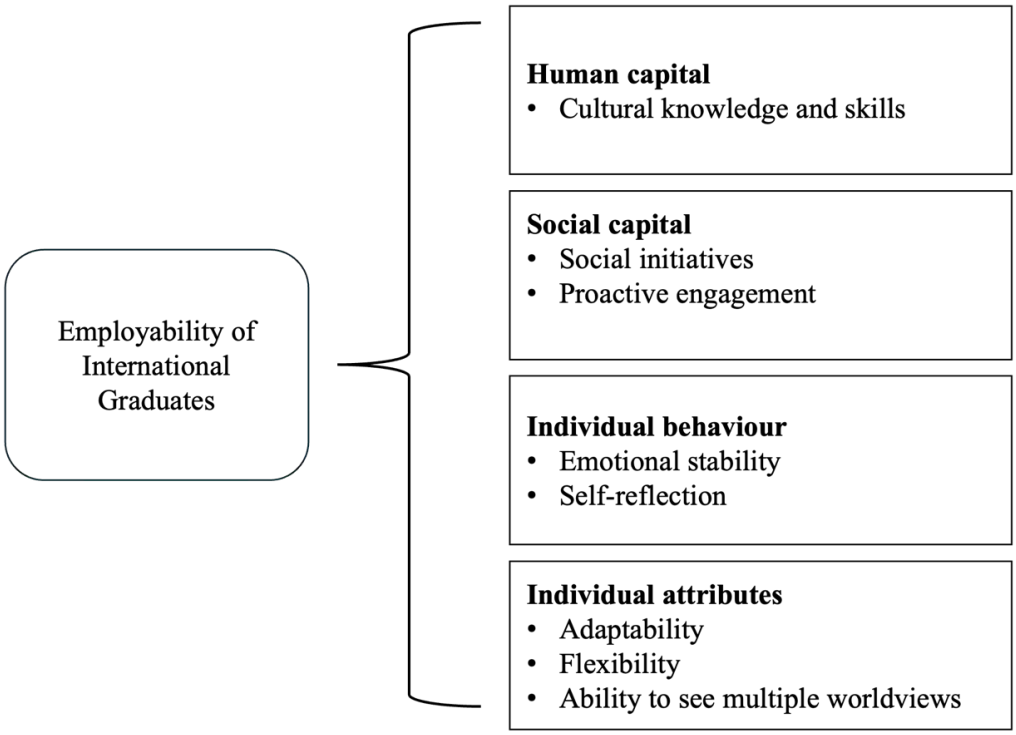
A hospitality education paired with real-world experience in a foreign setting significantly benefits international graduates. Despite this, there is a growing concern that many international graduates, even those with work rights in Australia, struggle to secure employment related to their field of study due to a lack of opportunities (Nguyen & Hartz, 2020; Tran et al., 2020). Local employers often hesitate to hire these graduates due to perceived deficits in cultural competence and communication skills (Coffey et al., 2018). Conversely, some international graduates find relevant employment and rise to leadership positions. This study aims to explore how these individuals achieve career success through their efforts to build cultural competence in Australia.

Previous research has highlighted the critical role of cross-cultural competence for expatriates in completing international tasks (Setti et al., 2022; Caligiuri & Caprar, 2023). Despite the importance of career success for international graduates to stakeholders, educational institutions, origin and host countries, and the industry, there has been limited discussion on this topic. This study addresses this gap by exploring the cross-cultural competence that contributes to career success in the hospitality industry for international graduates.

Specifically, this research investigates individual - level qualities within the graduate employability construct, such as cultural knowledge and skills, social skills, individual behaviour (emotional stability), and attributes (adaptability, flexibility) (Ang et al., 2007; Clarke, 2017), to determine

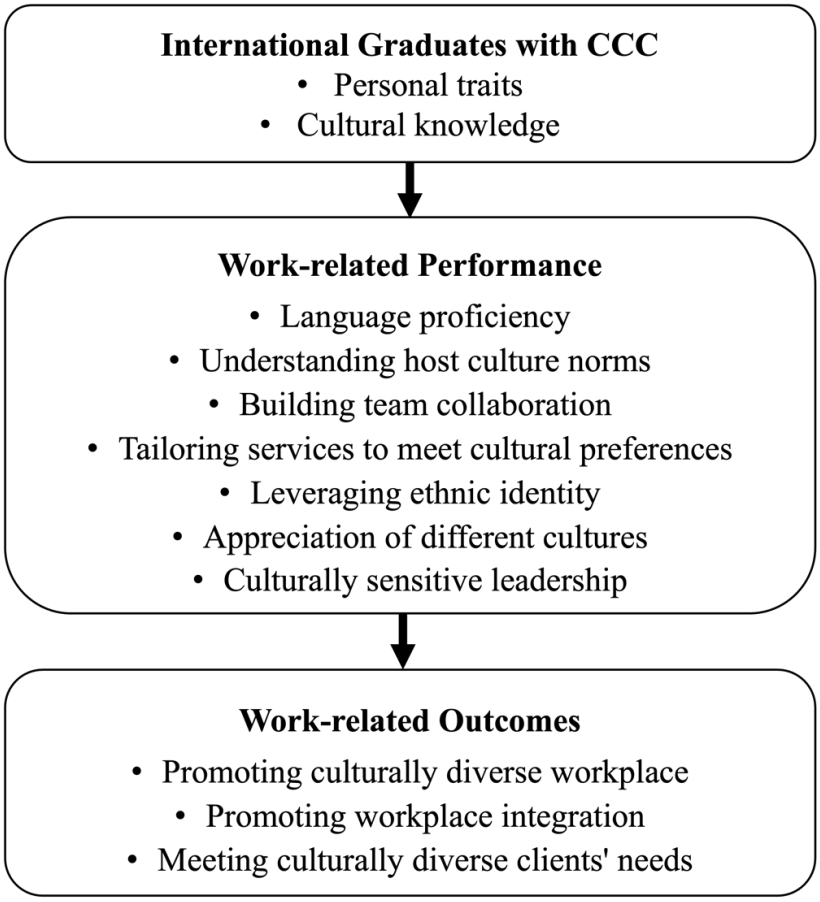
how these qualities aid their career success in Australia. Figure 1. illustrates a framework that integrates CCC and graduate employability. Utilising a qualitative methodology, the study gathered rich data from the narratives of 18 international graduates who have successfully achieved their career goals, and currently hold managerial positions. These participants were selected using purposive sampling based on specific criteria: completion of hospitality education in Australia, current managerial roles, and residence in Australia.

Figure 1. Integrating cross-cultural competence and graduate employability (Authors)



Interviews lasting 40 to 70 minutes were conducted, recorded, and transcribed for analysis. Using NVivo as the primary analytical tool, four researchers conducted a thematic analysis of the collected narratives. The findings indicate that a proactive attitude towards cultural adaptation and robust cultural knowledge and skills were prevalent among the participants. These attributes facilitated better team integration, a deeper understanding of language and cultural nuances, fulfilment of client needs, and the development of inclusive leadership. Additionally, the graduates leveraged their ethnic identities as assets when interacting with a diverse clientele. Figure 2 illustrates the summary of the impact of CCC on work-related outcomes.

Figure 2. Role of cross-cultural competence in enhancing employability of international graduates (Authors)



The study concludes that culturally competent international graduates are more likely to achieve their career goals. Based on these findings, it is recommended that hospitality education institutions and industry partners develop programs that enhance the cross-cultural competence of international students, thus equipping them more effectively for the global workforce.

Keywords: Cross-cultural competence (CCC), Graduate employability, International graduates, Hospitality sector

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Manifestation of Ageing-in-Place: Social Tourism in Hong Kong (Paper#123)

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Abstract:

This study aims to identify social tourism as a tool for achieving ageing-in-place (AIP) by applying a qualitative case study approach, focusing on the case of Hong Kong. Social tourism research is predominant in the Western context while it has never been conceptualised in conjunction with an ageing policy, such as AIP. By identifying 4 out of 153 government bodies in Hong Kong, an overview of social tourism implementations under the AIP paradigm was presented.

Keywords: Social Tourism, Ageing in Place, Tourism as Welfare, Active Ageing, Case Study

An Exploratory Study on Digital Innovation Adoption Among SME Hotels in Thailand: A TOE Model Approach (Paper#166)

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Abstract:

Digital innovations can offer innovative service solutions for both hotels and customers; however, they remain underexplored in the SME hotel sector, a crucial key player in Thailand's hospitality industry. This study explores the factors influencing digital innovation adoption among SME hotels through a thematic analysis of interviews with hotel owners and executives. The findings reveal a digital innovation adoption framework comprising seven key themes: relative advantage, complexity, risk and uncertainty, top management support, organizational readiness, competitive pressure, and government support. This framework offers practical guidelines for the successful adoption and implementation of digital innovation in SME hotels. The study concludes with a discussion of implications and directions for future research.

Keywords: Digital Innovation, TOE Framework, SMEs, Technology Adoption, Hotels

1. Introduction

The hotel sector has seen a transformation in business operations, consumer interaction, and service delivery due to the growing incorporation of digital technologies (Pizam et al., 2022; Buhalis, 2020; Wang et al., 2016). Currently, many hotels adopt various forms of digital innovations, such as property management systems (PMS) to automate reservation and check-in and housekeeping operations; revenue management platforms to predict demand and set dynamic pricing; digital payment systems and contactless transactions that improve financial convenience and security; artificial intelligence (AI) that automates operations and supports customer service; and social media and digital marketing technology tools that increase company visibility and customer engagement. However, small and medium-sized enterprise (SME) hotels, which constitute a significant segment of Thailand's tourism sector, face mounting pressure to adopt these digital innovations to enhance operational efficiency, improve customer experiences, and maintain competitive advantages (Nation, 2016). Although there are extensive studies on digital transformation in large-scale hotels or luxury hotel chains (Ezzaouia & Bulchand-Gidumal, 2023; Guo et al., 2023; Han et al., 2021; Pizam et al., 2022), limited studies are conducted, particularly on digital innovation adoption, in SME hotels. Therefore, this study aims to identify the main factors influencing the adoption of digital innovation in SME hotels based on technological, organizational, and environmental frameworks.

2. Literature Review

In order to explain the factors influencing digital innovation in organizations, Tornatzky and Fleischer (1990) proposed the TOE framework, which has been broadly recognized across a number of fields (Abed, 2020; Bany Mohammad et al., 2022; Lee et al., 2023; Malik et al., 2021; Park & Kim, 2019; Skafi et al., 2020). The TOE framework is based on the belief that an organization's decision to adopt technology is influenced by three key factors: technological (T), organizational (O), and environmental (E) aspects (Wang et al., 2016). The TOE model was employed in this study as a basis because it offers a solid theoretical foundation for adopting technology in an organizational context.

2.1 Technological context

The technological dimension refers to the characteristics of available technology that influence an organization's decision to adopt innovation. Several key factors influence the adoption of digital innovations in SME hotels, including relative advantage, complexity, risk, and uncertainty. SME hotels are implementing digital innovations to increase occupancy rates, reduce costs, or enhance customer experience (Ramdani et al., 2013; Xiang et al., 2015). Nevertheless, the complexity of digital innovation is crucial for SME hotels. Organizations tend to overlook technologies that are difficult to use or cannot be easily integrated with existing systems, leading to discouragement in adoption (Pizam et al., 2022). Lastly, concerns about the risk and uncertainty associated with a new digital innovation can vary. Digital innovation often requires collecting and storing large amounts of customer data, which can be sensitive in nature as well as vulnerable to breaches (Chang, 2010; Maroufkhani et al., 2020).

2.2 Organizational context

The next factor is organizational. The adoption of digital innovation in SME hotels can be driven by the internal forces of the organization, such as management support and organizational readiness (Ganeshkumar et al., 2023; Park & Kim, 2019; Pizam et al., 2022). Top management is a key decision maker within the organization. They can create a supportive environment for adopting new technologies by clearly communicating a compelling vision of the potential benefits for the organization, allocating sufficient resources, and addressing resistance to change among team members (Wang et al., 2016). Previous studies found that top management support is a key factor influencing the successful adoption of technology in the SME context (Maroufkhani et al., 2022). Meanwhile, organizational readiness is also found to be the driver of digital innovation in SME hotels. Larger hotel chains may have more resources to invest in technology, whereas SME hotels may face challenges in terms of financial constraints and limited workforce (Abed, 2020; Pizam et al., 2022).

2.3 Environmental context

Lastly, Tornatzky and Fleischer (1990) emphasize that external factors, such as industry trends, market competition, regulatory policies, and government support, play a crucial role in influencing technology adoption (Asiaei & Rahim, 2019; Maroufkhani et al., 2020; Pizam et al., 2022). In the

SME hotel context, competitive pressure could play an important role in influencing digital innovation adoption (Pizam et al., 2022). This pressure can be consumer pressure or competitor pressure. For example, after COVID-19, high competition pushes many businesses to adopt digital innovations to stay competitive. Meanwhile, changing consumer behavior also compels SME hotels to implement digital innovation in order to meet the expectations of both prospective and current customers (Wang et al., 2016). Lastly, government support is crucial for the adoption of digital innovation in the SME hotel context. SME hotels can leverage financial support, training programs, and regulatory assistance provided by the government to ensure the effective implementation and utilization of digital innovation (Lai et al., 2018; Malik et al., 2021).

3. Methodology

In this study, the TOE framework was chosen because of its adaptability and scope after the research started with a review of the literature on digital innovation adoption. SME hotels in Pattaya, Thailand, were selected as the sampling frame for this study due to the country's vibrant tourism and hospitality sector, providing a valuable context for research. Pattaya was chosen for its large concentration of SME hotels, totaling 1,804, and its recognition as one of Thailand's top three most visited destinations (TAT, 2021). However, shifts in tourist demand, especially in the post-COVID-19 era, have intensified competition in the hospitality industry. Purposive and snowball sampling methods were used to recruit interviewees. Participants had to be general managers or owners, who are acknowledged as the main decision-makers in the adoption of innovations and technology, in order to meet the inclusion criteria. The interviewees were contacted through a list of SME hotels operating in the city, which was compiled from various sources, including the Thai Hotels Association database. In the end, the study included 10 interviewees. A summary of the participant's profile is shown in Table 1.1

The semi-structured interviews, lasting 30–40 minutes, were conducted online via Zoom and phone calls, recorded, and transcribed verbatim. The data were then analyzed using thematic analysis to identify themes from the prior study (Clarke & Braun, 2014). To enhance the validity and reliability of the findings, two researchers independently reviewed and open-coded the transcripts. They continuously compared and refined the codes, organizing and synthesizing them into broader categories (Guba & Lincoln, 1994). The variables within the TOE framework were derived from the interview themes and insights gathered from the literature. The analysis revealed seven sub-themes of digital innovation adoption in SME hotels: relative advantage, complexity, risk and uncertainty, top management support, organizational readiness, competitive pressure, and government support.

Table 1. Participant's profile

Pseudonym	Gender	Position	Hotel Year Active	Implemented digital innovation
Ben	Male	Hotel Owner	5 Years	Online payment, online booking
David	Male	Assistant Managing Director	5 Years	Online payment
Jack	Male	Hotel Manager	More than 10 years	CRM, Online booking
Anna	Female	General Manager	More than 10 years	Online payment, CRM, online booking
Chole	Female	Hotel Owner	5 years	Online payment, online booking
Emma	Female	Director of Sales	2 Years	Social media tools, online booking
Mark	Male	Director	More than 10 years	Revenue management platform
Tom	Male	VP Strategy and Digital Transformation	4 Years	Online payment, online booking, Social media

4. Results

Based on the data gathered from these initial interviews and the TOE model, the findings can be categorized as follows:

4.1 Technological Factors (T)

The results confirmed several anticipated findings, including the relative advantage of implementing digital innovation, which enhances occupancy rates and boosts productivity. Hotel managers tend to adopt digital innovations that align with their strategic goals, ultimately delivering the expected outcomes. Many interviewees also mentioned complexity and risk related to implementing digital innovation. Digital platforms such as social media and online payment may be implemented easily as staff are familiar with this technology in their daily lives. However, digital innovation such as revenue management platforms or customer relationship tools may be complicated and not compatible with the existing systems of hotels. Digital innovations that are easy to implement are more likely to be adopted than those that are too complex. Interviewees also emphasized the risk and uncertainty of data that is gathered from

social media and property management systems (PMS). PMS can become outdated or inaccurate by human error. Inconsistent data entry across different channels or systems could lead to inconsistencies in customer records or financial reporting. Additionally, the vast amount of data available on social media platforms can overwhelm hotels. Sorting through massive volumes of data such as comments, reviews, and mentions to obtain meaningful insights can be time-consuming and challenging.

4.2 Organizational factors (O)

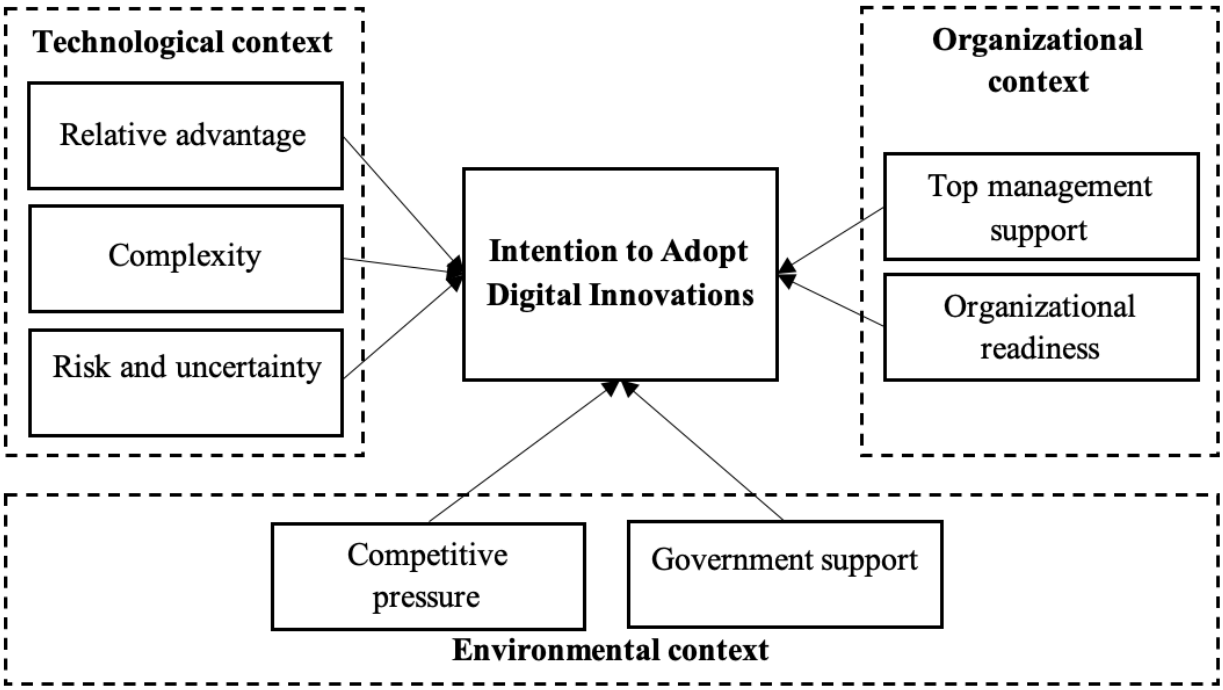
Interviewees strongly confirmed that implementing digital innovation in SME hotels requires strong support from the management team. As the management team defines how selected digital innovation aligns with business goals such as increasing occupancy or improving staff performance. In the meantime, management plays a key role in encouraging a positive mindset toward adopting digital innovation, as employees often resist change. The results also highlight the organizational readiness. SME hotels usually have limited workforces and financial resources to invest in digital innovation adoption. Exiting workflow may need to be adjusted to integrate with the new system. Thus, staff need to be trained to use the new system effectively; otherwise, the outcome may not be as the organization expected. Also, support is needed for long-term operating costs or maintenance, such as software updates and training.

4.3 Environmental factors (E)

For external factors, the results noted that competitive pressure is the crucial reason driving SME hotels to adopt digital innovation in their hotels. After COVID-19, most hotels face increasing competition from large hotel chains and alternative accommodations like Airbnb. The rise of Airbnb pressures SME hotels to enhance guest experiences through digital innovation. Some hotels pointed out that customers are expecting seamless online booking and personalized service. Finally, most interviewees stressed that the government plays a vital role in driving SME hotels to adopt digital innovation through training, financial support, and regulatory initiatives. For example, the Tourism Authority of Thailand (TAT) offers training programs and e-learning platforms to help SME hotels improve digital capabilities in areas such as digital marketing, cybersecurity, and artificial intelligence (AI). Additionally, government funding encourages hotels to invest in digital technology. Many hotels mentioned that they have benefited from startup tech companies that receive government funding, allowing them to access services at a lower cost compared to large online travel agencies such as Agoda. These results offer new insights into the digital innovation adoption framework in SME hotels.

A conceptual framework was developed based on the TOE model to show how these elements interact and affect the desire to accept digital innovation.

Figure 1. Conceptual Framework



5. Discussion and Implications

In this study, the factors driving the adoption of digital innovation in SME hotels include relative advantage, complexity, risk and uncertainty, top management support, organizational readiness, competitive pressure, and government support. These preliminary findings offer both a theoretical and practical framework for understanding the adoption of digital innovation in SME hotels through the TOE model. However, there are several limitations that should be noted. Firstly, due to the small sample size, the generalizability of the study's results is limited. Therefore, future research should consider using a larger sample size and exploring other research methods to obtain more reliable conclusions. Future research could also test the model in different cultural backgrounds. Consequently, the results would provide insights into different cultural practices or understandings of global challenges. Lastly, the main framework of this study is the TOE, which may not fully capture some additional perspectives from participants, potentially introducing subjectivity. Thus, the suggestion is to integrate with other factors such as resource-based view by Barney (1991) or the information systems success model by DeLone and McLean (2003) to gain more in-depth information. As a result, the findings will provide targeted recommendations to overcome the obstacles to adopting digital innovation in small and medium-sized hotels.

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The Evaluation of B2B Customer Satisfaction that Influence on Online Travel Agency Website (Paper#227)

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Abstract:
Online travel agency (OTA) websites have become indispensable resources for facilitating business travel, particularly for business-to-business (B2B) clients who possess distinctive requirements and expectations. This study aims to explore the key factors that influence B2B customer satisfaction in the use of OTA services. Using a quantitative approach, this research collected data from B2B customers who regularly utilize OTA platforms for their business travel arrangements. The conceptual framework includes eight core dimensions: feature usability, information and content, reputation and security, responsiveness, e-trust, B2B customer loyalty, and B2B customer attitude. Additionally, this study adds social media as a new component to earlier models, recognizing the increasing impact of digital social platforms on B2B satisfaction and decision-making.

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM), which allowed for robust examination of the complex relationships between these constructs. The findings reveal that feature usability and information quality significantly impact customer satisfaction, while the social media dimension emerged as a moderately strong predictor of both e-trust and customer loyalty. This novel inclusion of social media factors reflects the changing landscape of B2B interactions, where professional networks and online reputation increasingly influence corporate purchasing decisions.

The results offer valuable insights for improving OTA platforms to better align with the specific requirements of business users. By strategically enhancing these identified dimensions, particularly the integration of social media functionalities tailored to business needs, OTA providers can create more effective and satisfying user experiences, strengthen customer loyalty, and support long-term business competitiveness in the B2B travel market.

Keywords: Website evaluation, Online travel agent, Business-to-Business, Customer satisfaction

1. Introduction

In the digital era, current business operations depend critically on online communication and knowledge technology (Chen et al., 2022). To increase effectiveness in administration, communication, and customer service, companies increasingly depend on online resources. Online Travel Agencies (OTAs) are key to this change as they enable Business-to- Customer (B2C) markets as well as Business-to- Business (B2B) customers to be served. Business users typically operate under more stringent requirements than individual consumers, often due to internal administrative protocols, corporate travel policies, and strict budget constraints. As a result, the behavior and decision-making processes of B2B clients differ notably from those of B2C customers (Homburg & Rudolph, 2003).

For organizations, priorities such as operational efficiency, reliable systems, secure data handling, simplified administrative procedures, and transparency in transactions tend to take precedence. Therefore, developing online travel agency (OTA) solutions that align with these expectations is essential, particularly in light of the common challenges businesses face—such as managing limited travel budgets, enabling staff to independently book accommodations, and navigating fluctuating hotel prices, all of which affect internal travel coordination.

The term contemporary OTA systems are continually evolving according to the specific requirements of business travelers. Features include postpaid booking possibilities, integrated systems for checking documents, and consolidated travel data management tools assist to ease employee administrative load and improve reimbursement process (Wong et al., 2020). The overall achievement of these online platforms depends on many factors connected to the quality of the websites. These comprise the usability of features, the relevance and clarity of information, platform credibility and security, system responsiveness, engagement via social media, the degree of electronic trust (e-trust) established, loyalty between customers from B2B (Bilgihan, 2016), and general opinions users have regarding the platform (Manajemen et al., 2020).

Despite the extensive study on online consumer behavior overall, studies particularly targeting the B2B market within the OTA setting are limited (Sihombing et al., 2023). This research intends to examine the principal elements affecting B2B customer satisfaction in the utilization of OTA services. The objective is to provide insights and practical guidance for creating high-performing, user-centered online accommodation booking systems that efficiently help business users and encourage long-term organizational sustainability (Nelson et al., 2023).

2. Literature Review

Factor	Description	Reference
Feature Usability	Feature usability pertains to how effectively a website delivers valuable and user-centric functionalities that correspond with its designated objectives. Within the realm of online travel agencies, this encompasses functionalities like accommodation reservation systems, property search utilities, interactive mapping features, and reviews or recommendations generated by users.	Tsang et Al., (2010) Woo Gon Kim & Hae Young Lee (2013)
Information / Content	This construct is related to the precision and comprehensiveness of the information provided on the website. It includes descriptions of hotels, reviews from customers, promotional information, travel-related details, and available amenities, all of which have a significant role in affecting users' decision-making processes.	Wong et Al., (2020)
Reputation and Security	The reputation and security of a website are indicative of its perceived trustworthiness, based on the past experiences and brand perceptions of users and organizations. The website need to guarantee the confidentiality of personal information through suitable security measures, which in their turn promotes satisfaction and trust among users.	Woo Gon Kim & Hae Young Lee (2013) Park et Al., (2008)
Responsiveness	Responsiveness refers to the website's capability to deliver timely and accurate services. Key indicators include page loading speed, system response time, and the	Tsang et al., (2010)
	efficiency of customer support services, which all contribute to user satisfaction.	
Social media	This dimension captures the influence of social media platforms—such as Facebook, Instagram, or Twitter—on customer engagement and brand perception. Online reviews, ratings, and interactions on these platforms play a significant role in shaping customer attitudes toward the OTA.	Chu et al., (2020) Chen et al., (2022)
E-Trust	E-trust denotes the degree to which customers are confident in conducting transactions through online platforms. Factors such as data transparency, authentic customer reviews, and the protection of personal information contribute to the development of trust in digital environments.	Rizal et al., (2020) Sihombing et al., (2023)

Factor	Description	Reference
B2B customer attitude	This refers to business users' perceptions and overall evaluations of their experiences with the OTA platform. It includes ease of use, perceived value, and the extent to which the service meets expectations, ultimately influencing satisfaction and behavioral intentions.	Homburg & Rudolph, (2003) Manajemen et al., (2020)
B2B Customer Loyalty	In the B2B context, customer loyalty indicates a company's preference to continuously interact with the same OTA and advocate for it to others. Customer loyalty is influenced by beneficial experiences, the perceived value of the product or service, and the trustworthiness of the company as it develops over time.	Rizal et al., (2020) Bilgihan, (2016)
Organizational size	Organizational size significantly influences customer satisfaction, both directly and indirectly, through factors such as employee satisfaction and service quality. Larger organizations often benefit from greater resources, enabling them to invest in advanced technologies and comprehensive training programs, which can enhance service delivery. Conversely, smaller organizations typically offer more personalized services and quicker responsiveness but may lack scalability.	Nelson et al., (2023).

3. Research Methodology

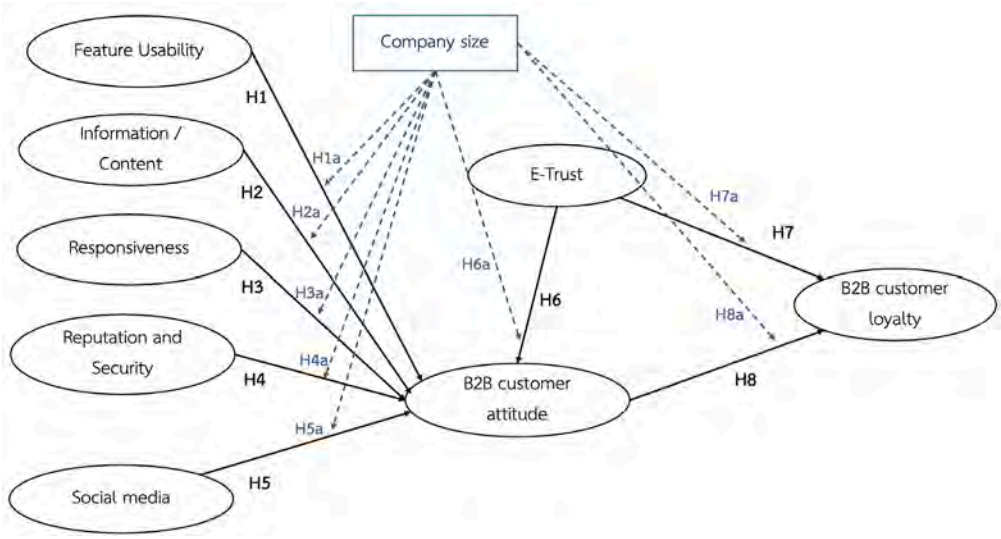
To gain a deeper understanding of the elements influencing B2B user satisfaction with Online Travel Agencies (OTAs), the researcher undertook a detailed review of both Thai and international academic sources. The primary objective of this study was to assess how business clients in Thailand perceive and interact with online hotel booking platforms. Key aspects investigated included website usability, ease of navigation, quality of information and content, platform credibility and security, system responsiveness, the role of social media, levels of electronic trust (e-trust), customer loyalty, and overall user attitudes toward these websites.

The researcher developed a conceptual framework based on the literature, highlighting the relationships between several independent factors and the primary dependent variable: B2B customer satisfaction and perceptions of website utilization. This model was developed to explain the dynamics influencing how companies perceive and assess OTA platforms, particularly with digital accommodation booking.

The study's theoretical framework is anchored on existing technology acceptance theories, supplemented by insights from B2B relationship management in the hospitality sector. This research addresses a significant vacuum in existing academic discourse by concentrating on the particular demands and expectations of corporate customers, as opposed to individual (B2C) consumers, regarding organizational purchase decisions in online contexts. This work's conclusions seek to give practical implications for OTA providers aiming to enhance their platforms to more effectively assist the business travel sector in Thailand.

The proposed model suggests that technical features of the website—such as usability, the quality of content, and security—work in tandem with relational components like responsiveness, trust, and loyalty to shape customer satisfaction. This combined perspective underscores the importance of addressing both the functional and relational dimensions of B2B e-commerce when seeking to improve user experience and engagement.

Figure 1. Conceptual Framework



4. Results

- **Feature Usability ⟶ B2B Customer Satisfaction**

The presence of comprehensive end-to-end travel management features significantly enhances B2B customer satisfaction. Critical usability elements such as intuitive search functionality, comparative pricing mechanisms, streamlined booking processes, and flexible payment systems substantially contribute to positive user experiences among corporate clients.

- **Information and Content ⟶ B2B Customer Satisfaction**

The completeness, accuracy, and timeliness of information displayed on OTA websites demonstrate a significant positive association with B2B customer satisfaction. This relationship is particularly pronounced for detailed content regarding cancellation policies, payment terms, and accommodation specifications, which are instrumental for informed decision-making in corporate travel management.

- **Reputation and Security ⟶ E-Trust**

The reputation and credibility of OTA platforms exhibit a strong positive influence on the development of E-Trust among corporate clients. Consistency in service delivery and adherence to quality standards significantly impact trust formation and, subsequently, satisfaction levels among business users.

- **Responsiveness ⟶ B2B Customer Satisfaction**

The availability of dedicated account management personnel who comprehend the specific requirements of corporate clients and can provide tailored recommendations serves as a significant determinant of B2B customer satisfaction. This personalized support enhances responsiveness and contributes substantially to higher satisfaction levels among organizational clients.

- **E-Trust ⟶ B2B Customer Satisfaction and Loyalty**

Transparency demonstrates a significant positive correlation with both trust and satisfaction among corporate clients. Compliance with data security regulations and transparent operational practices constitute critical factors in fostering long-term trust in OTA platforms, which subsequently enhances customer satisfaction and loyalty.

- **Social Media Engagement ⟶ E-Trust and B2B Customer Loyalty**

Social media platforms function not merely as marketing instruments but as channels for disseminating industry insights and best practices among business travelers. The facilitation of such exchanges significantly strengthens customer engagement and enhances both trust and loyalty within the B2B segment.

- **B2B Customer Attitude ⟶ B2B Customer Satisfaction**

The attitudes of organizational decision-makers toward technology and innovation significantly influence the acceptance and satisfaction of OTA website usage. Furthermore, internal organizational factors such as corporate travel policies and organizational culture exert a substantial influence on employees' attitudes and behaviors regarding the utilization of OTA platforms.

- **B2B Customer Satisfaction ⟶ B2B Customer Loyalty**

Corporate rewards programs specifically designed for business clients demonstrate a significant positive impact on customer loyalty and continued platform usage. These incentive mechanisms foster a sense of value and commitment among organizational users, thereby enhancing long-term relationship sustainability.

- **Company Size**

The Role of Company Size as a Moderating Factor. The analysis indicated that the size of the company acts as a crucial moderating factor in the B2B customer satisfaction framework for online travel agency websites. This organizational trait affects several pathways within the conceptual framework, emphasizing the varying influence of different factors depending on the size of the corporate client's operations. The results enhance the theoretical framework surrounding organizational behavior within B2B e-commerce by illustrating that company size is not just a descriptive trait, but a significant element that fundamentally influences the dynamics of customer satisfaction and loyalty development. The notable moderating effects observed across various pathways indicate that OTA platforms ought to implement segmentation strategies that consider organizational scale in the development of features, content, support services, and trust-building mechanisms.

5. Discussion and Implications

This study investigated the the key factors influencing B2B customer loyalty toward Online Travel Agency (OTA) systems. The results exposed that customer attitudes, which in turn affect loyalty, are much influenced by factors including usability of website features, quality of content, responsiveness, and electronic trust (e-trust). These results correlate with previous investigations highlighting the need of accurate information, safe online environments, and well-functioning websites in improving user confidence and satisfaction (Chen et al., 21). In terms of these, e-trust became particularly significant since it emphasizes the need for preserving safe data as well as transparent communication to help create enduring commercial relationships. From a theoretical perspective, this study contributes to the growing field of B2B e-loyalty by offering a model that incorporates technological, relational, and organizational components. It also helps fill a noticeable gap in current research, which has largely focused on B2C users of OTA platforms while giving less attention to the corporate segment.

The findings indicate that OTA service providers ought to focus on improving overall usability, ensuring the provision of accurate and clear information, and enhancing their responsiveness to user needs. The significant impact of e-trust highlights the necessity of transparent service policies and dependable data security systems in fostering confidence among corporate users. Furthermore, applying into consideration the dimensions and structure of customer organization when developing relationship management strategies are able to enhance personalization of service and increase overall satisfaction.

Findings suggest that OTA providers should be to focus on creating user-friendly designs, ensuring the information is accurate and accessible, and maintaining prompt responsiveness. The significant importance of e-trust emphasizes the significance for reliable data protection strategies and clearly stated service policies. Furthermore, adapting relationship management approaches to align with the size and structure of client organizations may increase service relevance and increase user satisfaction. Although these contributions are important, the study contains some limitations that should be acknowledged. The focus is exclusively on B2B users in Thailand, potentially restricting its relevance to other markets or sectors. Also, utilizing self -reported survey data could lead to respondent bias, and the cross-sectional design of the study limits the capacity to establish connections between variables.

Further research have advantages from setting up longitudinal designs for measuring evolving loyalty over time and enhancing the focus by incorporating diverse nations or industry sectors. Combining qualitative methods can lead to a more complete comprehension of the ways in which business users establish trust and navigate decision-making within online travel different environments.

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InTra : Insight Travelling Planner Application (Paper#234)

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Abstract:

Travelers often face challenges in planning personalized itineraries due to limited information. To address this, we developed InTra, a smart travel planning app that generates tailored attraction and dining recommendations based on user preferences and budget constraints, while acting as efficient planning tools.

Keywords: Travel Itinerary Planning, Personalized Recommendations, Budget Tracking

1. Introduction

When we are travelling in other countries and have a problem where you don't know where you want to go or you do not have any plans. We use tools and applications to search for interesting attractions and give us contact information, but nothing about those attractions or asking locals for advice but the problem is that the information we got was just an overview only.

We developed InTra, a smart travel planning application designed to provide an easy and intuitive way for users to create personalized itineraries. InTra supports users who struggle with travel decisions by offering tailored recommendations for attractions and restaurants, guided not only by their preferences but also by their budget constraints. The application also features smart budgeting that improve the personalization enhancing recommendations.

2. Literature Review

2.1. Competitors Review

In the fast-growing market of travel planning applications, InTra stands among several notable competitors. This section provides a comparative review of three key competitors: **Majourny, Mitravel,** and **Nowy.**

- **Majourny** offers AI-powered itinerary generation with multi-day planning and collaborative features, making it strong for users who want a semi-automated, social experience. However, it lacks robust budget-tracking tools and occasionally suffers from complex user interfaces, which can deter non-technical users.

• **Mitravel** focuses on social sharing features and user-generated itineraries. It encourages community interaction but falls short on personalization and does not provide real-time notifications, limiting its ability to respond to dynamic travel conditions.

• **Nowy** emphasizes hyper-local recommendations and offers offline accessibility, making it suitable for travelers in areas with limited internet access. However, its geographic coverage is narrow, and it lacks budgeting tools, reducing its flexibility for cost-conscious travelers.

Comparatively, InTra differentiates itself by combining **AI-driven personalized recommendations, real-time notifications, and integrated budget management** in a single platform, positioning it as a more holistic and dynamic solution for modern travelers.

2.2. Business Review

Travel planning applications have evolved beyond static lists of recommendations to become dynamic decision-making tools. According to recent industry analyses, users increasingly demand applications that not only suggest destinations but also help manage time, costs, and preferences in real time. While traditional businesses like travel agencies and booking websites offer packaged deals, the shift toward self-guided, app-based planning reflects a broader digital transformation in the tourism industry.

In terms of business tools, InTra leverages several key platforms for project management, collaboration, and design:

• **Jira:** Offers advanced project management features such as sprint tracking, burndown charts, and customizable workflows, making it ideal for agile development teams.

• **GitHub:** Provides robust version control and collaborative development capabilities, integrating seamlessly with the tech stack.

• **Microsoft Teams and Discord:** Facilitate communication across teams, with Teams supporting structured collaboration and Discord enabling real-time brainstorming and debugging.

• **Draw.io and Mermaid:** Used for visualizing system architecture and workflows, supporting both drag-and-drop and code-based diagramming needs.

By selecting these tools, the InTra team ensures smooth project management, streamlined development, and clear design communication. Compared to alternatives, the chosen tools offer a balance of cost-effectiveness, scalability, and feature richness, supporting the conceptualization of InTra as a competitive, well-supported platform.

2.3. Technology Review

InTra leverages a carefully selected technology stack to support its complex requirements:

• **Frontend:** The application uses React Native, enabling cross-platform development for iOS, Android, and web. This choice offers fast iteration (with hot reload), efficient UI development, and broad market coverage.

• **Backend:** The backend is built using FastAPI (Python), known for its high performance and real-time capabilities. FastAPI's lightweight nature makes it ideal for handling dynamic updates, essential for real-time itinerary optimization.

• **Database:** PostgreSQL was chosen for its advanced querying abilities, scalability, and robust integration with AWS services. This supports the application's need to process complex travel plans and maintain real-time data consistency.

• **Infrastructure:** Hosted on AWS with Docker-based containerization, the platform benefits from scalable, secure, and cloud-native deployment. These technologies ensure reliability and flexibility under varying user loads.

• **Notifications:** Firebase Cloud Messaging (FCM) provides the backbone for real-time push notifications, ensuring users receive timely updates on their itineraries and travel conditions.

Together, this technology ecosystem supports InTra's mission to deliver an intelligent, scalable, and user-centered travel planning experience.

3. Methodology

For the development of the InTra application, we propose using the **Software Development Life Cycle (SDLC) Agile model** as the main project methodology. The Agile model is known for its flexibility, iterative development approach, and emphasis on continuous feedback, making it highly suitable for modern application projects where requirements can evolve based on user needs and market feedback.

Why Agile is a Good Fit

1. Frequent Iterations and Releases: Agile's sprint-based structure allows the development team to deliver small, incremental features every 2–4 weeks. This is ideal for InTra, where features like AI-driven recommendations, itinerary optimization, and budget tracking can be developed, tested, and improved gradually.

2. User-Centric Development: Agile encourages regular communication with stakeholders and end-users, ensuring that the team builds a product that aligns with real user needs. Given that InTra's success depends on providing a seamless, personalized user experience, Agile enables the team to incorporate user feedback and prioritize features accordingly.

3. Flexibility for Evolving Requirements: Travel planning applications must stay up to date with the latest technologies (e.g., new APIs, AI updates) and market trends. Agile's adaptability allows the team to adjust to changes without disrupting the entire project.

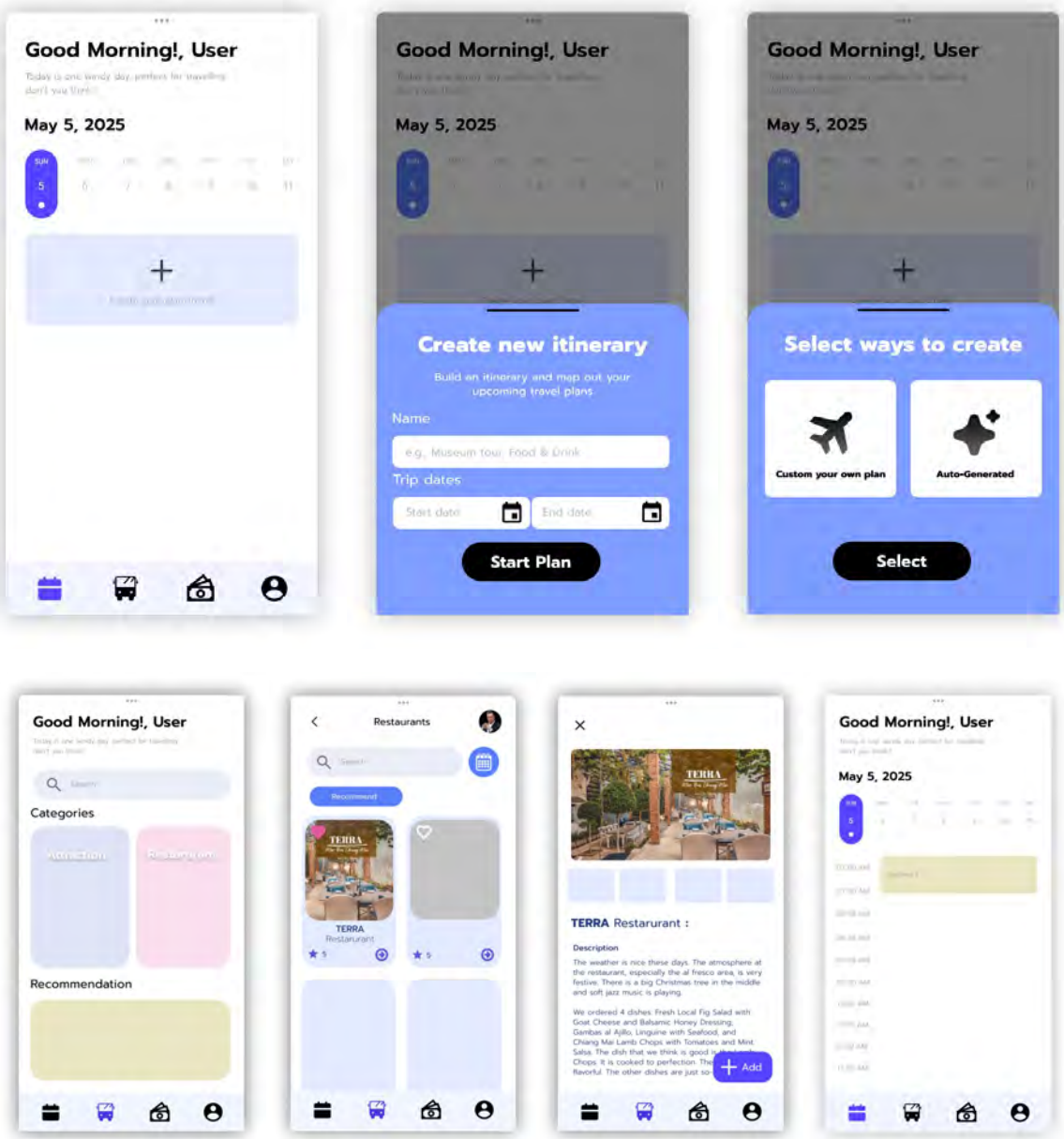
4. Early Detection of Risks: By continuously testing and integrating components, Agile reduces the risk of late-stage failures. This is particularly important for InTra's integration-heavy architecture, which involves Google Maps APIs, Firebase Cloud Messaging, AWS services, and budgeting tools.

Overall, Agile is considered more appropriate for this project compared to traditional models like the Waterfall model, which requires strict, upfront requirement definitions and lacks flexibility. For a dynamic, multi-featured app like InTra, Agile ensures better adaptability, higher product quality, and faster time-to-market.

4. Results



Personalized Setup



Create or generate itinerary schedule

5. Discussion and Implications

5.1. Discussion

The findings of this study align closely with previous research on travel planning applications, particularly regarding the growing importance of personalization, real-time responsiveness, and seamless user experience. Prior studies on competitors like Majourny, Mitravel, and Nowy show that while each offers strong niche features (such as social sharing or offline access), none fully integrates AI-driven recommendations, budget tracking, and itinerary optimization into one

cohesive platform. This project extends the current understanding by proposing InTra as an integrated solution that addresses these gaps, combining user-centered design with cutting-edge technology. The integration of features like Firebase Cloud Messaging and AWS-backed scalability highlights practical responses to the technological and user challenges outlined in earlier work.

5.2. Academic and practical implications

From an academic perspective, this study contributes to the literature on digital tourism and travel technology by demonstrating how multi-features, AI-enhanced systems can elevate user satisfaction beyond what single-focus apps achieve. It supports theoretical frameworks around user experience design, decision support systems, and agile software development in complex, multi-user environments. Practically, the InTra project offers valuable insights for industry practitioners seeking to develop or improve travel-related applications. The adoption of the Agile SDLC model serves as a practical blueprint for iterative development, enabling teams to stay adaptive in rapidly evolving markets. Moreover, the study's emphasis on integrating real-time, personalized, and budget-conscious features points to future design priorities in the travel app industry.

5.3. Limitations of this study and suggestions for future research

Despite its contributions, this study has several limitations. First, the analysis primarily relies on a review of competitor features and proposed system design without empirical user testing or performance evaluation. Future research should include quantitative and qualitative user studies to validate the effectiveness and usability of InTra's features. Additionally, the technological comparisons focus on currently available tools and may become outdated as new frameworks or APIs emerge; thus, ongoing technology assessment will be necessary. Another limitation lies in geographic and cultural considerations, as the system may need adaptation for different regional markets or languages. Future work could explore cross-cultural usability testing, integration of multilingual support, and advanced AI models for deeper personalization and predictive analytics.

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WanderMate: AI-based Travel Companion Matching Application (Paper#237)

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Abstract:

This project creates a new smartphone application that relieves two major complaints of solo tourists: discovering travel companions by shared interest and being offered recommendations for places based on the current location and desired area of the traveler through character of the current location AI-computational methods.

Keywords: Smart Tourism, Social Technology, Travel Companionship, User Experience, Mobile Application

1. Introduction

Travel experiences will likely be enriched most by shared connections, yet most falter when friends or family members cannot participate due to conflicting schedules. The World Travel & Tourism Council (2024) highlights that tourism continues to be a significant driver of social experience and economic activity worldwide. In this situation, individuals are typically faced with two common problems: meeting suitable travelling partners after lacking their habitual social circles and selecting travelling destinations according to their interests at the time in new regions. The aim of this abstract is to create and assess WanderMate, a mobile travel app that incorporates social matching features with AI-powered destination suggestions.

The primary objectives are to: (1) develop features that enhance travel experiences via eased social connections in the lack of existing friends; (2) design an intelligent style- and interest-based recommendation system; and (3) examine user experience with AI-recommended spots that produce cohesive travel experiences.

2. Literature Review

The development of travel apps has kept pace with the changing needs of travelers, particularly the growing demand for customized and socially embedded experiences. This discussion is centered on three main research themes that guide the development of the WanderMate app.

2.1. Travel Companion Dynamics

The need for congruent fellow tourists has been examined comprehensively in tourism literature. Vada et al. (2022) investigated the impact of friendship on memorable tourist experiences and travelers' well-being. Their findings emphasized that travel companions have a substantial impact on not just the short-term satisfaction of a trip but also on building long-term memories and intention to travel in the future. The nature of social relationships during travel has the ability to turn everyday destinations into remarkable experiences, indicating that compatibility with fellow travelers could be as vital as selecting a suitable destination.

2.2. Social Technology in Tourism

Social technology applied in tourism environments has been demonstrated to yield positive outcomes in enhancing travel experiences. Liu et al. (2020) proposed four major roles that social media performs in travel decision-making for tourists: Need Generator, Supporter, Guider, and Approver. Their findings demonstrated that online sites can potentially connect tourists in a meaningful manner, as well as offer useful information during transit. This dual role of social technology opens new possibilities for applications that do not only offer information but also forge social connections, thereby enhancing the travel experience.

2.3. Conceptualization

Social matching combined with AI-powered destination recommendation is an emerging subspecialty of tourist science. Al Fararni et al. (2021) developed a theoretical hybrid recommendation model that united personalized matching with intelligent suggestions on the basis of user interests.Their design illustrates how the support technologies are woven together to develop an end-to-end travel planning process that includes social and exploratory aspects of travel. According to this presumption, the WanderMate app attempts to merge these tactics into a unified structure in order to facilitate travel and make it more accessible and meaningful.

3. Methodology

WanderMate was created with the Software Development Life Cycle (SDLC) model. The SDLC is a methodical process for software development, that takes projects from the beginning to the end of their implementation, while ensuring quality standards are maintained and user requirements are met throughout.

3.1. Measurement

We applied the Agile SDLC approach, Scrum, to this project. We selected it since it delivers:

- Incremental development for continued feature enhancement
- Continuous stakeholder feedback throughout sprint reviews.
- Capable of adjustment to changing requirements.

User engagement, match satisfaction, and recommendation relevance were monitored as key performance indicators throughout all development stages.

3.2. Data Collection

The data gathering, which followed Agile practices, involved:

- User interviews and questionnaires during sprint planning
- Usability testing as part of bi-weekly sprint reviews
- Metrics of user activity of prototype testing

This systematic approach allowed WanderMate to effectively address the requirements of social matching and recommendation-driven by AI with efficient integration.

4. Results

4.1. Expected Application Outcomes

The proposed WanderMate app will address the issues of travel planning by:

- Social matching which connects travelers with compatible fellow travelers
- AI-driven suggestions for personalized travel locations.
- Unified communication activities
- Matching accuracy enhancement feedback mechanisms

4.2. Conceptual Application Design

The system combines preference-based matching algorithms and contextual awareness aspects in its recommendation system, aiming to provide a seamless user experience that combines travel planning and social interaction.

5. Discussion and Implications

5.1. Discussion

WanderMate holistic solution optimizes the potential of current travel applications by incorporating the social and informational requirements specified in the literature. This confirms the research of Vada et al. (2022) on companionship in travel experiences being crucial.

5.2. Academic and practical implications

The idea enriches the study of tourism technology through extending Al Fararni et al.'s (2021) hybrid recommendation framework. To industry, it provides a design guideline for the development of more interactive travel websites.

5.3. Limitations of this study and suggestions for future research

Because this is a concept paper, it is important to conduct empirical verification. The suggested features must be realized and experimented on by future research through real-life applications to determine their feasibility and users' acceptance.

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