APacCHRIE 2024 Conference
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PROCEEDINGS – STAND-UP PAPER PRESENTATION

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The influence of travel constraints on rural tourism: Focusing on generation MZ

Lee, Chaehyeon
Smart Tourism Education Platform
Kyung Hee University

Park, Sangwon
Smart Tourism Education Platform
Kyung Hee University

Abstract:
Despite the growing interest in the MZ generation within rural communities, few researchers have explored their decision-making process regarding rural tourism. To address this gap, the current research examined the impact of travel constraint on rural tourism engagement among the MZ generation, using survey data from 284 individuals. The finding confirmed individuals perceiving higher travel constraints report lower behavioral intention. Furthermore, it was revealed that a lack of interest and psychological distance play serial mediation roles in explaining the effects on behavioral intention. The findings provide practitioners and researchers with an in-depth understanding of the MZ generation as rural tourists.

Keywords: Rural tourism, MZ generation, Travel constraint, Psychological distance, Lack of interest

1. Introduction

Rural areas in South Korea (hereafter Korea) are facing critical challenges on increasing depopulation and disproportionate aging, which can potentially weaken the local economy (Park & Yoon, 2009) . The government of Korea proposed a strategy to foster tourism industries in rural areas (Korea Rural Economic Institute, 2021) whereby the increase of destination attractiveness is likely to bring numerous visitors to the place and eventually generate the regional vitality. In order to address the goal to decrease the disparity of aging distributions and increase the tourism market in the rural area, the participations of Millennials (Generation Y) and Generation Z – labeling as the MZ generations – in rural tourism is the most critical as they are next leading forces in shaping consumption and tourism trends.

The extant studies suggested the different decision-making process and travel patterns of MZ generation cohort comparing to those in other groups of generations (Kim & Park, 2020) . The distinct generational cohorts not only reflect different ranges of age distributions, but also include the differences in shared values, preferences, and beliefs throughout their lifetime. Individuals categorized in a MZ generation, in particular, are described as tech-savvy, positive and concerning and goal-oriented (Munsch, 2021) . Accordingly, those of MZ generations are willing to understand and admit diversity in socio-demographics such as ethnicity, lifestyle, and cultures and easily take the dissimilarity compared to other generation cohorts. In this sense, this study attempts to understand decision-making process of travelers in MZ generations in joining rural tourism.

The literature on rural tourism has extensively explored the factors affecting agritourism performance (Choo & Park, 2022; Hwang & Lee, 2015), and assessed the impact of the rural tourism on individuals' well-being and mental health (Rezaei et al., 2021) . However, the research to understand factors encourage and discourage people to participate in rural tourism is largely limited in general and MZ generations in particular. Hence, this paper explores the concept of travel constraint reflecting internal and external obstacles to participate in and engage the certain travel activities (Hung & Petrick, 2012; Nyaupane & Andereck, 2008). In addition to the multi-dimensional travel constraints, this research examines mediating factors affecting the relationship between travel constraints and behavioral intention to go rural tourism, including level of interests in (Pearce & Kang, 2009) and psychological distance to the rural area (Lv et al., 2022), standing for individual tendencies and/or preferences.

Therefore, the current research aims to identify factors that affect intentions to participate in the rural tourism by travelers of MZ generations. Specifically, this study integrates three theories and/or concepts in tourism such as travel constraints (i.e., main effect), perceived interests and psychological distance to rural tourism (i.e., mediation effects), which shed lights on an underlying mechanism of the decision-making process for rural tourism by MZ generations. The insights provide important academic and practical implications to tourism marketing for mitigating the social problems and enhancing the tourism industry.

2. Literature Review

2.1. Rural tourism and MZ generation

Rural tourism encompasses diverse tourist activities that take place within rural areas, involving engagement with rural experiences, cultures, landscapes, and artifacts (Woods, 2004; Ye et al., 2021) . Rural tourism is a globally emerging phenomenon as a potential solution to various challenges to rural areas, such as depopulation, aging, and deteriorating living environments (Ivars Baidal, 2004) . It can contribute to revitalizing rural areas, increasing non-agricultural employment, and attracting capitals to communities (Yang et al., 2021). Accordingly, numerous studies have focused on the decision-making process of individuals to understand the determinants or motivations behind rural tourism engagement. Peña et al. (2012) investigated how various dimensions of perceived value to rural tourism (PVRT) influence tourist satisfaction and loyalty. Park and Yoon (2009) examined motivation for engaging in rural tourism among South Koreans, discovering four segments based on varied preferences to rural tourism activities. An and Alarcón (2021) discovered that factors such as high utility, the hospitality of staff, activities, and facilities significantly influence rural tourists' preferences and their decision-making processes toward engaging in rural tourism. However, most of the literature on rural tourism heavily relied on impact studies, stakeholder perspectives and managerial dimensions, offering limited insights to tourist characteristics and their decision-making process (An & Alarcón, 2020; Karali et al., 2024).

One favored approach to understand customer characteristics involves analyzing generational cohorts. Based on generational theory introduced by Mannheim (1952) , many researchers provided affluent understanding in tourist behavior. Sharing the same generational cohort implies the collective experience and memory that shapes peer personality, attitude and value (Bernini & Cracolici, 2015; Huang & Lu, 2017). The MZ generation consists of Millennials (i.e., those born between the 1980s and the mid-1990s) and Generation Z(i.e., those born between the mid-1990s and the early 1990s) (Pompurová et al., 2023) . They exhibit distinct generational traits that set them apart from the previous generations(LaTour et al., 2021). For example, Lewis et al. (2021) mentioned that it is also essential to understand the challenges faced by tourists themselves to address the marketing challenges. While the MZ generation they have become key influencers shaping tourism trends and the industry (Fan et al., 2023) , there has been limited focus on them, especially in the context of rural tourism.

2.2. The impact of travel constraint on behavioral intention

Originating from the leisure constraint model, introduced by Crawford and Godbey (1987) , travel constraints have become one of the main streams explaining restricting aspects of tourist behavior. The concept categorizes constraints into three dimensions: intrapersonal, interpersonal, and structural. Intrapersonal constraints involve psychological or cognitive perceptions, such as stress or perceived self-skill. Interpersonal constraints related to issues with potential companions, for example, the unavailability of friends or family. Lastly, structural constraints represent environmental or operational barriers, including financial limitations, lack of opportunities, and limited time.

Numerous researchers took vary perspective in exploring the impact of travel constraint on inhibiting travel participation. For example, some researchers focused certain tourism type being constraint such as mountain ski (Alexandris et al., 2017), or archeological tourism(Rodríguez & Pérez, 2022) , while some took individual perspective to understand travel constraints such as gender (Hudson, 2000), or mental health (Park et al., 2024). As many researchers have explored, eliminating travel constraints can have a positive effect on travel intention (H.-J. Chen et al., 2013) . The studies on travel constraint have revealed that travel constraints negatively impact behavioral intention. To further understand the impact of travel constraints in behavioral intentions, we also examined attitudinal changes, with a special focus on the decreased interest in rural tourism. What makes interest significant is that tourism involves an array of decision-making processes, and it serves as an antecedent of behavioral intention (N.-S. Kim & Chalip, 2004). Many researchers have demonstrated that individuals tend to make decisions that conserve mental or physical resources (Brehm & Self, 1989; S. Park & Eves, 2023; Wang et al., 2022) . Given that constraint perception causes an array of negotiation with psychological efforts (Z. Li et al., 2023) , the constrained group will have lower interest in rural tourism compared to those who perceive lower constraints. Therefore, it is hypothesized that:

H1. Constrained (vs. less constrained) group will have lower behavioral intention toward rural tourism.

H2. The influence of tourism constraint on behavioral intention toward rural tourism would be mediated by lack of interest in rural tourism.

2.3. Serial mediation of lack of interest in rural tourism and psychological distance

This research holds that the impact of travel constraint on behavioral intention may be serially mediated by lack of interest in rural tourism and psychological distance to rural area. Psychological distance refers to a subjective remoteness or personal relevance of a subject relative to oneself, here and now (Trope & Liberman, 2010) . With regard to decision making process, high level of interest positively influence on destination perception in terms of personal relevance (Pearce & Kang, 2009) and perceived similarity (Li & Sung, 2021) . In this vein, potential tourists' interest in rural tourism can influence their personal connection with rural areas. Additionally, the significance of psychological distance lies in its substantial impact on an individual's behavioral intention such as visiting intention (Bi & Gu, 2019) and usage intention (Lv et al., 2022). Accordingly, we proposed:

H3. Constrained (vs. less constrained) group will have lower behavioral intention toward rural tourism because they lack interest in rural tourism, causing psychologically distance, which in turn diminishes behavioral intention.

Fig 1 presents the conceptual framework.

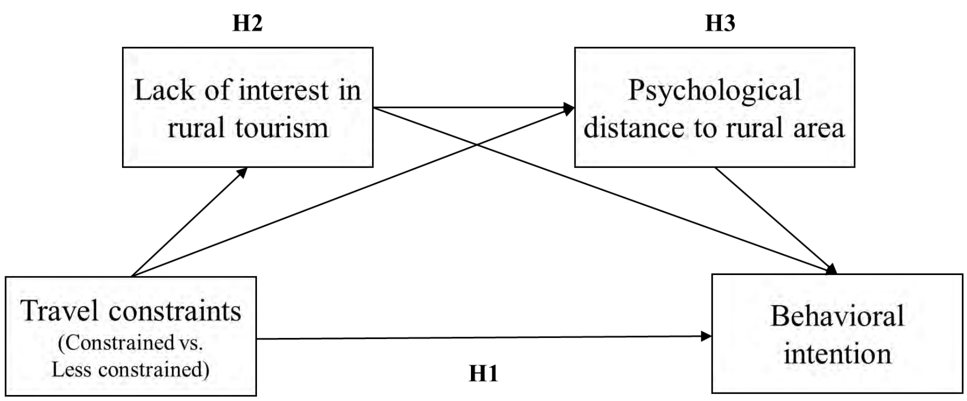


Figure.1. Conceptual model

3. Methodology

3.1. Measurement

The measurements for testing travel constraints include 19 items, consisting of 6 items for interpersonal constraints (Chen & Petrick, 2016), 6 items for intrapersonal constraints (Hung & Petrick, 2012), and 7 items for structural constraints (Nyaupane et al., 2004). Additional survey items to measure mediating and outcome variables were adopted from the previous literature, such as perceived lack of interests in rural tourism (Cho et al., 2017) , psychological distance, and behavioral intention (Pujiastuti et al., 2017). An IOS (Inclusion of Others in the Self) scale along with diagrams reflecting a level of perceived proximity toward rural area was used to assess the psychological distance (Pipp et al., 1985; Xu et al., 2022) (see details in Figure. 2).

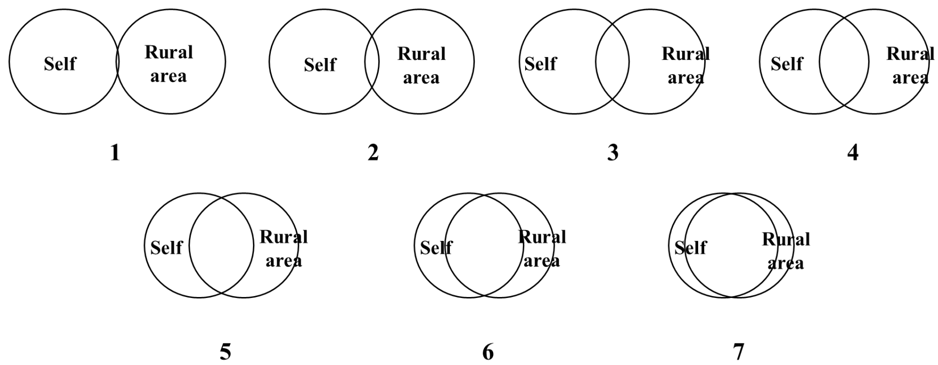


Figure.2. Scale recomposed from the IOS scale

3.2. Sample and Data collection

In order to collect data, this study used online survey method specifically targeting the potential tourists aged 19 and above, including individuals up to the late millennials born up to 1989 (Korea Maritime Institute, 2022) . A total of 284 valid samples were recruited via a reputable survey company in Korea (Li & Sung, 2021) . The participants of this study include that over half of subjects are women (58.8%); about 35% of ages are distributed between 32 and 34 years old (34.9%); majority of them are unmarried (81%); and approximately 30% (28.9%) of the participants earned between 2,000,000 to 3,000,000 won monthly.

3.3. Data analysis

The entire analysis procedure was conducted using SPSS version 26.0. Initially, several validation processes, including frequency analysis and reliability test, were conducted to assess the usability of collected data. Subsequently, an Exploratory Factor Analysis (EFA) was performed to estimate the structure of constructs for travel constraints. Based on the identified constructs, a two-step clustering analysis was conducted to determine the number of clusters without subjective bias. Then, independent-t test and discriminant analysis were performed to validate the identified clusters by considering sub-constructs of travel constraints. Furthermore, the Chi-square test was employed to investigate the relationship between participants' socio-demographic information and the established clusters, facilitating a comparative profiling of characteristics across the identified clusters. In terms of hypothesis testing, we initially conducted independent t-test to examine the main effect of rural tourism constraints on lack of interest, psychological distance, and behavioral intention. Subsequently, a bootstrap method incorporating psychological distance and lack of interest was employed to further explore the link between travel constraints and behavioral intention toward rural tourism (Hayes, 2017).

4. Results

4.1. Identification of rural tourism constraints aspects

Exploratory factor analysis with Varimax rotation was performed to address the correlations among the factors. Several criteria to determine suitable factors from 19 constraints items were used (factor loading ≥ 0.5 and eigenvalue ≥ 1.0; Hair, 2009). Three items were excluded for low factor loading and cross-loading. The remaining 16 items underwent further analysis, resulting four factors. The explained 65.98% of total variance with Kaiser–Meyer–Olkin measure (0.835), Bartlett's test of sphericity ($p < .001$). Reliability for the four identified factors satisfied the criteria (0.709~0.827).

The identified factors were named "perceived barriers," "inconvenience," "lack of time & money," and "influence of close relations". Factor 1 (perceived barriers) was identified to encompass four items related to barriers that individuals perceive subjectively about rural tourism. The substantial portion of the total variance (33.303%) for this factor might be accounted for by the fact that the core constraints for participating in rural tourism was found to be related to perceived barriers(α=0.827). Factor 2 (inconvenience) incorporated five items that are related to inconvenience, such as accessibility or facility(α=0.815). Four items related to time and monetary limitations represented Factor 3(lack of time & money), with 0.795 Cronbach's α, and Factor 4 (influence of close relations) is comprised of three variables that are associated with inclination of close relations towards rural tourism(α=0.709).

4.1.2 Classification of rural tourism constraints segments

Based on the identified four variables, a total of 284 participants were classified into two segments. Specifically, to determine the appropriate number of clusters, we initially performed hierarchical cluster analysis with Ward's method, followed by K-means cluster analysis to establish the identified clusters(Hair, 2009).To confirm the appropriateness of the classification, independent t-test and discriminant analysis were employed. Both tests confirmed significant difference between the identified group, with 96.5% accuracy.

As it is shown in Table 1, the identified cluster 1 (*Constrained* segment, 50% of the sample) had significantly high constraint across all of the four identified rural tourism constraints dimensions and was labeled the *Constrained* cluster. On the other hand, the identified cluster 2 (*Less Constrained* segment, 50% of the sample) had the lowest constraint across all of the four identified rural tourism constraints dimensions and was labeled the *Less Constrained* cluster.

Table. 1. Comparison of constraint factors between identified cluster segments

	Cluster 1: Constrained (n = 142, 50%)	Cluster 2: Less Constrained (n = 142, 50%)	t(p)
Perceived barriers	3.907	2.164	15.356(0.000)***
Inconvenience	5.623	4.838	7.679(0.000)***
Lack of time & money	4.694	3.391	11.626 (0.000)***
Preference of close relations	4.744	3.603	10.456(0.000)***

*p<.05, **p<.01, ***p<.001

Chi-square analyses was used to examine potential significant differences between the identified cluster segments. As expected, there were no significant differences in terms of demographic characteristics. This indicates that sampling was conducted accurately as the research was carried withing the same MZ generations. On the other hand, as it is shown in

Table 2, significant differences were observed in tourism related characteristics. In detail, Cluster 1, *Constrained* segment was represented by mostly the ones who never experienced rural tourism (45.8%) or once (21.1%). This segment prefers to engage rural tourism with Friends/Partners (45.8%), or Family (34.5%). Also, 35.9% of the cluster segment have more than 3 times of domestic travel. In terms of Cluster 2, *Less Constrained* segment are the ones who frequently have domestic travel (61.3%), who mostly never experienced rural tourism (34.5%) or those with 2 to 3 times (24.6%). For future rural tourism companion, more than 90% of them selected Friends/Partners (50.7%), or Family (42.3%).

Table. 2. Characteristics of the identified cluster segments

		Cluster 1: Constrained (n = 142, 50%)	Cluster 2: Less Constrained (n = 142, 50%)	χ^2(p)
Past rural tourism experience	Never experienced	65 (45.8)	49 (34.5)	17.885(0.001)
	Once	30 (21.1)	21 (14.8)	
	2 to 3 times	30 (21.1)	35 (24.6)	
	4 to 5 times	10 (7.0)	8 (5.6)	
	More than 6 times	7 (4.9)	29 (20.4)	
Future rural tourism companions	Solo travel	22 (15.5)	8 (5.6)	12.001(0.035)
	Family	49 (34.5)	60 (42.3)	
	Friends/Partners	65 (45.8)	72 (50.7)	
	Colleagues	2 (1.4)	2 (1.4)	
	Package tour	2 (1.4)	0 (0.0)	
	Other	2 (1.4)	0 (0.0)	
Domestic travel per year	Never experienced	11 (7.7)	9 (6.3)	21.521(0.000)
	Once	35 (24.6)	13 (9.2)	
	2 times	45 (31.7)	33 (23.2)	
	More than 3 times	51 (35.9)	87 (61.3)	

4.2 Testing hypotheses

Participants in the constrained segment perceive a relatively larger psychological distance toward rural area (M = 2.028, SD = 1.117) than those in the less constrained segment (M = 2.556, SD = 1.361), t = -3.575, p < .001. Also, constrained segment lack of interest in rural tourism (M = 4.461, SD = 1.243) compared to those in the less constrained segment (M = 3.511, SD = 1.313), t = 6.266, p < .001. Lastly, participants in the constrained segment had less behavioral intention toward rural tourism (M = 4.222, SD = 1.069) than did those in the less constrained segment (M = 4.84, SD = 0.92), t = -5.219, p < .001(see Table 3). Thuse, H1 was supported.

Table. 3. Comparison of identified cluster segments

	Cluster 1: Constrained (n = 142, 50%)	Cluster 2: Less Constrained (n = 142, 50%)	t(p)
Lack of interest	4.461	3.511	6.266(0.000)***
Psychological distance	2.028	2.556	-3.575 (0.000)***
Behavioural intention	4.222	4.84	-5.219(0.000)***

Furthermore, mediation role of lack of interest in rural tourism was examined with bootstrapped analysis with 5000 samples (PROCESS Model 4; Hayes, 2017) . As predicted, those in constraint group have lower behavior intention compared to those in less constrained group because they lack interest in rural tourism (β= -0.388, 95% CI: -0.55 to -0.247, not including 0). Additionally, the direct effect between the constraint group and behavioral intention was significant (β= -0.23, 95% CI: -0.443 to -0.018, not including 0), which defines it partial mediation. Therefore, H2 is supported.

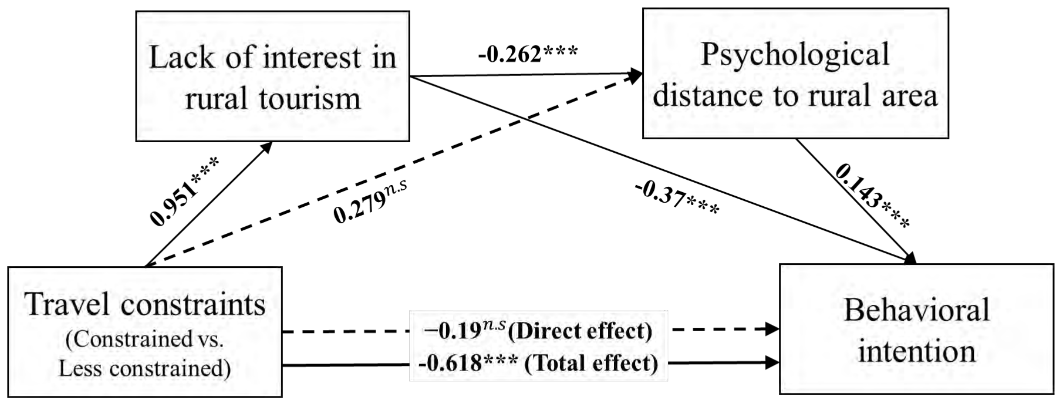
The sequential mediation effects of lack of interest and psychological distance behind the influence of rural tourism constraint on behavioral intention was examined with bootstrapped analysis with 5000 samples (PROCESS Model 6; Hayes, 2017) . Table 4 reports the results of the analysis. As predicted, those in constraint group have lower behavior intention compared to those in less constrained group because they lack interest in rural tourism, causing psychologically distance, which in turn diminishes behavioral intention (β= -0.036, 95% CI: -0.078 to -0.008, not including 0). However, mediation effect of psychological distance-only between constraint group to behavioral intention was not significant (β= -0.04, 95% CI: -0.103 to 0.003, including 0). Also, the direct effect between the constraint group and behavioral intention was not significant (β= -0.19, 95% CI: -0.4 to 0.019, including 0), which defines it indirect-only mediation (Zhao et al., 2010). Therefore, H3 is supported. Figure 3 presents the results.

Table. 4. Results of serial mediation analysis

X1 (Low constraint group: ref)	Effect	S. E	t	Sig.	LLCI	ULCI
Direct effect						
Constraint → BI	-0.19	0.107	-1.787	0.0751	-0.4	0.019
Indirect effect						
Constraint→ LOI→ BI	-0.352	0.076			-0.51	-0.212
Constraint →PD→ BI	-0.04	0.028			-0.103	0.003

Constraint→ LOI → PD → BI	-0.036	0.018			-0.078	-0.008
Total effect	-0.618	0.118	-5.219	0.000	-0.851	-0.385

BI= behavioral intention. LOI= lack of interest in rural tourism. PD=psychological distance to rural area.



Reference group: Less constraint group, ** p < 0.01, *** p < 0.001

Figure. 3. Serial mediation model

5. Discussion and Conclusion

5.1. Discussion

The findings of the current research suggest that travel constraints are important obstacles for individuals in understanding an intention to join rural tourism (H1). Considering other individual factors, the lack of interest in rural tourism played a critical role to mediate the relationship between travel constraints and psychosocial distance to rural area (H2) that have a negative influence on a behavioral intention (H3). As a result, this research provides an underlying mechanism to explain the decision-making process to conduct rural tourism from travelers in a MZ generation cohort.

5.2. Conclusion and implications

The present research extended our understanding of rural tourism from tourists' point of view. Most of previous studies about rural tourism have focused on the role of rural area as a travel product at the destination (Komppula, 2014; Sánchez Rivero et al., 2016) . Given the fact that rural tourism is distinct from the general tourism and the characteristics of travelers vary according to different generation cohorts, this research revealed interesting results. The most remarkable finding is that the lack of interest in rural tourism plays a significant role in the decision-making process. Travel constraints perception significantly affect behavioral intention only through lack of interest in rural tourism. Additionally, the role of psychological distance was conditionally significant only when the lack of interest in rural tourism preceded it. This finding enables tourism researchers to better understand MZ generations' travel behaviors in rural tourism.

From the managerial perspective, this research recommends that destination marketers in rural tourism are required to develop differential marketing strategy between those travelers who have high and low levels of travel constraints. The marketing materials are suggested not only to provide useful information about the rural activities but also to have emotional attachment so that the travelers of MZ generations have perceived closeness to the rural area.

5.3. Limitations of this study and suggestions for future studies

Although this study provides an in-depth understanding of travel constraint that MZ generation might have on rural tourism, we would like to point out limitation that could be addressed in future research. The present study referred "rural tourism" as broad concept tourism in rural area encompassing rural and coastal areas. However, driven by their distinct environmental and industrial features, associated tourism behaviors and constraints may vary regionally, therefore, in future research, focusing on specific types of areas may lead broader understanding.

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Non-religious spiritual tourism and religious spiritual tourism: A comparative study of spirituality and well-being between virtual reality and physical tourism

Chan, Chung-Hao
Graduate Institute of Sport, Leisure and Hospitality Management
College of Sports and Recreation
National Taiwan Normal University

Lui, Tsz-Wai
Graduate Institute of Sport, Leisure and Hospitality Management
College of Sports and Recreation
National Taiwan Normal University

Abstract:

This study examines the impacts of virtual reality (VR) on religious and non-religious spiritual tourism, focusing on individual well-being and spirituality. Using a quasi-experimental design, the research compares physical and virtual tours of a temple. Findings suggest that physical religious tourism significantly enhances well-being and spirituality compared to non-religious tourism. In virtual settings, however, differences in well-being between religious and non-religious experiences are minimal, indicating VR's potential to mimic the spiritual benefits of physical visits. This study provides valuable insights into spiritual tourism dynamics and VR's role in the industry.

Keywords: Spiritual Tourism, Virtual Reality, Religious Spirituality, Well-being

1. Introduction

Spiritual tourism, a relatively nascent concept, was formally introduced at the UNWTO International Conference on Spiritual Tourism for Sustainable Development and addresses the modern societal quandaries that spawn feelings of insecurity and anxiety. Amid the turbulence of contemporary life, marked by wars, pandemics, and economic crises, individuals increasingly turn to spiritual tourism as a sanctuary for mental well-being and spiritual nourishment. Norman and Pokorny (2017) highlight the significance of spiritual tourism in examining the nuances of subjective well-being, which, despite improvements in material conditions, appears to be on the decline. This pursuit of inner peace and fulfillment extends beyond religious confines, embracing the broader spectrum of spiritual tourism. However, defining spiritual tourism remains a challenge due to the variegated perceptions of spirituality influenced by diverse cultural and personal backgrounds. In Taiwan, for instance, traditional religious practices have morphed into major cultural festivities, drawing both local and international visitors. This research seeks to delineate the differences between religious and non-religious spiritual tourism and assess their respective impacts on individuals' well-being and spiritual journey.

The advent of virtual reality, especially during and post-COVID-19, has revolutionized the landscape of spiritual tourism, offering a digital alternative to physical travel (Bhalla et al., 2021; Smith, 2024). More studies are needed to explore the relationship between online religious participation and mental health, as well as the influence of virtual reality on spiritual tourism. Post-COVID-19, digitalization has become imperative, with virtual reality emerging as a substitute for physical tourism. This study investigates the potential of virtual reality in this area, scrutinizing its capacity to replicate the spiritual tourism experience and its ramifications for spirituality and subjective well-being.

In summary, the objective of this study is two-fold. First, we investigate the differential effect on spirituality and well-being between religious versus non-religious spiritual tourism. Second, we enhance the understanding of the influence of virtual reality on spiritual tourism and compare the outcomes of religious versus non-religious spiritual experiences. This investigation aims to shed light on these dynamics, offering valuable perspectives for the future development of spiritual tourism in Taiwan and beyond.

2. Literature Review

2.1 Virtual reality

Virtual reality technology has seen extensive application across numerous sectors, notably within the hospitality and tourism industry (Chan et al., 2023; Fan et al., 2022; Lin et al., 2020). The effects of the pandemic extend beyond mere lifestyle disruptions, profoundly affecting individuals' psychological well-being. The adversity stems not only from the physical afflictions wrought by the virus but also from the extensive periods of isolation and lockdowns, leading to a significant psychological decline (Xiao, 2020). Despite transitioning into a post-pandemic era, the psychological scars remain, compounded by transformative shifts in daily life (Ball et al., 2021; Zheng et al., 2021). This juncture necessitates a critical reassessment of the potential psychological benefits offered by virtual reality. Tourism serves as an optimal lens for this analysis. With the progressive advancements in virtual reality technology, a surge in tech companies competing in the virtual reality platform market suggests an impending expansion in its application within the tourism industry (Guttentag, 2010). The pandemic era witnessed an escalation in virtual reality adoption (Smith, 2024), yet research on the effects of tourist destinations on travelers remains scant (Lin et al., 2020). The understanding of virtual reality's impact on mental health and well-being is still in its early stage (Deighan et al., 2023), and the exploration of its influence on spiritual experiences is markedly absent (Yang & Wang, 2023). In a world where virtual and reality converge, offering a high-fidelity simulation of mental functions, the emulation of real-world experiences through virtual reality is posited to exert a profound and expanding influence on individual cognition (Cantone, 2023). Chiu et al. (2013) have shown that virtual reality is capable of fostering a sense of subjective well-being across diverse environments. The tourism sector should also embrace this potential. Consequently, it is imperative to investigate the relationship between virtual reality, tourism, and well-being (McLean et al., 2023). Gaining insights into the determinants of well-being will not only enrich our understanding but also steer the direction of future research and technological advancements in this field.

2.2 Spirituality

Traditionally, the concept of hedonistic tourism revolved around the four "S" factors: sun, sand, sea, and sex, emphasizing external gratification through a variety of distractions and amenities. Recent research has expanded this framework to encompass spirituality Haq (2011), introducing a complex, multidimensional perspective that encompasses the self, others, nature, transcendence, and religion (Zhou, 2016). Spirituality, distinguished from religious practices, has emerged as a vital element of contemporary tourism, offering opportunities for personal development and fostering a sense of connection that transcends materialistic pursuits.

Zhou (2016) defined spirituality in five dimensions: connection with one's inner self, with others, with nature, with the transcendent, and with religion, aiming to deepen the understanding of the spirit. Scholars maintain that spirituality is intrinsically linked to the individual, encapsulating personal empowerment, significance, and empathetic sensitivity (Ellison, 1983). It is also seen as integral to interpersonal connections, acting as a binding force of unity and care among individuals (Emblen, 1992). Further, spirituality is tied to the natural world, representing a cognizance and philosophical stance on the universe's workings (Howden, 1992). In the realm of the transcendent, spirituality is perceived as an awareness and acknowledgment of supernatural and ethereal powers (Hawks, 1994). Finally, spirituality's relationship with religion is acknowledged, positing that while spirituality and religion may intersect—since religion can manifest spiritual expression—they are not synonymous, allowing for spirituality to exist beyond religious confines (Westgate, 1996).

2.3 Spiritual tourism

Spiritual tourism is increasingly recognized as a pursuit centered on personal growth, aiming to transcend the ordinary confines of self to harmonize the mind and body, enhance self-awareness, foster mental well-being, and fulfill life objectives (Norman, 2012; Smith et al., 2010; Willson et al., 2013). In contrast, the concept of "religion" traditionally aligns with established institutions, prescribed norms, and community belonging (Maćkowiak, 2017). The journey embarked upon by adherents of faith to foster spiritual development is identified as "religious spiritual tourism" (Yan, 2000; Pargament, 1997; Poggendorf, 2022; Raj & Griffin, 2015). Spiritual tourism, in its quest for profound happiness or lasting meaning, represents a travel paradigm centered on personal enlightenment, distinct from religious obligations. This form of tourism, when disentangled from religious practice, is referred to as "non-religious spiritual tourism."

Norman's (2012) framework (Figure 1) suggests that spiritual tourism can intersect with religious elements while also maintaining a distinct identity. However, the experiential differences between religious and non-religious spiritual tourism have yet to be thoroughly examined academically. The study of spiritual tourism, which has gained traction over the past twenty years, explores the investigation of spirituality through various lenses, including religion, health, education, work, and music.

Figure 1

The relationship among spiritual tourism, religious tourism, and pilgrimage

Note: The black section represents non-religious spiritual tourism, while the white section represents religious spiritual tourism.

2.4 Well-being

Positive psychology employs scientific methods to identify, understand, and promote the factors that enable individuals and communities to thrive and prosper (Hefferon & Boniwell, 2011; Seligman, 2003; Seligman, 2010). It emphasizes the importance of positive emotions, deep engagement, meaningful relationships, purpose, and accomplishments. Subjective Well-Being (Hedonic Well-Being) is experience-based and encompasses both a cognitive dimension, such as life satisfaction, and an affective dimension, such as the prevalence of positive emotions (Deci & Ryan, 2008; Huta & Waterman, 2014). Eudemonic Well-Being (Psychological Well-being) is derived not from physical or medicinal sources but through spiritual and psychological growth (Seligman, 2003).

Research in the field has extensively explored the nexus between spiritual tourism and well-being, illustrating how spiritual journeys facilitate recovery, transformation, and personal growth, thereby enhancing the overall well-being of participants (Gill et al., 2019). Robledo et al. (2023) have pointed out the significant impacts of the pandemic on mental health and travel behaviors, positing that spiritual tourism emerges as a viable adaptation to the evolving societal norms, offering a pathway for individuals to navigate and reconcile with the new realities of the post-pandemic world.

2.5 Research Hypotheses

2.5.1 The effect on well-being

Religious spiritual tourism offers psychological benefits by providing spiritual solace, experiences, and reflections on the meaning of life (Muzurura et al., 2022; Seligman, 2003) and can increase well-being by offering hope and meaning to life for believers. Non-religious spiritual tourism enhances well-being by offering opportunities for recovery, transformation, and personal development (Bhalla et al., 2021; Day, 2010; Gill et al., 2019). The mode of

engagement, whether physical or virtual, affects the extent of these benefits, leading to the hypothesis that there is a significant difference in the well-being attained through virtual and physical travel in both religious and non-religious spiritual tourism. Therefore, we propose:
H1a: There are significant differences in well-being obtained through virtual reality tourism between religious and non-religious spiritual tourism.
H1b: There are significant differences in well-being obtained through physical tourism between religious and non-religious spiritual tourism.

While both physical and virtual reality tourism can enhance well-being, physical travel typically offers a more comprehensive experience, engaging all senses and often involving physical activity, which is beneficial for physical and mental health. On the other hand, virtual reality tourism provides significant cognitive and emotional benefits, allowing travelers to focus more on the experience and value of its accessibility and inclusiveness (Deighan et al., 2023). Therefore, we propose:
H2: There are significant differences in well-being between virtual reality tourism and physical tourism.

2.5.2 The effect on spirituality

Due to the shift in spiritual pursuits, non-believers engaging in non-religious spiritual tourism may not adhere to particular religious practices but seek spirituality in their own way (Brown, 1999; Downey, 2018). This form of tourism attains spirituality through avenues of inner peace, heightened self-awareness, personal development, and transcendence (Poggendorf, 2022). Conversely, religious spiritual tourism, which achieves a sense of spirituality, is rooted in the connection to a higher, sacred force, often linked to specific religious or belief systems (Poggendorf, 2022). As they are seeking different aspects of spirituality, the level of spiritual attainment in non-religious and religious spiritual tourism may vary. Therefore, we propose:
H3a: There is a significant difference in religious spirituality between religious and non-religious spiritual tourism through virtual reality tourism.
H3b: There is a significant difference in religious spirituality between religious and non-religious spiritual tourism through physical tourism.

Considering that physical tourism potentially offers a more immersive and holistic spiritual experience facilitated by direct interaction with sacred sites, active participation in rituals, and meaningful engagement with local communities, it stands out in its ability to deeply connect individuals with the essence of spirituality (Heidari et al., 2017). On the other hand, virtual tourism, although it may not replicate the full sensory immersion and communal aspects of physical travel, provides substantial benefits in terms of accessibility and educational value (Marin et al., 2020). This digital form of tourism allows travelers to engage with and comprehend religious concepts from afar, thereby broadening their spiritual understanding and enhancing their overall spiritual journey.
H4: There is a significant difference in religious spirituality between virtual reality tourism and physical tourism.

3. Methodology

In this study, a survey-based quasi-experimental approach is adopted, employing a 2 x 2 factorial design that compares two types of tourists' purposes—religious and non-religious—against two forms of tourism—virtual reality and physical. The context of this research is the Beigang Chaotian Temple, one of the Top 5 most popular religious sites in Taiwan. Participants are distinguished based on their self-identification as followers of Mazu, the deity revered at the temple, allowing for a clear separation between religious and non-religious spiritual tourism experiences. For the physical tourism aspect, tourists physically visited the temple, whereas, in the virtual reality tourism scenario, participants explored the temple via GOXR, a virtual reality platform facilitated by XRSPACE. During the virtual experience, participants utilized the Meta Quest Pro headset to navigate the virtual temple environment. The study successfully enlisted 351 participants. To ensure the participants' engagement in spiritual tourism was genuine, the non-theistic section of the Daily Spiritual Experience Scale by Ellison & Fan (2008) was applied to filter out individuals who did not encounter spirituality during their visit (with a score of less than 4 in the 7-point Likert scale), yielding 315 valid responses (Table 1). Following their visit to the temple, either through physical attendance or virtual experience, participants completed a survey that incorporated the primary constructs of the study. These constructs included measures of well-being, derived from the work of Disabato et al. (2016) and Lin & Hsieh (2022), and religious spirituality, based on the framework established by Ellison & Fan (2008) (Table 2).

Figure 2

Beigang Chaotian Temple in GOXR

Table 1

Number of participants in each treatment group

Number of participants	Physical tourism	Virtual reality tourism
Non-religious spiritual tourism	44	59
Religious spiritual tourism	146	66

Table 2

Survey questions

Well-being	Scale Items	Note	Reference
Well-being	1. Happiness	Ability to participate in this activity.	Disabato et al., (2016); Lin & Hsieh (2022)
	2. Satisfaction with life		
	3. Depression		
	4. Purpose in life	Ability to facilitate the achievement of personal life goals.	

Well-being	Scale Items	Note	Reference
	5. Growth power	Encouragement of personal growth.	
	6. Personal growth	Encouragement of self-learning and broadening of horizons.	
	7. Environmental Mastery	Satisfaction with self-life management.	
	8. Autonomy	Ability to handle troublesome matters with one's own insights.	
	9. Self-acceptance	Broadening of one's personality traits.	
Theistic Spirituality	1. Desire to be closer to God		Ellison&Fan (2008)
	2. Feel guided by god		
	3. Connection to god lifts daily concern		
	4. Find comfort in religion and spirituality		
	5. Feel God's presence		
Non-Theistic Spirituality	1. Feel deep inner peace or harmony		
	2. Feel thankful for blessings		

4. Results

4.1 Profile of the respondents

The respondent profile indicates that the majority visited the temple either once (30.8%) or more than ten times (30.5%), with a predominant age group of 21-30 years old (53.7%). Most participants were unmarried (76.8%), college-educated (56.5%), earned below NTD$20,000 NTD monthly (38.4%), and resided in either the northern or southern regions of Taiwan. Most of the participants in virtual reality tourism (64.8%) indicated that they had never used virtual reality before.

4.2 Factor analysis

The data analysis, performed using IBM SPSS 23, revealed two distinct factors, "Well-being" and "Religious Spirituality," as expected, through factor analysis, accounting for 65.854% of the variance. "Well-being" comprises nine items related to feelings of contentment, relaxation, self-acceptance, positive relationships, handling challenges, having life goals, understanding life's meaning, and personal growth, while "Religious Spirituality" pertains to divine presence and religious comfort, including five items about experiencing divine presence, seeking guidance, finding comfort and spirituality in religion. Both well-being and religious spirituality show high reliability with Cronbach's α values of 0.915 and 0.907, respectively, and are validated through convergent and discriminant measures. Factor scores are calculated for subsequent two-way ANOVA.

4.3 Two Way ANOVA

4.3.1 Well-being

Levene's test was applied to verify the homogeneity of variances, yielding a p-value above 0.05, which confirmed the uniformity of the well-being variance across samples, thus validating their appropriateness for ANOVA. The interaction between tourism purpose and mode demonstrated a significant effect on well-being (F = 5.242, p = 0.023) (Figure 3). The simple main effects tests unveiled significant variances in well-being across virtual and physical tourism modalities, contingent on the tourists' purpose, but there is no significant difference between non-religious and religious visitors in the case of virtual reality tourism (Table 3 and Table 4). The analysis supports hypotheses H1b and H2 but not H1a.

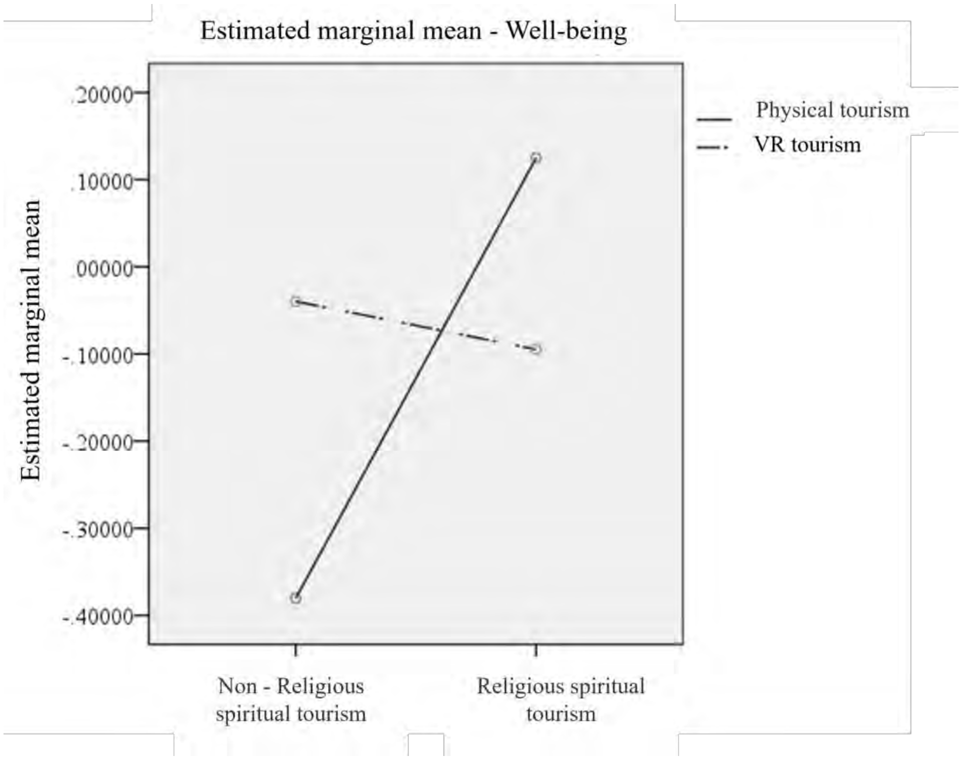
Table 3
The simple main effect of tourism mode

Tourists' purpose		*SS*	*df*	*MS*	*F*	*p*
Non-Religious spiritual tourism	Between Groups	3.803	1	3.803	3.868	**.052**
	Within Groups	99.299	101	.983		
	Total	103.101	102			
Religious spiritual tourism	Between Groups	5.995	1	5.995	6.426	**.012**
	Within Groups	195.928	210	.933		
	Total	201.923	211			

Table 4
The simple main effect of tourists' purpose

Tourism mode		*SS*	*df*	*MS*	*F*	*p*
Physical tourism	Between Groups	16.350	1	16.350	16.134	**< 0.001**
	Within Groups	190.514	188	1.013		
	Total	206.864	189			
Virtual reality tourism	Between Groups	.098	1	.098	.116	.734
	Within Groups	104.713	123	.851		
	Total	104.811	124			

Figure 3
The interaction effect between tourists' purpose and mode of tourism

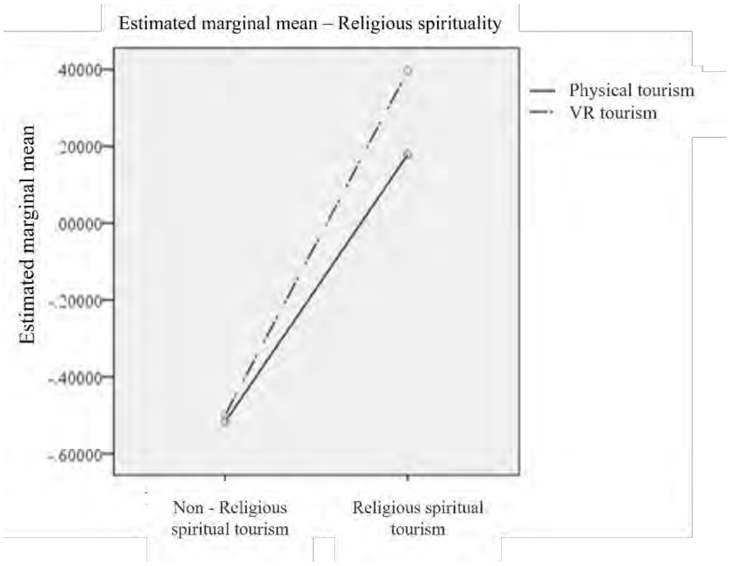


4.3.2 Religious spirituality

Levens' test result ($p = 0.123$) indicates no significant difference in the variance of religious spirituality between sample groups. The ANOVA results show a significant difference in religious spirituality between participants of non-religious and religious spiritual tourism ($F = 46.778$, $p < .001$, $\eta2 = 0.131$). Specifically, individuals engaging in non-religious spiritual tourism exhibit significantly lower levels of religious spirituality compared to those in religious spiritual tourism. However, when comparing the modes of travel—virtual reality and physical tourism—no significant difference in religious spirituality is observed ($F = 1.032$, $p = 0.311$). No interaction effect is detected (Figure 4). Therefore, H3a and H3b are supported, while H4 is not supported.

Figure 4

The main effect of tourists' purpose and tourism mode



5. Discussion and Conclusion

5.1. Discussion

Religious spiritual tourism in physical mode outperforms its physical non-religious counterpart in enhancing well-being and religious spirituality. It offers deeper spiritual experiences and psychological benefits, including guidance and solace from religious practices. Both physical and virtual religious-spiritual tourism yield higher spiritual fulfillment compared to non-religious alternatives.

Contradictory to our expectation, H1a is not supported, where there is no significant difference in well-being between religious and non-religious spiritual tourism when the participants engage in a virtual trip. A possible explanation could be that believers value physical visits to spiritual destinations, while virtual reality provides less enhancement of well-being. Non-believers find greater happiness in virtual spiritual tourism, benefiting from its innovative experience. Happiness in virtual environments is pleasure-oriented, lacking deeper meaning, showing no substantial difference in well-being between religious and non-religious spiritual tourism. The mode of religious spiritual tourism (virtual/physical) shows no significance either. For non-believers, whether physical or virtual, religious spirituality remains low. However, for believers, both physical and virtual modes exhibit high religious spirituality. This lack of significance indicates that there's no difference in religious spirituality between virtual and physical modes, with virtual reality providing believers with similar religious spirituality to physical tourism. The result indicates that virtual tourism can substitute physical tourism in achieving religious spirituality.

This study contributes to a deeper understanding of the impact of different types of tourism on Well-being, providing practical recommendations for spiritual tourism. First, it differentiates between non-religious and religious spiritual tourists, revealing variations in well-being and religious spirituality based on tourism intent. Second, it shows that virtual reality can match or surpass the well-being provided by physical visits to religious sites, suggesting its viability as an alternative form of tourism. Specifically, the research offers valuable insights into religious destinations, such as Beigang Chaotian Temple, catering to both religious and non-religious visitors. Finally, the findings are pivotal for guiding tourism choices and informing policy and marketing strategies for spiritual destinations, with further elaboration in subsequent sections on research limitations and recommendations. Spiritual tourism represents a pivotal avenue for fostering sustainable tourism practices (Mat Som, 2019). The growing recognition of spiritual travel as a valuable component in the sustainable development of the tourism industry, as noted by Stojsavljević et al. (2023), underscores its potential to drive not only economic and community growth but also to ensure the preservation and transmission of cultural heritage. With the burgeoning interest in both non-religious and religious spiritual tourism, the future of virtual tourism holds promise for green innovation. This approach necessitates a concerted effort from tourism operators, visitors, and destinations alike to prioritize environmental stewardship, thereby aligning tourism activities with sustainable and responsible environmental practices (Senbeto, 2023).

5.2. Limitations and suggestions for future studies

The study, examining well-being and religious spirituality in spiritual tourism, faced limitations due to convenience sampling, leading to insufficient or unequal sample sizes, which affected the generalizability of the results. Participants' unfamiliarity with virtual reality equipment may have influenced their experiences and responses, thus impacting the study's findings on well-being and spirituality. The research at Beigang Chaotian Temple revealed an uneven age distribution among participants, with a notable reluctance among older individuals to engage, skewing the sample. This challenge was exacerbated by lower participation rates during specific periods and the difficulty in attracting non-religious spiritual tourists over 40, affecting the study's representativeness and conclusions. To mitigate biases and enhance the study's validity, expanding the sample size is advised for better age group representation. Pre-experiment training in virtual reality (VR) is recommended to acclimate participants to the technology, thus reducing its influence on the research outcomes.

Future research is recommended to investigate and contrast different spiritual tourism sites beyond religious sites, such as natural landscapes or cultural festivals, which can offer more insights into well-being and spiritual impacts, aiding in the development of spiritual tourism offerings. Spiritual tourism should be leveraged for sustainable development, emphasizing cultural preservation and environmental sustainability. Lastly, examining the effectiveness of diverse VR devices can ascertain their influence on user immersion and satisfaction, guiding future technology applications in spiritual tourism.

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Understanding Tourists' e-Complaint Attributes after Visiting Dark Tourism Destinations: Applying Natural Language Processing based Latent Dirichlet Allocation to Tourism Industry

Sann, Raksmey
Department of Tourism Innovation Management, Faulty of Business Administration and Accountancy
Khon Kaen University

Chen, Chi-Ting
Department of Hospitality Management, School of Tourism
Ming Chuan University

Lai, Pei-Chun
Department of Hotel and Restaurant Management
National Pingtung University of Science and Technology

Liaw, Shu-Yi
College of Management, Director of Computer Centre
National Pingtung University of Science and Technology

Abstract:
Dark tourism has been gained attention researchers for ages as news headline or article publications. However, understanding the e-complaint attributes of tourists after visiting dark tourism destinations was limited. Thus, this study aims to answer the question "What did tourist perceive to be problematic experience issues during visiting these dark tourism destinations?". Approximately 34,567 e-complaint terms from five dark tourism sites were collected then analysed with LDA topic modelling. The findings revealed some critical concepts about the sombre place, poor presented museum, limited audio guide, high entrance fee, limited accessibility and very little relevant information. The results of this study will help the Destination Management Organizations (DMOs) to strategize, by utilizing e-complaint attributes to create and reinforce understanding of tourist (dis)satisfaction and their experiences.

Keywords: Dark Tourism, e-Complaints, Latent Dirichlet Allocation (LDA), Natural Language Processing (NLP), User-Generated Contents (UGCs)

Bibliometric analysis of research on pets in the tourism and hospitality industry

Chung, Alisa Lai Sheung
Lee Shau Kee School of Business and Administration
Hong Kong Metropolitan University

Lee, Louisa Yee Sum
Lee Shau Kee School of Business and Administration
Hong Kong Metropolitan University

Abstract:

This study aims to understand the current research profile of academic literature in pet-friendly products and services in relation to the tourism and hospitality industry and suggest directions for future research. The pet economy is experiencing remarkable growth, and this boom has also extended to the tourism and hospitality industry. Despite the significance of pet-friendly tourism and hospitality products and services in the real world, scholarly investigation is still in its infancy stage. Bibliometric analysis was performed to attain the research aims. The findings reveal three broad themes in business journals in relation to pet-friendly tourism and hospitality products and services, namely “Travelling with pets”, “Post-COVID-19 consumption”, and “The pet exposure effect”. Future research directions would shed light on pet-friendly travel and accommodation, particularly the needs of Asian millennial pet owners.

Keywords: Pet economy; Bibliometric analysis; Pet owners; Pet-friendly; Pet tourism

1. Introduction

The pet economy is experiencing remarkable growth, driven by the emergence of solo-living lifestyles, DINK families, empty nesters, and the quest for sophisticated living standards (Liu, 2023; Lu, Jiang, Li, Wang & Wu, 2022). This phenomenon has been further accelerated in the post-COVID-19 era, as more and more people find the companionship of urban pets, namely dogs and cats, comforting and relaxing. Pet owners refer to themselves as millennial pet parents, emphasizing the emotional bond and perceiving pets as family members (Suksanguan, 2016). According to Bloomberg (2023), the global pet economy is projected to reach USD 500 billion by 2030.

The boom in the pet economy has also extended to the tourism and hospitality industry. In the United States, approximately 18% of American leisure tourists have traveled with their pets (Kirillova, Lee & Lehto, 2015). A tour operator in China has developed over 150 pet-friendly tour packages since 2016 given the burgeoning demand (Ying, Tang, Wen, Ye, Zhou & Li, 2021). While accommodation plays a crucial role in the travel experience, world chain hotels have been gearing up to ride on the trend. According to French and Kemmis (2023), approximately 90% of Hyatt and 80% of Hilton hotels have implemented pet-friendly policies with distinct selling points. An empirical study by Alves, Sousa, Carvalho, Santos, Lopes Dias, and Valeri (2022) revealed that tourism establishments with pet-friendly branding were significantly conducive to customer satisfaction, trust, and commitment.

Despite the significance of pet-friendly tourism and hospitality products and services in the real world, scholarly investigation is still in its infancy stage. Academia has widely acknowledged the significance of publications and citations in mapping the intellectual progress of various fields. Given the blooming market potentials and offerings of the pet industry, there is a need to examine the existing research in this area to establish a knowledge foundation and explore potential areas of study. Employing bibliometric analysis, this study aims to understand the current research profile of the academic literature in pet-friendly products and services in relation to the tourism and hospitality industry and suggest directions for future research. The findings will contribute not only to the academic literature but also provide valuable insights to tourism and hospitality practitioners, enabling them to enhance product development and cater to the evolving needs and preferences of pet owners.

2. Literature Review

Bibliometric analysis is a statistical technique that evaluates and monitors academic disciplines by analyzing data from published studies (Koseoglu, 2016). It examines factors such as citations, author affiliations, keywords, themes, and research methods to explore research methodologies, influential scholars, intellectual structure, trends, distribution, specific themes, and discipline maturity (Donthu, Kumar, Mukherjee, Pandey & Lim, 2021). Advanced software programs, such as biblioshiny, Bibliometrix and VOSviewer, have facilitated this analysis, providing insights into the structure and evolution of scientific fields (Zupic & Cater, 2015). It relies on objective data and employs informed techniques for analysis and interpretation. The deliverables provide valuable insights into well-established fields by decoding and mapping cumulative scientific knowledge and trends. It is a powerful tool for researchers seeking a comprehensive understanding of a field by analyzing large volumes of data and is considered suitable for attaining research objectives. The method thus considered suitable for attaining the research aims.

3. Methodology

Donthu et al. (2021) suggest a four-step guideline for bibliometric analysis in business research. The steps include defining the aims and scope of the bibliometric, selecting appropriate techniques, gathering data, and reporting the findings. The current study adheres to this guideline. The research objectives have been aforementioned. Selecting an appropriate bibliographic database is essential for confining the scope.

Scopus, an established bibliographic database introduced by Elsevier in 2004, was selected as the primary database for this research (Pranckutė, 2021). It offers broader and more comprehensive content coverage compared to other databases, encompassing various fields such as natural sciences, engineering, biomedical research, social sciences, and arts and humanities (Mongeon & Paul-Hus, 2016). Eligible articles for analysis were focused on English-language publications in the subject areas of Business, Management, and Accounting. Research notes, expert reviews, and conference reports were excluded. This restriction was necessary to avoid confusion with the keyword "PET," which refers to Polyethylene terephthalate, a widely used plastic material (Soong, Sobkowicz & Xie, 2022). PET has been extensively studied in various disciplines, such as Biochemistry, Materials Science, and Engineering. To refine the search, the keyword "pets" was used, resulting in the identification of 297 articles. Data cleaning was then performed to ensure the quality of data. A screening process was then conducted to eliminate duplicates and erroneous entries, yielding 92 articles for further analysis. The majority of articles were excluded because, upon manual review, they were found to refer to PET plastic material.

Performance analysis and science mapping are the primary manifestations of bibliometric analysis. The former involves evaluating the contributions of research constituents, such as authors, institutions, countries, and journals, while the latter examines the connections between publications. Co-occurrence analysis, a technique for science mapping as a representation of the current research field, was performed to explore relationships among topics by focusing on author-provided keywords. Keywords that frequently appear together are perceived to have a thematic relationship with one another. The authors used VOSviewer software to conduct co-occurrence analysis and produce scientific maps of the co-occurrence of keywords.

4. Results

The key findings from the performance analysis indicate that the first business research related to pets began in 1990, with a peak in publication numbers in 2008. The majority of papers were published by institutions in the USA.

Based on the bibliographic coupling network generated by the VOSviewer software, three clusters have emerged. Cluster 1 comprises articles that examine the motivations and constraints of traveling with pets. For instance, Tang, Ying, and Ye (2022) studied pet owners' motivations for taking pets to tourism activities. Chen, Peng & Hung (2013) studied how pet-related constraints and negotiations affect pet owners' motivation in pet tourism. These scholars collectively agree that traveling with pets is a growing trend. Therefore, the first cluster could be labeled as 'Traveling with pets'.

Cluster 2 can be regarded as 'Post-COVID-19 consumption.' This cluster exhibits a high degree of cohesion concerning the changing preferences in pet-related products and services in the post-COVID-19 era. The pandemic has positively impacted online pet retailers like Chewy, as people staying at home have shown a greater inclination to spend on pet care products (Weinstein, Alegria, Araujo, Carvallo, Cubides & Salinas, 2023) and pet-related curation subscription box services (Jeong, Yang, Kim & Min, 2024).

Cluster 3, of lesser importance, focuses on marketing strategies based on pet exposure in various situations. Articles in this cluster explore how pet exposure in product and service contexts influences consumer preferences and choices. For example, Mora and Vila (2020) conducted a study using a viral video from a pet food brand promoting pet adoption, showing that positive attitudes towards viral ads improve cause-brand alliance and brand attitudes. Additionally, Jia, Yang, and Jiang (2022) found that exposure to dogs or cats activates promotion-focused or prevention-focused mindsets in consumers respectively, based on the stereotypical behaviors associated with these pets. This cluster can be called 'The pet exposure effect'.

5. Discussion and Conclusion

This study holds both theoretical and practical significance. It outlines the impact of authors and institutions, providing a comprehensive introduction to the research domain. It could serve as a catalyst for fostering research collaboration. Additionally, three themes have been identified, providing a more organized view of the literature on the subject and revealing knowledge gaps. Future research directions would focus more on pet-friendly products and services, especially veterinary care services, healthy pet food, and pet-friendly travel and accommodation. Another area for research is marketing in the pet industry. Asian countries and millennial pet owners are trending contexts for future research. The findings will offer valuable insights to hoteliers targeting pet owners, enabling them to enhance product development and marketing communications. However, since our study relied on bibliometric data confined to Scopus, including data from other sources could alter the results, thus warranting further investigation.

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Configuring the attachment-versus-value combinations in determining Support intention and Behavior intention in traveling with pets: Using fsQCA

Choi, Hwieun
Smart Tourism Education Platform (STEP)
Kyung Hee University

Jo, Yunkyoung
Smart Tourism Education Platform (STEP)
Kyung Hee University

Joo, Yeonwoo
Smart Tourism Education Platform (STEP)
Kyung Hee University

Jo, Hyeona
Smart Tourism Education Platform (STEP)
Kyung Hee University

Yoon, yoo-shik
Smart Tourism Education Platform (STEP)
Kyung Hee University

Abstract:
This study explores the combination of attachment and value perception in determining the supportive and behavioral intentions of pet travel. Specifically, it examined asymmetric relationships between variables by combining cluster analysis based on the degree of tourism motivation and fsQCA analysis to determine pet travel's supportive and behavioral intentions. It shows that individuals with a high attachment to pets consider them family members and appreciate their emotional and functional values more when traveling with them.

Keywords: Pet travels, Pet attachment, Value perception, Support intention, Behavior intention, fsQCA

1. Introduction

The number of pet-rearing households is increasing worldwide (American Pet Products Association, 2023; KB Financial Group, 2023), and the pet industry is expected to proliferate. This shift is steering the tourism and hospitality industry towards a more pet-friendly model, responding to the growing demand for pet travel and altering the landscape of tourism services. Nevertheless, research on pet travel has mainly focused on travel constraints (Joo et al., 2023), with insufficient focus on how pet-owner relationships affect travel decisions and policy development. Research on the relationship between a pet owner and a pet is needed to establish systematic policies, laws, and infrastructure for pet travel. In Asia, particularly in Korea, the perception of pets has significantly transformed over the past three decades, opening avenues for extensive research on pet travel. This study aims to classify clusters based on tourism motivation and investigate the impact of pet attachment and value perception on behavior and policy support. These studies have the potential to significantly enhance our understanding of pet travel and play a pivotal role in the development of related policies and infrastructure, fostering a more inclusive and pet-friendly travel environment.

2. Literature Review

2.1. The cultural aspects of animal attachment

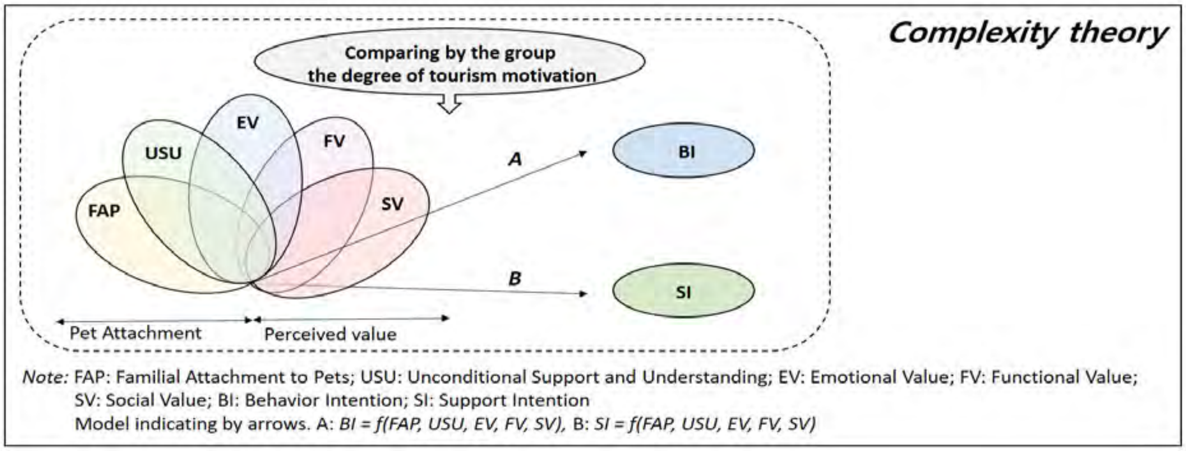
In modern society, there is a growing tendency to regard pets as family members, not just animals. The Lexington Attachment to Pets Scale (LAPS, Johnson et al., 1992) has been utilized in studies in several countries as the most widely used measure for evaluating the emotional bond between humans and pets. The culture of pets has been formed relatively recently in Korea, and research related to this is lacking. Recent societal shifts have led to more households owning pets and viewing them as family members, underscoring the importance of research using the LAPS to understand human-pet attachment. Hielscher et al. (2019) and Albuquerque et al. (2023) translated the LAPS into multiple languages, establishing its reliability for international research on human-pet attachment. On the other hand, Jung and Ahn (2020) tried using LAPS in Korea, but it showed as a single factor, suggesting that Korean pet attachment may differ from Western patterns. Therefore, more in-depth research is needed on the attachment relationship with pets in Korea, which can contribute to developing awareness and policies for pet travel.

2.2. A Study on the Segmentation of Tourism Motivation

Tourism motivation is an essential indicator for grasping tourists' attitudes and behavioral intentions and contributes to analyzing their behavioral characteristics through tourist segmentation (Park & Yoon, 2009). The motivation for pet travels comes from the pet's desire to interact with or pursue new dog experiences (Hidalgo et al., 2023). This motivation provides greater happiness and comfort to pets through the fresh and enjoyable experiences that pet travels provide (Kirillova et al., 2015). However, despite the increasing demand for pet travel, there are various restrictions, and understanding pet behavior is essential to improve service and provide appropriate policies. To this end, it will segment travelers with pets based on psychological and empirical motives and analyze tourists' value perception and attachment. This approach is expected to present a new perspective on pet travel and contribute to understanding the characteristics of pet travelers.

2.3. Value Perception and Behavior Intention of Traveling with Pets

This study explores the role of interactions between pet owners and pets in creating the value of the tourism experience in pet travel. While previous studies have focused on emotional and social values (Wei et al., 2023), this study analyzes how the behavior of pet travelers is influenced by psychological factors such as attachment and value perception, along with the importance of functional values. This is based on a study (Levitt et al., 2019) in which highly motivated people are more intentionally planning to travel with their pets. However, until now, these psychological factors have been mainly used in predicting tourism activities, but they have yet to be explored in predicting support for tourism development (Erul et al., 2020). Therefore, this study aims to provide new insights into this field by understanding individual psychological responses to pet travel in more detail and clearly analyzing the relationship between behavioral intentions and support. Therefore, using the fuzzy-set qualitative comparative analysis (fsQCA) method based on complexity theory is expected to provide a new perspective on pet travel and contribute to research and practical applications in this field by segmenting tourist behavior and analyzing various psychological motivations in a complex manner (Kahraman et al., 2023). The research model is shown in Figure 1 below.



3. Methodology

This study deepened our understanding of pet travel by analyzing factors such as attachment, perceived value, behavioral intention, and support intention. To this end, items extracted from previous studies (Choi, 2020; Erul et al., 2020; Huang et al., 2009; Johnson et al., 1992; Lin & Huang, 2012) were utilized. The data collected using a 7-point Likert scale were analyzed, including screening questions to determine whether a pet lived with it. The survey was conducted on 472 pet owners aged 20 or older in Korea using a 7-point Likert scale, which included screening questions to identify the respondents' way of life with their pets. The survey was validated by tourism experts and professors. As shown in Table 1, the respondents were mostly women, with the most in their 30s and their monthly income in the middle range. Most respondents had traveled with their pets and most often had small dogs.

Table 1. Information for respondents of the Entire Group for Traveling with Pets.

Variable	472(n)	100 (%)	Variable	472(n)	100 (%)
Gender			**Age**		
Male	143	30.3	20-29	136	28.8
Female	329	69.7	30-39	159	33.7
Monthly income (KRW)			40-49	121	25.6
Less than 1 million	30	6.4	50s or over	56	11.9
1 million ~ 1.999 million	66	14.0	**Marital status**		
2 million ~ 2.999 million	159	33.7	Single	266	56.4
3 million ~ 3.999 million	90	19.1	Married	195	41.3

4 million ~ 4.999 million	48	10.2	Other	11	2.3
More than 5 million	79	16.7	**Size of pets**		
Experienced traveling with pets			Small (Less than 10kg)	401	85.0
Yes	362	76.7	Medium (10kg ~24.9kg)	55	11.7
No	110	23.3	Large (More than 25kg)	16	3.4

This study assessed reliability and validity before conducting a two-stage cluster analysis based on travel motivation. The LAPS scale's applicability to a Korean sample was tested with confirmatory factor analysis, which failed to establish discriminant validity. This led to reevaluating the scale and measurement model through exploratory factor analysis using SPSS's Varimax rotation. A significant analytical step involved adopting fsQCA to explore asymmetric models grounded in complexity theory (Olya et al., 2022). fsQCA involved three steps: converting variables into fuzzy sets, generating a list of conditions leading to outcomes using a fuzzy truth table algorithm, and identifying complex, concise, and intermediate solutions to reveal the conditions yielding specific results (Ragin, 2008). This approach facilitated a deep analysis of the psychological interactions inherent in companion animal travel.

4. Results

4.1. Reliability and validity

The CFA results can be found in Table 2, and all items were significantly loaded under the allocation factor. The factor loading value was found to satisfy the recommended level ($P<.001$). In addition, because of checking the variance inflation coefficient (VIF) to verify the multicollinearity of the variables, the VIF outer range was 1.252 to 4.971, which was smaller than the reference value of 5, confirming that there was no problem with multicollinearity (Hair et al., 2017).

Table 2. Confirmatory Factor Analysis and Normality.

Constructs	λ^{*}	t-value	Kurtosis	Skewness	VIF**
Familial Attachment to Pets (FAP)					
I feel that my pet is part of my family	.841	56.748	2.448	-1.668	3.316
My pet makes me happy	.854	66.710	1.144	-1.249	3.425
My pet means more to me than any of my friends	.822	44.524	.459	-1.084	2.716
I consider my pet to be a great companion	.838	42.404	-.019	-.902	2.922
I am not very attached to my pet ***	.772	34.674	3.673	-2.027	2.565
I think my pet is just a pet***	.750	28.496	.075	-.949	2.093
My pet and I have a very close relationship	.820	4.723	.109	-.944	2.636
I believe my pet is my best friend	.793	31.403	1.601	-1.192	2.508
I would do almost anything to take care of my pet	.783	39.181	.059	-.714	2.518
I play with my pet often	.738	28.891	.450	-1.063	2.021
Unconditional Support and Understanding (USU)					

My pet understands me	.889	64.999	-.448	-.367	1.822
I love my pet because he/she is more loyal to me than most of the people in my life	.659	12.238	.094	-.797	1.252
My pet knows when I am feeling bad	.853	45.156	-.203	-.574	1.677
Emotional value (EV)					
Pet travel makes me feel comfortable	.893	69.196	-.520	-.465	3.313
Pet travel gives me emotional stability	.936	161.126	-.332	-.524	4.422
Pet travel is enjoyable	.895	76.519	-.224	-.650	2.717
Pet travel is an action that relieves stress	.742	24.269	-.017	-.308	1.634
Functional value (FV)					
Pet travel is worth the time investment	.938	138.179	.532	-.895	4.971
Pet travel provides me with new experiences	.899	87.216	.183	-.760	3.259
Pet travel is worth the experience	.921	102.857	.575	-.886	4.053
Pet travel is worth the cost	.800	35.043	-.065	-.489	1.824
Social value (SV)					
Pet travel attracts other people's attention	.867	32.203	-.433	-.304	2.343
Pet travel gives a good impression to others	.921	77.579	.106	-.085	2.319
Pet travel makes me stand out	.870	41.179	-.410	.139	2.119
Behavior Intention (BI)					
I intend to bring my pet on future trips	.907	51.785	1.973	-1.346	3.769
I am willing to pay for the costs associated with bringing my pet	.928	106.041	2.099	-1.235	4.185
I intend to share information about pet travel with others	.846	43.616	.732	-.866	2.523
I will speak positively about pet travel to others	.918	77.242	.828	-.990	3.603
Support Intention (SI)					
I will support the development of policies for pet travel	.898	73.894	.713	-.935	3.808
I will maintain ongoing interest in pet travel	.900	87.941	.967	-.993	3.722
There is a need for further development of infrastructure related to pet travels	.879	49.988	.025	-1.000	2.974
I believe traveling with pets should be actively encouraged	.894	78.407	-.311	-.739	3.426
The government and local authorities should support the revival of pet travel	.797	27.290	-.092	-.694	2.290

Note: * λ : Factor loading; **Variance inflation factor of multicollinearity; ***reverse coding.

4.2. Cluster analysis

This study employed a two-stage cluster analysis using survey data to segment pet travel motivation into three groups. The analysis began with verifying the reliability of survey items, achieving a high Cronbach's α value of .957. Through hierarchical cluster analysis followed by K-mean algorithm application, three significant clusters were identified: "high motivation" (44% of participants), showing great enthusiasm for pet travel; "moderate motivation" (43%), interested in spending time with pets but with less motivation for travel; and "low motivation"

(13%), displaying minimal interest in pet-related travel. This segmentation highlights the diverse motivations and attitudes towards pet travel, enriching our understanding of the domain.

Table 3. Mean responses of motivations of traveling with pets.

Construct	Cluster 1: High Motivation n = 208	Cluster 2: Moderate Motivation n = 203	Cluster 3: Low Motivation n = 61
Psychological Motivation			
I travel with my pet for the physical and mental well-being of both myself and my pet	6.09	4.53	2.49
I travel with my pet to alleviate stress and tension for both myself and my pet	6.09	4.34	2.34
I travel with my pet because both of us need rest	6.21	4.63	2.44
I travel with my pet because I need a change from our daily routine	6.13	4.55	2.33
I travel with my pet to form a close bond with them	6.09	4.45	2.15
Experiential Motivation			
I travel with my pet to spend enjoyable time together	6.61	5.39	2.95
I travel with my pet because I believe we both need diverse experiences	6.29	4.70	2.39
I travel with my pet to appreciate beautiful landscapes together.	6.26	4.72	2.34
I travel with my pet to experience the special atmosphere of a resort destination	5.79	4.25	2.16

Next, a discriminant analysis was performed to evaluate the classification accuracy of the three clusters, as shown in Table 4. Both discriminant functions derived from this analysis showed significant results at the .01 level. They showed a high standard correlation, meaning the model describes the critical relationship between the cluster and dependent variable (Stylidis, 2018). The classification hit rate was high at 96.6%, confirming that the classification of the three clusters was very accurate.

Table 4. Discriminant analysis of image clusters.

Discriminant functions	Eigen value	Cannonical correlation	Wilk's lambda	Chi-square	Significance
1	5.229	.916	.154	871.266	.000
2	.045	.209	.957	20.675	.008

Classification results				
Actual group	**No of cases**	**Predicted group membership**		
		1	2	3
Cluster 1: High Motivation	208	202(97%)	6(3%)	0(0%)
Cluster 2: Moderate Motivation	203	6(3%)	196(97%)	1(1%)
Cluster 3: Low Motivation	61	0(0%)	3(5%)	58(95%)

Note: Hit-ratio: 96.6%

4.3. Results from the fsQCA

According to the results of Table 5, In the high-motivation group, a combination of functional value, emotional value, and family attachment*unconditional understanding was recognized as a critical variable, and solution 2 (FAP*FV*EV) showed the highest consistency and range. In the high-motivation group, behavioral intentions related to pet travel are shown when there are family attachments and functional and emotional values. In addition, it can be confirmed that behavioral intentions increase even when family attachment to dogs, unconditional support, and functional values are recognized. Interestingly, high behavioral intentions can be drawn even when only three values are identified without unconditional understanding (solution 4) and only functional values are recognized without other factors. In the moderate motivation group, functional value and family attachment*absence of unconditional understanding were identified as key variables, and solution 3 (USU*EV*FV*SV) showed the highest consistency. In the moderate motivation group, behavioral intentions related to pet travel are shown when unconditional understanding of dogs and three values are recognized. Next, solution 2 (FAP*USU*FV*~SV) showed high consistency, which can be seen as leading to high behavioral intentions in situations of family attachment, unconditional understanding, and functional value without social value recognition. The low-motivation group identified family attachment and emotional value as critical variables. In the case of the low motivation group, solution 2 (~FAP*~USU*EV*FV) has the highest consistency, and solution 3 (FAP*USU*EV*FV) is found to cover the highest range. However, it is confirmed that both cause high behavioral intentions even with and without pet attachment. Attachment to pets is not essential for low-motivation groups, and behavioral intentions can be induced only by the functional and emotional values of pet travel. However, the unique coverage of solutions 1, 2, and 4 is low, suggesting that emotional and functional values must work together with unconditional understanding to increase behavioral intentions.

Table 5. Sufficient causal configurations for behavior intention.

Solutions *BI = f(FAP, USU, EV, FV, SV)*	Raw coverage	Unique coverage	Consistency
High Motivation			
S1: **FAP*USU*FV**	.529	.031	.877
S2: FAP*FV***EV**	.570	.054	.929
S3: **FAP*USU***~EV*~SV	.260	.018	.799
S4: ~USU***FV*EV***SV	.305	.023	.902

S5: ~FAP*~USU***FV***~EV*~SV	.195	.020	.892
S6: ~FAP*USU*~FV***EV***SV	.195	.021	.809
solution coverage: .728			
solution consistency: .818			
Moderate Motivation			
S1: ~FAP*~USU***FV***~SV	.333	.050	.854
S2: FAP*USU***FV***~SV	.464	.127	.902
S3: USU*EV***FV***SV	.434	.125	.913
S4: **FAP*~USU******EV***~FV*~SV	.282	.026	.838
solution coverage: .696			
solution consistency: .828			
Low Motivation			
S1: ~FAP*~USU***EV***~SV	.386	.026	.877
S2: ~FAP*~USU***EV***FV	.368	.012	.933
S3: **FAP***USU***EV***FV	.530	.260	.914
S4: **FAP***~USU*~EV*~FV*~SV	.320	.042	.864
solution coverage: .748			
solution consistency: .841			

Note: Bold means a parsimonious solution

As shown in Table 6, In the group showing high motivation, a combination of functional value, family attachment*unconditional understanding was identified as a critical variable, and solution 4 (~USU*FV*EV*SV) showed the highest consistency. It can be confirmed that high support can be elicited in the high-motivation group when the three values are recognized without an unconditional understanding of dogs. The condition combination of the moderate motivation group is about twice as much as the result of Table 5. More diverse combinations interact with the influence of the moderate motivation group on high support. In other words, the moderate motivation group considers several factors to elicit support. In the moderate motivation group, functional value, family attachment, unconditional understanding of social value, and emotional value of social value were identified as critical variables. Solution 7 (FAP*USU*EV*FV) shows the highest consistency and range. In the moderate motivation group, when emotional and functional values are recognized in the context of family attachment to dogs and unconditional understanding, support related to companion animal travel is shown. The low-motivation group identified family attachment and functional value as critical variables. In the case of the low motivation group, solution 2 (FAP*USU*EV*FV) was found to have the highest consistency and range. Emotional and functional values must work together to increase support in a situation where family attachment to a dog is accompanied by unconditional understanding, as the combination of conditions with and without pet attachment is the same as the combination of conditions that cause previous behavioral intentions. However, in the case of low-motivation groups, depending on solution 3 (FAP*~USU*~EV*~FV*~SV), family attachment alone can contribute to high support.

Table 6. Sufficient causal configurations for support intention.

Solutions *SI = f(FAP, USU, EV, FV, SV)*	Raw coverage	Unique coverage	Consistency
High Motivation			
S1: **FAP*USU*FV**	.517	.036	.855
S2: FAP***FV***EV	.540	.051	.877
S3: **FAP*USU***~EV*~SV	.273	.027	.839
S4: ~USU***FV***EV*SV	.305	.024	.899
S5: ~FAP*~USU***FV***~EV*~SV	.197	.018	.898
solution coverage: .692			
solution consistency: .820			
Moderate Motivation			
S1: ~FAP*~USU***FV***~SV	.320	.043	.841
S2: **FAP*USU***~EV***~SV**	.359	.023	.841
S3: USU*EV***FV***SV	.428	.020	.926
S4: **FAP***~USU***EV***~FV***~SV**	.290	.015	.883
S5: ~FAP***USU*EV***~FV***~SV**	.298	.015	.812
S6: **FAP*USU*FV*~SV**	.454	.003	.906
S7: **FAP***USU*EV***FV**	.528	.019	.929
solution coverage: .743			
solution consistency: .783			
Low Motivation			
S1: ~FAP*~USU*EV***FV**	.346	.068	.846
S2: **FAP***USU*EV***FV**	.549	.275	.914
S3: **FAP***~USU*~EV*~FV*~SV	.307	.054	.800
solution coverage: .700			
solution consistency: .806			

Note: Bold means a parsimonious solution

5. Discussion and Conclusion

5.1. Discussion of findings

Focusing on the rapidly growing field of pet travel, this study seeks to go beyond the perspective that previous studies have only viewed pets because of travel restrictions or their impact on travel planning (Dotson et al., 2010; Hidalgo et al., 2023; Kirillova et al., 2015). Reflecting the growing tendency to recognize pets as part of families in modern society (Amiot et al., 2016), this study further analyzes the value perception of pet travel and the effect of behavioral intentions and support formed by it. This study aims to further understand the consumer's needs and expectations for the pet travel industry by predicting and understanding behavioral intentions and support through travel motivation, pet attachment, and value perception. As a result of the fsQCA analysis, familial attachment to pets positively affects and plays an essential role in forming behavioral intentions and support for pet travel (Hidalgo et al., 2023). Deep emotional ties with pets lead to the recognition of pets as close family members, which enhances the positive attitude toward pet travel (Amiot et al., 2016). However, it has been shown that unconditional understanding and support play a secondary role that only affects when combined with other factors. This means that although unconditional understanding and support for pets is essential in the relationship between pets and pets, a clear association that directly contributes to the formation of behavioral intentions or support for pet travel has yet to be proven (Amiot & Bastian, 2023). This result suggests that other factors may have a more significant influence on pet travel decisions.

The study highlights that emotional and social factors influence attitudes and intentions toward pet travel beyond mere travel logistics. Functional values emerged as crucial across all groups, underscoring pet travel's perceived benefits in terms of time, cost, and novel experiences (Lin & Huang, 2012). The fsQCA findings (Yu et al., 2023) demonstrate that emotional and functional values significantly affect groups with high travel motivation, while functional values alone are essential for those with moderate motivation. The notable absence of social values in particular contexts suggests that a complex interplay of multiple values and individual motivations shapes the relationship between personal attitudes and intentions toward pet travel. The results of the fsQCA analysis revealed that attitudes and intentions toward pet travel can vary according to individual motivation levels (Olya et al., 2022). Combinations of different conditions were found in groups with moderate motivation, suggesting that they consider different values when supporting pet travel (Olya & Gavilyan, 2017). This flexibility arises from the relatively low passion for pet travel, indicating that pets can have different views on pet travel depending on their emotional and social circumstances and personal motivation levels. This shows that individual attitudes and intentions toward pet travel are complexly formed not only by attachment to or personal value perception but also by being closely linked to a broader range of emotional and social factors. Therefore, it is essential to consider these individual motivation levels and diversity when establishing policies or marketing strategies that encourage and support pet travel. Through this, we can further develop the pet travel industry by adopting a more comprehensive and customized approach.

5.2. Implications

This study makes academic contributions to the study of pet travel in three main ways. First, we apply the Western-centric LAPS scale to Asian samples, especially Korea, to highlight the importance of cultural differences in pet attachment. This identifies the limitations of the LAPS scale and reveals that perceptions and attachment expressions for companion animals can vary among cultures (Albuquerque et al., 2023; Hielscher et al., 2019; Johnson et al., 1992; Jung & An. 2020), highlighting the need for cross-cultural research to develop a universal scale internationally (Amiot et al., 2016). Second, this study describes consumer behavioral intentions and support in pet travel by incorporating perceived value and attachment. This reveals that single-dimensional value recognition alone is insufficient and that interdependence between variables and complex causal structures must be understood (Yu et al., 2023). It suggests the need for a more granular approach that considers the multifacetedness of pet attachment and value recognition in pet travel research. Third, by exploring the influence of the degree of motivation for pet travel, we demonstrate that an individual's motivation for travel is critical in forming attitudes and intentions. This reflects pets' diverse needs and preferences (Olya et al., 2022) and presents a new perspective on noted in previous studies. This approach provides new ideas for future research on pet travel and contributes significantly to the academic development of this field.

This study provides essential practical recommendations for industry stakeholders and policymakers interested in pet travel. First, it is emphasized that family attachment to pets is a crucial factor in increasing positive attitudes and behavioral intentions toward pet travel. This suggests that the travel industry should develop marketing strategies centered on deep relationships with pets and encourage pets to perceive pet travel as a family experience. Related policymakers should focus on creating an environment to support family attachment to pets. Second, it reveals that the functional value of pet travel is essential in all groups. The travel industry must fully expand its companion infrastructure because pets value pet travel's economic and experiential value. This will make traveling with pets a more convenient and valuable experience and contribute to improving travel quality for companion households. Third, it was found that the stronger the motivation to travel with pets, the greater the influence on behavioral intention and support. This means that marketing and policy strategies that integrate various factors should be established, considering the level of motivation for traveling with pets. Since relationships with pets and shared experiences have an essential influence on the travel decisions of pets, an approach that considers these factors is necessary. These recommendations can contribute to the pet travel industry's development and improve pets' travel experience. They will also play an essential role in creating a sustainable pet travel culture.

5.3. Limitations of this study and suggestions for future studies

While providing in-depth insights into pet travel, this study has limitations. The main limitation is that the study was limited to Korea, which may not fully reflect the cultural background that the perception of pets and acceptance as family members have been relatively recent within Asian countries (Tang et al., 2022). Considering these differences in cultural and social backgrounds, further research is needed from an international perspective. In addition, various conditions affecting behavioral intentions and support according to the motivation for the travel of pets have been identified. However, searching for additional factors to supplement them will also be an important direction for future research. This is expected to provide an opportunity to present a new perspective in an international context along with a broader understanding of pet travel.

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The spotlight of Chinese Middle-Class spenders: A comparison between luxury products and luxury hotel services

Yoelao, Woraprat
Faculty of Business, Economics and Communications
Naresuan University

Hung, Kam
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Abstract:

The principal drivers of global growth in the consumption of luxury products and services are now the Chinese, with China's middle classes from the major cities responsible for many of the current trends in luxury markets. This study explored the structural relationships among interdependent and independent self-concept, luxury values, and behavioral intention in the context of luxury goods and luxury hospitality services. The study used questionnaires for data gathering, a total of 529 participants were recruited to complete the questionnaires. The findings revealed that interdependent and independent self-concepts possibly affect the perceived functional values of Chinese consumers, as well as their perceived symbolic, hedonic, and financial values. These effects are likely to shape behavioral intentions, determining the extent to which Chinese consumers will buy personal luxury goods and stay at luxury hotels. The study then examines the implications of these results from the perspective of luxury product and service managers.

Keywords: Self-concept, Luxury values, Behavioral Intention, China's middle class, Luxury goods, Luxury hotel services

1. Introduction

China is anticipated to become the largest luxury market in the world by 2025 as a consequence of the spending prowess of Chinese consumers (Bain & Company, 2024). It has been reported that Chinese consumers spend freely on leading brands, and have a growing tendency to seek out luxury hospitality experiences (Bain & Company, 2015). Accordingly, it is vital for luxury brands and service providers to gain a better understanding of Chinese perceptions of luxury, since attempts to market such products and services to the Chinese consumer in the absence of such an understanding is likely to prove costly and ineffective. However, few studies to date have examined the independent and interdependent self-concepts as they are related to luxury products and hospitality. The work of Tsai (2005) and Wong and Ahuvia (1998) notes the need to distinguish between personally and socially oriented luxury consumers, adding that these tendencies may be based upon the self-concept of an individual as being either independent or interdependent (Markus & Kitiyama, 1991). Self-concept is a crucial factor influencing luxury consumption (Hung et al., 2018). Meanwhile, the idea of consumption value has also been frequently applied when examining the consumption of luxury goods and services (Shukla & Purani, 2012; Tynan, McKechnie, & Chhuon, 2010). However, previous results concerning the importance of luxury value have lacked consistency (Chen & Peng, 2018). Smith and Colgate (2007) stated that the dimensions of consumer value differ significantly between cultures, and also vary if differing contexts. Kastanakis and Balabanis (2012) were able to describe the behavior of consumers toward luxury brands with the context of an individualistic society, but observed that a collectivistic society may be driven by quite different factors in the luxury purchase behavior. One further point to consider is that Chinese consumers today are less collectivistic than in the past, and are increasingly diverse and individualistic (Ngai & Chi, 2012). This study therefore seeks to explored the structural relationships among interdependent and independent self-concept, luxury values and behavioral intention in the context of personal luxury goods and luxury hotel services.

2. Literature Review

2.1. Self-concept

Self-concept is closely related to the differing cultural notions of either individualist or collectivist societies (Triandis, 1988). An individualistic society is one in which individual goals are held to be more important than those of the wider group, while a collectivist society is one in which individual aims are of less importance than the goals of the group. It was argued by Singelis and Sharkey (1994) that self-concept may have cultural links to the varying strengths of the individualistic or collectivistic tendencies within a society. From this point of view, an independent consumer is more likely to exhibit their personal orientation when engaging in luxury product consumption since the primary aim is to satisfy hedonic needs, in addition to meeting utilitarian and self-communication aims (Ackerman & Chung, 2012). Interdependent consumers, in contrast, are more likely to focus upon the social aspects of their consumption of luxury goods and services (Kastanakis & Balabanis, 2012; 2014).

2.2. Dimensions of luxury value

It was observed by Smith and Colgate (2007) that functional value takes into consideration the ability of an alternative product to perform the role of an original product based on utilitarian needs. Within the hospitality sector, it is necessary to take into account such ideas as service quality and hospitality environment, which encompasses facilities and design, in addition to service personalization, since these factors are key components of luxury and will shape consumer decisions (Dortyol, Varinli, & Kitapci, 2014).

Meanwhile, symbolic value is a concept connected to the psychological meaning attributed to luxury products by the consumer (Smith & Colgate, 2007). Wiedmann, Hennigs, and Siebels (2009) explained that consumers who wish to boost their social status often like to purchase luxury brands, so the esteem in which a brand is held by society will be the crucial factor in determining the level of status that use of the brand can confer upon the owner. In addition, status is often linked to the public consumption of luxury (Goffman, 1959; Bulk, 1988) since this can promote the self-concept of the consumer through allowing them to present the image they want to portray, and thus to achieve the status they seek (Kastanakis & Balabanis, 2012).

Hedonic consumption is another form of consumer behaviour which was described by Hirschman and Holbrook (1982) as related to the emotional or fantasy aspects of the use of a luxury product. According to Dubois and Laurent (1994), hedonic value is a principal goal of luxury consumers because luxury consumption is carried out by consumers specifically to bring pleasure to themselves (Monkhouse, Barnes, & Stephan, 2012). The modern Chinese consumer is much more likely to exhibit materialistic and individualistic tendencies than before (McEwen et al., 2006, cited in Wu & Yang, 2018), and as a consequence, increasing numbers of Chinese are seeking out luxury hotels when they travel for leisure purposes (Wang & Zhao, 2014). They are looking for experiences, and it is therefore hedonic value which primarily drives their purchases (Peng & Chen, 2014; Wu & Yang, 2018).

Financial value is also crucial in the area of luxury consumption, and it can most simply be considered as the price paid by the consumer for the product (Wiedmann et al., 2009). A high price often implies high quality. Wu and Yang (2018) explained that Chinese consumers place great emphasis on financial value when they look for luxury hotels, and therefore it can be inferred that consumers must find adequate value in their luxury hospitality purchases to justify the high prices charged (Wu & Yang, 2018).

H1a. The independent self-concept associated positively with functional value (luxury goods vs. luxury hotel services), and the interdependent self-concept associated positively with functional value (luxury goods vs. luxury hotel services).

H1b. Functional value is positively related to behavioral intentions (luxury goods vs. luxury hotel services).

H2a. The independent self-concept associated positively with symbolic value (luxury goods vs. luxury hotel services), and the interdependent self-concept associated positively with symbolic value (luxury goods vs. luxury hotel services).

H2b. Symbolic value is positively related to behavioral intentions (luxury goods vs. luxury hotel services).

H3a. The independent self-concept associated positively with hedonic value (luxury goods vs. luxury hotel services), and the interdependent self-concept associated positively with hedonic value (luxury goods vs. luxury hotel services).

H3b. Hedonic value is positively related to behavioral intentions (luxury goods vs. luxury hotel services).

H4a. The independent self-concept associated positively with financial value (luxury goods vs. luxury hotel services), and the interdependent self-concept associated positively with financial value (luxury goods vs. luxury hotel services).

H4b. Financial value is positively related to behavioral intentions (luxury goods vs. luxury hotel services).

3. Methodology

3.1. Sampling and data collection

The participants in this study were recruited by an online research company and were drawn from one of Beijing, Shanghai, Tianjin, and Chongqing. To identify the luxury consumption of China' middle-class, participants were screened for past luxury hotel stay experiences (they had to have stayed in a luxury hotel at least once within the past 12 months), participants were also asked to write down the luxury hotel name as an accuracy check and purchasing any personal luxury goods (such as jewellery, watches, handbags, etc.) In total, there were 529 respondents, 59.2% of whom were female, while 73.7% were university-educated, and 38.7% were in the 25-34 age group. The largest income group, at 56%, was for an annual income of CNY 250,000 – 500,000.

3.2. Measurement

In order to measure independent and interdependent self-concept, a questionnaire was created on the basis of previous research (Singelis, 1994). The questionnaire also examined luxury value (Smith & Colgate, 2007; Shukla & Purani, 2012; Yang & Mattila, 2016; Peng, Chen & Hung, 2020), and behavioural intentions (Zeithaml, Berry & Parasuraman, 1996). All items were evaluated using a seven-point Likert scale.

4. Results

4.1. Confirmatory factor analysis (CFA)

In performing the confirmatory factor analysis, all factor loadings were considered significant with values exceeding 0.7, while the average variance extracted (AVE) for each of the latent factors exceeded 0.5, and the construct reliability values were all greater than 0.7, confirming the overall convergent validity. The findings also confirmed that the square root of the AVE values exceeded the in-construct correlations, offering strong evidence for the good discriminant validity of the questionnaire.

4.2. Structural Equation Modeling (SEM)

The SEM results demonstrated a good fit between the model and the data ($\chi 2$ = 466.847; df = 227; $\chi 2$/df = 2.0566; GFI = .961; NFI = .928; TLI = .935; CFI = .961; RMSEA = .035; RMR = .072). For luxury hotel services, the model fit was good ($\chi 2$ = 441.368; df = 222; $\chi 2$/df = 1.988; p-value = 0.000; GFI = .963; NFI = .938; TLI = .945CFI = .967; RMSEA = .034; RMR = .075). The hypothesis test results showed that interdependent/independent self-concept has an effect on all of the luxury values in the context of behavioural intention through both indirect and direct effects. These findings support the following: H1a->H1b, H2a->H2b, H3a->H3b, H4a->H4b.

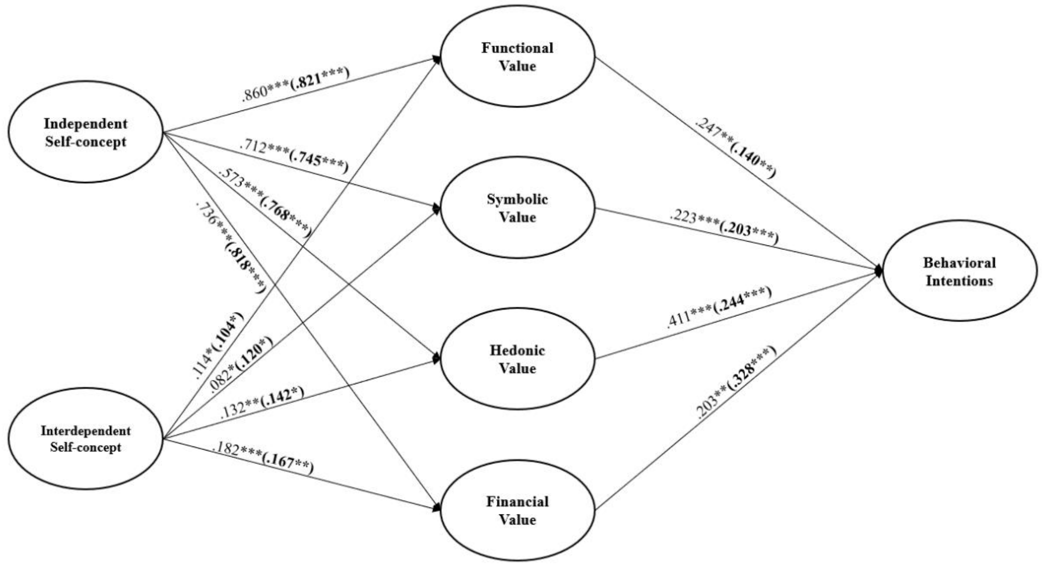

Figure 1.
Results of the structural model

Notes: Luxury goods vs (***Luxury hotel services***); *p < 0.05; **p < 0.01; ***p < 0.001

5. Discussion and Conclusion

5.1. Discussion and implications

This study examined the perceived luxury values mediating the relationship between self-concept and behavioural intention. As the market for luxury goods and services grows, it is important to understand the factors affecting the purchase of personal luxury products or luxury hospitality services. China was the primary focus of the study, due to its rapid growth in luxury goods spending, and tends to spend more on hotel services (Bain & Company, 2015). The outcome confirms that the research framework employed was appropriate in assessing the behavior of middle-class Chinese consumers when purchasing luxury goods or hotel services. Prior to this study, few researchers had compared the purchase of luxury goods and luxury hotel services, despite the importance of this topic given the differences between the two product types (Hwang, Shin & Kim, 2023).

This study reaffirms that luxury value, which is a concept usually applied to physical goods, is an effective indicator of consumer self-concept in the context of luxury hotels. The findings are therefore able to support the relationships originally hypothesized. The consumption of luxury goods and luxury hotel services is positively linked to the interdependent/independent self-concepts, with the relationships mediated by luxury values. In particular, the best predictor of perceived functional value in luxury goods and luxury hotel services is independent self-concept. Hung, Zhang, Guillet, and Wang (2021) noted that Chinese luxury consumers are often driven by individual independent motivations, whereby they look for high quality and high value goods to purchase. Meanwhile, the best predictor of financial value in luxury goods and luxury hospitality is interdependent self-concept. In this case, Hung et al. (2021) observed that Chinese consumers know little of the stories behind the brands they purchase, but instead focus on the price and the brand popularity. Interdependent self-concept is therefore relatively important in shaping Chinese consumer demand for luxury goods and services. In China, hedonic value then plays a key role in shaping consumer behavior, since consumers often seek pleasure through purchasing something for themselves which will deliver intrinsic excitement (Tynan et al., 2010; Monkhouse et al., 2012; Wiedmann et al., 2007; 2009). Financial value also exerts a powerful influence over the luxury hotel behavioral intentions of Chinese consumers. Wu and Yang (2018) confirm this point of view, noting that consumers try to balance the high price with the premium experience of luxury, and it is crucial to derive sufficient value to offset the high price involved for a luxury hotel stay.

The results presented in this work may offer practitioners useful insights concerning the trends in Chinese consumer behavior in luxury markets for both goods and services. It may be possible for practitioners to apply the results to promote better products with higher quality and unique aspects to deliver greater authenticity and sophistication. It may be useful also to visit trade shows to gain deeper insights into consumer desires and habits. It is also important to note that Chinese consumers often use luxury purchases as a means to impress others through the attributes of their purchase, its exclusivity, price, or general popularity. Practitioners might therefore classify their products by considering such factors as popularity versus exclusivity, while luxury hospitality providers might consider the use of pricing promotions as a means to generate interest.

Chinese consumers select their luxury purchases on the basis of esthetic appeal, or emotional values such as pleasure or self-indulgence. Hedonic factors are particularly important to the Chinese middle class, so companies selling luxury goods may wish to promote the hedonic benefits of their products more strongly. In the Chinese luxury hotel sector, financial value is a critical consumption driver, as confirmed by Wu and Yang (2018) who reported the need for consumers to obtain greater value due to the high prices they had to pay for luxury. Strategies based on price can therefore be useful to attract consumers who look for the financial value of their luxury goods. Price reductions can be dangerous in hospitality, however, and it may be wise for hoteliers to seek to increase the value of their offering rather than lower the price. Earlier studies have shown that China is a collectivist society, and therefore luxury consumption is affected by the impression made upon the group. However, the current study indicates that Chinese consumers are driven by intrinsic motivation, and they will purchase both luxury goods and luxury experiences. These markets can sometimes involve different characteristics, and the behavior of consumers is shaped by different personal and cultural factors (Jap, 2009).

5.3. Limitations of this study and suggestions for future studies

This study takes into consideration only personal luxury goods and services, and the findings might not therefore be generalizable to other luxury markets without taking further factors into consideration. Future studies might therefore make adjustments to the current framework in order to focus upon other luxury markets with specific attributes or qualities that the current work overlooks.

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Recreational crafting and pro-environmental behavior: A model of multiple mediation

Sheng-Hshiung Tsaur
Deartment of Tourism
Ming Chuan University

Hui-Hsuan Yen
Department of Marketing and Tourism Management
National Chiayi University

Hsiu-Yu Teng
National Taichung University of Science and Technology

Ying-Syuan Lin
Department of Marketing and Tourism Management
National Chiayi University

Chia-Wen Hung
National Chi Nan University

Abstract:

This study aims to examine the relationship between recreational crafting and pro-environmental behavior, and to explore the mediating effects of different aspects of place attachment. The survey was conducted among hikers on the Tashan Trail in Alishan, Chiayi, with a total of 535 valid questionnaires collected. The results indicate that recreational crafting has a positive relationship with both pro-environmental behavior and place attachment, and that place attachment has a positive relationship with pro-environmental behavior. Furthermore, place attachment plays a partial mediating role between recreational crafting and pro-environmental behavior. Multiple mediation analysis results show that place identity has a partial mediating effect within the theoretical framework. Finally, based on the findings, this study presents several theoretical and managerial implications, as well as suggestions for future research directions.

Keywords: recreational crafting, pro-environmental behavior, place attachment, mediation model, hiker

1. Introduction

Recreational crafting refers to the proactive pursuit of change by recreationists, utilizing their personal abilities and needs to achieve a balance between their recreational demands and available resources (Tsaur et al., 2020).Crafters pursue the attainment of their activity goals by enhancing equipment and knowledge, seeking companion support for leisure activities, adjusting the difficulty of activities, and reducing barriers to participation. Previous research indicated that an individual's pursuit of enhancing activity knowledge and skills can influence pro-environmental behavior (Han & Oh, 2021). Several studies have also confirmed the relationship between place attachment and pro-environmental behavior (Halpenny, 2010; Lee, 2011; Lin & Lee, 2019; Rosenbaum & Montoya, 2007).

However, given that the concept of place attachment includes multiple important meanings, past research has used aspects of place attachment to explore its impact on pro-environmental behavior, yielding inconsistent results. The study by Qu et al. (2019) suggests that both place affect and place dependence can trigger environmental behavior; conversely, place identity has a negative impact on pro-environmental behavior. The findings of Ramkissoon et al. (2013) indicate that place affect significantly influences intentions toward environmental behavior, whereas place identity has no significant relationship with intentions toward pro-environmental behavior. From this, different facets of place attachment may play different roles.

As a result, this study focuses on exploring the relationships between recreational crafting, place attachment, and pro-environmental behavior, as well as investigating the different aspect of place attachment as mediation. In terms of theoretical contributions. this study attempts to establish a multiple mediation model to further examine the mediating influences of the dimensions of place attachment, presenting a more diverse empirical argument for the relationship between recreational crafting and pro-environmental behavior. In terms of practical contributions, the results of this study can serve as a strategic basis for recreational field managers to guide recreationists in exhibiting pro-environmental behaviors.

2. Literature Review

2.1. Recreational crafting and pro-environmentally behavior

In the context of recreational activities, crafters develop the skills and knowledge required for their activities and pursue a sense of achievement and excitement (Tsaur et al., 2020), which makes the activity meaningful to the individual. Porter and Bright (2003) suggest that the meaning of recreational activities can effectively predict an individual's concern for the environment. Moreover, as crafters actively seek support, guidance, or performance feedback related to the activity from others, Wynveen et al. (2015) indicate that social support can effectively enhance pro-environmental behavior. Crafters can learn environmental knowledge related to the venue from interactions with companions, thereby increasing their awareness of environmental protection. Alexandris et al. (2017) indicated that when alpine skiers have experiences overcoming obstacles at the activity venue, they develop positive emotions towards the activity, and positive cognitive and emotional experiences in the venue can increase pro-environmental behavior and learning outcomes (Lin & Lee, 2019). Therefore, this study suggests that through recreational crafting, the interaction with the environmental setting is deepened, enhancing an individual's value identification with the environment.

2.2. The mediation role of place attachment

Tims and Bakker (2010) note that the essence of crafting includes adjustments to the environment, and when individuals actively adjust their environment, the meaningfulness and sense of control contribute to a strong identification with and emotional connection to the activity venue. When recreationists have a positive experience at the activity venue, they may commit to pro-environmental behavior through an emotional connection with the locality (Halpenny, 2010). Qu et al. (2019) point out that place dependence and place identity can reflect the suitability of a location to support specific activities and the extent to which a location represents an individual's identity, respectively. They explain that when an individual develops an attachment to a specific place, they are willing to engage in pro-environmental behavior to maintain their sense of identity value. Based on the above, this study posits that while recreationists are actively pursuing the enhancement of their activity abilities, an appropriate venue environment can provide them with a sense of dependency and identity towards it, leading them to commit to the maintenance of the venue environment to ensure the sustainability of resources and experiences. Hence, this study proposes the following hypothesis, the conceptual model is presented as figure 1.

H_1: Recreation crafting positively affects pro-environmental behavior.

H_2: Recreation crafting positively affects place attachment.

H_3： Place attachment positively affects pro-environmental behavior.

H_4： Place attachment has a mediating effect on the relationship between recreation crafting and pro-environmental behavior.

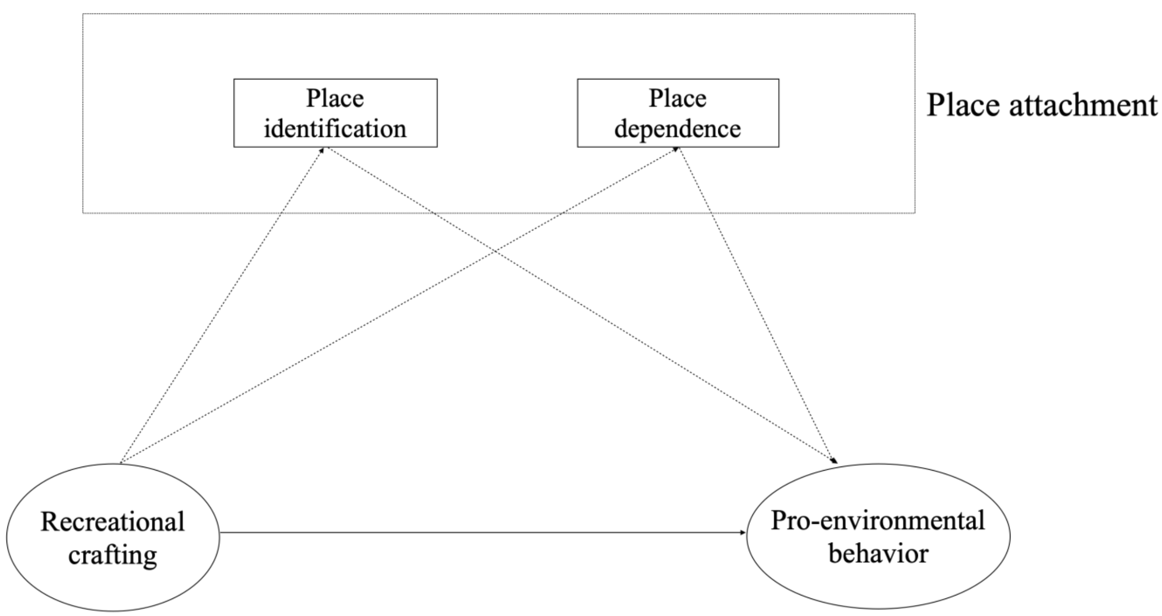

Figure 1 The proposed conceptual model

3. Methodology

3.1. Sampling

This study selected mountain hikers as its subjects and chose the trails in the Alishan area of Chiayi County. the next-to-pass sampling method at the rest platform in the middle section of the Tashan Trail from March to May 2023. The method can achieve the greatest degree of sampling randomness (Tourism and Recreation Research Unit, 1983) and is suitable for selecting potential respondents who meet behavioral conditions in natural settings (Norum, 2008). A total of 600 questionnaires were distributed, 568 were collected, and after excluding invalid questionnaires, 535 valid questionnaires were retained, resulting in a response rate of 89%.

3.2. Design of Questionnaire and Measurement

The questionnaire included four sections: demographic variables, recreational crafting, place attachment, and pro-environmental behavior. Recreational crafting was measured using the Leisure Crafting Scale by Tsaur et al. (2020), which includes dimensions with a total of 23 questions. Pro-environmental behavior was assessed using the scale by Lee and Jeong (2018) to measure the field pro-environmental behavior of hikers, which includes two dimensions with a total of 8 questions. Place attachment was measured using the scale by Kyle et al. (2005), which consists of with a total of 8 items.

4. Results

4.1. Profile of the respondents

The majority of the respondents were male (51.6%). Most climbers were 18-25 years (24.5%), followed by 36-45 years (23.4%). Further, most of them were unmarried (67.9%), had university/college degrees (49.5%), had the climbing experience of 3 to 4 years (43.9%), and participated in climbing once or twice a month (53.1%).

4.2. Measurement properties

Analysis was performed using SPSS 26 and AMOS 26.0. The factor loading for each item was above 0.6, revealing the construct validity (Gieling & Ong, 2016). Moreover, Cronbach's alpha reliability test results for four variables ranged from 0.80 to 0.86, exceeding the threshold value of 0.7 (Hair et al., 2010). The CR values of all variables ranged from 0.87 to 0.91, which were all higher than the standard of 0.6 (Fornell & Larcker, 1981). The AVE values ranged from 0.52 to 0.71, which were all higher than the standard of 0.5 (Jöreskog & Sörbom, 1989).

The square root of the AVE for each dimension (Table 2) ranged from 0.72 to 0.84, which was higher than the correlation coefficient between each dimension (Hair et al., 2010). These results demonstrated that all constructs' AVE and CR values were above the threshold, indicating that the constructs had discriminant validity and reliability (Tasci & Milman, 2019). To verify the validity of the structural model, several indexes of the overall model fit, the results demonstrated an adequate model fit ($\chi 2/df$ = 2.03, GFI = 0.872, RMSEA = 0.044, SRMR=0.049, CFI= 0.919, NFI = 0.853) demonstrated that the measurement model adequately fits the data.

4.3. Assessment of the path model

Structural equation modelling (SEM) in AMOS 26.0 was used to estimate the mediated model. The standardized coefficient of the overall model's latent variables to the variables ranged from 0.76 to 0.88, which was smaller than the threshold of 0.95. The standard errors ranged from 0.06 to 0.33. The standard errors ranged from 0.01 to 0.05, and the error variance was not negative and significant. Therefore, the model did not contradict the estimation. For the model's goodness of fit, the overall hypothesized model fit the data well ($\chi 2/df$ = 2.68, GFI = 0.976, RMSEA = 0.056, SRMR = 0.036, CFI = 0.982, NFI = 0.972). the result indicated that the quality of the structural model is within an acceptable range (Hair et al. 2010).

In the hypothesis testing part of the structural model, the standardized path coefficient from recreational crafting to pro-environmental behavior is (β = 0.14, t = 2.55, p < 0.05); the standardized path coefficient from place attachment to pro-environmental behavior is (β = 0.40, t = 7.28, p < 0.001); the standardized path coefficient from place attachment to pro-environmental behavior is (β = 0.43, t = 6.94, p < 0.001). All coefficients reached a significant level, thereby supporting hypotheses H_1, H_2, and H_3.

4.4 Assessment of the mediation effects

This study conducted the Sobel test to examine the effect of place attachment on the relationship between recreation crafting and pro-environmental behavior. The result demonstrated that the path coefficients with the standard error between recreation crafting and place attachment and the effect of place attachment on pro-environmental behavior were 0.442 (0.061) and 0.458 (0.066) respectively. The z-score of H_4 was 5.01 (p < 0.00), which was significant. Thereby revealed that place attachment mediates the relationship between recreation crafting and pro-environmental behavior. The bootstrapping method as an increasingly popular method suggested by recent research to test the mediation effect (MacKinnon et al., 2004; Preacher & Hayes, 2008). The results suggest that when interpreted as a whole, recreation crafting had an indirect effect on pro-environmental behavior through place attachment (= 0.156; 95% p-value [0.096, 0.239]; p=0.001), Given that the indirect effect estimated does not include zero, the indirect effect can be concluded to be significantly different from zero at p < 0.05 (two-tailed) with 95% confidence. Further, the direct effect of recreation crafting on pro-environmental behavior was significant (= 0.149; 95% p-value [0.269, 0.010] not include zero; p=0.010), indicated partial mediation effect and supporting H_4.

4.4 Assessment of the multiple mediation effects

Among the two dimensions of place attachment, the mediating effect of place dependence was not significant. The standardized indirect effect of place identity was 0.152 (p < 0.01), and the 95% bias-corrected and accelerated bootstrap confidence intervals did not include zero, indicating that place identity has a significant mediating effect on the relationship between recreational crafting and pro-environmental behavior. Furthermore, since the direct effect of recreational crafting on pro-environmental behavior is 0.322 (p < 0.01) and significant, it can be inferred that place identity has a partial mediating effect within the model.

5. Discussion and Conclusion

5.1. Discussion and conclusion

The results of this study indicate that recreational crafting has a positive effect on place attachment. Therefore, managers should focus on how to assist climbers in engaging in crafting activities. Furthermore, the results show that place attachment is the greatest facilitator for recreationists to engage in pro-environmental behavior, which suggests that managers should pay attention to how to cultivate meaningful connections and emotional ties between recreationists and the recreational venues. Further, since place identity have a mediating effect, managers should focus on shaping the emotional connection of recreationists with the venue. By designing activities or scenes that enhance social and natural experiences at attractions, recreationists can accumulate emotional experiences that foster a protective attitude towards the forest and mountains.

5.2. Limitations of this study and suggestions for future studies

There are some limitations to this research. Firstly, the main subjects of this study were mountain hikers the results may not be generalizable to other recreational activities due to specific environmental or activity characteristics. Therefore, it is suggested that subsequent researchers could validate the theoretical framework with other recreational activities such as rock climbing, diving, white-water rafting, cycling, etc., to enhance the external validity of the theoretical framework. Additionally, the pro-environmental behavior measurement used in this study was designed based on the mountaineering context, categorizing it into littering and protective behaviors, and presented through self-administered questionnaires. However, there are still different dimensions and categorizations of pro-environmental behavior in the field of recreation. Therefore, future researchers could use different pro-environmental behavior scales or employ observational or experimental methods for empirical verification. Finally, in addition to the recreational crafting and place attachment explored in this study, other variables which affecting pro-environmental behavior may not be valid. Future researchers could explore these potential variables for direct relationship testing, mediation effects, or moderation effects verification.

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Balancing business and client needs: The multi-faceted approach of online travel agencies to risk, feedback, and system development

Maryjoyce M. Bodino
Polytechnic University of the Philippines

Josh Denzel R. Chua
Polytechnic University of the Philippines

Kenneth Roi B. Punzalan
Polytechnic University of the Philippines

Rhai Camille P. San Mateo
Polytechnic University of the Philippines

Ronette Montoya Espiritu
Polytechnic University of the Philippines

Abstract:

This research aims to understand the delicate balance Online Travel Agencies (OTAs) strike between their business imperatives and evolving client needs, particularly in the domains of risk, feedback mechanisms, and system development. The study employed a qualitative research design to delve deeper into the intricacies of balancing business and client needs in online travel agencies, with an emphasis on risk management, feedback, and system development within the context of Metro Manila, Philippines. This approach was chosen to uncover rich, in-depth insights and to better understand the lived experiences of both the stakeholders of online travel agencies and the travelers themselves. The research setting was in Metro Manila, Philippines. For the study's purposes, the research team selected a purposive sample of ten (10) owners/workers of online travel agencies, supplemented by insights from a group of three hundred (300) Filipino travelers. The findings of the research are important for firms, travel agencies, and consumers. This study offers an in-depth study of the interactions between OTAs and clients. It contributes to the operational difficulties that OTAs have, consumer behavior, and offers beneficial guidance for businesses trying to improve their marketing strategy and gain an edge.

1. Introduction

In the digital era, Online Travel Agencies (OTAs) have revolutionized the landscape of the hotel and tourism sectors in Metro Manila. These OTAs, armed with the convenience of direct reservations and a comprehensive collection of offerings from various travel-related businesses, serve as pivotal intersections of business goals and client needs. They aggregate and offer travel essentials ranging from hotel rooms to airline tickets and vacation packages via their seamless digital interfaces (Talwar S. et al., 2020). As tourism is integral to both developed and developing nations, the industry's shift towards online platforms, including social media, booking platforms, and mobile applications, offers customers affordability and enhanced communication, fostering industry growth (Sofronov B., 2018).

However, the advent of the pandemic ushered in unprecedented challenges. The resultant shifts in consumer behavior severely affected sectors like tourism, hospitality, and retail, with many businesses in Metro Manila grappling with the implications of prolonged lockdowns and safety protocols (Dacuycuy C. et al., 2020). Moreover, travelers' perceptions of risk, intensified by the pandemic, now play a pivotal role in their travel decisions (Rahman M. et al., 2021). Destinations deemed risky face the brunt of dwindling tourist interest, underscoring the unpredictable nature of tourism amidst the COVID-19 crisis.

Beyond the pandemic's influence, OTAs in Metro Manila confront the task of curating a multi-channel strategy that resonates with varied client preferences. The region's limited internet penetration poses a challenge to the full-fledged adoption of digital offerings. Moreover, there's the persistent struggle of comprehending and catering to evolving client needs, addressing inquiries promptly, and safeguarding against the propagation of misleading information. Misinformation, especially in an age dominated by social media, poses a substantial threat, as it can skew consumer perceptions and adversely influence their travel choices.

Consequently, many OTAs have grappled with financial setbacks. This research endeavors to delve deep into these intricate challenges, encompassing the ramifications of misinformation, devising robust multi-channel strategies, and the art of balancing business objectives with client expectations. Through this exploration, we aim to shed light on avenues for bolstering the efficacy of OTAs and elevating the customer experience within Metro Manila's travel sector. Throughout this study, the researchers will reference various articles from credible sources, serving as the foundational pillars of our related literature, and enhancing the depth and clarity of our exploration.

1.1. Management of Tourists' Perception of Travel Risks

Online Travel Agencies (OTAs) have emerged as a contemporary counterpoint to traditional travel agencies, particularly in the bustling landscape of Metro Manila. Catering to the discerning needs of business travelers, these platforms need to offer perceived value and competitive rates to captivate this segment (Datta, et. al., 2018). As the travel industry grapples with a burgeoning volume of online bookings, it becomes imperative for OTAs to curate exclusive deals, balance client needs, and evolve their systemic frameworks. In the heart of this evolution is understanding how to maintain profitability while aligning with the travelers' perceptions of the service. The digital age has granted clients unprecedented access to information, raising the stakes for OTAs to ensure service excellence (Gislainy, et. al., 2019). Addressing and enhancing customer satisfaction isn't just a luxury—it's quintessential for sustaining competitiveness. Within this vast spectrum, a pivotal component to decipher is how travelers perceive the process of booking through OTAs.

There's also an intricate balance to strike in the realm of technology dependency. Research suggests that while travelers' heavy reliance on mobile devices for travel-related activities correlates with heightened enjoyment, there looms the shadow of privacy risks (González-Reverté et al., 2018). As destinations evolve into 'smart' tourist hubs, there is an inherent need to tread carefully. Any marketing or information campaign that jeopardizes or appears to infringe on privacy can detrimentally impact a traveler's overall experience. The aftermath of the Covid-19 pandemic has cast an elongated shadow on travel risk perceptions. In this new travel paradigm, communication strategies ought to highlight clear cancellation, refund policies, and underscore the rigorous health and safety measures in place. It's not just about spurring immediate travel but laying the groundwork for a sustainable, long-term vision (Nueburger, et. al., 2020). This vision should be cognizant of events like the pandemic, which have the potential to reshape travel sentiments and behaviors for extended periods. Emphasizing sanitation standards in reviews, for instance, will become a staple, as travelers become more health-conscious in their choices (Brida, et. al., 2022).

1.2. Navigating Operational Challenges: Online Travel Agencies in Metro Manila

Switching barriers often impede consumers from transitioning between service providers. In the dynamic landscape of Online Travel Agencies (OTAs), it is crucial to understand the nuances of such barriers, be they psychological, physical, or economic. A focus on positive switching drivers is essential. For many users of OTAs, there exist significant social and psychological risks – the fear of severing ties with a favored brand or not having their specific requirements met. Moreover, a prevailing sentiment is the belief that no competitor can rival the service quality of their current OTA, which highlights performance and economic risks (Suarez-Alvarez et al., 2019). Service quality remains a cornerstone for OTAs. This encompasses not only transactional elements but also the overall user experience. Elements like security, responsiveness, service differentiation, and the overall community feel of an OTA website play a pivotal role. Clients gravitate towards platforms that deliver on their promises, offering services that mirror or surpass the levels pledged by OTAs. In today's fast-paced digital age, users value time-efficiency, ease of navigation, and transactional simplicity provided by these platforms (Li, 2018). In carving a niche and bolstering their market presence, OTAs should underscore website security, unique deals, user-centric website design, and flexible booking options, which collectively contribute to an elevated user experience (Phonthanukitithaworn, et al., 2021).

The realm of payments has also seen considerable evolution, with a pronounced tilt towards mobile payment systems (MPS) for micro-transactions. This pivot towards digital solutions has necessitated OTAs to evolve and incorporate technological advancements into their service suite. In the post-COVID-19 era, MPS and contactless solutions are poised to become the gold standard, potentially catalyzing the sector's resurgence (Khanra et al., 2021). Amidst this backdrop, OTAs need to be acutely aware of pricing intricacies and the power of online reviews. Harnessing innovative technologies, be it virtual reality, 3D renderings, product demos, panoramic visuals, or live streaming, can significantly amplify the appeal of their offerings. Given that online reviews serve as potent decision-making tools for many, OTAs would do well to invest in platforms that monitor online feedback, manage digital reputation, and translate customer insights into actionable strategies for elevated client satisfaction (Pinto, 2019).

1.3. Evolution of Purchase Intentions Amid the Pandemic: A Case Study of Online Travel Agencies in Metro Manila

In the shadow of the COVID-19 pandemic, evolving consumer perceptions have necessitated a recalibration of how Online Travel Agencies (OTAs) approach their market. Millennials, in particular, exhibit heightened concerns about the well-being of their loved ones, gravitating towards OTAs that offer transparent and comprehensive information on their services (Raharja, et. al., 2021). As a result, it is imperative for OTAs to continuously adapt, tapping into emergent trends and technological advancements that can reshape consumers' inclinations towards online travel bookings. One untapped segment includes older generations, often perceived as being less tech-savvy. By developing intuitive website designs and user interfaces, OTAs can cater to this demographic, broadening their market reach. Exploring innovative solutions like immersive virtual environments could further aid in capturing and retaining a diverse clientele. Expanding the visibility of OTAs through strategic marketing on social media platforms not only amplifies their reach across regions but also engages a wider age demographic. By understanding varied consumer profiles and their respective needs, preferences, and determinants, OTAs can tailor their offerings more effectively, leading to enhanced customer experiences (Talwar et al., 2020). In a rapidly evolving marketplace, continuous innovation stands as a bedrock for sustained growth. Thus, OTAs should intertwine innovation into their operational fabric, driving strategies that promise growth and positive outcomes (Denisenko, M. et. al., 2019).

Furthermore, in an era marked by heightened digital interactions, the perception of value, security, and utility remains paramount. By focusing on these aspects, OTAs can enhance customer satisfaction and loyalty. Offering tangible benefits, emphasizing security measures, and ensuring cost-effectiveness are pivotal in molding positive perceptions (Larasetiati, et. al., 2019). Indeed, customer attitudes, bolstered by trust and the compatibility of OTAs' offerings, play a significant role in determining their purchase intentions. As evidenced, those who have had affirmative experiences with OTAs are more inclined to revisit and engage in future transactions (Aristioa, et. al., 2019).

1.4. Online Travel Agencies in Metro Manila: Navigating the Balance of Challenges and Opportunities

Online Travel Agencies (OTAs) have revolutionized the travel landscape by providing platforms where users can read and write reviews for various services, including transportation and accommodation. Such feedback mechanisms allow customers to make informed decisions and offer service managers insights into consumer responses, enabling them to refine their offerings accordingly (Muhammad, et. al., 2021). Despite the vast potential, OTAs in regions like Metro Manila still trail behind their counterparts in more internet-developed countries. However, with evolving consumer behavior, the growth of leisure travel culture, advancements in transportation, and proactive service promotion, it is anticipated that more users will gravitate towards online booking platforms (Zhang M., et. al., 2019).

The digital transformation, however, comes with its set of challenges. For instance, establishing a robust online service system requires significant financial investments, challenging for many travel agencies. While physical presence becomes less critical in the digital age, the importance of trust becomes paramount (Tzioras, 2018). The dark underbelly of the digital travel space, characterized by scams, fake agencies, and data breaches, has made many consumers apprehensive. Ensuring a secure and trustworthy transaction is crucial, especially when dealing with high-value tourism products and services (Mokoena, 2023).

Moreover, OTAs generate vast amounts of data daily, which, if harnessed correctly, can offer valuable insights. However, there is a noticeable gap in capturing historical data on past offers, underscoring the need for real-time analytical databases. While present reviews and ratings are more accessible, leveraging past data can give a more comprehensive view of service quality and trends (Suzuki, S., 2020).
The intricate dance between online reviews and hotel bookings via OTAs is underscored by the element of trust. Consumers rely heavily on these reviews when making decisions, emphasizing the role of trust and the significance of genuine and transparent feedback (Anggita, et. al., 2022). Finally, the role of a strategic marketing department cannot be overstated. Especially for smaller tourism businesses, effective marketing can elevate brand positioning and enhance cultural event promotions, drawing a larger audience and ensuring sustainable growth (Ylagan, A., et. al., 2021).

1.5. Balancing Risk and Feedback in OTA System Development
The dynamics of online travel communities play a pivotal role in influencing potential visitors' decisions. Thus, understanding these dynamics can offer valuable insights for accurate forecasting (Fronzetti, A, et., al, 2019). With the surge in internet, technology, and communication tools, there's been a proliferation of tourism-related data across various sectors – hotels, restaurants, transportation, and more. Notably, Online Travel Agencies (OTAs) in Metro Manila have been at the forefront of this data boom (Fararni, K. A. et. al., 2021). Research indicates that orientations towards customer relations and their needs significantly influence each other. Embracing these orientations can foster innovation within OTAs, subsequently driving business growth and aligning with the broader business-client balancing act (Touminen, S., et. al., 2022).

1.6. Strategic Marketing for Client Needs and Business Goals
In the increasingly competitive online travel landscape, OTAs are leveraging online marketing strategies to attract new clients and nurture existing ones, anticipating a resurgence in online travel-related purchases. In this regard, customer satisfaction emerges as a pivotal factor, influencing repeat purchase intentions both directly and indirectly (Sahir, S. H., et. al., 2021). The intricate relationship between social media usage, contentment, and user intent is mediated by social identity. For OTAs in Metro Manila, understanding this relationship is crucial as it offers insights into tailoring marketing strategies, ensuring they address client needs while achieving business objectives. Given the diverse benefits of different social media platforms, a nuanced, platform-specific approach is essential for long-term success.

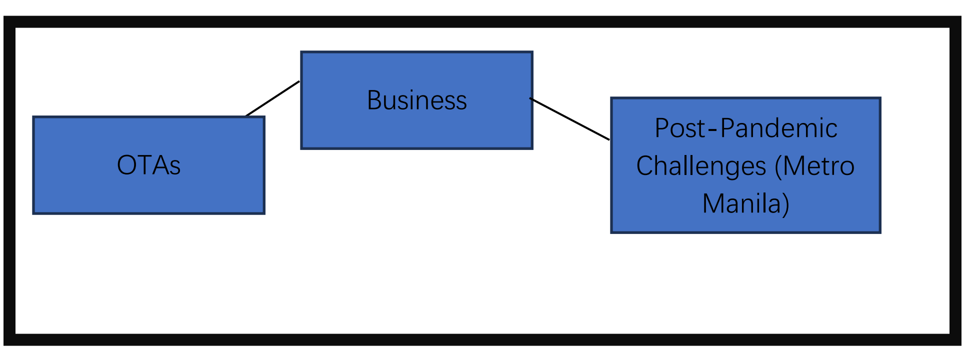

Figure 1. Conceptual Framework of the Study

This framework delves into how tourists' perceptions of post-pandemic travel risks influence their purchase intentions and the role Online Travel Agencies (OTAs) play in mediating these concerns. Specifically, it explores the link between OTA's system development challenges, known as Functional Barriers, and tourists' perceptions of travel risk management.

At the core of this paradigm is the influence of Functional Barriers on purchase intentions. Key barriers include perceived advantages (or lack thereof), vulnerabilities associated with online bookings, and pressing concerns about privacy and security. Among these, the advantage barrier emerges as a primary deterrent to purchase. However, its impact is modulated by factors like online visibility and varies across demographic segments—namely, young, middle-aged, and elderly consumers (Talwar et al., 2020). In the aftermath of the COVID-19 pandemic, tourists' risk management perceptions have evolved, emphasizing aspects like service delivery, altered travel patterns, preferred distribution channels, inclination towards less crowded destinations, and a heightened focus on hygiene and safety. There's a discernible correlation between these changing perceptions and the strategies OTAs must employ to ensure safety and meet client needs (Rahman et al., 2021).

The pandemic era has also marked a shift in consumer behavior, with some showing heightened impulsiveness in their purchases due to the prevailing uncertainties. In response, OTAs can strategically navigate these challenges by implementing specific booking constraints during high-demand periods like peak seasons, weekends, and national holidays. These could include offering limited discounts, setting minimum/maximum stay requirements, or capping the number of rooms available for booking. As the world gravitates towards a new normal, OTAs are becoming the go-to platforms for travel needs. People's increasing comfort with online bookings juxtaposed against a persistent demand for safety forms the crux of this dynamic. At the heart of travel risk management perception is an individual's assessment of potential threats, particularly health-related in this context. Thus, ensuring perceived safety and addressing security concerns are paramount for OTAs to effectively bridge the gap between business objectives and client needs in the post-pandemic landscape.

The overarching aim of this study is to understand the delicate balance Online Travel Agencies (OTAs) strike between their business imperatives and evolving client needs, particularly in the domains of risk, feedback mechanisms, and system development. To achieve this, the study sets out the following objectives:

1. To evaluate OTAs' understanding of tourists' perceptions on travel risks. This will entail probing into how OTAs comprehend, and address concerns related to safety, security, health hazards, and other unexpected disruptions.
2. To unravel the multifaceted challenges OTAs face in their system development that aim to manage and mitigate tourist travel risks. This delves deep into the technological, regulatory, resource, and industry-specific barriers OTAs grapple within their quest to ensure client safety and security.
3. To discern the interplay between OTAs' risk management endeavors and consumer purchase intentions. Specifically, how do measures taken by OTAs to manage risks shape consumer confidence and their willingness to book through these platforms?
4. To highlight the exogenous challenges and windows of opportunity OTAs confront in the sphere of risk management. This involves mapping out factors like evolving customer preferences, breakthrough technologies, the competitive matrix, and a dynamic regulatory landscape.
5. To unearth the tactical projects, blueprints, and preparatory steps OTAs employ in their mission to curtail potential travel risks. The focus here is on actionable strategies, proactive measures, and backup plans conceived to augment customer safety and trust.
6. To critically analyze the strategic marketing playbook of OTAs, especially in the context of their risk management protocols. This includes dissecting how risk management facets are embedded into their overarching marketing narrative, branding ethos, communication conduits, and client engagement touchpoints.

This research offers invaluable insights that will significantly benefit a spectrum of stakeholders within the travel industry and beyond. Here's a breakdown of these beneficiaries: Travelers: As the primary clientele of online travel agencies, travelers will gain a deeper comprehension of how OTAs prioritize and address travel risks. Equipped with this knowledge, travelers can make more informed decisions, ensuring safer and more satisfying travel experiences.

Online Travel Agencies (OTAs): These agencies will derive insights that can refine their market analytics and client engagement strategies. By understanding travelers' perceptions and concerns, OTAs can tailor their offerings, enhance guest engagement, optimize bookings, and monitor feedback more effectively. Researchers in Tourism and Travel Management: This study furnishes researchers with new perspectives and methodologies on the intersection of risk, feedback, and system development in OTAs. It not only advances their current knowledge but also sparks inspiration for future research endeavors. Tourism Students: Those pursuing studies in fields such as tour management, international/domestic tour planning, and travel package design will find this research enlightening. It provides them with real-world applications of their coursework, especially in understanding the evolving dynamics of online travel agencies in a post-pandemic world.

2. Methods

The study employed a qualitative research design to delve deeper into the intricacies of balancing business and client needs in online travel agencies, with an emphasis on risk management, feedback, and system development within the context of Metro Manila, Philippines. This approach was chosen to uncover rich, in-depth insights and to better understand the lived experiences of both the stakeholders of online travel agencies and the travelers themselves.

The research setting was in Metro Manila, Philippines. For the study's purposes, the research team selected a purposive sample of ten (10) owners/workers of online travel agencies, supplemented by insights from a group of three hundred (300) Filipino travelers. The inclusion criteria for respondents were those aged 18 years and above, with prior experience using an online travel agency. Additionally, the selected owner or employee must possess hands-on experience in managing an online travel agency.
Data collection tools consisted of:

In-depth Interviews: Owners and employees of selected travel agencies were interviewed, using open-ended questions to probe their experiences, challenges, and initiatives within their organizations. These interviews allowed the research team to understand firsthand the strategies employed by these agencies in balancing both business and client needs.

Focused Group Discussions (FGDs) with Travelers: Engaging discussions with Filipino travelers offered the research team insights into the perceptions and satisfaction levels related to using online travel agencies for their booking needs.

The data collection methods were mainly digital, considering the widespread use of technology in Metro Manila. Google forms were employed to coordinate and schedule the FGDs, while the in-depth interviews were conducted face-to-face to ensure a more personalized interaction. These interviews and discussions were recorded, transcribed, and analyzed to identify emerging themes.

For ethical considerations, prior to participation, all respondents were informed about the purpose of the study, ensuring they understood that participation was voluntary. An informed consent form was provided, highlighting the confidentiality of the responses and the use of data solely for academic and research-related purposes. Respondents were also made aware that they had the right to withdraw from the study at any stage without any repercussions. Data from respondents who chose to withdraw during the data collection phase would be promptly deleted or destroyed.

3. Results and Discussions

1. Challenges and Opportunities in Managing Tourist Travel Risks

Table 1: Challenges and Opportunities faced by Online Travel Agencies in Managing Tourist Travel Risks

Themes	Coding	Highlights
Instances of Booking Cancellations	P1	Approach to manage customer-initiated cancellations and penalties.

Types of Cancellations	P3	Recognition of diverse cancellation scenarios requiring varied responses.
Booking Cancellations as Normal Process	P2, P6, P7	Acknowledgment of cancellations as a standard occurrence with varied complexities.
Impact on Business	P4	Consequences of cancellations on agency operations.
Coordination with Airlines	P5, P8, P9	Emphasis on coordination with airlines, proactive communication, and IATA agent roles.
Adaption under New Normal Travel	P1, P5, P2, P3, P7, P8, P9	Implementation of health measures, dealing with changing restrictions and airfares, and ensuring service quality.

Table 1 elaborates on the various themes that emerge around booking cancellations, their impact on the business, coordination with airlines, and adaptation to the new normal in travel.

Booking Cancellations: Respondents acknowledged the complexities involved in handling cancellations, especially when initiated by customers. Penalties and rebooking challenges were evident. A critical observation is the varied nature of cancellations and how they are perceived as a routine aspect of the business. Online platforms and airline communication pose additional challenges in managing cancellations. **Impact on Business:** Cancellations inevitably affect agency operations, leading to changes in schedules and fees, which, in turn, may have financial implications on the agency. **Adapting to New Normal Travel:** The post-pandemic era has ushered in a need for heightened health and safety measures. The fluctuating nature of travel restrictions and dynamic airfare changes further complicates the landscape. Agencies are observed to lean on demand-driven approaches, flexibility, and improved communication in these times. Quality of service and solid online customer support are seen as pivotal in the new normal.

2. Projects, Plans, and Preparations to Mitigate Tourist Travel Risks

Table 2: Projects, Plans, and Preparations by Online Travel Agencies to Mitigate Tourist Travel Risks

Themes	Coding	Highlights
Utilization of Data and Reviews	P5, P7, P8, P9	Use of client reviews for promotion, adapting to online platforms, and valuing customer loyalty.
Implementation for Client Safety and Security	P1, P2, P7, P8	Emphasizing travel insurance, ensuring data security, and providing employee training.

Enhancements for Overall Customer Experience	P2, P5, P6, P7, P9	Personalized service, online convenience and transparency, and effective client communication.

Table 2 underscores the actions and initiatives by agencies to manage tourist travel risks. **Feedback Utilization:** Positive client reviews become a promotional tool for some agencies. This showcases the importance of feedback in enhancing brand visibility and building trust. **Shift to Digital:** The pandemic's onset compelled agencies to make a swift transition online, primarily using social media platforms to engage and communicate. **Safety and Security Measures:** Emphasis on travel insurance and ensuring the confidentiality of client information are paramount. This is complemented by effective employee training to maintain safety standards. **Enhancing Customer Experience:** Agencies' commitment to personalizing services and improving digital interfaces for convenience is evident. Effective communication and problem resolution form the backbone of ensuring customer satisfaction.

3. Strategic Marketing Plan in Light of Risk Management Practices

Table 3: Strategic Marketing Plan of Online Travel Agencies in light of their Risk Management Practices

Themes	Coding	Highlights
Online Booking System Development	P1, P2, P3, P5	Tailoring the system for target clients, specializing in niche services, and collaborating with other agencies.
Customer-Centric Approach	P6	Understanding and addressing customer preferences to enhance the system.
Technical Integration in Systems	P7, P8, P9	Emphasis on system interconnection, platform understanding, and utilization of specific Global Distribution Systems.

Table 3 investigates the strategic aspects of online booking systems. **Online Booking System Development:** Aligning the system to cater to targeted clients and marketing objectives is crucial. Some agencies prefer specializing in niche services, while others look at collaborations to widen their service range. **Customer-Centric Development:** Understanding and addressing customer preferences remains central to system development. The feedback-driven approach facilitates system enhancements and better user experience. **Technical Integration:** Utilizing established Global Distribution Systems ensures efficient reservation and ticketing processes, highlighting the importance of integration and technical knowledge in system operations.

The results elucidate that online travel agencies in Metro Manila navigate a complex environment. While managing cancellations and adapting to the new normal poses challenges, these agencies have shown resilience and adaptability. Their swift pivot to online platforms and a customer-centric approach underlines their agility in responding to unprecedented challenges.

Furthermore, while technical prowess and system integrations are indispensable, human-centric aspects like customer feedback and personalized service stand out as significant differentiators. Collaboration emerges as a strategic choice, enabling agencies to offer a broader range of services despite system limitations. In essence, the balance between business imperatives and client needs hinges on adaptability, collaboration, and a deep understanding of customer preferences.

4. Conclusion

Objective 1: The ever-evolving nature of the travel industry, catalyzed by events like global health threats, mandates the importance of maintaining customer satisfaction and trust. OTAs should remain vigilant of up-to-date developments in health and travel protocols to address travelers' concerns. Recommendation: Enhance customer flexibility by offering options such as refundable reservations, no-change-fee policies, and travel insurance. Additionally, establishing clear and reliable communication channels ensures travelers are always informed about safety measures and potential itinerary changes.

Objective 2: In the dynamic realm of OTAs, technological innovations, regulatory updates, and changing industry dynamics require adaptive strategies. Embracing technological advancements can redefine how travel services are availed.
Recommendation: Cultivate innovation by investing in research and development, aiming to capture emergent technologies and industry trends. Harnessing the vast data at their disposal, OTAs can derive insights on customer behavior and preferences, ensuring services are both personalized and targeted.

Objective 3: Regular market surveillance allows OTAs to align their services with travelers' changing needs. New risk factors necessitate agile risk management strategies. Ensuring traveler safety and well-being remains pivotal.
Recommendation: Staying receptive to evolving preferences will help OTAs tailor their strategies accordingly. Being agile and proactive ensures market relevancy and competitive positioning.

Objective 4: Ensuring customer satisfaction pivots on effective cancellation management, especially given the unpredictable nature of the travel landscape. Adopting a customer-centric approach is vital. Recommendation: Merging strategies like effective cancellation management, awareness of health protocols, and exceptional service delivery positions travel businesses as trustworthy allies for travelers, readying them for sustained industry success.

Objective 5: The accelerated shift towards online platforms during the pandemic underscores their importance for communication and service delivery in the travel sector. Building trust and loyalty is crucial.
Recommendation: Investing in user-friendly, feature-rich online platforms fosters real-time interactions, ensuring timely and tailored customer communications, which further solidifies customer relations.

Objective 6: OTAs have showcased adaptability by consolidating diverse travel services onto single platforms, addressing the varied needs of travelers. Such a unified approach simplifies bookings and provides a comprehensive experience. Recommendation: Regular market research keeps OTAs abreast of shifts in traveler behavior and preferences. Embracing modern technologies, such as AI, enhances customer experiences, and promoting sustainable practices emphasizes responsible travel. Through these recommendations, OTAs can fortify their industry leadership, ensuring adaptability and customer-centricity in a fluctuating tourism landscape.

In essence, the challenge for OTAs in Metro Manila and beyond is to strike a balance between business imperatives and evolving client needs, against a backdrop of risk, feedback, and system development. Through the judicious adoption of the recommended strategies, OTAs can chart a path of growth, resilience, and customer trust in the dynamic travel sector.

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Exploring from the perspective of parasocial relationship and perceived brand control with the moderating effect of source credibility

Dai, You-De
Department of Tourism, Leisure and Hospitality Management
National Chi Nan University

Yeh, Giun-Ting
Department of Food & Beverage Services
Tainan University of Technology

Lin, Hnin-Nu
Program in Strategy and Development of Emerging industries
National Chi Nan University

Wu, Chung-Wei
Department of Tourism, Leisure and Hospitality Management
National Chi Nan University

Abstract:

This research examines the impact of para-social relationships, enhancing interactivity between social media influencers and their followers. Additionally, we explore the impact of perceived brand control on follower interactivity, using the moderator of source credibility. A total of 400 questionnaires were distributed, with 379 questionnaires considered effective, resulting in a response rate of 94.75%.The findings of this study indicate that (1) Para-social relationships have a positive effect on perceived interactivity ; (2) Perceived brand control has a positive effect on perceived interactivity; (3) Also, source credibility can't moderate the relationship between para-social relationship and perceived interactivity but can moderate the relationship between perceived brand control and perceived interactivity. Finally, the implications for managerial practice, research limitations, and future research directions are discussed.

Keywords: para-social relationship, perceived brand control, perceived interactivity, source credibility.

1. Introduction

Social Media has attracted significant tourism scholarly attention over the last decade, as exemplified by a number of special issues (Yang et al., 2017). According to a recent study conducted by the Pew Research Center, a significant majority of American adults heavily depend on social media for news, with this trend showing consistent growth over the past five years (Lou & Yuan, 2019).

Influencers are individuals who have the power to sway potential buyers towards a particular brand or product, thereby aiding the marketing efforts of the brand (Jun & Yi, 2020). Thus, nowadays social media influencers are trying to build close relationships (para-social relationships) with their followers to get interactivity. To reduce brand-related perceived risk and increase brand awareness, firms can take exact measures (Chatterjee & Kar, 2020). It is guessed that 63% of companies will raise their budget in influencer marketing during 2020 (Haenlein et al., 2020), following a rise of 59% the previous year (Martínez-López, Anaya-Sánchez, Esteban-Millat, et al., 2020). Thus, so many companies used influencers as brand promoters to increase their sale.

According to a survey conducted by Jupiter Research, sponsored by Buzzlogic, a company that specializes in online influence, blogs were found to have a greater impact on purchase decisions when compared to social media sites (Liu et al., 2021). Influencer marketing involves influential users who have an important impact on the consumption decisions of others (De Veirman & Hudders, 2020). Influencer recommendations increase consumer trust in a product and boost the likelihood of purchase compared to traditional advertising (Lou & Yuan, 2019).Brands may try to control the discussions related to their products on the internet by utilizing influencers who have a high level of trustworthiness. If the influencers had brand control, what would happen to the interactivity between influencers and followers? Creating credibility for advertisers on blogs involves dealing with complex factors that are further complicated by the presence of unknown bloggers who write countless messages that are accessible to an indefinite number of blog readers (Berezan et al., 2019). The monetization of blog posting has blurred the line between commercial and non-commercial content, leading to concerns about the authenticity and reliability of blog posts (Campbell & Evans, 2018). Currently, individuals who are experienced writers and those who are new to the world of blogging can share their thoughts and ideas with people worldwide, engaging in online conversations (Blaer et al., 2020). When an individual takes on the role of an influencer and their followers react to their message, it can have a ripple effect on both the influencer and the brand being endorsed (Glucksman, 2017).

This study investigates how para-social relationships and perceived brand control affect perceived interactivity. Additionally, we introduce source credibility (trust and expertise) as a moderating factor to explore the relationship between para-social connections and perceived brand control. Finally, the Conclusion and Suggestions section unveils the theoretical contribution, practical implications, research limitations, and suggestions for future studies.

2. Literature review

2.1. Para-social relationship

The phenomenon of para-social relationships can be used to understand the connections between celebrities and consumers on social media. These relationships are formed through interactions on social media platforms. Intimate connections that develop between celebrities and their fans are referred to as "para-social relationships" (Horton & Richard Wohl, 1956). Individuals can develop para-social relationships with media personalities when they are exposed to them repeatedly. In such relationships, individuals tend to feel a sense of intimacy, perceived friendship, and identification with the celebrity (Chung & Cho, 2017). PSR refers to an enduring relationship that encompasses more than one interaction or exposure (Munnukka et al., 2019) In this study, we aim to understand how influencers with strong para-social relationships can increase interactivity between their followers and encourage purchase intention.

2.2. Perceived brand control

The perception of both the brand and influencer can be negatively impacted if adequate disclosure is not provided. The disclosure plays a crucial role in ensuring that the audience recognizes the commercial intention of the message. The absence of proper disclosure can lead to a decrease in brand recall and engagement with posts (Boerman et al., 2017). Credible intermediaries are recognized for their ability to provide necessary information and guidance to avoid any potential negative effects (e. g. hashtags, timing, words used, etc.) (Abidin & Ots, 2016). As a result, businesses are seeking methods to utilize this impact to pique interest, motivate action, foster positive relationships, demonstrate proficiency, and encourage communication with their digital audience, rather than focusing exclusively on conventional media (Gardner, 2017). To sum up, if influencers receive sponsorship from a brand, their credibility and authenticity may be affected, potentially resulting in biased content and presentation styles that are influenced by the brand company.

2.3. Perceived interactivity

As a process, interactivity involves the exchange of information, user control, and responsiveness (Kim et al., 2012).Moreover, the gauges of interactivity must incorporate specifics of the interaction procedure, or actual activities, along with perception (Kim & Lee, 2019). Similarly, we suggest that if a brand can offer customers relevant information based on their previous message or request on social media, the customers are more inclined to view the brand as an interactive (Bozkurt et al., 2021).High interactivity means that browsers of a blog are given few restrictions in providing their content, in turn giving them a stronger impression of the blog (Jun, & Yi, 2020). In this research we want to discuss when the social media influencer has a good para-social relationship with the followers, what will need to be done to get the interactivity of the followers.

2.4. Source credibility

The persuasiveness of a message or communicator is greatly influenced by their credibility (Borchers, 2019). Advertising and marketing practitioners, as well as scholars, have given considerable attention to the credibility of the source during the persuasion process (Lee & Kim, 2020). Prior research has utilized these source models in the realm of conventional media platforms and indicated that these characteristics have a favorable impact on consumers' intention to make a purchase (Wang & Scheinbaum, 2018).

The results of a study indicate that heavy blog users have a greater perception of blogs' credibility compared to light blog users. A source is considered more useful and persuasive by online consumers when the information is obtained from a credible source and the quality of content is high (Tanford & Montgomery, 2015). In this study, we aim to investigate the effect of source credibility as a moderator on the relationship between para-social behavior and perceived brand control.

2.5. Hypothesis development

2.5.1. Para-social relationship and perceived interactivity

The theory of para-social relationship (PSR) defines the relationship between a spectator and a performer (Horton & Wohl, 1956). It is possible that when blog members engage with each other in a way that appears highly interactive, readers may feel a sense of social closeness with the blogger. The perception of interactivity can be explained through the qualitative experiences that users associate with it. According to the authors which refers to the degree of relational connection perceived and created by the users; and individuation - which relates to the extent to which users feel they have a detailed and rich impression of the other's identity (Burgoon & Dunbar, 2000).

Drawing on the dimensions of (Burgoon & Dunbar, 2000) and (Kiousis, 2002), perceived interactivity, as outlined in this study, refers to the degree to which users perceive their experience as a simulation of interpersonal interaction. Furthermore, it involves a sense of being in the presence of a social other. Based on the above, the following hypothesis is proposed:

Hypothesis 1 (H1): Para-social relationship is positively related to perceived interactivity.

2.5.2. Perceived brand control and perceived interactivity

The manipulation or control of online recommendations is a field that is still in its early stages. However, it is widely acknowledged that influence should be exerted in a manner that does not blatantly manipulate communications (Filieri, 2016). Negative attitudes may arise towards the individual who delivers a particular message. Maintaining a balance between control and creativity, as well as ensuring the influencer's freedom, is imperative (Sokolova & Kefi, 2020).
The influencer, who is considered the sender of the message, must be trusted by the consumer. The consumer's trust is dependent on the influencer's independence and authenticity (Arora et al., 2019). A longer sponsorship disclosure duration in a sponsored program triggered people's persuasion knowledge and harmed their brand attitude, in comparison to a sponsored program with a shorter disclosure duration (Boerman, 2020). In summary, consumers tend to engage with influencers more readily due to their trust in the reviews and posts shared by the influencers. If they perceive the influencers to be less authentic, but they got the trust from the followers also the company has good reputation so the interaction will increase. Based on the above, the following hypothesis is proposed to

Hypothesis 2 (H2): The Perceived Brand Control is positively related to perceived interactivity.

2.5.3. Moderating role of source credibility

Source credibility consists of two sub dimensions: expertise and trustworthiness. Expertise refers to the relevant knowledge, experience, and skills a source possesses about the subject matter of an endorsement (Hovland & Weiss, 1951) A thorough comprehension of an individual's personal character, motivation, preferences, goals, and values can only be acquired by those who have developed close interpersonal relationships with that person (Leite et al., 2022). The perception of an advertisement's audience regarding the communicator's expertise is associated with a favorable perception of the advertisement and an intention to make a purchase (Chung & Cho, 2017).

Regarding the aspect of credibility, it can be defined as a factor that is less influenced by personal emotions and subjectivity. This factor is considered to be an important determinant of social influence, as described in the literature (Gass & Seiter, 2022). Entertainment is another reason why people make use of social media platforms (Hsieh & Li, 2020). Based on the above, the following hypothesis is proposed to

Hypothesis 3 (H3): Source Credibility positively moderates the relationship between para-social relationships and perceived interactivity

Influencers' messages carry greater credibility as they speak with an authentic voice that is not influenced by the brand (Balaban & Mustățea, 2019). In order to prevent harm to the brand image, brands that attempt to manipulate the influencer's message may discover that the message is perceived as less genuine and innovative (Weismueller et al., 2020). The viewpoints of individuals looking to buy goods or services are heavily impacted by the content created by other users, which has the potential to sway their perceptions and purchasing habits (Müller & Christandl, 2019). When an influencer explicitly states that their opinion is freely given, it can have a positive impact. Based on the above, the following hypothesis is proposed to

Hypothesis 4 (H4): Source Credibility positively moderates the relationship between perceived brand control and perceived interactivity.

2.6. Research framework

The conceptual framework (see Figure 1) suggests that para-social relationship and perceived brand control as external stimuli, perceived interactivity as mediators, and the source credibility as moderator.

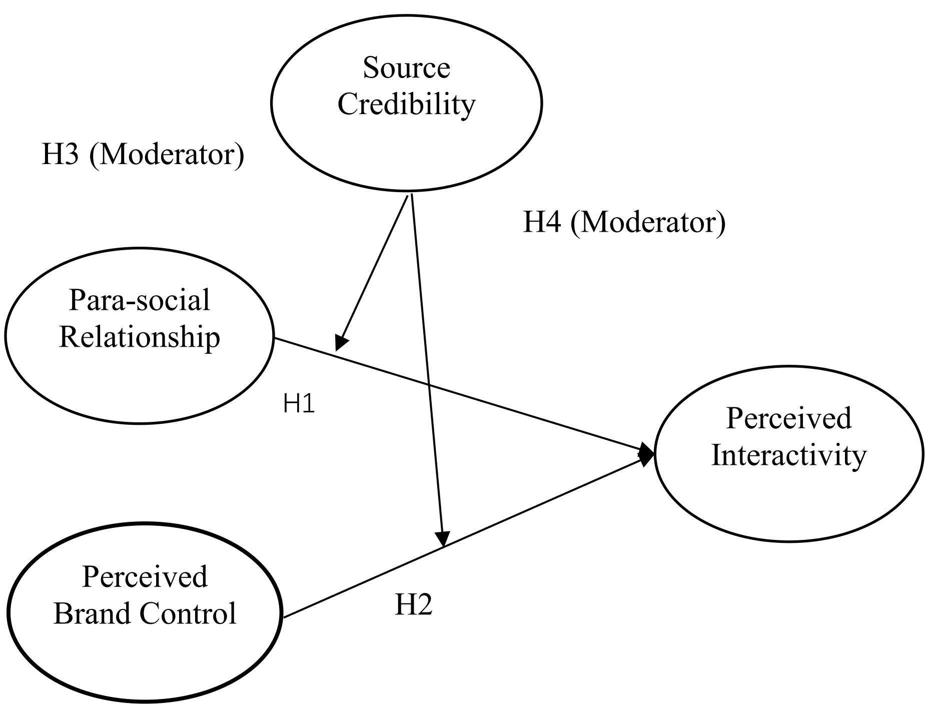

Figure 5: Conceptual framework

3. 3. Methodology

3.1. Data collection

The sampling strategy employed a combination of convenience sampling and purposive sampling approaches. These measures included clarifying the academic research context, highlighting the anonymity of responses, emphasizing the group-level analysis to customer perception of collected information. In the end, 379 valid matched questionnaires were collected, consisting of 400 social media influencers, resulting in a valid questionnaire rate of 94.75%.

3.2. Measurement

All other measurements employ a 5-point Likert scale, with response anchors ranging from 1 (strongly disagree) to 5 (strongly agree). This study utilized SPSS (version 26.0), AMOS (version 26.0; IBM Corporation, Armonk, NY, USA).

4. Results

4.1. Profile of the respondents

The collection of respondent data began in August 2023 by distributing questionnaires online using Google Forms and then sending them via message on social media like Facebook and Instagram. The questionnaires were delivered to respondents who are interested in buying travel products from social media influencers. Most of the respondents are females (61%) and the rest (39%) are male, those who are students (16%), own businesses (53%), medical staff (8%), agriculture (8%), service industry (15%), family jurisdiction (11%), government employee (14%), retired (4%) and the rest are other professionals (10%). 7% of the sample with age under 19 years old were 21 people.

4.2. Confirmatory factor analysis

The results fit index of included para-social relationship, perceived brand control, perceived interactivity, and source credibility. showing $\chi 2= 2533.036$, degree of freedom = 769, $\chi 2/df= 3.2$, RMSEA=0.08, IFI= 0.952, CFI=0.952, NFI=0.928 and RFI=0.924. The results are displayed in Table 1 showing high internal consistency. As shown in Table 2, the 23 observed items were significant ($t>1.96$, $p<0.05$). Additionally, Average variance extracted (AVE) is higher that 0.5 that is adequate for convergent validity according to Hair et al. (2014).

Table 1 Latent variables' reliability (CA=Cronbach's α; CR=Composite reliability; AVE=Average Variance Extracted).

Latent variables	CA	CR	AVE
Para-social relationship	0.85	0.85	0.56
Perceived brand control	0.83	0.83	0.58
Perceived interactivity	0.84	0.84	0.59
Source credibility	0.94	0.94	0.64

Table 2 Confirmatory Factor Analysis

Code	*Items*	SFL	SE	t-value	SMC
	Para-social relationship (Cronbach's alpha =0.85; AVE=0.56; CR=0.85)				
X1	I look forward to watching the influencer on his/her channel..	0.507	--	--	0.257
X2	If the influencer appeared on another YouTube channel, I would watch that video.	0.384	0.160	5.938	0.148
X3	When I am watching the influencer; I feel as if I am part of a group.	0.529	0.128	7.468	0.280
X4	I think the influencer is like an old friend.	0.613	0.137	8.177	0.375
X5	I would like to meet the influencer in person.	0.487	0.157	7.066	0.237
X6	If there was a story about the influencer in a newspaper or magazine, I would read it.	0.306	0.143	4.926	0.093
	Perceived brand control (Cronbach's alpha =0.83; AVE=0.58; CR=0.83)				
X7	The sponsor of the posted product supervises the content created by influencers.	0.561	--	--	0.314
X8	The information that the influencer wishes to share with his/her followers must first be filtered by the sponsor of the posted product.	0.654	0.143	8.488	0.428
X9	The sponsor of the posted product controls the flow of information and content between the influencer and his/her followers.	0.364	0.140	5.688	0.133
	Perceived interactivity (Cronbach's alpha =0.84; AVE=0.59; CR=0.84)				
X10	Interacting with this influencer was liking having a real conversation.	0.536	--	--	0.288
X11	I perceive this influencer to be sensitive to my needs for information.	0.746	0.156	9.080	0.556
X12	The influencer would respond to me quickly and efficiently.	0.792	0.156	9.339	0.628
	Source credibility (Cronbach's alpha =0.94; AVE=0.64; CR=0.94)				
X13	I feel the influencer is honest.	0.701	--	--	0.492
X14	I consider the influencer to be trustworthy.	0.765	0.070	15.458	0.586
X15	I feel the influencer is truthful.	0.836	0.069	15.443	0.700
X16	I consider the influencer to be sincere.	0.849	0.071	15.658	0.720
X17	I feel the influencer knows a lot about the service.	0.761	0.073	13.957	0.579
X18	I feel the influencer is competent to make assertions	0.699	0.068	15.441	0.488
X19	The service.	0.796	0.096	13.383	0.633
X20	I consider the influencer sufficiently experienced to make assertions about the service.	0.890	0.102	14.700	0.792
X21	I consider the influencer an expert on the service.	0.822	0.104	13.790	0.676
X22	The influencer and I have a lot in common.	0.698	0.067	15.421	0.487
X23	The influencer and I are very alike. I can easily identify with the	0.798	0.095	13.363	0.635

influencer.

4.3. Reliability analysis and validity analysis

Hair et al. (2014) suggested that a Cronbach's alpha of at least 0.7 is acceptable. The reliabilities and correlations of the variables are presented in Table 2. The results support the distinction of the constructs included in the model (Table 3).

Table 3 Descriptive statistics and correlations for variables

Variables	M	SD	1.	2.	3.	4.
Para-social relationships	4.08	0.85	(0.72)			
Perceived brand control	4.29	0.52	0.56	(0.73)		
Perceived interactivity	3.65	0.53	0.44	0.41	(0.74)	
Source credibility	3.65	0.66	0.38	0.41	0.69	(0.75)

Note: ( ) Root mean square of AVE are in parentheses along the diagonal. (n=379).

4.4. Hypothesis testing results and discussions

This study confirms the support for H1 in Model 1 of Table 4 indicate that: (1)Hypothesis 1 and (2)Hypothesis 2 show that the para-social relationship and the perceived brand control have positive and significant relation to the perceived interactivity (β=.611, p<.001), (β=.635, p<.001).This finding aligns with hypothesis 2 is also supported.

The findings doesn't confirm the support for H3 in Model 3 of Table 4 indicate that the interaction between para-social relationships and source credibility on perceived interactivity (β=.811, p<.001), (β=.535, p<.001). Overall, the findings confirm the support for H4 in Model 3 of Table 4 indicate that the interaction between perceived brand control and source credibility has positive and significant effects on perceived interactivity (β=.611, p<.001), (β=.611, p<.001). Hypothesis 3 doesn't also support The finding aligns with previous research (Müller & Christandl, 2019), indicating that Even the followers know about the influencer had brand control, but the followers really trust and loyal to their influencers, the perceived interactivity are increasing.

Table 4 Hypothesis test results by multiple regression analysis.

Independent variable (Hypothesis)	Dependent variable = β(p)	Hypothesis test results
Model 1	**Perceived interactivity**	
Control variable=	**β=**	
Gender	0.47	
Age	0.029	
Para-social relationship	0.611***	**(H1: O)**
Perceived Brand Control	0.635***	**(H2: O)**
R2	*0.441*	

Adj-R2	*0.434*	
Model 2	**Perceived interactivity**	
Control variable=	**β=**	
Gender	0.047	
Age	0.029	
Perceived interactivity	0.635***	**(H3: XO)**
R2	*0.496*	
Adj-R2	*0.476*	
Model 3	**Perceived Interactivity**	
Control variable=	**β=**	
Gender	0.047	
Age	0.029	
Para-social relationship	0.635***	
Source credibility	0.535***	
Para-social relationship X Source credibility	0.585***	**(H4: O)**
R2	0.461	
Adj-R2	0.434	

Note: **O** = hypothesis supported.; X**O** = hypothesis doesn't support * p<0.05, ** p<0.01, *** p<0.001, n=379

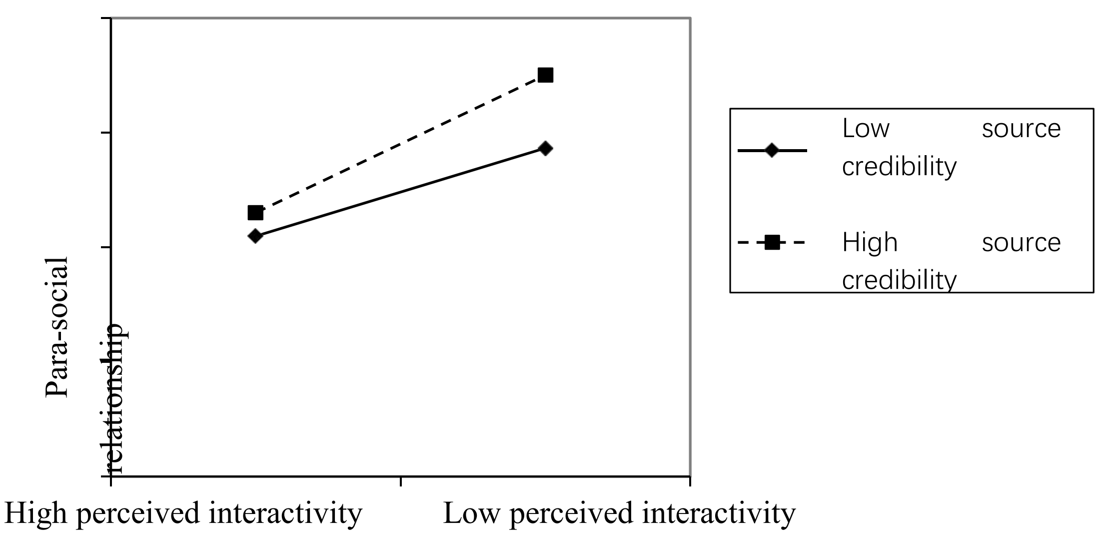

Figure 2: Moderating effect of source credibility on H4

5. Discussion and Conclusion

5.1. Discussion and implications

The study's theoretical contributions are significant, showing that (H1) and (H2) para-social relationships and perceived brand control have a strong impact on perceived interactivity. Additionally, the study found that source credibility(H4) moderates the relationship between perceived brand control and perceived interactivity. In other words, when influencers have less perceived control over their brand, their followers are more likely to buy from them. If influencers maintain their followers' trust, they can build loyalty even when promoting sponsored content.

According to previous research by (Jun & Yi, 2020), as an influencer, it is crucial to maintain one's popularity and reputation. It is also important to share insights on topics like fashion, beauty, travel plans, and travel products. However, it can be quite challenging for influencers to compete with celebrities in the same space. According to previous research by (Hermanda et al., 2019) reliable sources can enhance brand credibility and, therefore,(H3)influence perceived interactivity. Overall, these significant contributions to theory shed light on the complex dynamics between building good para-social relationships, interaction, and credibility with followers is vital for social media influencers.

5.2. Conclusion

The results of a recent study indicate that para-social relationships have a positive effect on perceived interactivity (H1). Perceived brand control has a positive effect on perceived interactivity (H2). The result shows that source credibility can't moderate the relationship between para-social relationship and perceived interactivity (H3) but can moderate the relationship between perceived brand control and perceived interactivity (H4).

5.3. Practical implication

The examination of the psychological mechanisms of decision-making among social media followers and the methods by which social media influencers establish relationships, interactions, and trust with their followers is a significant research topic. It is worth exploring whether the influencer's control over the brand has any impact on the desire to buy or not.

Lastly, the significant influence of the Perceived Brand Control positively related to perceived interactivity. (H2) emphasizes the need for developing and implementing strategies that consider integration, process-oriented interaction, and perceived interactivity among social media influencers can provide valuable insights for marketing professionals. Social media's technological affordances, such as interactivity and immediacy, along with an intimate communication style, facilitate the development of close and meaningful relationships between consumers and celebrities. Social media interactions with consumers can have a significant impact on consumer marketing.

5.4. Limitations of this study and suggestions for future studies

The research in question aims to add to the growing body of literature examining the effects of followers buying travel products from influencers. The study looks at how influencers establish para-social relationships, perceived brand control, and perceived interactivity to influence the purchase intentions of their followers. Additionally, the study primarily involved respondents from Myanmar, so the results may not be directly applicable to other countries or populations.

Future studies could employ the same conceptual model proposed in this study to determine whether the results hold in distinct geographical and cultural contexts. Social media is widely used among young and middle-aged groups, who consume more content via the Internet, especially content generated by celebrities and influencers (Lou & Yuan, 2019). Our research delves into the significance of establishing positive connections with followers to gain their trust, loyalty, and inclination to buy. Currently, social media influencer marketing is a widely discussed topic in this domain. By referring to our research framework, we can undertake further investigations regarding social media influencer marketing.

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The effect of celebrities on campers' travel intention

Chang, Yi-Chi
Department of International Business Administration
Tunghai University

Kuo, Hsin-Ning
Department of Hospitality Management
Tunghai University

Fan, Yeh-Hua
Department of Hospitality Management
Tunghai University

Abstract:

As the pandemic eases, the camping industry faces declining customers. This study explores how the celebrity effect can reignite interest in camping. It investigates the impact of celebrity characteristics (attractiveness, trustworthiness, expertise) and campers' parasocial interaction(PSI) on campers' travel intentions. It analyzes survey data from 355 audiences using structural equation modeling (SEM). Findings reveal that the celebrity endorsement effect positively affects campers' travel intentions. Moreover, campers' PSI serves as a mediator between celebrity characteristics and campers' travel intentions.

Keywords: Celebrity Effect, Source Credibility, Camping, Campers' parasocial interaction, Campers' travel intention

1. Introduction

Since the pandemic, camping has become a hot issue(Sommer, 2020; Zorlu et al., 2022). Celebrities and influencers share their camping experiences on Instagram and YouTube, bringing up active online discussions worldwide. According to Lin(2023), the number of Instagram likes and total YouTube audiences in Taiwan increased by around 250% in two years. Meanwhile, TV programs and streaming platforms in Taiwan are full of reality shows about camping. Social media is crucial in promoting and sparking public interest in camping. The impact of celebrity effect on the camping industry is evident.

Celebrity's characteristics(attractiveness, trustworthiness, and expertise) influence consumers' attitudes and behaviors through processes of identification and internalization (Zhang et al., 2020), making celebrity endorsements persuasive and readily accepted by the public (Knoll & Matthes, 2017; To & Patrick, 2021; Li et al., 2022). Given the remarkable effectiveness of celebrity endorsement in attracting attention and increasing travel intentions, it is widely adopted as a marketing strategy in the tourism industry (Huo et al., 2022; Liu et al., 2023).

However, while camping is a branch of the tourism industry, research on the impact of celebrity endorsement in this relatively emerging field is limited. Additionally, as border restrictions gradually ease and people return to their old travel habits (CCG, 2023), coupled with the influence of extreme temperature (United News Network, 2022), the public interest in camping activities is declining.

The decrease in camping enthusiasts poses a significant challenge for the camping industry. Therefore, this study examines the effect of celebrity endorsement on campers' travel intentions. Furthermore, it explores the relationships between celebrity characteristics, campers' PSIs, campers' travel intentions, and the mediating effect of campers' PSIs.

2. Literature Review

2.1. Camping Current Situation

Camping is a form of outdoor leisure activity (Scannell & Gifford, 2017; Wong et al., 2021), and immersing in nature is crucial to the camping experience. Due to engaging with nature, providing outdoor relaxation, and maintaining social distancing with others (Craig et al., 2021), camping has attracted a large crowd during the pandemic (Sommer, 2020). In Taiwan, the number of campers exceeded 2 million, with over 1,900 camping sites, and the camping-related business reached 5 billion NTD (Chen, 2022). However, there has been a worldwide decline in camping over the past few years. According to CCA(2023), compared to 2021's 40%, camping and glamping accounted for 32% of all leisure travel in 2022, suggesting that some campers are returning to their old travel habits. The factors contributing to the decline in camping in Taiwan include lifting border restrictions and extreme temperatures, with many tourists considering camping an alternative to travel abroad (United News Network, 2022; Zhang, 2023).

2.2. Celebrity Endorsement Effect

'Celebrity endorsement' is using celebrities to promote products or services (Halonen-Knight & Hurmerinta, 2010), projecting the public's affection and trust for celebrities onto products or services. This process is known as the 'celebrity endorsement effect' (Gholipour et al., 2020; Chen et al., 2021). Based on the positive image displayed by public figures, celebrities are regarded as reliable sources of information, and their endorsements provide consumers with a trustworthy reference for purchasing goods or visiting destinations.

Previous research has examined the impact of source credibility and the underlying mechanisms of celebrity endorsement (Chaiken & Maheswaran, 1994; Hovland et al.,1953; Lirtzman & Shuv-Ami,1986; Petty et al., 1981; Dou et al., 2012). The source credibility model analyzes the factors that lead to the perception of trustworthiness by communicators (Hovland et al., 1953), suggesting that the effectiveness of a message depends on the communicator's relevant expertise and perceived trustworthiness (Erdogan, 1999). The source attractiveness model (McGuire et al., 1985) indicates that attractive communicators often enhance persuasiveness and influence subjective attitudes (Kim & Park, 2023). According to the source credibility model (Hovland et al., 1953) and the source attractiveness model (McGuire, 1985), Ohanian (1990) developed and integrated three fundamental categories of celebrity endorsement: attractiveness, trustworthiness, and expertise. Celebrity's attractiveness stimulates audience imitation in popularity and lifestyle behaviors (Okazaki et al., 2014; Kim & Park, 2023); endorsements from highly credible celebrities can change consumer attitudes and purchase intentions (Mat et al., 2019; Rungruangjit, 2022); these well-known individuals typically belong to specific fields of expertise, and their expertise in endorsing specific products or brands can persuade consumers more effectively than other celebrities lacking relevant knowledge (Till & Busler, 1998; Rungruangjit, 2022). However, while previous research has predominantly focused on the positive impact of celebrity attributes, there are also examples of studies highlighting negative effects. Levi et al. (2017) pointed out that not all highly attractive endorsers can generate positive advertising effects. Audiences with lower self-esteem are more likely to identify with less attractive advertising models. Rungruangjit (2022) indicated that due to false endorsements by influencers, the perceived trustworthiness of these endorsers gradually fails to influence the purchase intentions of audiences/consumers positively. Moreover, consumers from the same nationality but different social, cultural, and environmental backgrounds perceive celebrity trustworthiness differently, ultimately leading to varying purchase intentions.

Most of the celebrity endorsements can still effectively alleviate consumer doubts and encourage positive feedback on products or brands (Yang, 2018), especially for products involving high social and psychological risks, such as travel products (Li et al., 2022). When endorsing travel products, celebrity characteristics can influence tourists' attitudes toward the destinations celebrities endorse and increase their willingness to travel (Roy et al., 2021; Teng & Chen, 2020; Li et al., 2022). In summary, if celebrities are seen as attractive, trustworthy, and knowledgeable, they are likely to influence their audience's attitudes and behaviors toward certain things, generating willingness to purchase (travel products) and further affecting their intention to travel.

2.3. Campers' parasocial interaction(PSI)

'Parasocial interaction' describes the perceived emotional interaction between media audiences and media figures. It is defined as a one-way virtual relationship mediated through media such as television, radio, newspapers, magazines, and social media (Zhang et al., 2020). The attractiveness, trustworthiness, and expertise of celebrities are considered source factors, and according to PSI theory, consumer/audience involvement (degree of emotional investment) with celebrities is seen as an audience influencing factor (Gong & Li, 2017; Zhang et al., 2020). PSI formation is similar to real social interaction (Gleason et al., 2017). When watching reality TV interviews, audiences feel and believe that the celebrities are engaging in a two-way conversation with them(Houlberg, 1984; Levy, 1979; Rubin et al., 1985; Xu et al., 2022). Parasocial research focuses on the audience's perspective rather than the celebrities' perspective (Brown, 2015; Sokolova & Kefi, 2020; Deng et al., 2022).

In tourism, some studies use the concept of PSI to understand audiences' attitudes towards travel. Deng et al. (2022) suggest that PSI and parasocial relationships(PSR) can be developed in tourism online communities to shape community behavior (Kim & Kim, 2021), establish relationships with travel destinations (Zhang et al., 2020), and advance businesses' travel strategies (Haobin Ye et al., 2020). Yen and Teng (2015) found that engaging in PSI with celebrities from movies or television influences tourists' perceived value of destinations.

2.4. Campers' travel intention

'Behavioral intention' refers to the actions consumers may take, including willingness to revisit, and it also denotes a person's subjective inclination to take future actions regarding the attitude object (Blackwell et al., 2001). Fishbein and Ajzen (1975) argue that intention, when measured accurately, is the best predictor of future behavior, including consumption behavior and travel decisions (Sheeran, 2002).

Moutinho (1987) defines travel intention as the likelihood of tourists visiting a particular travel destination; Jang et al. (2009) consider it as the degree of thought and commitment to travel, influenced to varying degrees by individuals' attitudes and practical factors (such as budget constraints, availability of time) (Sönmez & Graefe, 1998; Fedeli et al., 2022). When tourists hold positive views and attitudes toward a destination, it can stimulate strong travel intentions (Chaulagain et al., 2019; Joo, 2023).

2.5. Research Hypotheses Development

Hoffner (1996) found that the attractiveness of media figures can be a significant driver of PSI. However, Till & Busler (1998) presented a different perspective, suggesting that celebrity endorsers' perceived expertise is a better factor than perceived attractiveness, as it can better match endorsers with products. Their study indicated that because the association between attractive endorsers and products that enhance appearance seems insignificant, physical attractiveness is not a decisive factor (Till & Busler, 2000). According to the source attractiveness theory and source credibility theory (Kim et al., 2013), if celebrities are perceived to have relevant knowledge, skills, and experience with the endorsed destination, along with captivating appearances, tourists are more likely to exhibit positive emotions towards the destination endorsed by celebrities (Zhang et al., 2020).

H1. Celebrity (a) attractiveness, (b) trustworthiness, and (c) expertise positively influence campers' PSI.

According to source attractiveness and credibility theory, the source credibility of celebrities will affect the effectiveness of endorsements (Zhang & Zhang, 2010). Belch & Belch (2018) stated that when celebrities are perceived as attractive, trustworthy, and knowledgeable, it is easier to form a relationship with the audience (Zhang et al., 2020). Kelman (1958) proposed that attractive celebrities can influence audiences through identification. Audiences may feel or wish to share similar attitudes and values with celebrities and establish a positive relationship with them (Sokolova & Kefi, 2020). Research by Fu et al. (2016) indicated that PSI related to watching reality TV shows increases audiences' travel intentions (Bi et al., 2021). People highly involved in reality TV programs are more likely to search for information about the program and shooting locations. This information gathering further stimulates audiences' ideas of visiting the destination to gain a deeper understanding (Fu et al., 2016). PSI between audiences and celebrities can cultivate positive attitudes toward the shooting locations (Su et al., 2011; Bi et al., 2021), and viewer engagement may translate into positive perceptions and attitudes toward the destination, thereby enhancing positive travel intentions (Fu et al., 2016).

H2. Campers' PSI positively influences campers' travel intentions.
H4. Campers' PSI mediates the relationship between (a) attractiveness, (b) trustworthiness, (c) expertise, and campers' travel intention.

Social media dissemination influences how tourists gather information (Yu et al., 2021) and impacts tourists' travel planning decisions (Huerta-Álvarez et al., 2020). Positive characteristics of celebrities (such as attractiveness, trustworthiness, and expertise) can affect tourists' attitudes and increase their willingness to visit destinations endorsed by them (Roy et al., 2021; Teng & Chen, 2020; Li et al., 2022).

H3. Celebrity (a) attractiveness, (b) trustworthiness, and (c) expertise positively influence campers' travel intentions.

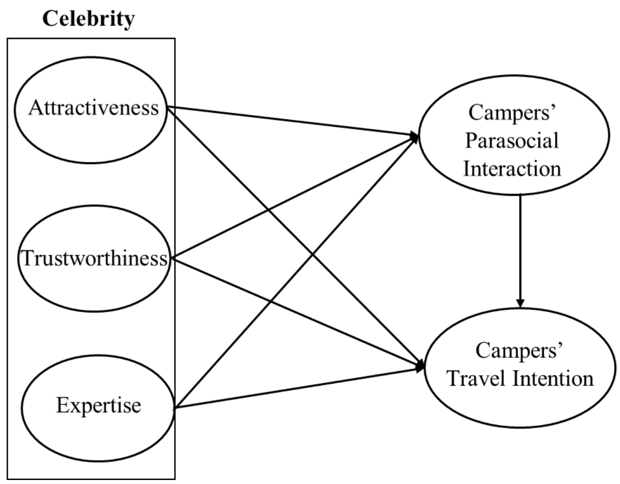

Fig. 1. Research Framework

3. Methodology

3.1. Measurement

This study focuses on camping, targeting audiences who have watched camping programs that features celebrities(categorized as stars, influencers, and professional campers). It uses purposive sampling to collect data from both previous campers and potential campers. Online questionnaires were distributed on social media platforms such as Facebook, Instagram, and LINE, as well as in related online communities and fan pages.

Eighteen items were used from Sokolova & Kefi (2020), Zhang et al. (2020), and Zhang et al. (2020) to measure celebrity characteristics. Six items were used from Sokolova & Kefi (2020), Lee & Watkins (2016), and Zhang et al. (2020)to measure campers' PSI; Six items were used from Bi et al. (2021) and Filieri et al. (2023) to measure campers' travel intentions. All items were measured using a five-point Likert scale ranging from '1' strongly disagree to '5' strongly agree.

3.2. Data collection and sample profile

Out of the 380 questionnaires distributed, based on their responses to the screening question 'I've watched camping programs that feature celebrities', 358 students were found eligible for this study. Further scrutiny revealed three questionnaires with extreme value distribution, which were excluded—the final sample comprised 355 questionnaires retained for data analysis. The characteristics of the respondents are presented in Table 2.

Variables show the average score and standard deviation for the constructs: attractiveness (3.49, 0.694); trustworthiness(3.89, 0.559); expertise(3.73, 0.760); camper's PSI(3.65, 0.702); and camper's travel intention (3.83, 0.659). The overall average scores for all constructs are above the midpoint of the five-point scale, which is 3.

Table 1. Latent variables' reliability. ($\alpha > 0.7$)

Latent variables	**Chronbach's alpha**
Attractiveness	0.868
Trustworthiness	0.835
Expertise	0.939
Campers' Parasocial Interaction	0.874
Campers' Travel Intention	0.909

Table 2. Sample profiles.(n=355)

Characteristics	Category	Frequency (n)	Percentage
Gender	Male	127	35.8
	Female	288	64.2
Age	Below 20	32	9.0
	21-30	183	51.5
	31-40	83	23.4
	41-50	40	11.3
	Above 50	17	4.8
Occupation	Student	123	34.6
	Military, Government, and Education personnel	43	12.1
	Agriculture, Forestry, Fisheries, and Animal husbandry Industry	5	1.4
	Manufacturing	56	15.8
	Business	54	15.2
	Service industry	74	20.8
Place of residence	Northern region	173	48.7
	Central region	83	23.4
	Southern region	76	21.4
	Eastern region	23	6.5
Average monthly income (NTD)	< 20,000	111	31.3
	20,0001-30,000	38	10.7
	30,0001-40,000	90	25.4
	40,0001-50,000	51	14.4
	> 50,001	65	18.3
Do you have camping experience?	Yes	320	90.1
	No	35	9.9
Average number of camping trips per year	< 1	122	38.1
	2~5	133	41.6
	6~9	45	14.1
	>10	20	6.3
Most viewed types of celebrities	Star	115	32.4
	Influencer	168	47.3
	Professional camper	72	20.3

4. Results

4.1. Measurement Model

The reliability and validity of the constructed model were evaluated using confirmatory factor analysis (CFA). The measurement model demonstrated good fit with the data ($\chi2 = 471.467$, $df = 220$, $\chi2/df = 2.143$, $p < 0.001$, GFI=0.897, AGFI=0.871, RMSEA = 0.057, CFI = 0.949, NNFI=0.941, IFI = 0.949). Convergent validity was estimated by calculating each construct's average variance extracted (AVE). All standardized factor loadings exceeded 0.5, ranging from 0.61 to 0.88, as shown in Table 3.

Table 3. Results of CFA.

Items	SFL	CR(AVE)
Attractiveness		0.839(0.569)
I hope he/she can become my friend.	0.61	
I find his/her appearance very charming.	0.81	
I think he/she is beautiful.	0.77	
I find him/her very handsome.	0.81	
Trustworthiness		0.802(0.505)
I feel he/she cares about his/her fans.	0.65	
I feel he/she is sincere.	0.65	
I find him/her to be an expert in his/her field.	0.72	
I feel he/she is trustworthy.	0.81	
Expertise		0.931(0.730)
I believe he/she has extensive camping experience.	0.82	
I believe he/she has a wealth of knowledge in the camping field.	0.88	
I believe he/she possesses proficient camping skills.	0.88	
I believe he/she is sufficiently professional in the camping field.	0.86	
I find him/her persuasive in the camping field.	0.83	
Campers' Parasocial Interaction		0.842(0.571)
I feel he/she is like an old friend to me.	0.72	
I enjoy comparing my ideas with those presented in his/her videos or posts.	0.73	
I look forward to watching his/her posts, comments, or videos.	0.76	
When I watch his/her posts or videos, I feel like I am also part of his/her team.	0.81	
Campers' Travel Intention		0.890(0.574)
I am inclined to camp more because of his/her introduction to camping destinations in his/her posts or videos.	0.72	
I would recommend the destinations shared in his/her posts or videos to friends.	0.70	
I may consider visiting the destinations shared in his/her posts or videos.	0.82	
I would contemplate visiting the destinations shared in his/her posts or videos.	0.80	
I intend to visit the destinations shared in his/her posts or videos in the future.	0.77	
The next time I go camping, I will prioritize choosing the destinations shared in his/her posts or videos.	0.73	

4 5

)0.756

)0.703 **0.758**

ions between constructs.

4.2.

Structural equation modeling

Structural equation modelling was employed to test the hypotheses of H1-H3. The structural models fit the data well($\chi 2$ = 471.5, df = 220, $\chi 2$/df = 2.143, p < 0.001, GFI=0.897, AGFI=0.871, RMSEA = 0.057, CFI = 0.949, NNFI=0.941, IFI = 0.949) , as shown in Figure 2.

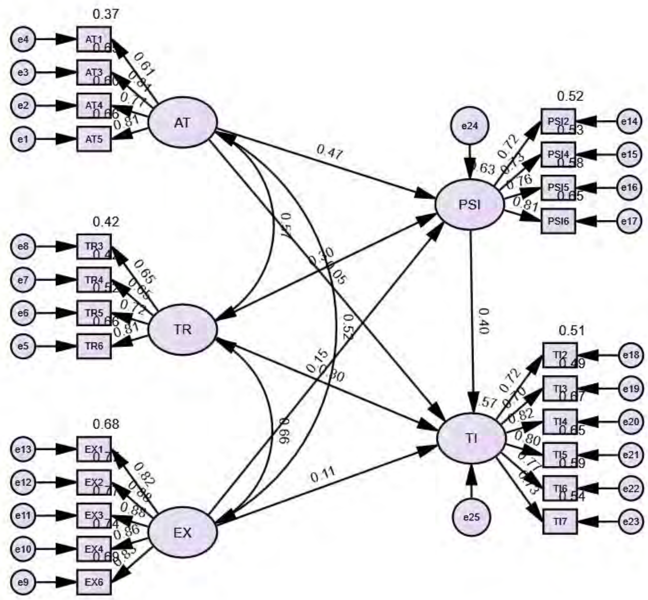

Figure 2. Linear structural equation modeling

4.3. Path Analysis

This study's framework includes exogenous constructs (attractiveness, trustworthiness, expertise) and endogenous constructs (camper's PSI and travel intentions). It analyses path coefficients and *p*-values to confirm hypotheses. Results indicate that significant coefficients for all the paths are supported except for H3a, as shown in Table 5.

Table 5. Summary of hypotheses test results.

Paths				Standardized estimate	Support
H1a	Attractiveness	→	Campers' PSI	0.47***	✓
H1b	Trustworthiness	→	Campers' PSI	0.26***	✓
H1c	Expertise	→	Campers' PSI	0.21***	✓
H2	Campers' PSI	→	Campers' Travel Intention	0.42***	✓
H3a	Attractiveness	→	Campers' Travel Intention	0.10	×
H3b	Trustworthiness	→	Campers' Travel Intention	0.21***	✓
H3c	Expertise	→	Campers' Travel Intention	0.14**	✓

Notes: ***$p < 0.001$; **$p < 0.01$; * $p < 0.05$; PSI=parasocial interaction.

4.4. Mediating effects

As depicted in the SEM, mediation analysis in this study employs campers' PSI as the mediator variable. The study uses bootstrapping (bootstrap=2000) with 90% confidence intervals to examine the total, direct, and indirect effects coefficients. The results showed that the indirect effects from attractiveness (β=0.188, *p*=0.001, 90%CI [0.108, 0.300]), trustworthiness (β=0.123, *p*=0.001, 90%CI [0.055, 0.225]), and expertise(β=0.060, *p*=0.047, 90%CI [0.012, 0.133]) to campers' travel intention did not contain zero. The direct effect of attractiveness and expertise on campers' travel intention contained zero, failing to support H4a and H4c. The direct effect(β=0.296, *p*=0.006, 90%CI [0.139, 0.453]) and the total effect(β=0.121, *p*=0.001, 90%CI [0.278, 0.568]) from trustworthiness to campers' travel intention were significant. Thus, H4b was supported.

Table 6. Mediating effect of Campers' Parasocial Interaction.

		Indirect(90%CI)	Direct	Total(90%CI)
H4a	AT → CTI	0.188**	0.052	
		(0.108, 0.300)	(-0.100, 0.202)	
H4b	TR → CTI	0.123**	0.296**	0.419**
		(0.055, 0.225)	(0.139, 0.453)	(0.278, 0.568)
H4c	EX → CTI	0.060*	0.107	
		(0.012, 0.133)	(-0.036, 0.231)	

Notes: ***p < 0.001 ; **p < 0.01 ; * p < 0.05; AT= Attractiveness, TR= Trustworthiness, EX= Expertise, CTI=Campers' travel intention, CI = Confidence interval;

Bootstrap = 2000

5. Discussion and conclusion

5.1. Discussion

The study found that celebrity characteristics (attractiveness, trustworthiness, expertise) positively influence campers' PSI, which indicates that characteristics like camping expertise can spark interest and resonance among campers, who view celebrities as trustworthy and credible references, confirming that celebrity characteristics are a crucial driver for audiences to engage in simulated social interactions with celebrities, consistent with Hoffner's (1996) findings.

A camper's PSI positively affects their travel intentions, suggesting that campers develop a positive attitude toward products or destinations endorsed by celebrities they see in camping programs, which supports the role of simulated social interaction between celebrities and audiences in enhancing product or destination trustworthiness, consistent with Reinikainen et al.'s (2020) study, thus strengthening the camper's travel intention.

Contrary to previous assumptions, attractiveness does not positively impact campers' travel intentions, indicating that attractiveness is not a critical factor influencing purchasing decisions or destination choices. However, it confirms that consumers' fondness for attractive celebrities does not necessarily translate into purchase behavior, consistent with Till & Busler's (1998) study.

Trustworthiness positively impacts a camper's travel intention, implying that celebrities' reputations and positive images lead audiences/campers to choose products or destinations endorsed by celebrities based on their trust in the celebrity, which confirms that a trusted endorser can establish a positive attitude toward endorsed products, thereby increasing their purchase decision (Tripp et al., 1994; Rungruangjit, 2022).

Expertise positively influences campers' travel intentions, suggesting that celebrities' rich knowledge and experience in a specific field make audiences trust their professionalism. Celebrities' sufficient camping expertise makes audiences assume that the camping sites or products they endorse are worth visiting or including in their plans, which confirms that experienced celebrities are seen as product experts, enabling them to convey the reliability of their understanding of the products they promote (Mat et al., 2019).

Furthermore, the study found that the camper's PSI mediates the relationship between celebrity characteristics and the camper's travel intention. The camper's PSI partially mediates the effect of celebrity trustworthiness on the camper's travel intention. In contrast, it fully mediates the effects of attractiveness and expertise on the camper's travel intention, which indicates that both the celebrity's attractiveness and expertise need to be mediated by the camper's PSI to affect the camper's travel intention.

5.2. Theoretical Contribution

The study confirms that the celebrity effect can positively influence travel intentions through camper PSI. Celebrities with attractiveness must establish emotional interaction with campers to impact their travel intentions. A celebrity's trustworthiness enhances travel intentions through their positive public image, while a celebrity's expertise alone significantly boosts campers' travel intentions. Therefore, celebrity endorsers with expertise and rich experience can serve as incentives, stimulating campers' desire for camping when their travel intentions could be higher. The process of forming campers' travel intentions through the celebrity effect is complex and influenced by various factors, with the phenomenon of camping reality shows aligning with the process above.

5.3. Practical Contribution

CCG (2023) suggests that the lack of camping experience and connection to camping could reduce the appeal to leisure travelers. Novice campers who have yet to invest much in camping gear or skills might be less likely to continue camping. On the other hand, campsites with great amenities can make camping more enjoyable, especially for those who have had a great first camping experience or often handle work while camping. Based on these factors and previous research, this study provides practical tips for camping operators to increase camper interest and retention.

In the camping industry, celebrity endorsements significantly impact potential campers and previous campers. According to Zhang et al. (2020), potential tourists are more likely to develop a favorable impression of a destination due to the trustworthiness and expertise of celebrity endorsers, suggesting that for potential campers, trustworthiness is more important than other celebrity characteristics. Suppose camping operators target potential campers for sales; endorsers with relevant camping experience, prominence, and a positive public image become crucial. Endorsers possessing these qualities can leverage media exposure to showcase their camping lifestyle, redirecting the attention of potential campers to camping and sparking their interest in experiencing camping. For instance, collaborating with celebrities or influencers who express positive attitudes towards camping to produce camping reality shows or vlogs could be an excellent camping promotion strategy.

On the other hand, for previous campers, endorsements by celebrities with high levels of professionalism hold more significant influence. Since endorsers with extensive expertise and reputations in camping have significant persuasive power over experienced campers, camping operators targeting previous campers for sales would find endorsements by professional campers more effective. For example, they could invite professional camping YouTubers to conduct on-site explorations of camping locations or provide unboxing reviews of camping gear. Finding suitable endorsers for different customer segments is the key strategy to ignite camping desires and successfully promote camping travel products.

5.4. Limitations and suggestions

Differences in Camping Experience Moderation

Previous studies show that potential and previous tourists may perceive the celebrity effect differently due to varying destination information. This study compares first-time campers (potential campers) and regular campers to see if there are significant differences in how they perceive various aspects. However, the large gap between the two groups prevents an adequate test of moderation effects. Future research could divide samples into potential and previous camper groups for separate questionnaire collection to ensure consistent proportions and avoid analysis errors.

Differences in Types of Celebrity Moderation

This study categorized celebrity endorsements into three groups: stars, influencers, and professional campers. Each group contains 75 random samples for multi-group analysis. The study tested seven hypotheses regarding path coefficients and found no significant differences based on the type of celebrity, suggesting that the type of celebrity in camping videos does not significantly affect audiences and campers. However, due to insufficient sample sizes, the results were inconclusive. Future research could use multi-group analysis with consistent proportions. Smart PLS is recommended for further analysis due to its suitability for small sample analysis and handling relationships between multiple variables.

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Green tourism management with public transportation: Case study of Lampang province, Thailand

Sangkakorn, Korawan
Multidisciplinary Research Institute
Chiang Mai University

Krajangchom, Sansanee
Multidisciplinary Research Institute
Chiang Mai University

Abstract:

This study contributes to understanding transportation challenges and opportunities for sustainable tourism development in Lampang Province, Thailand. Mixed method research design presents a holistic view of the region's current green tourism and public transportation. The qualitative part introduces the "SMART MOBILITY," offering a comprehensive strategy to enhance transportation infrastructure. The quantitative analysis identifies three primary factors underlying transportation challenges: Information, Uncertainty, and "Safety problems. This research provides valuable insights for policymakers, urban planners, and stakeholders aiming to improve transportation systems and promote sustainable tourism in Lampang and similar regions to improve the tourist experience.

Keywords: Sustainable Tourism, Mixed method research, Tourist transportation Development, Lampang Province

1. Introduction

The alluring natural vistas of Northern Thailand command widespread acclaim, standing as eminent landmarks of Asian mountain tourism and cultural heritage (Kanoksilapatham et al., 2023; Yodsurang et al., 2022). One of the principal obstacles confronting the rural tourism sector lies in its logistical complexities (Baričević et al., 2017). Collaborative organizational structures and tailored network access solutions can optimize tourism destination flows to gain more community economic and social success (Prodan & Stifanich, 2018). Lampang Province, located in the upper north of Thailand next to Chiang Mai, is a notable destination for local and international tourists. Its rich cultural heritage, traditional lifestyle, and abundant natural scenery distinguish itself. Known for having the country's highest number of horse carriages, Lampang boasts a well-preserved old town, distinctive temples, and various regional attractions. It is renowned for its unique handicrafts, including ceramics, pottery, and coal, with significant potential for tourist promotion and value addition (Yiamjanya, 2020).

Lampang is home to a renowned elephant training center. Despite facing challenges from the COVID-19 pandemic, a noticeable shift towards eco-friendly travel is pivotal for Lampang's tourism sector to embrace sustainable practices. Lampang is a rural tourism destination facing an inefficient transportation system, which hinders seamless mobility and accessibility for visitors. The extant academic literature has extensively explored the adverse ramifications of deficient transportation systems or traffic congestion on the tourist industry. Research findings have consistently underscored a robust association between tourists' satisfaction with transportation provisions and their overall contentment with the destination (Han et al., 2019). Specifically, delays, congestion, and limited transportation alternatives have emerged as critical determinants of tourist dissatisfaction, impinging upon their inclination to revisit or advocate for the destination.

Destinations grappling with inefficient transportation infrastructures have encountered challenges in attracting and retaining tourists, resulting in detrimental economic repercussions and adverse implications for the tourism sector (Chang & Zhang, 2024; Lee et al., 2013). Traffic congestion has been identified as a significant deterrent to tourist arrivals and expenditures, particularly during peak seasons. Tourists exhibit a decreased propensity to visit destinations characterized by congested roadways due to the associated inconvenience and delays in transportation, precipitating a downturn in tourism activity and revenue generation (Curtale et al., 2024; Du Cros & Kong, 2020). Consequently, establishing efficient transportation infrastructure is paramount in facilitating tourist mobility, augmenting destination allure, and fostering sustainable tourism development.

Through a mixed-method approach combining qualitative and quantitative analyses, the study aimed to identify the challenges faced by tourists and transportation systems and propose actionable solutions to address these issues effectively. This study may contribute significant value to sustainable tourism development by examining the current state of tourism logistic problems and green tourism, identifying challenges, and proposing solutions to foster sustainable tourism growth to ensure the continued growth and prosperity of Lampang Province as a premier tourist destination.

2. Literature Review

2.1 Sustainable Tourism and *Green Concepts*

Sustainable and green tourism are closely related concepts within responsible travel, each focusing on promoting tourism practices that respect and preserve natural, cultural, and social resources. This review explores both concepts' definitions, principles, and implications, providing insights into their significance for destinations like Lampang Province. Sustainable tourism is defined as tourism that fully considers its current and future economic, social, and environmental impacts by addressing the needs of visitors, industry, the environment, and host communities (UNWTO, 2024). Green tourism, often used interchangeably with eco-tourism, focuses specifically on environmentally responsible travel experiences, conserving the natural environment, and improving the welfare of local people (TIES, 2019).

The "Seven Greens" concept by the Tourism Authority of Thailand underscores the importance of environmental consciousness in tourism. The concept covers various aspects, from green logistics and attractions to community activities, services, and green plus, aiming to promote sustainable travel practices that benefit both the environment and local cultures.

Figure 1: Seven Greens Concept

Source: http://manonthelam.com/putting-the-grrr-back-in-green-garbagerecycling-asean-atf-sia/

Determining the concept of green tourism Management with public transportation: A case study of Lampang province, Thailand. It involved a holistic approach to sustainability by integrating environmental, cultural, and socio-economic dimensions. By embracing green tourism with public transportation. Lampang can ensure that tourism development is environmentally sustainable. But it also adds cultural value and benefits the local community.

2.2 Tourist Transportation Development

Tourist transportation development refers to the strategic planning and implementation of infrastructure, services, and policies to enhance the mobility and accessibility of tourists within a destination (Theobald, 2005). Providing the preferences of tourists contributes to the overall tourism experience and promotes destination competitiveness by promoting transportation infrastructure and tourist satisfaction in rural destinations (Virkar & Prita, 2018; Yiamjanya, 2020). The well-developed transportation systems destinations attracted more tourists and experienced more visitor spending than those with inadequate transportation infrastructure (Karayazi et al., 2024). Transportation improvement projects can provide the tangible benefits of tourist transportation development, leading to improvements in tourist arrivals, visitor satisfaction, economic outcomes, and destination competitiveness as outcomes of effective transportation development strategies (Amaya-Molinar et al., 2017; Bhatnagar et al., 2024; Cordova-Buiza & Serruto-Perea, 2024; Fessler et al., 2024).

2.3. Tourism Supply Chain Management

Tourism Supply Chain Management (TSCM) refers to the strategic coordination and integration of various stakeholders, resources, and processes in delivering tourism products and services to consumers. TSCM involves planning, sourcing, producing, distributing, and managing goods, services, and information across the entire tourism value chain, from suppliers to end-users

(Sutono, 2019).

TSCM fosters competitiveness and innovation by enabling tourism businesses to adapt to changing market dynamics that meet evolving consumer demands (Ku, 2024; Liu & Li, 2024). TSCM is also vital in promoting sustainability by integrating environmental, social, and economic considerations into supply chain performance, including sourcing sustainable materials, minimizing carbon footprint, and supporting local communities (Kerdpitak, 2022). Therefore, TSCM is essential for optimizing operations, fostering innovation, and promoting sustainability in the tourism industry, contributing to the success of tourism destinations(Azmi et al., 2023; Suparman et al., 2023; Virkar & Prita, 2018).

3. Methodology

The article is based on mixed-method research on exploratory sequential design, a research methodology combining exploratory and sequential approaches to gather data and explore phenomena of interest, see Figure 1. The sequential nature of the design allows researchers to build on initial qualitative findings and gain a deeper understanding of the research topic. The qualitative section is based on brainstorming on the problem of tourism transportation with the key informants and stakeholders within the tourism sector in Lampang province. The results were developed using a survey questionnaire to investigate the tourists' perceived transportation problems. The data will be subjected to analysis utilizing descriptive statistics to portray the demographic characteristics of tourists. Additionally, exploratory factor analysis (EFA) will extract underlying constructs. The research has been done from September to December 2023.

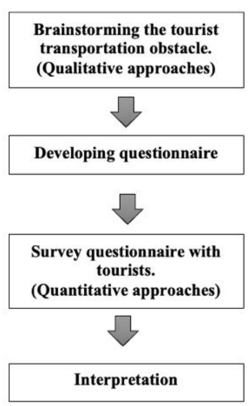

Figure 1. Research framework.
Source: Author's work

4. Results

4.1 Qualitative research results

In the empirical results of the first section of the brainstorming workshop, several prominent issues affecting tourism transportation in Lampang Province have been identified, emphasizing the necessity for comprehensive systemic enhancements to improve the overall tourist experience. The critical challenges highlighted are to ensure a comprehensive and practical study outcome that adequately addresses the populace's needs in Lampang province include:

1. **Inconvenience in Traveling:** Tourists need help traveling from bus stations and accommodations to various attractions due to inadequate transportation connections.
2. **Unreliable Public Transport:** The unscheduled nature of Songthaews, the bus made by truck with the roof as the local public transport vehicles, results in uncertainty regarding their availability, timing, and costs across different areas.
3. **Insufficient Transport Links:** There is a pressing need for more efficient public transport services that connect major transportation hubs such as bus stations, train stations, and airports to city centers, accommodations, and tourist sites. Additionally, there is a shortage of service vehicles for community accessibility.
4. **Inadequate Travel Information:** For tourists, such as bus schedules, essential travel information must be clarified and readily available at key transport hubs.
5. **High and Unpredictable Fares:** Public transportation fares, including those for services like Grab and Songthaews, are perceived as expensive and inconsistent, posing challenges for tourists.
6. **Subpar Public Bus Standards:** The quality and standards of public buses need to meet expectations, impacting the overall travel experience.
7. **Lack of Public Transport Information**: More information and resources regarding the use of public transport, including fixed bus schedules, are needed, making navigation challenging for tourists.
8. **Limited Connectivity to Attractions:** Public transport links to various tourist attractions are insufficient, impeding easy access for visitors.
9. **Poor Signage and Fare Information:** Service points and fare information need clear markings, causing confusion among tourists.
10. **Outdated Tourism Information:** Available tourism information requires updating, needs more foreign language options, and fails to cover all pertinent aspects of Lampang tourism.
11. **Traffic Congestion and Regulation:** Traffic congestion and strict traffic regulations contribute to transportation difficulties. Bicycle lanes are often obstructed, posing risks of accidents.
12. **Obstructed Bicycle Lanes:** Obstacles frequently block bicycle paths, increasing the likelihood of accidents and rendering cycling impractical for many.
13. **Management of Horse Cariages:** The management of Lampang's iconic horse cart rides necessitates improvement, including the establishment of a centralized management center, enhancement of service and management platforms, and clarification of routes and queuing systems.

The second step is a more profound discussion and classification of opinion presentations on the Tourism Transportation Problem, which aims to address the prevalent challenges hindering tourism development in Lampang province. These have been classified into three main parts: Problematic Scenario, Developmental Direction, and “SMART MOBILITY” Developmental Plan, as in Table 1.

Table 1. The second step is brainstorming a summary

Problematic Scenario:
• Inadequacies in the provision of public transportation, notably irregularity and

unreliability, particularly with songthaews, across different locales, leading to inconsistent scheduling and costs.

- Absence of centralized hubs for various transportation services and connections to tourist attractions within the Lampang province, resulting in disjointed travel planning for tourists.
- Limited availability of dependable travel information at pivotal junctions.
- Inefficiencies in the management of horse-drawn carriage services, encompassing queuing protocols, service accessibility, and carriage itineraries.
- High-risk bicycle routes prone to accidents on roadways.

Developmental Direction:

- Implement a comprehensive public transportation infrastructure tailored to bolster tourism, encompassing administrative oversight, service provisioning, interconnectivity, and service delineations within urban and rural precincts, involving pertinent administrative entities.
- Formulate service paradigms for public rental amenities such as bicycles or e-scooters.
- Diversify transportation frameworks by incorporating electric-based modalities.
- Cultivate a methodical framework for horse-drawn carriage management.
- Foster pedestrian routes interlinking tourist attractions and indigenous community ethos.

"SMART MOBILITY" Developmental Plan:

- Establish management hubs to underpin travel information dissemination catering to both domestic and international tourists.
- Foster travel information systems targeting tourists and facilitating access to public transportation and ancillary services.
- Erect infrastructural underpinnings for intelligent transportation systems with an emphasis on electric-powered utilization, poised to drive future transportation system maturation.

Source: Author's work

According to Table 1. The Tourism Transportation Consortium aims to address prevalent challenges hindering tourism development in Lampang province. These obstacles include irregular and unreliable public transportation services, lack of centralized transportation hubs, limited access to travel information, inefficient management of horse-drawn carriage services, and unsafe bicycle routes. To counter these issues, the consortium proposes a comprehensive approach. This includes establishing a robust public transportation network, creating centralized transportation hubs, enhancing travel information dissemination, improving horse-drawn carriage management, and promoting pedestrian-friendly routes. Additionally, adopting SMART MOBILITY strategies, such as deploying management centers for tourist information and developing electric-powered transportation infrastructure, is advocated further to advance tourism accessibility and sustainability in the region. Figure 2. illustrates the transportation in Lampang.

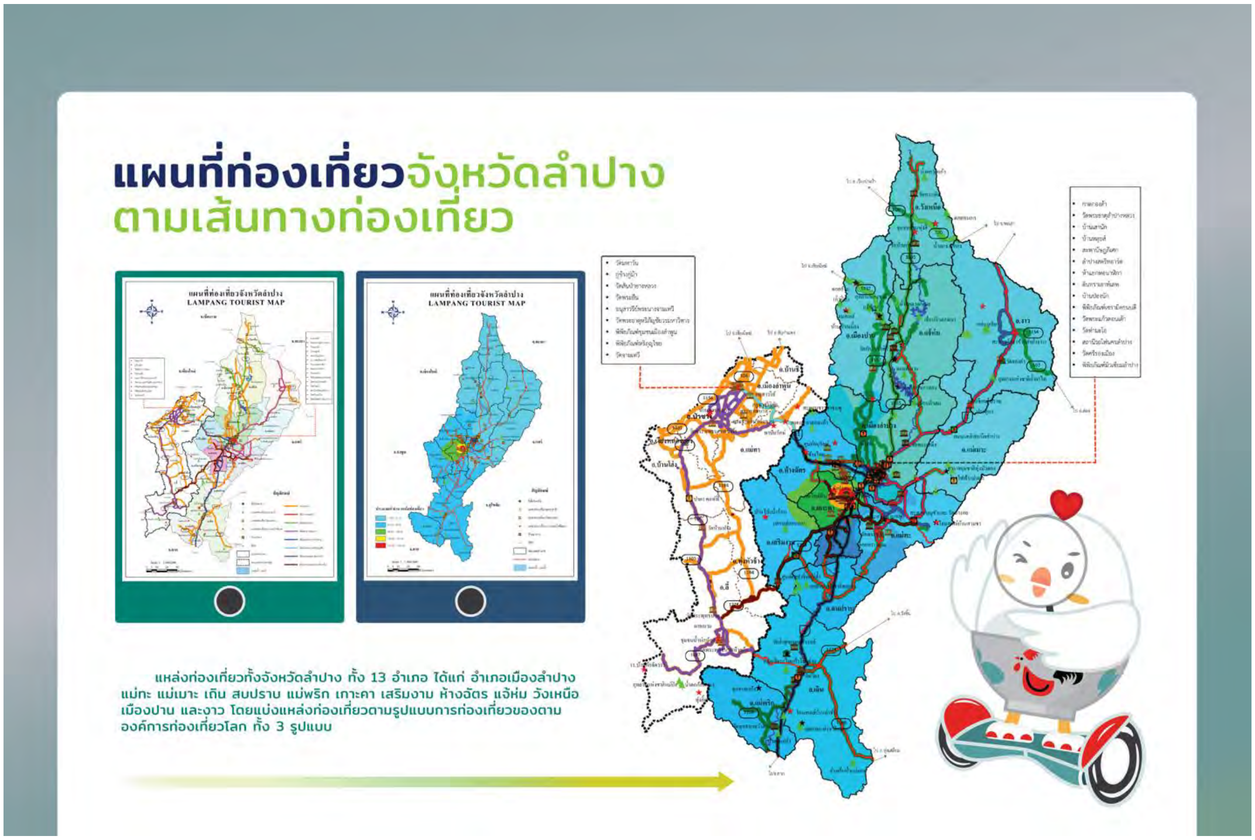

Figure 2. The Tourist transportation route in Lampang

Source: Author's work

4.2 Quantitative research results.

The 407 usable questionnaires provide an overview of demographic characteristics. For gender, most participants were female, comprising 62.4% of the total, while males accounted for 37.6%. Marital status, single individuals constituted the largest group at 59.0%, followed by married respondents at 36.6%. Age distribution, the highest proportion fell within the 20-30 age bracket (38.3%), followed by those above 51 years old (29.5%), with smaller percentages for the 31-40 (15.5%) and 41-50 (16.7%) age groups. Most respondents were from Thailand (83.3%), while 16.7% originated from foreign countries. Finally, regarding occupations, students represented the most significant category at 30.5%, followed by self-employed individuals (21.2%), employees (14.3%), and government officers (10.8%). Business owners comprised 3.4% of respondents in Table 2.

Table 2 Demographic characteristics

Items	Categories	Frequency (N = 407)	Percentage (%)
Gender	Male	153	37.6
	Female	254	62.4
Status	Single	240	59.0
	Married	149	36.6

	Others	18	4.4
Age (Years)	20-30	156	38.3
	31-40	63	15.5
	41-50	68	16.7
	Above 51	120	29.5
Country of origin	Thailand	339	83.3
	Foreign country	68	16.7
Occupations	Student	124	30.5
	Employee	58	14.3
	Government officer	44	10.8
	Business owner	14	3.4
	Self- employed	86	21.2
	Others	80	19.7

Source: Author's work

Table 3 illustrates tourists' perceptions of transportation issues in Lampang. The result has identified problems, two of which are particularly critical: the ambiguity surrounding fare pricing (P2) and the high cost of travel within the city limits (P5). These issues garnered mean scores of 3.39 and standard deviations of 0.961 and 1.056, respectively, indicating a notable concern among respondents. Following closely is the perception of an inefficient or inconsistent transportation system (P3), which received a mean score of 3.32 and a standard deviation of 0.979. Conversely, the significance attributed to limited options for public transportation (P1) and unclear road signage (P6) appears comparatively lower, as evidenced by their mean scores of 2.44 and standard deviations of 1.147 and 1.208, respectively. Tables 3 and 4 further elucidate these findings, providing additional context and explanation.

Table 3. The Mean, Std. Deviation and interpretation of tourism opinion.

Items	Mean	Std. Deviation	Skewness	Kurtosis	Interpretation
P1	2.44	1.147	.416	-.662	Disagree
P2	3.39	.961	-.338	.266	Neutral
P3	3.32	.979	-.238	-.044	Neutral
P4	3.24	1.031	-.220	-.179	Neutral
P5	3.39	1.056	-.296	-.309	Neutral
P6	2.44	1.208	.349	-.934	Disagree
P7	3.30	.950	-.174	-.018	Neutral
P8	3.11	.835	-.215	1.064	Neutral
P9	3.24	.946	-.294	.305	Neutral
P10	3.09	.897	-.370	.617	Neutral

Source: Author's work

The Exploratory Factor Analysis: EFA has been analysed using principal component analysis (PCA) with varimax rotation. The result from ten questions on perceived tourist transportation problems with Kaiser-Meyer-Olkin was .845, accepted at greater than .08 (Hair et al., 2019). The three constructs have an eigenvalue greater than 1.00. has been accepted as the observed components. Factor loading represents the correlation between observed variables and their latent factors. A factor loading of 0.7 implies that 70% of the variability in the item is due to the factor. Higher factor loadings suggest a stronger association between the observed and latent variables.

The factor loading analysis presented in Table 4 reveals insightful associations between various survey items and their respective underlying factors, shedding light on the multifaceted nature of transportation issues affecting Lampang Province. Firstly, Factor 1, **"Information problems,"** encompasses challenges related to limited options for public transportation and unclear road signs, exhibiting notably strong associations with this factor. Factor 2, **"Uncertain problems,"** encapsulates concerns regarding fare pricing ambiguity, transportation system inefficiency, remote attraction locations, and high travel expenses within the city area, all displaying robust relationships with this factor. However, the item regarding limited activities available at tourist destinations exhibits a slightly weaker association with Component 2 than other items within the same factor. Finally, Factor 3, **"Safety problems,"** encapsulates issues concerning parking availability, traffic congestion, and air pollution, with each item demonstrating substantial correlations with this factor. The factor loading analysis provides valuable insights into the critical aspects contributing to transportation challenges in Lampang, facilitating targeted interventions and strategic planning to address these issues effectively.

Table 4. Factor loading and component extraction

Items	Factor Loading
Factor 1: Information problems	
(P1) Limited options for public transportation.	.922
(P6) Unclear Road signs.	.922
Factor 2: Uncertain problems	
(P2) Unclear fare pricing	.849
(P3) Inefficient or inconsistent transportation system	.860
(P4) Remote locations of each tourist attraction	.866
(P5) High travel expenses within city area	.874
(P7) Limited activities available at each tourist destination	.557
Factor 3: Safety problems	
(P8) Few parking and relax areas	.828
(P9) Traffic congestion	.840
(P10) Air pollution	.843

Source: Author's work

5. Discussion and Conclusion

5.1. Discussion and implications

The qualitative research phase revealed several significant challenges confronting tourism transportation in Lampang Province, underscoring the need for comprehensive systemic improvements to enhance the overall tourist experience. The identified issues encompassed various aspects, including inadequate transportation connections, unreliable public transport services, insufficient travel information, high and unpredictable fares, subpar infrastructure standards, and management inefficiencies. These findings underscore the complexity of transportation challenges faced by tourists in Lampang and highlight the urgency of addressing these issues to promote tourism development effectively.

The discussion further classified the identified challenges into three main categories: the Problematic Scenario, Developmental Direction, and the "SMART MOBILITY" Developmental Plan. The Problematic Scenario delineated inadequate transportation provision, lack of centralized hubs, limited travel information availability, management inefficiencies, and safety concerns, including obstructed bicycle lanes and traffic congestion. The Developmental Direction proposed strategic interventions to address these challenges, emphasizing the need for a comprehensive public transportation infrastructure, diversification of transportation frameworks, and fostering pedestrian-friendly routes. Notably, the "SMART MOBILITY" Developmental Plan outlined specific initiatives to establish management hubs, foster travel information systems, and erect infrastructural underpinnings for intelligent transportation systems, all geared towards advancing tourism accessibility and sustainability in Lampang.
In the quantitative research phase, demographic analysis provided insights into the profile of surveyed tourists, revealing predominant characteristics such as female gender, single marital status, and younger age groups. Most respondents hailed from Thailand, with a significant proportion being students or self-employed individuals. These demographic insights offer valuable context for understanding tourists' perceptions and preferences regarding transportation issues in Lampang.

The analysis of tourists' perceptions highlighted three prominent factors contributing to transportation challenges: information, uncertainty, and safety problems. Information problems, including limited options for public transportation and unclear road signage, underscored challenges related to accessibility and navigation. Uncertain problems, encompassing issues such as unclear fare pricing, inefficient transportation systems, and high travel expenses, revealed concerns regarding affordability and reliability. Safety problems, including parking availability, traffic congestion, and air pollution, emphasized the importance of ensuring a safe and conducive environment for tourists.

5.2. Conclusion

This study underscores the pressing need for comprehensive systemic enhancements to address transportation challenges and promote sustainable tourism development in Lampang Province, Thailand. The qualitative research phase identified many issues affecting tourism transportation, emphasizing the complexity and urgency of addressing these challenges. The subsequent discussion and classification of these challenges into the Problematic Scenario, Developmental Direction, and the "SMART MOBILITY" Developmental Plan provided a strategic framework for addressing transportation challenges and fostering tourism development in Lampang.

The quantitative research phase further corroborated these findings, revealing tourists' perceptions of transportation issues and highlighting three prominent factors contributing to these challenges. Demographic analysis provided valuable insights into surveyed tourists' profiles, offering context for understanding their preferences and needs. The factor loading analysis provided nuanced insights into the underlying constructs driving tourists' perceptions, facilitating targeted interventions and strategic planning to address transportation challenges effectively.

Overall, this study contributes to the knowledge of transportation challenges and opportunities for sustainable tourism development in Lampang Province, offering valuable insights for policymakers, urban planners, and stakeholders aiming to improve transportation systems and promote sustainable tourism in the region.

5.3. Limitations of this study and suggestions for future studies

The study's limitations include its reliance on subjective opinions gathered through surveys and qualitative interviews, primarily from tourists visiting Lampang Province. Future research should diversify samples by including Thai and foreign tourists to understand other factors influencing transportation perceptions. Additionally, incorporating more objective measures and methodological diversity could enhance the study's validity and generalizability.

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Factors influencing Macao and Hong Kong residents' travel decision-makings: A case study of nuclear effluent discharges in Japan

Zhang, Zhanyue
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Yang, Yingcheng
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Xiang, Tianyuan
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Cao, Can
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Li, Yifan
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Li, Hengyun
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Abstract:

By using pull and push factor models, this study examined the impact of the nuclear effluent discharge incident in Japan on the traveling decisions of Hong Kong and Macau residents (primarily Millennials and Generation Z) to stimulate people's environmental awareness. Data was collected through 14 in-depth interviews and analyzed using content analysis. The findings showed that most people had neutral attitude towards the incident, but individual tourists' travel intentions were impacted. It extended the pull and push factor model and highlighted the impacts on various stakeholders.

Keywords: Travel decision-makings; Macao; Hong Kong; nuclear effluent discharges; Generation Z and Millennials

1. Introduction

Tourism has expanded and diversified globally, becoming a rapidly growing economic sector (UNWTO, n.d.). However, excessive energy consumption, resource wastage, and climate change issues have put enormous pressure on the natural environment (Zolfani et al., 2015). Therefore, people are focusing more on the sustainability. Over the past two decades, sustainable tourism has received increasing academic attention, such as tourism for conserving cultural heritage sites (Zhao et al., 2011) and sustainable rural tourism (Sanagustin Fons et al., 2011). At the same time, people are becoming more health-conscious because of COVID-19 and are increasingly inclined to choose sustainable or health-conscious tourism activities and destinations (Sigala, 2020). Since Japan announced the discharge of nuclear effluent into the ocean on January 13, 2023, people have become increasingly concerned about its impact and food safety (Yamaguchi, 2023). The nuclear effluent discharge incident may also affect tourists' tourism decisions.

Among tourism academics, understanding travel decision-making is crucial (McCabe et al., 2016). It is a multi-layered and complex process influenced by various external and internal factors (Karl et al., 2020). Japan has always been a popular tourist destination for Hong Kong and Macao residents (Japan National Tourism Organization, 2023; Japan Tourism Agency, 2023). Millennials (born 1981-1996) and Generation Z (born 1997-2012) account for more than 60% of Hong Kong tourists (Japan Tourism Agency, 2023). These two generations are tech-savvy, heavily influenced by media, and have a penchant for experiential and sustainable tourism. Valuable insights into future trends in tourism can be gained by understanding their travel motivations, preferences, and behaviors (Seemiller & Grace, 2015; Xiang et al., 2015). Due to the relatively short period since Japan began discharging nuclear effluent, there have been few tourism-related publications to explore attitudes toward the discharge of nuclear effluent (Khadka, 2023; Yamaguchi, 2023). Considering Japan's recent decision to discharge nuclear effluent, its potential impact on sustainable tourism need to be explored. Therefore, to fill this gap, this study aims to use the two-way pull and push factors model to investigate the views of Millennials and Generation Z from Hong Kong and Macao on Japan's nuclear effluent discharge, its impact on their travel decision-making, and the factors that lead to their opinions, to raise awareness of environmental protection and promote sustainable tourism.

2. Literature Review

2.1. Nuclear Effluent Charge of Japan

Environmental pollution caused by human activities such as fossil fuel combustion and urban construction has attracted attention (Oldfield & Dearing, 2003). As the storage tanks reached capacity in 2022, Japan decided to treat and discharge the nuclear-contaminated water from the plant (Xinhua, 2023). This incident raised concerns about the safety of seafood and influenced people's travel decisions because they may concern about the health issue. Nowadays, as the standard of living improves, people are more concerned about health and sustainable tourism (Kazakov & Oyner, 2021). Releasing nuclear effluent from Japan may affect people's traveling decisions. Therefore, this study is essential to understand the impact of Japan's nuclear effluent discharges on travelers' choices.

2.2. Millennials and Generation Z from Macao and Hong Kong and their Travel Decision-making to Japan

The number of visitors to Japan from Hong Kong and Macao has continued to grow over the past decade. Japan remains a popular destination for residents of both regions, with nearly 40% of Hong Kong residents having visited Japan at least ten times (Japan National Tourism Organization, 2023). Millennials and Generation Z make up a significant proportion of the population in both Hong Kong and Macau (Census and Statistics Department, 2024; Government of Macao Special Administrative Region Statistics and Census Service, 2022). They are attracted by visa-free concessions and shopping opportunities (Japan Tourism Agency, 2023; Tavitiyaman, 2016). Also, the younger generation accounts for a significant portion of the tourism market (Gallarza & Saura, 2006).

The Fukushima nuclear accident that occurred in 2011 led to the development of dark tourism and raised concerns about food safety and air quality (Handler, 2016; Jang et al., 2021), which in influence tourists' choice of destination (Chew & Jahari, 2014). While some negatives may fade, radiation can create long-term concerns (Kim & Park, 2016). The event may affect tourists' attitudes toward Japan, particularly Fukushima (Handler, 2016). Therefore, this study aims to explore how nuclear effluent discharge affects the traveling decisions of Millennials and Generation Z from Hong Kong and Macau toward Japan.

2.3 Two-way Pull-push Factors Model

In tourism motivation research, the push-pull model and Maslow's hierarchy of needs model are commonly used (Katsikari et al., 2020). Dann (1977) proposed the push-pull theory, which divides tourism motivation into internal factors (push) and external factors (pull). However, this model ignores the obstacles that may hinder tourism behaviour. Kang (2009) proposed the Push-Pull-Obstacle model, which considers obstacle factors such as tourist resistance, destination resistance, and other resistance. In order to better analyze resistance, this study adopted the 'two-way push-pull model' from anthropological research (Cheung & Xu, 2015). The model identifies resistance as a reverse pull factor (tourist resistance), a reverse push factor (destination resistance), and other factors as hindering factors. The model can accurately categorize and explain resistance factors compared to other models. In this study, the reverse-pull factors refer to the factors that reduce the travel intentions of Millennials and Generation Z in Hong Kong and Macau. In contrast, the reverse push factors refer to the factors that reduce Japan's travel intentions. The hindering factor is nuclear effluent discharge. These dynamics interact, leading to the equilibrium of the two-way push-pull model.

3. Methodology

This study adopted a qualitative research paradigm to ensure an in-depth understanding of a complex issue and to explore new factors (Denzin & Lincoln, 2011). Both purposive sampling and convenience sampling were used in this study to select the most representative research sample and ensure its breadth and depth (Etikan et al., 2016). In-depth interviews were identified as the primary data collection method. A pre-test was used to increase the credibility of the data collected (Creswell & Poth, 2018). Each interview was conducted in the respondent's preferred language to ensure comfort and clarity of communication. Interviews lasted around 20-30 minutes, sufficient to cover all relevant aspects of the topic. After the interviews, all data were carefully translated into English for coding and analysis.

The data collection period was from 17th to 27th October 2023. Approximately 15 questions were included in the in-depth interviews. The study consisted of two main sections. The first part explores the positive and negative push and pull factors influencing respondents' attitudes toward traveling to Japan before the nuclear effluent discharge and the second part is after the discharge.

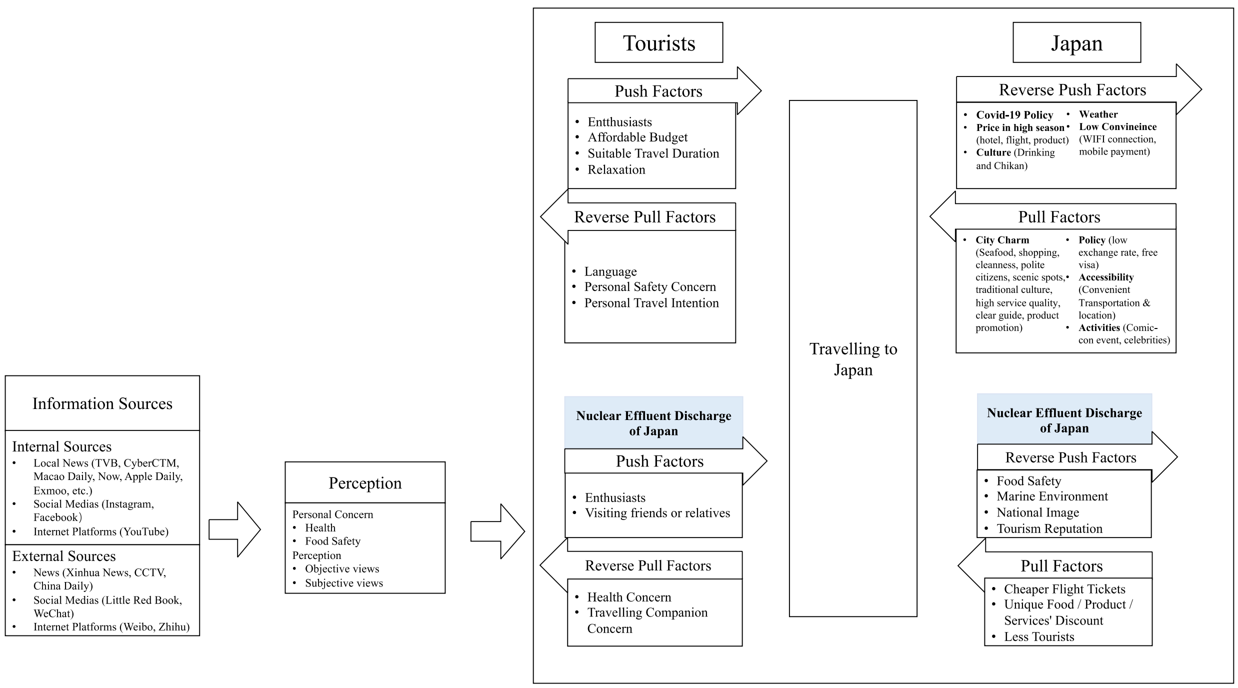
For the interview process, the researcher selected a group of Hong Kong and Macao residents who travelled to Japan before to participate in the study. Subsequent messages explained the purpose of the study, enquired about their interest in participating, and scheduled the interviews. Fourteen interviews were finalized: 2 pre-interviews using the same questions as the main study and 12 primary interviews. There were 8 and 6 participants from Hong Kong and Macao, respectively. After collecting data through in-depth interviews, the study analyzed the data using content analysis.

4. Results

This study explored the factors that influence tourists' travelling decisions, as well as their attitudes and perceptions of events based on content analysis (See Figure 1).

Figure 1

Conceptual Framework of Factors Affecting Tourists' Traveling Decision-Makings



Source: Author

4.1. Before Nuclear Effluent Charging

Firstly, regarding consumer perspectives, the push factors influencing Millennials and Generation Z Hong Kong and Macao residents to travel to Japan include personal hobbies, such as food lovers, theme park enthusiasts, and travel enthusiasts. Meanwhile, they have hedonistic values, and they feel the pleasure of escaping from daily life by traveling to Japan. In addition, personal holidays, language issues, travel funds, personal safety concerns, and personal travel intentions may hinder people from traveling to Japan. Second, in terms of destination perspective, the results of pull factors influencing Millennials and Generation Z Hong Kong and Macao residents to travel to Japan are also consistent with and further support the findings of the existing literature (Mohammad & Som, 2010). From the perspective of reverse push factors, the analyses showed that policies during the pandemic, high hotel and airfares price, and drinking and Chikan culture discouraged tourists from traveling to Japan.

4.2. Factors Changes after Nuclear Effluent Charging

Regarding reverse pull factors, the main change came from health considerations after the nuclear effluent discharge, which is also mentioned in studies related to Fukushima and traveling in Japan (Handler, 2016). Respondents' health concerns centred on food levels, such as drinking water and seafood, with advice from family and friends having little impact. To reduce this concern, most of the respondents would not choose to travel in the area around the nuclear effluent discharge. For the reverse push factors, the changes mainly come from the macro and abstract levels, such as the marine environment, the country's image, and the tourism reputation. Some respondents perceived the long-term impact of nuclear effluent on the ecosystem as unfavorable, thus negatively affecting the tourist destination (Japan). However, these abstract senses could be more stable and can easily change with the information respondents receive. Therefore, changes in the reverse push factors have little effect on the overall two-way push-pull model. In terms of pull factors, changes come from price levels. Discounts on airfares, hotels, and food are factors that attract travelers. It is worth noting, however, that Millennials generally have higher wages and are therefore less concerned about money than Generation Z. Hence, the price factor has less impact on them. It may also have some push factors to attract tourists, such as personal issues, enthusiasts, and visiting friends or relatives.

From the point of view of perceptions and sources of information, most respondents believed they were neutral after receiving information about nuclear effluents. Respondents paid more attention to official news and expert opinions when browsing for nuclear effluent discharges, believing that they could maintain a neutral view by checking different forums. However, the study found that the social media used by most respondents was limited to local media in Hong Kong and Macao, and they only visited social media platforms in Mainland China or Western countries a little, leading to an obvious information access bias.

5. Conclusion

Tourism has become essential to people's lives. Natural and artificial disasters can greatly influence tourists' travel decisions. However, more comprehensive studies are needed on the impact of nuclear effluent discharge on tourists in Japan. This study aims to investigate how nuclear effluent discharge affects travel decision-making. It interviewed 12 millennials and Generation Z residents from Hong Kong and Macao and used a two-way push-pull factors model as a guiding framework. The findings suggest that while nuclear effluent discharge is not the primary factor in travel decision-making, it does raise environmental and food safety concerns during the initial planning stages. Most interviewees adopt adaptive strategies when encountering nuclear effluent incidents, such as avoiding seafood consumption and engaging in indoor activities.

5.1. Implications

This study has theoretical implications as it enhances understanding of how risk perception influences destination choice and decision-making in tourism. It contributes to the existing literature on destination choice behavior and decision-making models. Additionally, it demonstrates the applicability of the two-way push-pull model in understanding how Millennials and Generation Z residents from Hong Kong and Macao perceive nuclear effluent discharge in Japan and how various information sources shape their perceptions. Furthermore, the study fills a research gap by exploring the impact of nuclear effluent on tourism decision-making, providing valuable insights for academics and industry professionals in the tourism field. In terms of practical implications, this study raises awareness of environmental protection for residents and tourists, promoting sustainable tourism development. The Japanese government can improve food safety testing to ensure product quality and address consumer concerns. Tourism providers can use the findings to develop effective marketing strategies and attract and retain customers in the current situation.

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Building a better mobile experience for organic food shopping

Maryamsadat Hashemi Fesharaki
A School of Hospitality, Food and Tourism Management
University of Guelph

Michael Yu
A School of Hospitality, Food and Tourism Management
University of Guelph

Hwan-Suk Choi
A School of Hospitality, Food and Tourism Management
University of Guelph

Abstract:

This study explores how electronic word-of-mouth (EWOM) characteristics and mobile app quality affect consumer behaviour towards organic food purchases through mobile applications in Korea, using the Technology Acceptance Model (TAM). Also, this research analyses the effect of organic food product characteristics as a grouping variable. It focuses on various aspects of EWOM (like quality, quantity, orientation, and neutrality) and mobile app quality (information, system, and security). A convenience sampling method is used to select participants. Participants are people who have bought organic food through mobile applications in Korea. The structural equation model will be analyzed using Smart Pls to test the hypotheses. The findings show a significant influence of EWOM quantity, information quality, and security quality on the perceived usefulness of information search. This, in turn, positively impacts attitudes and the continued intention to use mobile apps for purchasing organic foods. However, some EWOM dimensions, such as orientation, did not significantly impact information search usefulness. Group analysis revealed that the quantity of EWOM is particularly influential in tangible groups for using information, unlike in intangible groups.

Keywords: Organic foods, Mobile applications` quality, product characteristics, EWOM, TAM model

1. Introduction

The ascent of organic food's popularity began in the 1990s, catalyzed by a burgeoning organic movement. By 2017, the Organic Council of Canada reported that around two-thirds of Canadians purchased organic products every week, a trend further accelerated by the 2020 coronavirus pandemic as consumers increasingly sought clean-label foods. This surge in demand underscores organic food's perceived benefits for health and environmental sustainability (Gregoire, 2022). Anticipating significant growth, projections indicate the organic food market in South Korea will approach 2.14 trillion won by 2025 (Jobst, 2022), mirroring a global trend that has seen a proliferation of grocery e-commerce platforms offering organic products. Despite this, scholarly exploration into consumer behaviors on these digital platforms remains scant.

Contrastingly, Canada's organic food sector lags behind international counterparts like Korea and Europe in trade volume. Nevertheless, promoting organic agriculture could align with 13 of the 17 United Nations Sustainable Development Goals, highlighting a pivotal opportunity for organic food producers to leverage creative marketing strategies (Eyinade et al., 2021). These strategies must accentuate sustainability and product quality (Francisca et al., 2018), especially after the COVID-19 pandemic, which has shifted towards mobile application usage for grocery purchases. This digital transition presents a vital avenue for extending sales channels and enhancing consumer trust through effective brand promotion and leveraging word-of-mouth (Ćirić et al., 2021; Suvagiya & Sharma, 2022; Chou, 2019).

The intensification of competition within online retail necessitates a consumer-centric approach, utilizing customer data to foster continued engagement with mobile platforms (Moon et al., 2021). However, the inherent challenge of selling food online, compounded by customers' hesitancy to buy without physical inspection, underscores the need for improved digital promotion strategies to secure consumer willingness for repeat purchases (Yue et al., 2017). To improve the quality and security of digital promotion, companies and academics must gain insight into customers' willingness to continuously use mobile applications to purchase high-quality products such as organic food (Moon et al., 2021). Continuance use represents customers' frequency of buying from the same supplier and indicates loyalty and satisfaction (Lin et al., 2021).

This research endeavors to dissect the determinants of consumers' continued intention to buy organic foods via mobile shopping platforms, adopting an augmented Technology Acceptance Model (TAM) framework. We use a variant of the Technology Acceptance Model (TAM) as the guiding framework in this paper. Considering that, when it comes to organic foods, the perceived information risk is the highest risk when people want to buy organic food, so we add variables related to the information to the TAM model (Yue et al., 2017). We added two variables of perception of mobile applications` quality and the construct of EWOM to the TAM model.

Literature has shown that it is crucial to consider that when consumers want to use mobile applications, they are looking to do information search or purchasing, so based on their task behavior, they find mobile applications useful differently (Gefen et al., 2000; Muthitacharoen et al., 2006; Sohn, 2017). Drawing inspiration from Sohn (2017), our study aims to elucidate the impact of mobile application quality perceptions and EWOM characteristics on the perceived usefulness of these platforms for information search and purchasing behaviors. Furthermore, we investigate the moderating role of product characteristics within the TAM model, specifically the qualities inherent to organic foods (Luceri et al., 2022; Liu & Sese, 2022; Sohn, 2017). We aim to assess the extent by considering the characteristics of high-quality foods such as organic foods.

Our findings seek to offer valuable insights for retailers, enhancing sales strategies and fostering customer loyalty. Additionally, this investigation seeks to fill a notable void in technology acceptance literature, shedding light on the critical factors influencing consumer decisions to purchase organic foods through mobile applications.

2. Literature Review

This research analyses the factors influencing consumers' continued intention to use mobile applications for purchasing organic food, utilizing the Technology Acceptance Model (TAM). TAM is recognized for its effectiveness in explaining user adoption and behavioral intentions towards new technology, especially information technologies (Marangunic´, Granic, 2015). Luceri et al. (2022) conducted a meta-analysis to examine the factors influencing consumer purchase behavior in a mobile shopping context; they underscored the applicability of the Technology Acceptance Model (TAM) in assessing consumer intention behavior within mobile shopping.

The quality of mobile applications is determined by three key factors: information quality, system quality, and security quality (Salloum et al., 2019). Customers' evaluation of these qualities during their interaction with technology can significantly impact their decision to find the technology helpful in accomplishing their tasks and their perception of ease of use (Chi, 2018).

The relationship between information quality, service quality, system quality, perceived usefulness, and ease of use is positive (Chi, 2018). Human behavior can be influenced by their beliefs and perceptions, as demonstrated by the association between behavioral beliefs (perception of the usefulness of a mobile online store for information search) and cognitive beliefs about an object (perceptions of a mobile online store's quality) (Sohn, 2017). Based on these findings, the following hypotheses are proposed for our research:

H1: Perceived mobile app quality positively influences perceived usefulness for information search and purchase in a mobile application.

Yue et al. (2017) found that the length of online reviews has a significant impact on customers' trust in online shopping and their purchase behavior. Matute et al. (2015) suggested that the rationality and persuasiveness of online reviews can influence customers' reliance on them and their perceived usefulness for purchasing products.

To maximize the benefits of EWOM, companies should consider how their websites present customer reviews. Patti and Chen (2009) pointed out that the quality and number of reviews, as well as the ability for customers to share both positive and negative experiences, are crucial factors that impact customers' use of a website as a source of information. Martin and Lomax (2001) emphasized that customers' perceived usefulness of reviews for information search is affected by their trust in the quality and credibility of the reviews. A review function on a company's website can demonstrate to customers that the company values their opinions and is striving to build trust. The more diverse and logical the reviews are, the more customers will trust the website, as they perceive the reviews as unbiased and independent (Yeap et al., 2014).

However, customers are looking for reviews that provide information that can help them make informed purchasing decisions. Park et al. (2007) found that customers are likelier to find a valuable website for purchasing if the reviews provide helpful information, such as explaining why products are cheaper or of better quality and are nearer to reliable. The number of reviews also increases customers' confidence in the website as a rational purchasing choice as many people have bought similar products (Park et al., 2007). Based on these findings, our research proposes the following hypotheses:

H2: EWOM positively affects perceived usefulness for information search.

The relationship between attitude, perceived usefulness, and intentional behavior has been explored in several studies. For example, Lin et al. (2021) found a positive relationship between attitude and intention to use websites and between perceived usefulness and attitude in people who purchase certificated food through online websites. Suvagiya and Sharma (2022) also found a relationship between people's attitudes towards mobile ordering applications and their behavioral intention, as well as between perceived usefulness and attitude. Similarly, Shao et al. (2019) found a positive relationship between people's attitudes towards mobile applications and their intention to use them. Foroughi et al. (2023) found a positive relationship between attitude and continuance intention to use mobile applications in the context of travel-related apps. Based on these findings, we propose the following hypotheses:

H3: A positive relationship exists between attitude and perceived usefulness for information search.
H4: A positive relationship exists between attitude and continuance intention to use.

Product characteristics can significantly influence consumers' decision-making processes, particularly in online shopping. Lian and Lin (2008) noted that different product types, such as books, TV gaming systems, online news, and magazine computer games, can influence customers' perceptions of online shopping. Consumers may prioritize security for tangible products such as books when purchasing. In contrast, security concerns may be less critical for intangible products like online games, and consumers may be more likely to purchase online.

Luceri et al. (2022) found that consumers who prioritize credence attributes of products, such as quality or safety, are more selective in their shopping choices and may have higher standards for the channels they use to purchase. Zander and Hamm (2010) concluded that consumers concerned about the credibility characteristics of organic food products are more likely to seek out information and have higher levels of uncertainty about organic products than others. Furthermore, Tsao and Hsieh (2015) suggested that consumers seeking information about the credence characteristics of products may be more influenced by electronic word-of-mouth (EWOM) and that it may have a more significant impact on their purchasing decisions than consumers seeking tangible product characteristics. Based on these findings, we propose the following hypothesis for our research:

H5: The effect of organic food’s tangible characteristics on consumer purchasing behavior is stronger than the effect of intangible characteristics of organic foods on consumer purchasing behavior.

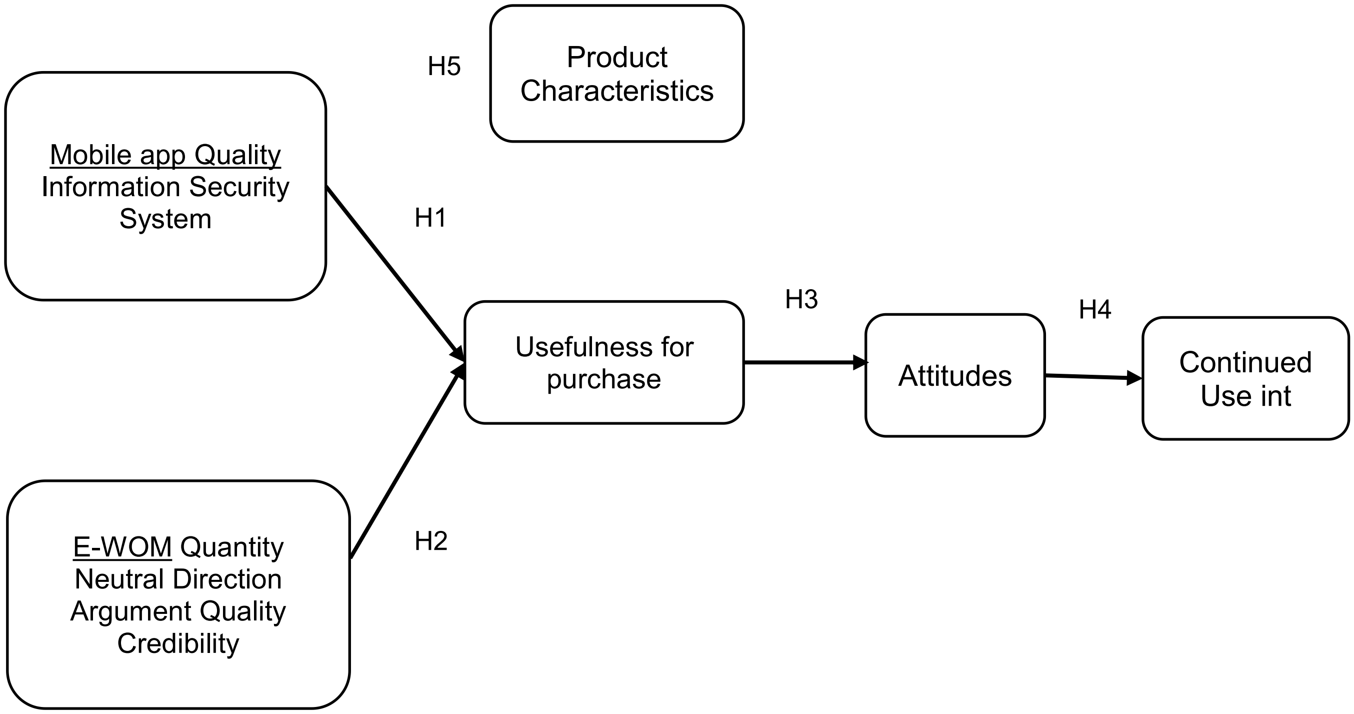

Figure 1 Conceptual Model

3. Methodolgoy

Data was collected through online surveys in Winter 2023. Participants aged 18 and above, residing in Korea, have purchased organic food through mobile applications for the past three months in Korea. All measurements were adapted from previous research to suit the study context. Partial Least Squares Equation Modelling (PLS-SEM) was chosen because it is ideal for the development of new theories and for analyzing smaller sample sizes. Multi-group analysis was used after grouping the sample based on their survey responses. 5 measurement items were removed due to low factor loadings; they were various dimensions of attitude, security quality, and EWOM neutral. All factor loaders were greater than 0.6, and the average variance explained greater than 0.5, thus achieving convergent reliability and validity.

4. Findings

Most hypotheses are supported except the related characteristics of EWOM and security q. Among the EWOM characteristics, only the relationship between EWOM quant and Use INFO is positive and significant (β =o.138, t =2.301, p = 0.021). For the mobile application quality, Info q has a significant positive impact on Use INFO (β =0.531, t =0.059, p =0.000), Service q has a significant positive impact on Use INFO (β = 0.167, t = 0.06, p = 0.006). In contrast, security q has a significant negative impact on Use INFO (β = -0.149, t =0.039, p = 0.000). The SEM analyses also showed that Use INFO has a significant positive impact on attitude (β =0.699, t =0.025, p = 0.000) and Attitude has a significant positive impact on Con (β = 0.609, t

=0.034, p = 0.000)

Finally, the multi-group analysis in this study does not show significant variances in most relations. Just for one relation, a notable difference was observed in the impact of EWOM Quan on Use INFO between intangible and tangible groups (p = 0.012), suggesting that the number of EWOM is more influential in one group over the other.

Table 1. Result of path analyses.

Hypothesis	β	p	Results
H1-1: Info q-> Use INFO	0.531	0.000	Supported
H1-2: Secure q -> Use INFO	-0.149	0.000	Supported
H1- 3: Service-q-> Use INFO	0.167	0.006	Supported
H2-1: EWOM N-> Use INFO	0.017	0.757	Not Supported
H2-2: EWOM O-> Use INFO	-0.007	0.906	Not Supported
H2-3: EWOM Qual ->Use INFO	0.076	0.245	Not Supported
H2-4: EWOM Quan ->Use INFO	0.138	0.021	Supported
H3: Use INFO -> Attitude	0.699	0.000	Supported
H 4: Attitude -> Con	0.609	0.000	Supported

5. Conclusion

From a theoretical standpoint, this study enriches the Technology Acceptance Model (TAM) literature by incorporating the dynamics of electronic word-of-mouth (EWOM) and mobile application quality. This integration offers novel insights into consumer behavior within the digital marketplace, highlighting the role of EWOM volume in facilitating consumer information search and delineating the impacts of information and service quality on this search process. Notably, it identifies the significance of the volume of consumer reviews within a retailer's mobile application as a critical consideration for retailers, suggesting that a greater number of reviews can enhance consumer perceptions of usefulness regarding the application. This, in turn, promotes a positive attitude towards the retailer’s mobile platform, contributing to consumers' sustained intent to purchase organic foods through mobile applications. Consequently, this research broadens the scope of TAM, demonstrating its relevance to mobile commerce and the specific context of organic food purchasing.

The study also explores the influence of organic food characteristics, treated as a categorizing variable, on the model’s relationships. It reveals that consumer distinctions based on organic foods' tangible versus intangible attributes generally do not alter the model's outcomes. However, a notable exception is observed in the effect of EWOM volume on information usage: for consumers valuing intangible attributes of organic foods more, this effect is significantly stronger than for those who prioritize tangible attributes (p = 0.012).

On a practical level, the findings offer actionable recommendations for retailers and application developers, emphasizing the importance of enriching mobile applications with comprehensive information and robust service functionalities. Such enhancements are essential for improving app perceptions of usefulness, which is crucial for encouraging ongoing use of these platforms for organic food purchases. Furthermore, the study focuses on amplifying the number of customer reviews on mobile applications. This strategy could significantly bolster consumer trust and reinforce the purchase intentions of individuals inclined towards the credence attributes of organic food products.

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Enhancing sustainable meat consumption in restaurants: An experimental study

Zhu, Qianni (Jacqueline)
Hospitality Management
University of Missouri

Liu, Pei
Hospitality Management
University of Missouri

Abstract

This article investigates two alternative strategies for enhancing consumers' sustainable meat consumption in restaurants. Across four experiments, this research finds that menu labelling, using traffic light effect and representation of visual label cues, significantly influences consumers' consumption intentions as well as their willingness to pay a premium for sustainable meat. Besides, this study also reveals that time pressure significantly moderates the impact on consumers' environmental concern and their purchase intentions for sustainable meat.

Keywords*:* Traffic Light Label, Visual Label Cues, Sustainability, Cultured meat, Restaurants

1. Introduction

Livestock farming contributes 15% of global greenhouse gases, surpassing transport emissions (Conzachi, 2022), causing water (Sakadevan & Nguyen, 2017) and air pollution (Cambra-López et al., 2010). Recently, there has been a notable shift in consumers' behavior as they endeavor to reduce their meat consumption due to a growing awareness of environmental protection, animal welfare, and the imperative of maintaining personal health. In response to this trend, sustainable meat, as an alternative, stands out because it reduces environmental impact, enhances animal welfare, and meets nutrition requirements (Lin-Hi et al., 2022). A McKinsey report (2021) even predicts it will supply a substantial share of the meat market by 2030, with improving affordability (Lin-Hi et al., 2022).

Sustainable meat offers numerous benefits, encompassing food safety, health, and sustainability. Considering that restaurants are major consumers of meat, they may increasingly adopt sustainable meat options to align with the evolving sustainability preferences of their customers. Our study adopts sensory stimuli for presenting entrees with sustainable meat, utilizing the Traffic Light Effect (TLE) theory and the Visual Label Cues (VLC). These two sensory stimuli were proved effectively affect consumers' choice in different areas, such as nutrition study (Dodds et al., 2014; Hagmann & Siegrist, 2020) and sustainable produce retailing (Thøgersen & Nielsen, 2016). Despite the potential advantages of employing sensory stimuli in menu design, the literature has previously offered limited insights into the impact of the color stimulus and virtual clues on the selection of sustainable food options. To address this research gap, our study employs experimental methods to identify menu designs that not only prompt consumers to choose sustainable foods but also encourage their willingness to pay a premium price. Therefore, the purpose of our research was to investigate two alternative strategies for enhancing sustainable meat consumption among consumers in restaurants by applying the traffic light effect and visual label cues.

2. Literature Review

2.1 Stimulus-Organism-Response (SOR) theory, traffic light effect theory, and visual label cues

Mehrabian and Russell (1974) proposed the SOR theory, which explains that sensory factors in the environment (Stimulus) influence emotional reactions (Organism), subsequently leading to behavioral responses (Response). The SOR theory were popularly used in experimental design studies in many fields, such as consumer behavior on restaurant purchasing (Leung et al., 2021), hotel booking intentions (Yoon et al., 2021), as well as restaurant menu performance (Leung et al., 2020).

Traffic light effect theory describes that using signpost labelling system to help consumers easily to recognize, compare and choose products with different attributes among alternatives (Drescher et al., 2014). Traffic light labelling systems usually use different color (red, amber, and green) to represent the different level of nutrition information (high, medium, and low) (Dodds et al., 2014; Hagmann & Siegrist, 2020). Green labelling usually presents a healthier choice for the nutrition labelling, which was proved associate with consumers' purchasing intention (Dodds et al., 2014). Besides, traffic light labelling also influence consumers' choice in the sustainable consumption in the foodservice sector (Osman & Thornton,2019).

Visual label cues, a form of sensory stimuli, influence food acceptance (Imram, 1999). They act as informational tools, enhancing individuals' awareness of specific information. Previous studies have demonstrated that visual cues like pictures (e.g., an eco-logo) positively affect situational awareness in air traffic controllers (Endsley & Smolensky, 1998). Menu labeling, perceived as a visual cue, affects consumers' environmental awareness (Lo et al., 2017). Moreover, Thøgersen and Nielsen (2016) introduced that carbon footprint label that successfully influence consumers' environmental concern and their product choice. These two stimuli could emotionally evoke consumers' cognitive recognition on environmental considerations. By consistently representing the visual cues and colored labels, consumers will be more likely to develop a heightened awareness and concern for the environment.

Thus, two hypotheses are proposed below:

H_1: TLE increases consumers' environmental concern.

H_2: VLC increases consumers' environmental concern.

2.2 Environmental concern and pro-environmental behavior

Environmental concern describes the psychological factors that affecting individuals' attitudes, values, activities, and behaviors on a certain pro-environmental incident (Zhang et al., 2014). Previous studies claimed that by increasing consumers' environmental concern and awareness, they become more conscious of environmental issues (Han et al., 2001; Kalafatis et al., 1999), resulting in improved pro-environmental behavior and green performance (Darvishmotevali & Altinay, 2022). Thus, we hypothesize:

H_3: EC will positively influence consumers' purchasing intention (PI).

H_4: EC will positively influence consumers' willingness to pay a premium price (WP).

2.3 The moderating effect of time pressure (TP)

Time is one factor that should be considered in this study. In a rushed situation, such as a limited time for a lunch break, consumers may have less time to consider the food options and may be less willing to invest effort and energy in making a decision. Van Herpen and Van Trijp (2011) found that consumers' food choice is more likely to rely on visual stimuli, especially under time pressure. Previous studies have also found that time pressure influences consumers' product involvement as well as their final decision (Cai et al., 2023; Peng et al., 2019). Thus, we have proposed the following hypotheses:

H_{5a}: Time pressure moderates the effect of TLE on EC to PI.
H_{5b}: Time pressure moderates the effect of VLC on EC to PI.
H_{6a}: Time pressure moderates the effect of TLE on EC to WP.
H_{6b}: Time pressure moderates the effect of VLC on EC to WP.

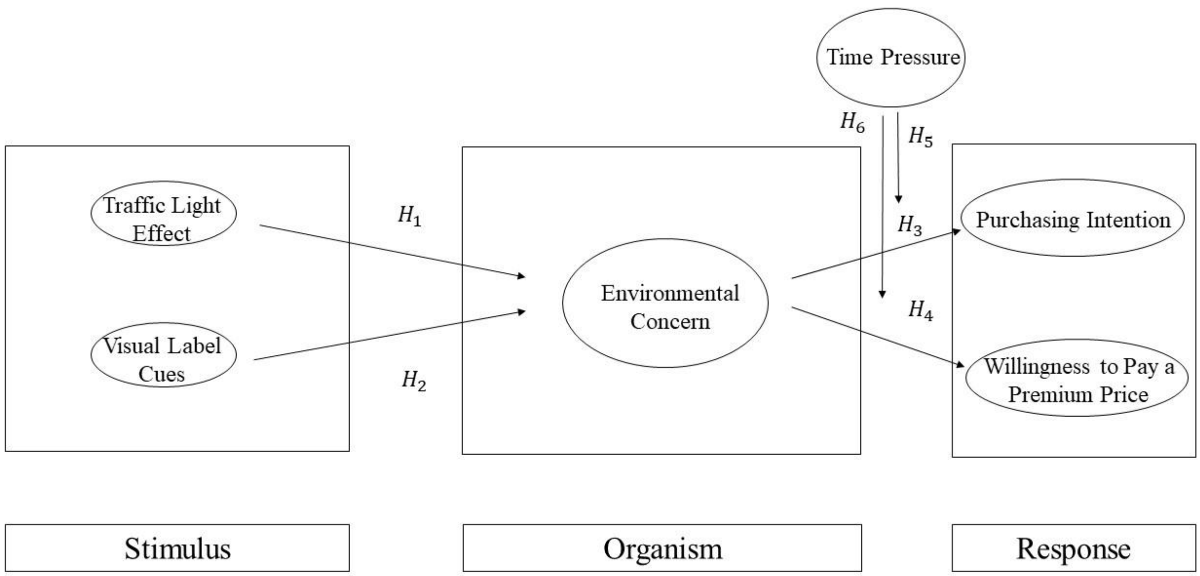

Figure 1. Research Framework and Hypotheses

1. Methodology

3.1 Overview of research design

We conducted four experimental studies for assessing hypotheses. Study 1 aims to investigate how the TLE influences consumers' environmental concern, as well as their intentions to choose sustainable option in the restaurant scenario (H_1, H_3, H_{5a}, and H_{6a}). Study 2 aims to examine how VLC affect customers' environmental concern, as well as their further consumption intentions (H_2, H_4, H_{5b}, and H_{6b}).

3.2 Participants

After obtaining IRB approval, participants were recruited through Prolific. U.S. residents over 18 years old, who are non-vegans and have dined at casual restaurants within the past year, were eligible to participate and received a small monetary incentive upon completing the study.

3.3 Procedure and materials

Participants were randomly assigned to one of the four menus: a menu with the color stimuli based on the TLE in higher time pressure (treatment 1), a menu with the color stimuli based on the TLE in lower time pressure (treatment 2), a menu with visual stimuli based on the VLC in higher time pressure (treatment 3), and a menu with visual stimuli based on the VLC in lower time pressure (treatment 4). To make the menu items more reliable, we use the recipes from https://www.unileverfoodsolutions.co.za/ to calculate the greenhouse gas emission for each meat item via https://myemissions.green/food-carbon-footprint-calculator/. Participants were presented with a restaurant scenario and the definition of sustainable meat before proceeding to answer the survey questions.

In study 1, participants were asked to choose one option between two menu items (Beef Burger vs. Chicken sandwich) both made of sustainable meat. According to FarmProgress, beef and chicken are two of the most popular meat consumption in America (O'Leary, 2023). Two treatments (TLE with high time pressure and TLE with low time pressure) were conducted, and each participant was randomly assigned into one group. The menu items were presented with item name and the number of greenhouse gas emissions with a brief explanation. These two representations were manipulated by the color of the numbered information of the menu items. The greenhouse gas emissions of the chicken were marked in green (indicating lower emissions), and the meal made from beef was marked in red (indicating higher emissions), accompanied by a brief explanation.

Similar to Study 1, participants in Study 2 were asked to choose between the same options ("Beef Burger" and "Chicken Sandwich") from both the label cues with higher time pressure treatment menu and with lower time pressure menu. Both entrées were made with sustainable meat. For the LC, the greenhouse gas emissions of the chicken were represented with a smaller number of footprints (indicating lower emissions), and the meal made from beef was marked with a greater number of footprints (indicating higher emissions), accompanied by a brief explanation (see Appendix).

Subsequently, they completed a survey covering topics from our literature review and provided their demographic information. The survey instrument employed a 7-point Likert scale for all questions (e.g., environmental concern, and behavior intentions). The wording of these questions was edited to align with our research objectives (Ahmad & Zhang, 2020; Sharmin et al., 2020; Shin et al., 2017). Demographic questions were asked at the end of the survey (summarized in Table 1). A pilot study and manipulation checks were conducted with participants. We collected a total of 360 surveys and received 284 (78.89%) qualified responses after eliminating surveys that did not pass the screening questions and those that were unfinished.

	Study 1 (N=135)		**Study 2 (N=149)**	
	Frequency	**Percent**	**Frequency**	**Percent**

Gender				
Male	48	35.6	59	39.6
Female	85	63.0	88	59.1
Prefer not to say	2	1.5	2	1.3
Age				
18-20	1	0.7	4	2.7
21-30	43	31.9	39	26.2
31-40	38	28.1	43	28.9
41-50	25	18.5	21	14.1
51 and more	28	20.7	42	28.2
Ethnicity				
Caucasian	87	64.4	99	66.4
American Indian/Native American	1	0.7	0	0.0
Black/Africa American	12	8.9	30	20.1
Hispanic/Spanish American	15	11.1	5	3.4
Asian/Pacific Islander	18	13.3	13	8.7
Other	2	1.5	2	1.3
Education Level				
High school diploma or less	38	28.1	47	31.5
Two-year college degree (associate)	13	9.6	24	16.1
Four-year college degree (Bachelor)	54	40.0	48	32.2
Postgraduate studies	13	9.6	13	8.7
Professional degree	12	8.9	14	9.4
Other	5	3.7	3	2.0

Table 1 Sample Characteristics.

2. Result

4.1 Study 1 results

4.1.1 Manipulation checks

The manipulation of TLE was confirmed by the question "Red color represents the higher greenhouse gas emission" (M=6.813, $t_{(1,15)}$ =67.599, p <0.000), and "Green color represents the lower greenhouse gas emission" (M=6.563, $t_{(1,15)}$ = 30.086, p <0.000). Manipulation check of time pressure was validated by the question, "How much time did you have in this situation" (1=very tight, 7 =very plentiful). The results confirmed that participants in the high time pressure condition (M=2.33) showed a significantly lower mean value than those in the low time pressure condition (M=4.80, $t_{(1,15)}$ = 7.087, p<0.000). The intended manipulations were deemed successful.

4.1.2 Hypothesis testing

For study 1, we conducted a Hayes PROCESS (Hayes, 2018) model 4 and model 1 to test our H_1, H_3, H_{5a}, and H_{6a}. Firstly, we used their chicken choice which has a lower greenhouse gas emission as an independent variable fill the input of X variable. The consumers' intention on choosing sustainable meat and their willingness to pay a premium price for sustainable meat were separately treated as the dependent variable (Y). EC was input as the mediator (M). Besides, personal like was controlled as a covariate in this study. The results indicated that EC is a mediator of TLE ($\beta = 0.0567, p < 0.000$) and pro-environmental behaviors ($\beta_{EC-PI} = 0.0830, p_{EC-PI} < 0.000$; $\beta_{EC-WP} = 0.1057, p_{EC-WP} < 0.01$). H_1 and H_3 were supported. Secondly, we fill the EC as an input of X variable, consumers' pro-environmental behaviors were separately treated as Y variable, and TP as a moderator variable (W). Our results shown that time pressure interacted effect consumers' environmental concern and their purchasing intention on sustainable meat ($F_{(1,130)} = 4.0229, p < 0.05$), but not for their willingness to pay a higher price ($F_{(1,130)} = 0.3735, p = 0.5422$). Therefore, H_{5a} was supported, but H_{6a} was rejected.

	Mean (SD)	**Factor Loadings**
Chicken ordering (Cronbach's α = 0.943)		
I am willing to order the item of Chicken sandwich using sustainable meat.	5.06 (1.752)	0.945
I am happy to order the item of Chicken sandwich using sustainable meat.	4.87 (1.855)	0.966
I will make an effort to order the item of Chicken sandwich using sustainable meat.	4.66 (1.865)	0.964
I am willing to convince my friend to order the item of Chicken sandwich using sustainable meat.	4.10 (1.900)	0.827
Environmental Concern (Cronbach's α = 0.891)		
Restaurants can have huge environmental impacts on the planet.	5.43 (1.219)	0.781
Restaurants contribute to environmental deterioration because they use unsustainable food supplies.	5.05 (1.432)	0.923
Restaurants contribute to climate change by wasting food.	5.31 (1.518)	0.812
Restaurants contribute to climate change by encouraging meat consumption.	4.27 (1.635)	0.826
Restaurants can contribute to fine dust problems through overuse of resources and energy.	4.43 (1.438)	0.844
Purchasing Intention (Cronbach's α = 0.958)		
I am willing to order sustainable meat (e.g. clean meat) for a meal.	4.92 (1.745)	0.959
I am happy to choose sustainable meat	4.70 (1.780)	0.975

(e.g. clean meat) for a meal.		
I will make an effort to select sustainable meat (e.g. clean meat) for a meal.	4.50 (1.774)	0.960
I am willing to convince my friend to order sustainable meat (e.g. clean meat) for a meal.	4.95 (1.830)	0.877
Willingness to Pay a Premium Price (Cronbach's α = 0.967)		
I would pay more to eat sustainable meat (e.g. clean meat) at a restaurant.	4.35 (1.752)	0.962
I would be willing to pay an extra percentage of my bill to eat sustainable meat (e.g. clean meat) at a restaurant.	3.33 (1.727)	0.980
There is a strong likelihood that I would pay more to eat sustainable meat (e.g. clean meat) at a restaurant.	3.33 (1.807)	0.963

Table 2 Reliability test for TLE

4.2 Study 2 results

4.2.1 Manipulation checks

Same as in study 1, the manipulation of VLC was confirmed by the question "It's easy for me to understand that a greater number of footprint labels represents higher greenhouse gas emissions (M=5.389, $t_{(1,17)}$ = 13.567, p <0.000). Manipulation check of time pressure was validated by the question, "How much time did you have in this situation" (1=very tight, 7 =very plentiful). The results confirmed that participants in the high time pressure condition (M=2.700) showed a significantly lower mean value than those in the low time pressure condition (M=5.250, $t_{(1, 17)}$ = 7.769, p<0.000). The intended manipulations were deemed successful.

4.2.2 Hypothesis testing

For study 2, we use the same models testing method as we did in study 1 to examine our H_2, H_4, H_{5b}, and H_{6b}. The results indicated that EC is a mediator of VLC ($\beta = 0.0617, p < 0.000$) and pro-environmental behaviors ($\beta_{EC-PI} = 0.0665, p_{EC-PI} < 0.000$; $\beta_{EC-WP} = 0.0847, p_{EC-WP} < 0.000$). H_2 and H_4 were supported. Besides, our results also shown that time pressure interacted effect consumers' environmental concern and their purchasing intention on sustainable meat ($F_{(1,144)} = 8.0729, p < 0.001$), but not for their willingness to pay a higher price ($F_{(1,144)} = 0.3040, p = 0.5822$). Therefore, H_{5b} was supported, but H_{6b} was rejected.

	Mean (SD)	Factor Loadings
Chicken ordering (Cronbach's α =0.946)		
I am willing to order the item of Chicken sandwich using sustainable meat.	4.83 (1.791)	0.940

I am happy to order the item of Chicken sandwich using sustainable meat.	4.58 (1.824)	0.957
I will make an effort to order the item of Chicken sandwich using sustainable meat.	4.38 (1.873)	0.944
I am willing to convince my friend to order the item of Chicken sandwich using sustainable meat.	3.87 (1.904)	0.871
Environmental Concern (Cronbach's α = 0.906)		
Restaurants can have huge environmental impacts on the planet.	5.11 (1.549)	0.791
Restaurants contribute to environmental deterioration because they use unsustainable food supplies.	4.66 (1.593)	0.916
Restaurants contribute to climate change by wasting food.	4.73 (1.796)	0.872
Restaurants contribute to climate change by encouraging meat consumption.	3.85 (1.730)	0.833
Restaurants can contribute to fine dust problems through overuse of resources and energy.	4.07 (1.448)	0.861
Purchasing Intention (Cronbach's α = 0.945)		
I am willing to order sustainable meat (e.g. clean meat) for a meal.	4.64 (1.790)	0.935
I am happy to choose sustainable meat (e.g. clean meat) for a meal.	4.35 (1.751)	0.951
I will make an effort to select sustainable meat (e.g. clean meat) for a meal.	4.05 (1.783)	0.946
I am willing to convince my friend to order sustainable meat (e.g. clean meat) for a meal.	3.67 (1.840)	0.877
Willingness to Pay a Premium Price (Cronbach's α = 0.970)		
I would pay more to eat sustainable meat (e.g. clean meat) at a restaurant.	3.11 (1.705)	0.982
I would be willing to pay an extra percentage of my bill to eat sustainable meat (e.g. clean meat) at a restaurant.	2.97 (1.636)	0.974
There is a strong likelihood that I would pay more to eat sustainable meat (e.g.	3.06 (1.741)	0.960

clean meat) at a restaurant.		

Table 3 Reliability test for LC.

Hypothesis	Path	β/F	*p*	Supported
H_1	TLE -> EC	0.0567	0.000	Yes
H_2	VLC -> EC	0.0617	0.000	
H_3	EC -> PI (TLE/VLC)	0.0830/0.0665	0.000/0.0000	Yes
H_4	EC -> WP (TLE/VLC)	0.1057/0.0847	0.0011/0.000	Yes
H_{5a}	Moderating effect of TP between EC and PI by TLE	4.0229	0.0470	Yes
H_{5b}	Moderating effect of TP between EC and PI by VLC	8.0727	0.0051	Yes
H_{6a}	Moderating effect of TP between EC and WP by TLE	0.3735	0.5422	No
H_{6b}	Moderating effect of TP between EC and WP by VLC	0.3040	0.5822	No

Table 4 Path results.

3. Discussion and Implications

5.1 Theoretical contributions

Our study represents a novel contribution to the field of hospitality by examining the relatively unexplored influence of sensory cues in menu design. Specifically, we explored the application of the traffic light effect and the visual label cues within the context of menu design in the foodservice industry. This investigation extends the existing body of literature by providing deeper insights into the nuanced interplay between sensory cues and consumer decision-making in hospitality settings.

Secondly, our findings also contribute theoretical and empirical insights in the sustainability literature (Chaturvedi et al., 2024; Ozturk & Akoglu, 2020; Salmivaara et al., 2021). Previous studies discussed the applications of traffic light effects and visual sensory cues on effecting consumers' healthier food choices (Sonnenberg et al., 2013; VanEpps et al., 2016), but haven't discussed its implications in the sustainability sector. Our study addresses this gap by examining the implications of the traffic light effect and visual label cues in the context of sustainable food choices.

Thirdly, our findings proved that time pressure is a significant factor that moderated affect consumers' purchasing intention for the sustainable meat, which is aligned with previous study (Blom et al., 2021; Cat et al., 2023).

5.2 Practical implications

Firstly, our study introduces two effective menu design strategies that influence consumers' dining preferences and encourage the purchase of sustainable meat. Restaurants can implement these visual menu labeling strategies to guide consumers towards choosing more sustainable options by highlighting key information. For example, restaurants could color-code the more sustainable options in green to further promote these choices. Additionally, restaurants could use visual label cues to present the carbon footprint emission information to help consumers make the more ecofriendly choice.

Secondly, with the increasing awareness of environmental issues and the pursuit of sustainability goals (Yang & Chen, 2018), promoting sustainable meat is likely to become a trend in the near future. This presents a valuable opportunity for the food industry to meet the growing eco-conscious demands of consumers and make a meaningful contribution to environmental sustainability. By incorporating sustainable meat into their menus and employing effective design strategies, such as color-coding more sustainable options in green or using visual label patterns for presentation, restaurants can align with consumer values and encourage wider adoption of environmentally responsible practices.

Additionally, due to the time pression is an effective moderating factor between EC and PI, restaurants could consider implementing strategies that highlight quick and eco-friendly dining options. For consumers who have limited time to decide their dining options, the colored label or visual cues could help them quickly make a sustainable food decision.

6. Limitations and Future Studies

Our study is not free of limitations. First, due to time constraints, we collected a total of 284 useful data points, averaging 71 per group. The sample size may need to be expanded in future studies. Second, our study only considered TP as a moderator, which may limit the scope of our results. Future studies are recommended to consider additional factors as moderating or mediating effects, such as health concern, information credibility, and peer influence. Last, our experimental design used a casual dining restaurant as the background scenario. However, consumers may have different expectations and perceptions in various dining environments. Future research is suggested to explore other types of restaurants, which may yield more diverse and interesting results.

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Appendix

a. Traffic light effect

b. Visual label cues

The effect of calorie menu labeling formats on restaurant's concern for well-being and consumer responses

Luo, Anqi (Angie)
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Hwang, YooHee
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Xue, Xunyue (Joanne)
Faculty of International Tourism and Management
City University of Macau

Mattila, Anna S
School of Hospitality Management
The Pennsylvania State University

Abstract:

With the rising concern for well-being, restaurants are gradually realizing the potential strategic significance of menu calorie labeling. However, how to effectively communicate calorie labeling to gain positive consumer responses? Considering restaurant type, we investigate how the labeling format influences consumer responses. Findings show that compared with numeric calorie labeling, interpretive calorie labeling (i.e., color-coded and physical activity-based calorie labeling) makes consumers perceive healthy restaurants as being more concerned for consumers' well-being, resulting in higher visit intentions. However, activity-based (vs. numeric or color-coded) calorie labeling at fine-dining restaurants creates a sense of discomfort, leading to lower visit intention.

Keywords: Calorie menu labeling, Labeling format, Well-being, Feeling of discomfort, Restaurant type

1. Introduction

With the growing consciousness of well-being, calorie menu labeling has gained significant attention (Berry et al., 2018; DiPietro et al., 2016; Petimar et al., 2021; Rummo et al., 2023). Disclosure of calorie information helps consumers make better food decisions, thus promoting healthy eating (DiPietro et al., 2016; Rummo et al., 2023). But how to effectively provide calorie information on menus? Prior research has focused on calorie labeling in a numeric format (Berry et al., 2018; Reale & Flint, 2016).

However, simply displaying calorie information in a numeric format may not be an optimal way to communicate with customers and help them make better food decisions (Bialkova et al., 2014; Dowray et al., 2013). Recent research has shifted focus to interpretive labeling (e.g., color-coded and physical activity-based calorie labeling) that can be more helpful for consumers' decision-making (Cutello et al., 2024; Daley et al., 2020; Jin et al., 2020; Miller et al., 2022; VanEpps et al., 2021). While several studies have compared the effectiveness of different calorie labeling formats on consumer decisions, little is known about consumers' restaurant-related responses.

Relying on the theory of cognitive dissonance, this research extends previous work in several ways: 1) we empirically examine whether consumers experience cognitive dissonance when presented with different types of calorie menu labeling; 2) we investigate how consumers' responses differ across different calorie labeling formats; 3) we demonstrate the underlying mechanism of consumer responses due to different calorie labeling formats. This research provides important managerial implications for food service providers in effectively communicating calorie information on restaurant menus.

2. Literature Review

2.1 Importance of Calorie Labeling

The growing emphasis on well-being has led to a notable focus on calorie labeling. Calorie labeling extends beyond packaged food products, encompassing restaurant food items prepared for immediate consumption (Berry et al., 2018; Kim et al., 2018; Rummo et al., 2023). Calorie labeling assists consumers in making more informed and potentially healthier food choices when dining out or ordering food delivery (Long et al., 2015; Rummo et al., 2023; Wisdom et al., 2010) and Wisdom et al. (2010) show that calorie information reduces calorie consumption in restaurants. Consumers appreciate menu calorie labeling (approximately 83% of Americans and 80% of British favor menu calorie labeling) (Hojjat, 2015; Tapper, 2022), and policymakers (e.g., in the United States, Australia, and Canada) have introduced legislation requiring certain restaurants and food businesses to disclose calorie information (Sacco et al., 2017).

While an increasing number of restaurants include calorie labeling on their menus, such information is primarily presented in a numeric format. Previous research indicates that consumers find it challenging to understand and utilize the calorie information on menus as they have no idea about what the number of calories means and how the calorie content relates to their daily calorie intake (Blumenthal & Volpp, 2010; Morley et al., 2013). Using a numerical format fails to provide sufficient information to consumers, which explains why such menu labeling has no significant effect on reducing consumers' calorie intake (Dowray et al., 2013; Kim et al., 2018; Long et al., 2015). Consequently, recent research has explored interpretive calorie labeling (Cutello et al., 2024; Daley et al., 2020; Jin et al., 2020; Miller et al., 2022; VanEpps et al., 2021).

2.2 Interpretive Calorie Labeling

Interpretive calorie labeling uses explanatory or evaluative information to help clarify the calorie content (Cutello et al., 2024; Sacco et al., 2017; VanEpps et al., 2021). One interpretive calorie labeling format is color-coding. It uses the traffic light system to indicate the calorie content with red as high, yellow as medium, and green as low. Color-coded calorie labeling is more intuitive as it provides visual elements to assist consumers in quickly understanding the meaning of the calorie content by leveraging existing firmly held associations (e.g., the association between a red light and stopping) (VanEpps et al., 2021). Consumers find color-coded calorie labeling easier to understand than numeric calorie labeling (Borgmeier & Westenhoefer, 2009; Talati et al., 2016).

Physical activity-based labeling is another interpretive calorie labeling format. It illustrates the calorie content by showing the amount of physical activity required to burn a given number of calories for a food or beverage product. Framing calorie information via a physical activity-based format is meaningful and intuitive because it translates to something people can easily understand (Cutello et al., 2024; Daley & Bleich, 2021; Viera et al., 2019). Therefore, such information captures attention and influences consumers' choices more effectively than numeric calorie labeling (Daley et al., 2020; Jin et al., 2020; Swartz et al., 2013). In addition, physical activity-based labeling can raise awareness of calorie balance by emphasizing a direct link between calorie intake and the amount of exercise needed to burn off the calories consumed (Jin et al., 2020; Swartz et al., 2013).

While prior research demonstrates the superior effect of interpretive (vs. numeric) calorie labeling, we argue that the effectiveness of such information might depend on restaurant type.

2.3 Percetpion of Menu Calorie Labeling: Cognitive Dissonance

The menu is critical in communicating positioning and promoting products (McCall & Lynn, 2008). Calorie labeling can be perceived as the restaurant's compliance with legal requirements or as a reflection of its concern for consumers' well-being and commitment to promoting healthy eating (Berry et al., 2018). It is a strategic decision for restaurants to disclose calorie information on their menus, especially if such an act is voluntary (Berry et al., 2018). Berry, Burton, and Howlett (2018) show that with voluntary menu calorie labeling, customers believe that the restaurant is concerned about their well-being, leading to positive responses and high patronage intentions. In a similar vein, providing interpretive calorie labeling is a voluntary initiative to facilitate consumers' understanding of the information. Therefore, customers may believe that restaurants using interpretive calorie labeling are concerned about customers' well-being, leading to favorable responses.

The positive effect of interpretive calorie labeling is based on the assumption that calorie information aligns with consumers' needs (i.e., consumers are highly concerned about their health). However, consumers may not appreciate such information when they want to enjoy the food (Choi et al., 2019). Based on the theory of cognitive dissonance, we argue that restaurant type and calorie labeling format jointly influence consumers' responses to calorie menu labeling. We posit that consumers will experience cognitive consonance in healthy restaurants when calorie information is disclosed in interpretive formats, resulting in favorable responses. However, they will experience cognitive dissonance in fine-dining restaurants when calorie information is disclosed in interpretive formats, resulting in unfavorable responses.

2.3.1 In Healthy Restaurants: Concern for Consumers' Well-Being

Healthy restaurants target consumers who are highly concerned about their health, and such consumers expect healthy restaurants to be concerned about their well-being (Jeong & Jang, 2015; Newson et al., 2015). In healthy restaurants, providing calorie labeling on the menu is expected and aligned with consumers' desires (Berry et al., 2018). However, as displaying calorie information in a numeric format is widely used and even required by the government, such labeling may fall short of satisfying consumers' needs (Berry et al., 2018; Bialkova et al., 2014; Morley et al., 2013; Swartz et al., 2013). Healthy restaurants are expected to display concern for consumers' well-being through menu design (Liu et al., 2019). When service providers go the extra mile to meet consumers' desires, they are more likely to develop positive attitudes (Morales, 2005). Compared to simply displaying calorie information in a numeric format, using explanatory or evaluative information to help clarify the calorie content (i.e., interpretive calorie labeling) makes it easier for consumers to understand and utilize the calorie information on menus. Therefore, customers may believe that healthy restaurants using such labeling on the menu are more concerned for the well-being of their customers, leading to more favorable responses. Thus, we propose that,

H1: For a healthy restaurant, the use of interpretive calorie labeling (vs. numeric calorie labeling) will lead to higher perceptions of the restaurant's concern for its customers' well-being

H2: For a healthy restaurant, perceptions of concern for customers' well-being will mediate the impact of the calorie labeling format on consumer responses.

2.3.2 In Fine-Dining Restaurants: Feeling of Discomfort

However, interpretive calorie labeling may backfire in fine-dining restaurants. Consumers decide where to dine based on their dining values (Ha & Jang, 2013; Kang et al., 2015). Consumers choose fine-dining restaurants to satisfy their need for enjoyment and relaxation. Fine-dining restaurants typically satisfy consumers' hedonic desires, such as an elegant atmosphere, exquisite cuisine, indulgence, and sensory enjoyment (Hwang & Ok, 2013; Tsaur & Lo, 2020). Fine-dining customers want to indulge in the culinary experience rather than focus on healthy eating (Kim et al., 2018). In other words, they prioritize enjoying the meals in the present moment by temporarily setting aside their health-conscious preferences. Interpretive calorie labeling in fine-dining restaurants reminds consumers of healthy eating, triggering cognitive dissonance.

Prior research has demonstrated the effectiveness of cognitive dissonance in changing people's behaviors. For example, dissonance-based interventions such as forcing older adults to recall times when they should have but chose not to exercise can increase their intention to exercise in the future (Cooper & Feldman, 2020). Compared to numeric calorie labeling, color-coded calorie labeling features both "good" and "bad" choices, while physical activity-based labeling raises awareness of the consequences of consuming a certain amount of calories (Jin et al., 2020; Swartz et al., 2013). Therefore, these two labeling formats (vs. numeric calorie labeling) are more likely to place consumers in a predicament where their desire to indulge conflicts with the consideration of healthy choices (Cutello et al., 2024; Weingarten & Lagerkvist, 2023). When individuals encounter external stimuli that induce feelings of psychological discomfort due to cognitive dissonance, they tend to perceive stimuli as unpleasant. Consequently, they strive to eliminate or avoid such stimuli to alleviate psychological tension (Ong, 2019). Therefore, we propose that,

H3: For a fine-dining restaurant, the use of interpretive calorie labeling (vs. numeric calorie labeling) will enhance discomfort.

H4: For a fine-dining restaurant, the discomfort will mediate the impact of the calorie labeling format on consumer responses.

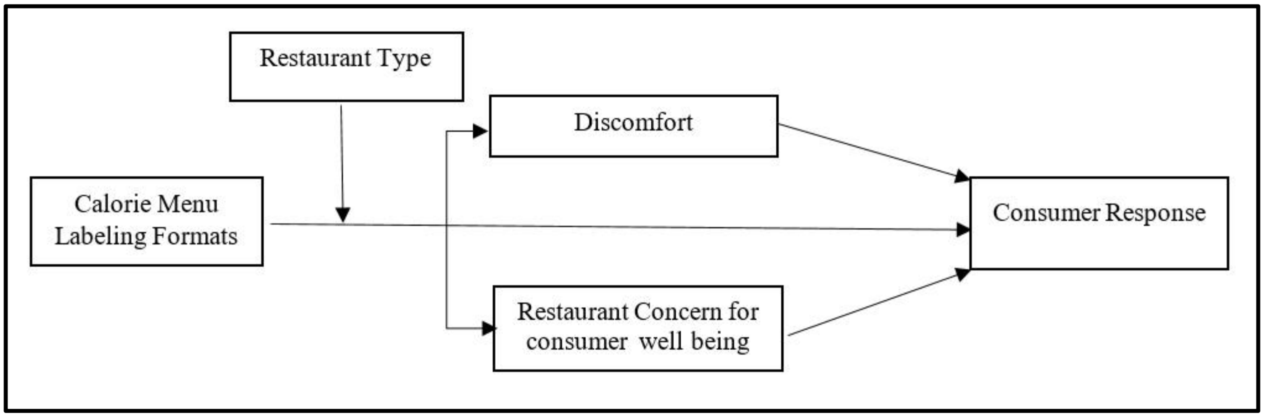

Figure 1. Conceptual Model

3. Methodology

3.1 Study Design and Participants

A 2 (restaurant type: healthy restaurant vs. fine-dining restaurant) by 3 (labeling formats: numeric vs. color-coded vs. physical activity-based) between-subjects experimental design was employed. A total of 302 U.S. participants were recruited from Prolific. Those who failed attention checks were excluded, leaving 299 participants. Most (81.9%) were between 18 and 49 years old, 40.8% of the respondents were male, 42.5% had a college degree, and 78.3% had an annual household income over $40,000.

3.2 Stimuli and Procedures

Adapted from previous research, restaurant type was manipulated by providing relevant restaurant information (Liu et al., 2019). The following information was provided in the healthy restaurant condition: "Tarren is a regional **health-conscious** restaurant. Its entire menu is based on locally-grown, non-GMO, antibiotic-free ingredients, and it is committed to **healthy eating** and **sustainability"**. In the fine-dining restaurant condition, participants were told that: "Tarren is a regional fine-dining restaurant. Its entire menu is based on a balance of taste, texture, and presentation, and it is committed to sensory delight and gastronomic pleasure." To manipulate labeling format, three versions of the menu with only difference in calorie labeling format for menu items were created (see Appendix).

Participants were randomly assigned to one of the six conditions. They were asked to read the restaurant information and the menu. Then, their perceptions of the restaurant's concern for consumers' well-being (i.e., "After reviewing the menu, I believe that this restaurant is concerned about the well-being of its customers", 1=strongly disagree, 7=strongly agree; 1=not at all, 7=very much so; r=.89) (Newman et al., 2014), feelings of discomfort (e.g., "While processing the menu, I felt uncomfortable/conflicted/confused", 1=not at all, 7=a lot; α=.78) (Liu et al., 2018) and patronage intentions (e.g., "How likely/probably are you to eat at this restaurant based upon the information you viewed on the menu?", 1=very unlikely, 7=very likely; 1=not at all probable, 7=very probable; r=.94) (Berry et al., 2018) were measured followed by demographic questions.

4. Results

4.1 Manipulation checks

A MANOVA was used to check the manipulation of calorie labeling since three items were used to capture the labeling type. The results revealed only a main effect of calorie labeling type ($F = 183.00$, $p < .001$). Specifically, participants in the color-coded condition agreed that the calorie information was presented in colors ($M=6.71$) more than their counterparts in numeric ($M=1.56$, 95%CI=[4.737, 5.580]) and activity-based conditions ($M=2.69$, 95%CI=[3.605, 4.447]) ($F(2, 293)=321.76$, $p<.001$). Participants in the activity-based condition agreed that the calorie information was displayed based on the exercise time required to burn off calories ($M=5.89$) more than their counterparts in numeric ($M=1.41$, 95%CI=[4.010, 4.877]) and color-coded conditions ($M=1.68$, 95%CI=[3.744, 4.606]) ($F(2, 293)=256.69$, $p<.001$). Since calorie information was displayed numerically in all conditions, no significant difference was identified regarding participants' agreement on whether the calorie information was displayed numerically ($F(2, 293)=1.66$, $p>.05$). In addition, participants in the healthy restaurant condition agreed that the restaurant was a health-conscious restaurant (differ from the scale midpoint 4: $M=5.99$, $t=17.29$, $p<.001$) while participants in the fine-dining restaurant condition agreed that the restaurant was a fine-dining establishment (differ from the scale midpoint 4: $M=5.54$, $t=10.59$, $p<.001$). Taken together, these results indicate that our manipulations were successful.

4.2 Perceptions of restaurant's concern for consumers' well-being

A two-way ANCOVA was conducted on perceptions of the restaurant's concern for consumers' well-being with health consciousness as the covariate. The results revealed a significant interaction between restaurant type and calorie labeling format ($F\ (2, 292)=3.06$, $p<.05$), and it is visualized in Figure 2. Specifically, when the healthy restaurant used interpretive calorie labeling (vs. numeric calorie labeling), the perceived concern for consumers' well-being was higher ($F\ (2, 292)=8.94$, $p<.001$; $M_{numeric}=4.088$, $M_{color}=5.03$, $M_{activity}=5.032$). Both color-coded or activity-based labeling resulted in perceptions of concern for consumers' well-being than numeric calorie labeling ($M_{numeric}$ vs. M_{color}: 95%CI=[-1.461, -.443]; $M_{numeric}$ vs. $M_{activity}$: 95%CI=[-1.470, -.439]; M_{color} vs. $M_{activity}$: 95%CI=[-.515, .510]). However, no significant differences were identified in the fine-dining context ($F\ (2, 292)=.27$, $p>.05$; $M_{numeric}=4.981$, $M_{color}=5.166$, $M_{activity}=5.123$). These results support H1.

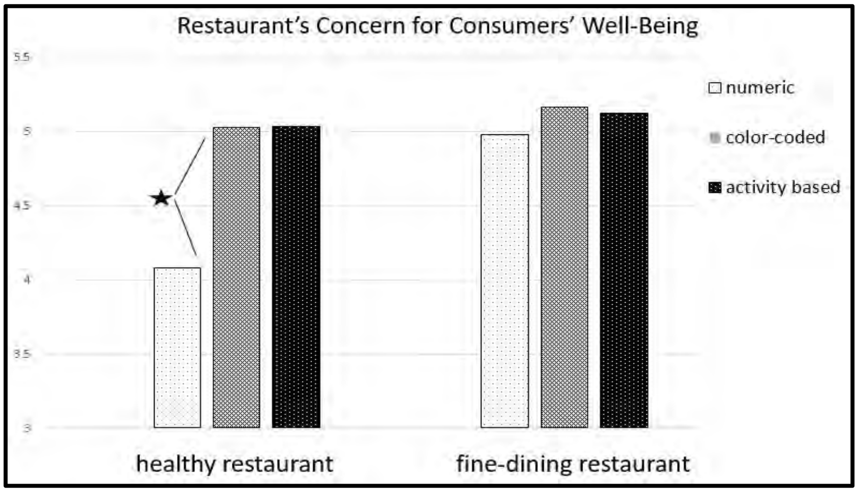

Figure 2. The Effects of Restaurant Type and Labeling Format on Restaurant's Concern for Consumers' Well-Being

4.3 Feelings of discomfort

A two-way ANCOVA was conducted on discomfort with health consciousness as a covariate. The results revealed a significant interaction between restaurant type and calorie labeling format (F (2, 292)=3.05, p<.05), and it is visualized in Figure 3. When the fine-dining restaurant used interpretive calorie labeling (vs. numeric calorie labeling), participants felt more discomfort (F (2, 292)=3.59, p<.05; $M_{numeric}$=2.308, M_{color}=2.203, $M_{activity}$=2.95). Moreover, physical activity-based calorie labeling led to higher levels of discomfort than numeric and color-coded calorie labeling ($M_{numeric}$ vs. $M_{activity}$: 95%CI=[-1.239, -.045]; $M_{numeric}$ vs. M_{color}: 95%CI=[-.492, .702]; M_{color} vs. $M_{activity}$: 95%CI=[-1.341, -.153]). However, no significant differences were identified in the healthy restaurant condition (F (2, 292)=.96, p>.05; $M_{numeric}$=2.801, M_{color}=3.196, $M_{activity}$=2.889). These results support H3.

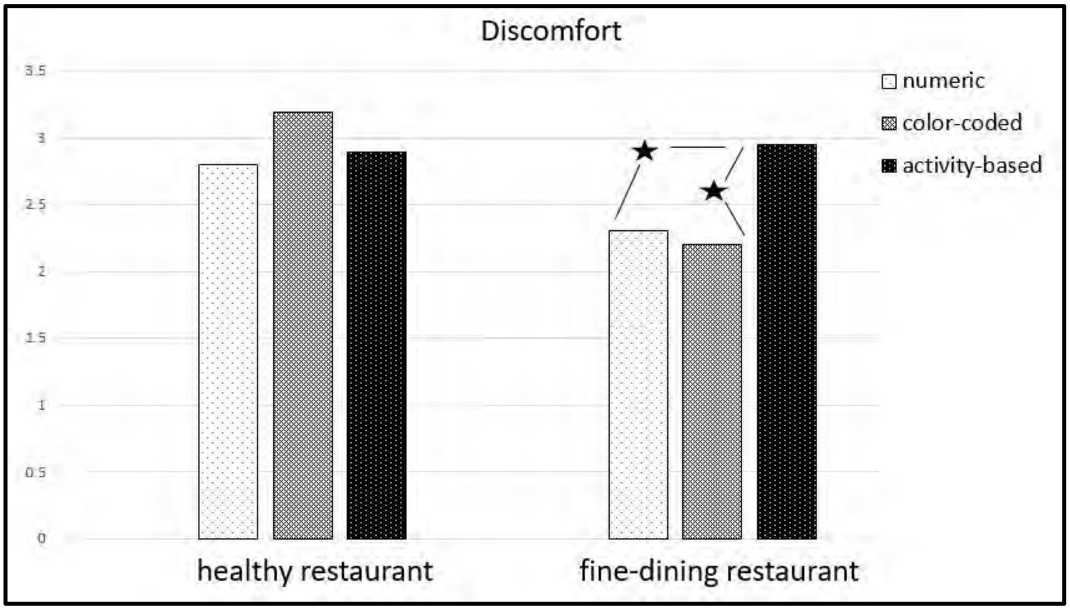

Figure 3. The Effects of Restaurant Type and Labeling Format on Discomfort

4.4 Mediation Analyses

A bootstrapping moderated mediation analysis with 5000 samples (PROCESS model 8, Hayes, 2013) was conducted with calorie labeling format as the independent variable, restaurant type as the moderator, perceptions of the restaurant's concern for consumers' well-being and feelings of discomfort as parallel mediators and visit intention as the dependent variable. The results indicate that perceptions of consumers' well-being mediated the impact of the calorie labeling format on visit intention in the healthy restaurant condition (indirect effect =.34, 95%CI=[.1340, .5816]) but not in the fine-dining restaurant condition (indirect effect =.05, 95%CI=[-.1059, .2039]), supporting H2. However, feelings of discomfort mediated the impact of the calorie labeling format on visit intention in the fine-dining restaurant condition (indirect effect =-.11, 95%CI=[-.2199, -.0180]) but not in the healthy restaurant condition (indirect effect =-.02, 95%CI=[-.1380, .0932]), supporting H4.

5. Discussion and Conclusion

5.1 Theoretical Implications

This research makes several theoretical contributions. First, it provides new insights into menu calorie labeling research by shedding light on the influence of labeling format on consumer responses (e.g., perceptions of the restaurant and visit intentions). Previous research on menu calorie labeling has focused on consumer-related outcomes such as consumers' attention, calorie consumption, and healthy choices (Cutello et al., 2024; Kim et al., 2018; VanEpps et al., 2021). While Berry et al. (2018) examined the influence of menu calorie labeling on consumers' retailer-related responses, the impact of different menu calorie labeling formats on consumer responses is poorly understood. Responding to the call for interpretive labeling to better assist consumers (Cutello et al., 2024; Daley et al., 2020; Miller et al., 2022; VanEpps et al., 2021), we examine how different calorie labeling formats influence consumer responses across different restaurant types. Since interpretive calorie labeling makes it easier for consumers to understand

and utilize the calorie information on menus, customers are more likely to visit healthy restaurants using interpretive calorie labeling. However, interpretive calorie labeling backfires in fine-dining restaurants where consumers prioritize enjoyment over healthy eating.

Second, this research contributes to the literature examining consumers' well-being by demonstrating the potential contradiction between physical and psychological well-being. Previous research on calorie labeling mainly focuses on consumers' physical well-being. Many studies have compared the effectiveness of different calorie labeling formats in reducing calorie consumption and promoting healthy eating (Kim et al., 2018; Morley et al., 2013; VanEpps et al., 2021). However, consumers' psychological well-being is being neglected. While previous research shows that interpretive calorie labeling is more effective in increasing healthy choices and enhancing consumers' physical well-being (Kim et al., 2018; Reale & Flint, 2016; VanEpps et al., 2021), our findings indicate that such labeling can make consumers feel uncomfortable and guilty when making food choices. Especially when dining in a fine-dining restaurant, consumers experience cognitive dissonance, which is a kind of uncomfortable psychological state negatively related to psychological well-being (Jeong, et al., 2019). Our research emphasizes the importance of balancing consumers' physical and psychological well-being.

Last, this research contributes to sensory marketing by demonstrating the downside of visual labeling. Color-coded and physical activity-based labels are considered visual labeling formats. They include visual symbols such as traffic lights and exercise pictures for faster information processing (Kim et al., 2018). Prior research on sensory marketing demonstrates the superior effect of visual cues on consumer responses (Butcher & Pecot, 2021; Dens et al., 2011; Rebollar et al., 2017). For example, Rebollar et al. (2017) found that a label with an image of an oil dispenser makes potato chips appear more crunchy and healthier compared to a text saying "with olive oil". Our research demonstrates that visual labeling formats such as color-coded and physical activity-based calorie labels can enhance consumer perceptions that the restaurant is concerned about consumers' well-being, leading to positive responses to the restaurant. But such positive effects depend on the restaurant type. Although previous research has emphasized the beneficial impact of visual cues in label designs and advertising (Choi et al., 2020; MacInnis & Price, 1987; Tang et al., 2004), there is limited understanding regarding the potential disadvantages associated with visual cues. Our findings indicate that using visual labeling formats such as physical activity-based calorie labeling in fine-dining restaurants can make consumers feel discomfort, leading to negative responses to the restaurants.

5.2 Practical Implications

Providing calorie information on restaurant menus can promote health and a balanced diet (DiPietro et al., 2016; Rummo et al., 2023). Therefore, restaurant managers must understand how to convey calorie information (i.e., numeric, color-coded, or activity-based). We put forth the following suggestions based on our findings. First, this study suggests that the appropriate calorie labeling depends on the restaurant type: healthy vs. fine-dining. Consumers tend to perceive that healthy restaurants care for consumers' well-being when color-coded or activity-based (vs. numeric) calorie labeling is used. Therefore, restaurants with healthy menu items may consider adopting color-coded or activity-based calorie labeling. By contrast, people tend to have lower levels of discomfort by numeric and color-coded (vs. activity-based) calorie labeling in fine-dining restaurants. Therefore, fine-dining restaurants may consider adopting numeric or color-coded calorie labeling. Second, this study offers suggestions for hybrid restaurants (i.e., fine-dining restaurants focusing on healthy menu items). Such restaurants may consider using color-coded calorie labeling instead of numeric or activity-based calorie labeling. This is because people tend to perceive that healthy restaurants care for customers' well-being if color-coded (vs. numeric) calorie labeling is used, and they have lower discomfort with color-coded (vs. activity-based) calorie labeling.

5.3 Limitations and Future Research

Several limitations of this study open avenues for future research. First, this study is based on data from the US residents. Given cultural differences (e.g., power distance belief, dialectical thinking; Hofstede, 2001; Yama & Zakaria, 2019), future investigations in other countries are necessary to validate the findings from this study. Second, this study focuses on restaurant type (healthy vs. fine-dining restaurant) to enhance the managerial relevance of our findings. Nonetheless, other factors may moderate consumer responses to numeric, color-coded, and activity-based calorie labeling (e.g., consumers who dine with children vs. consumers who dine alone). Such factors should be examined in future research. Third, this study examines consumer responses to calorie labeling in entrée items. However, their reactions to calorie labeling may be more complex if they order a series of courses.

Appendix

<u>Experimental Stimuli</u>

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By hand or device? The impact of note-taking behavior on consumers' evaluations towards Service employees and firms

Liu, Chunqun
School of Hotel and Tourism Management
The Chinese University of Hong Kong

Sheng, An
School of Hotel and Tourism Management
The Chinese University of Hong Kong

Choi, Sungwoo
School of Hotel and Tourism Management
The Chinese University of Hong Kong

Abstract:

This study examines how the way of note-taking affects consumers' attitudes towards employees and firms. Based on embodied theory, observing the server's note-taking behavior induces the consumer to simulate writing-process-related motions and activate corresponding knowledge. Thus, we hypothesize that handwritten (vs. device written) note-taking behavior leads to higher employee's service ratings and more positive consumer evaluations towards firms, and these effects are mediated by perceived attentiveness. This paper offers practical and theoretical implications for consumer service management in service encounters.

Keywords: Service Management, Technology, Note-taking, Embodied Theory, Hospitality

1. Introduction

Advancements in technology have significantly transformed employee-customer interfaces in service encounters, with the introduction of devices such as point-of-sale (POS) terminals, tablets, and kiosks (Bitner et al., 2000; Giebelhausen et al., 2014). For example, some companies have employed a hand-held POS machine to help consumers order taking. Research has also highlighted the benefits of technology (e.g., saving time; lowering labor costs, and avoiding manual mistakes; Manion & DeMicco, 2005) in enhancing service ratings in employee-customer encounters (Bitner et al., 2000; Salomann et al., 2007). For instance, in the hospitality industry, using technology would help satisfy guests' needs and simultaneously lower operational expenses (DiPietro and Wang, 2010; Siguaw and Enz, 1999).

However, some merchants begin to pause or eliminate to introduce a technology into front-line service encounters (Castelo et al., 2023; Anand, 2011). For instance, two large retailers canceled all self-checkout devices to enhance the face-to-face interaction between employees and customers, which leads to a higher service rating (Anand, 2011). Thus, considering these conflicting viewpoints as evidence of adopting technology in front-line service encounters, it remains unclear how consumers perceive the role of the employee's note-taking behavior in the marketplace. This paper focuses on the note-taking behavior, hand note-taking (i.e., the server writes down the order in a restaurant) versus device note-taking (i.e., the hotel reception staff uses the computer keyboard to input special requests by customers) and explores whether there are differences between handwritten note-taking (pen-and-paper) and device note-taking (i.e., using devices) behaviors.

To address these research questions, we draw on embodied theory in the neuroscience realm (Buccino et al., 2005; Goldberg et al., 2006) to explain how consumers perceive handwritten note-taking versus device note-taking behavior by the service employee differently through two experimental studies. Firstly, study 1 aims to testify the basic effect of the note-taking behavior on service employee satisfaction ratings, as well as the mechanism of perceived attentiveness. Then in study 2, we would examine the basic effect and mechanism in a more complex service context.

This research contributes to the emerging literature on service management, embodied theory, and technology deployment in marketing practice. First, to our knowledge, this is the first study to examine the link between employee note-taking behavior in service encounters and consumer perceptions of employees and firms. As previous studies mainly addressed how the font (handwriting versus typewriting) impacts individual perceptions. Furthermore, our research contributes to a theoretical understanding of embodied theory by identifying how perceived employee attentiveness, enticed by handwritten note-taking, influences subsequent consumer evaluations towards the servers and firms. Finally, the findings of this study will provide empirical evidence for front-line service firms, especially tourism and hospitality companies, to gain a deeper understanding of incorporating technology into their marketing strategies. This work will point out that, in service encounters, involving device note-taking may not be appropriate to improve consumers' attentiveness perceptions and satisfaction.

2. Literature Review

2.1 Handwriting versus device writing behavior

With the increased use of digital typing and writing devices (e.g., computers, tablet computers, mobile phones), traditional handwriting by pen-and-paper becomes less common (Mangen & Velay, 2010; Radesky, Schumacher & Zuckerman, 2015; Kiefer & Velay, 2016). Currently, a large body of literature focuses on how font usage, handwriting versus typewriting, affects individuals' psychological processes and perceptions. For instance, Longcamp and colleagues (2011) proposed that handwriting fonts induce readers to generate memory representations of the actual letter- or character-related formation (e.g., shape) and then entice individuals to simulate the hand movements associated with writing. Moreover, scattered research documented that humans link the handwritten font to a personal, laborious, and time-consuming process, whereas the typewritten font is impersonal, standardized, and does not put a significant number of human resources into it (Childers et al., 1980; McCoy & Hargie, 2007). Thus, the handwriting font is highly related to human efforts and warm perception (Ren et al., 2018; Hwang et al., 2023), but the typewritten font correlates with less human resources and physical exertion (Childers et al., 1980). These research works have only addressed the importance of writing font (the outcome of electronic and manual writing behavior); however, the literature on the perception of writing actions is underdeveloped. We propose that the writing behavior (the process of writing by hand or device) is also significant, especially for front-line service encounters (e.g., hotel and catering industries), as consumers may respond differently to these two writing behavior of service providers.

As mentioned before, individuals' perceptions of two writing fonts (e.g, handwriting and print) are based on the writing process, as the handwriting font leads to the writing-related motor system in the brain being activated (Longcamp et al., 2011; Childers et al., 1980). Feder and Majnemer (2007) claimed that the handwriting process involves complicated perceptual-motor abilities (e.g., visual-motor coordination, cognitive, and kinesthetic skills). Some scholars further maintained that differences between handwriting and the device-writing process are manifested in the ease of the motor programs and corresponding sensory-related-motor experiences (e.g., haptic, motor, and visual). For instance, individuals are often careful during handwriting to ensure the shape of each letter (or the spelling of each word) is correct; however, in typing, they pay less attention to letters' shapes as this motion program is unrelated to it, which is lacking graph-motor component (Mangen & Velay, 2010). Thus, handwriting (vs. device-writing) behavior may involve more cognitive and physical effort.

In terms of embodied theory, these writing-related perceptions or semantic knowledge are represented in sensorimotor systems learned from previous writing experience (Buccino et al., 2005; Goldberg et al., 2006; Pulvermüller et al., 2000, 2005; Simmons et al., 2005, 2007). Caramazza et al, (2014) further proposed that, in the action-producing stage, action-related semantic knowledge (e.g., time-consuming) was represented in sensorimotor areas through action movement (handwriting behavior). And when experiencing or observing the same action, corresponding neurons (handwriting-related movement) would be activated when the sensorimotor simulation process happens (e.g., handwriting behavior), individuals would extract action-related semantic knowledge (time-consuming) and understand this action (e.g., handwriting is time-consuming).

Furthermore, biological evidence suggests that mirror neurons, located in the premotor cortex of the macaque monkey, would both be activated when the monkey conducts a grasping behavior or observes this behavior performed by an experimenter (di Pellegrino et al., 1992, Gallese et al., 1996). That is, both action production and action understanding processes are sharing the same neuron's activity, and these mirror neurons serve as a key mechanism to link behavior, action and understanding (Caramazza et al., 2014). On the basis of these novel findings, Umilta et al. (2001) conducted studies to show that mirror neuron activity plays a causal role in action understanding, which means if action-related knowledge is stored in the brain, even if individuals observe this action performed by others, they will understand this action. Thus, in our context, an employee's hand-writing process would induce customers' mental representations of this action and perceive this behavior as personal, laborious, and time-consuming. But the device-writing may be perceived as dehumanizing, standardized and low-human-resource.

Moreover, a large body of literature documented that building personal connections and spending time with consumers will result in positive consumer satisfaction (Crosby and Stephens, 1987; Stiles, 1985; Surprenant and Solomon, 1987; Mohr & Bitner, 1995; Specht, Fichtel & Meyer,

2007). For instance, when an employee maintains a behavior for a long time, consumers are apt to regard it as effortful (cognitively and physically) and generate positive satisfaction (Mohr & Bitner, 1995; Specht, Fichtel & Meyer, 2007), which indicates concern for the consumer's needs (Specht, Fichtel & Meyer, 2007). Thus, customers may perceive the employee's handwriting behavior (device writing behavior) to be more personal, time-consuming, and high-labor cost, which leads to more satisfaction for employees and firms.
Therefore, we propose the following hypothesis.
H1: The handwritten (vs. device) note-taking behavior would induce more positive consumer evaluations towards the service employee and firm.

2.2 The Mediation Effect of Perceived Employee's Attentiveness
In this paper, perceived attentiveness refers to the consumer's perception of the employee's physical and cognitive involvement when note-taking the consumer's needs (Kahn, 1990). Individuals' behaviors indicate attentiveness to others (Norton & Pettegrew, 1979). Subjects always show their attentiveness to others in various ways, such as by looking directly at others, being in close proximity to others, making verbal followings, making gestures, and relating similar experiences or feelings (Skinner, 1953; Norton & Pettegrew, 1979). When the subject is aware that an individual is deliberately reacting in such behaviors, the subject would perceive it as being listened to and focused upon (Norton & Pettegrew, 1979). Some research also manifested that time spent and personalized services are vital components of perceived attentiveness (Skinner, 1953; Basáñez et al., 2013). For instance, Skinner (1953) and Basáñez et al., (2013) contend that spending an amount of time with an individual means treating this person in an attentive way. Thus, as mentioned before, the handwriting action is highly related to time and energy consumption (complex handwriting movement), indicating a high level of cognitive and physical effort (time-consuming) and caring for consumers (Ren et al., 2018). But device writing action is machine-assisted and requires less attention to the shape of each letter (Longcamp et al., 2011) or spelling of a word, showing a low level of cognitive and physical effort (clicking the keyboard or selection buttons). In this vein, we assume that when observing the service provider's handwriting behavior, consumers generate a high perception of the server's attentiveness, but the server's device writing behavior may induce a low perception of attentiveness.

Additionally, previous literature identified the effect of perceived attentiveness on consumer satisfaction, purchase intention, and evaluations (e.g., Bitner, Booms & Tetreault, 1990; Keh et al., 2013; Price, Arnould & Tierney, 1995; Zhao, Yan & Keh, 2018; Liu, Zhang & Keh, 2019; Gupta et al., 2012). For instance, an empirical study conducted by Kalia and colleagues (2016) pointed out that perceived attentiveness, as a sub-dimension of service quality, is positively related to consumers' satisfaction and future purchase intention. Jun, Yang and Kim (2004) also addressed the fact that reliable and prompt responses, access, ease of use, attentiveness, security, and credibility are key determinants of service quality ratings. Their work further identified that perceived attentiveness affects customers' satisfaction. Moreover, a cross-cultural work demonstrated that when service providers conduct check-backs frequently at the table in restaurants (showing attentive behavior), American consumers would generate a sense of the servers' customer orientation, which results in higher satisfaction and tipping amounts than less check-back behaviors (Lee et al., 2015).

Based on these findings of perceived attentiveness, we infer that, compared with the technical writing method (e.g., device writing behaviors), the employee's manual writing behavior (e.g., handwriting behaviors) would convey a higher perception of attentiveness to consumers, leading to more positive evaluations towards employees and firms.
Hence, we put forward the hypothesis, and the conceptual framework is presented in Figure 1.
H2: The effect of handwritten (vs. device) note-taking behavior is mediated by perceived attentiveness of the employee.

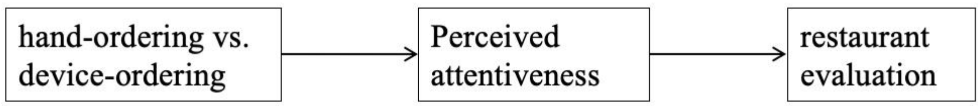

Figure 1. Conceptual model

3. Methodology

Overall, we aim to present two experimental studies providing empirical evidence for the link between the way of note-taking and consumer evaluations in service encounters. We aim to incorporate online and field experiments. In Study 1, we have conducted an online scenario-based experiment in a restaurant setting and employed a single factor (note-taking behavior: handwriting vs. pos machine vs. iPad vs. phone) between-subjects design to examine the main effect and the underlying mechanism of perceived attentiveness. In Study 2, we aim to test the basic effect, as well as the mechanism, in a more complex service setting where the hotel front desk agent takes down the special requests from the customer, either by handwritten notes or devices, when the customer encounters a service failure. Moreover, as the objective of Study 2 is to enhance realism and generalizability while generating findings of managerial significance, the experiment will be conducted in a real-world field setting[1].

3.1 Data collection

199 US-based participants (47.5% male, M_{age} = 39.30) were recruited online through Prolific Academic. After signing the consent form, they were randomly assigned to one of the four conditions, and they were asked to imagine that they were ordering food at a restaurant and watch 6-second video stimuli demonstrating the corresponding note-taking behavior by the server at the restaurant.

3.2 Measurement

After viewing the video stimuli, participants were instructed to complete the measure of satisfaction towards the employee (e.g., "how satisfied are you with the server?"), as well as the evaluations towards the restaurant (i.e., "how does each of the following describe your attitude toward the restaurant?"). Then, they answered questions consisting of six items measuring perceived attentiveness of the employee (e.g., "the server gives me personal attention"). We also

[1] GIVEN THAT WE HAVE CURRENTLY ONLY COMPLETED STUDY 1, THE SUBSEQUENT SECTIONS RELY ON FINDINGS EXCLUSIVELY DERIVED FROM STUDY 1.

include the measurement items of two alternative explanations which are perceived warmth (e.g., “to what extent do you think the server is friendly?”) and perceived effort (e.g., “the server exerts a lot of energy”).

4. Results

Satisfaction and evaluations. As predicted, a one-way ANOVA revealed a significant effect of note-taking behavior on satisfaction of the service employee (F (3, 196) = 2.95, p = .034, η^2 = .043). Specifically, planned contrasts indicated that participants who observe handwritten note-taking behavior have higher satisfaction towards the employee than those who observe device note-taking behavior (t (196) = 2.25, p = .025). As for the evaluations towards the restaurant, a one-way ANOVA suggested a significant effect of note-taking behavior on evaluations (F (3, 196) = 3.10, p = .028, η^2 = .045). In particular, planned contrasts indicated that participants who observe handwritten note-taking behavior have better evaluations towards the employee than those who observe device note-taking behavior (t (196) = 2.28, p = .024) (see Table 1).
Perceived attentiveness. We also conducted a one-way ANOVA to examine whether different note-taking behavior would impact people’s perceived attentiveness of the employee, and the results suggested a significant main effect (F (3, 196) = 4.28, p = .006, η^2 = .061). Specifically, planned contrasts showed that participants who observe handwritten note-taking behavior perceived the employee to be more attentive than those who observe note-taking behavior by device (t (196) = 2.70, p = .007).

Table 1. the effects of notetaking behavior.

Outcomes	Condition	
	by hand	by device
satisfaction	5.91 (1.05)$_a$	5.51 (1.10)$_b$
evaluations	5.77 (1.21)$_a$	5.35 (1.10)$_b$
perceived attentiveness	5.59 (1.05)$_a$	5.12 (1.14)$_b$

Note: Within each row, means with different subscripts are significantly different by p < .05 in a one-way ANOVA analysis.

Mediation analysis. A mediation analysis (PROCESS model 4; 5000 bootstrap samples; Hayes, 2013) was conducted with perceived attentiveness, perceived warmth, and perceived effort as competing mediators, note-taking condition as the independent variable, and satisfaction as the dependent variable. The results revealed that perceived attentiveness significantly mediated the effect of note-taking behavior on customer satisfaction (indirect effect = -0.096 (0.047); 95% CI [-0.201, -0.018]), but perceived warmth did not (indirect effect = 0.014 (0.040); 95% CI [-0.070, 0.095]), as well as perceived effort (indirect effect = -0.023 (0.042); 95% CI [-0.113, 0.052]). Thus, we ruled out perceived warmth and perceived effort as alternative explanations.

5. Discussion and Conclusion

5.1 Discussion and implications

Confirming our predictions, the results suggest that handwritten note-taking behavior yields a significant increase in customer satisfaction and restaurant evaluations compared to device note-taking behavior. Moreover, we demonstrate that this effect is mediated by perceived attentiveness of the service employee and rule out perceived warmth and perceived effort as alternative accounts.

In terms of academic implications, this study significantly enhances the understanding of how note-taking behavior influences consumer perceptions, contributing valuable insights to the embodied cognition theory and attentiveness literature. By demonstrating that handwritten notes can lead to higher perceived attentiveness and subsequently more favorable attitudes toward employees and firms, this research provides a robust empirical foundation for further exploration into the psychological impacts of manual versus digital methods of information recording. It invites future studies to investigate the generalizability of these findings across different contexts and explore underlying mechanisms, potentially incorporating elements like memory retention and recall, emotional responses, and the psychological comfort associated with tangible versus digital interactions.

For industrial implications, this research offers strategic guidance for service management, particularly in sectors like hospitality where the personal touch is highly valued. Businesses are advised to reconsider their technology policies, especially concerning customer-facing functions. Encouraging traditional pen-and-paper note-taking among employees could significantly enhance customer experience and satisfaction, reinforcing consumer relationships and potentially boosting loyalty and advocacy. This approach not only differentiates the service provided but may also counteract the impersonal nature of digital interactions, aligning service delivery with consumer expectations for personal and attentive service.

To further enhance the generalizability, the results of this study, while insightful, should be applied to other settings with consideration of context-specific factors. The generalizability of these findings might depend on several variables such as the nature of the service, the typical customer demographic, the cultural context, and the specific service setting (e.g., luxury vs. casual dining). Future research should aim to replicate these findings in different environments and with diverse populations to validate the robustness and applicability of the results. By broadening the scope of research, scholars can better understand the dimensions and limitations of handwritten versus digital note-taking impacts across various service sectors. This will aid firms in making more informed decisions that are tailored to their unique service contexts and customer expectations.

5.2 Limitations of this study and suggestions for future studies

Due to the fact that these findings and conclusions are obtained solely from the outcomes of Study 1, this research would be enhanced further if all planned experiments are completed in near future.

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The application of augmented reality, multimedia, and mini-game on digital menus and their effects on purchase intention

Shih, Fang-Hsuan
Graduate Institute of Sport, Leisure and Hospitality Management
College of Sports and Recreation, National Taiwan Normal University

Kang, Inhae
Graduate Institute of Sport, Leisure and Hospitality Management
College of Sports and Recreation, National Taiwan Normal University

Lui, Tsz-Wai
Graduate Institute of Sport, Leisure and Hospitality Management
College of Sports and Recreation, National Taiwan Normal University

Abstract:

The restaurant industry is swiftly adopting digital technology, with many businesses integrating online community management, mobile payments, and online ordering. However, there's limited research on merging digital menus with innovations like augmented reality (AR). This study, conducted in partnership with a French restaurant, aims to fill this gap by developing a digital menu. By incorporating AR, multimedia, and gaming elements, the digital menu enhances the customer experience by providing immersive, interactive, and engaging presentations. Interviews with industry experts reveal that such menus reduce uncertainty about product quality and positively influence purchase intentions, thereby enriching the dining experience.

Keywords: Digital Menu, Menu Design, Augmented Reality, Multimedia, Purchase Intention

1. Introduction

The restaurant industry is undergoing a significant shift towards digital integration, influenced by the broader trend of digital transformation in contemporary society. A survey by the Department of Statistics of the Ministry of Economic Affairs (2023) in Taiwan highlighted the increasing adoption of digital services within the food service sector. The survey revealed that a majority (67.0%) of businesses have embraced online community management or use platforms like Line for operations. Following closely, 55.5% have implemented mobile payment solutions, while online ordering and reservation systems each captured the attention of 34.8% of the industry players. This digital pivot is not just about adopting new technologies but also reflects a strategic response to changing consumer preferences and market conditions exacerbated by the pandemic. For instance, a 2021 report by Restaurant Dive noted that 88% of restaurants are considering the adoption of contactless payment methods and digital menus, moving away from traditional physical alternatives (Restaurant Dive, 2021). This trend underscores a broader industry movement towards digital transformation aimed at enhancing service delivery, improving customer experience, and boosting competitive advantage in a rapidly evolving market landscape.

According to Altaş (2022), this accelerated digital adoption signifies the industry's proactive approach to leveraging technology for value addition and strategic differentiation.

Despite the rapid evolution of self-service technologies within the food service industry, research on integrating digital menus with new technologies remains sparse (Lin et al., 2023). The industry has widely adopted various self-service technologies, including self-service ordering kiosks, portable ordering devices like mobile apps and iPads, and efficient quick-ordering services through responsive code systems and digital menus (Lin et al., 2023). Digital menus, regardless of the technology platform, enable patrons to interactively browse and select dishes using touchscreens, offering rich visuals and detailed descriptions through actions like touching, scrolling, and zooming. However, these systems often fall short in terms of interactive engagement (Wang & Wu, 2014). The lack of interactivity points to a broader issue in the field: while extensive research exists on the effects of menu design, the focus has predominantly been on traditional paper menus. Existing studies have not thoroughly explored digital menus' potential to provide dynamic and multimodal presentations (Yim & Yoo, 2020). This gap underscores the need for more comprehensive research that delves into the nuances of digital menu design and its impact on consumer experience and behavior.

The evolution of technology has transformed restaurant menus, moving beyond traditional print to dynamic digital formats. This shift not only reflects technological progress but also signifies a strategic move for restaurants aiming to foster customer loyalty and attract new patrons (Khan, 2020). Augmented reality (AR), for example, has emerged as a compelling technology, captivating consumers with its potential to enhance their dining experience through detailed product information, improved service quality, and immersive interactions. However, while there is growing interest in AR, its application in the restaurant industry remains underexplored. Liu (2021) highlighted in his research that AR studies are predominantly focused on education, accounting for 58%, while the food service industry's engagement with AR research is minimal, at just 0.06%. This stark disparity underscores a significant research void in the application of augmented reality within the food service sector. Addressing this gap, our study develops an augmented reality-enhanced digital menu for a French restaurant in Taiwan, incorporating multimedia and gaming elements to create a more engaging customer experience. Through qualitative research, we aim to investigate how such innovative menu designs influence customer purchasing decisions. We employ theoretical frameworks encompassing media richness, interactivity, immersion, and novelty to fill the existing research void and provide insights into the potential of digital menus to revolutionize the dining experience.

2. Literature Review

2.1. Menu design and digital menus

Menu designers have long understood the power of strategic design elements like copy, color, paper quality, fonts, and layout in crafting menus that guide customer attention toward desired dishes (Bowen & Morris, 1995). Bowen and Morris (1995) further emphasized the significance of incorporating vivid dish images and detailed descriptions into the menu text, enhancing customer comprehension and boosting their intent to purchase. Despite these strategies, traditional menus often lead to prolonged decision-making times for customers, attributed mainly to inadequate information presentation. This scarcity of details can leave customers uncertain about their choices, complicating the ordering process (Yim & Yoo, 2020). The concise nature of printed menus frequently fails to convey the full essence of the offerings, leading to potential dissatisfaction or indecision among diners. Moreover, the absence of multimedia elements in traditional menus diminishes their attractiveness and engagement potential (Zaini et al., 2023). This limitation highlights the need for a more interactive and informative approach to menu design, leveraging digital advancements to enrich the dining experience and streamline the ordering process.

Kuo et al. (2017) argue that digital menus offer a superior presentation method as they facilitate excellent service through convenience, innovation, and interactivity. Several advantages of digital menus over traditional menus include providing customers with better access to information regarding the quantity and quality of dishes, stimulating customers' appetites by presenting information in different ways (i.e., audio and visual), shaping psychological images, and ultimately generating behavioral intentions (Lee et al., 2013; Beldona et al., 2014; Kim & Lee, 2020). Additionally, digital menus offer food and beverage items with impressive photos, making it easier for diners to make choices and include abundant information (İlbay, 2022). Common features of digital menus include allowing customers to access them by scanning QR codes, links or downloading applications on their smartphones (Tan, 2021). They are often displayed on tablets or projected onto surfaces, presenting dishes grouped by type or course, ingredients, and prices, and sometimes accompanied by images (Lessel et al., 2012). However, the ongoing transition from print to digital menus has introduced new options. Adding interactive features to digital menus maximizes communication efficiency. For example, features like 360-degree rotation, zooming in and out of food images, 3D demonstrations, and augmented reality enhance the interactive (Yim & Yoo, 2020).

Augmented Reality (AR) merges "real-world environment images" with "computer-generated virtual images," enabling user interaction with three-dimensional virtual objects in the real world (Kuo, 2008). In the restaurant industry, AR technology finds its place in three primary categories: navigation-based applications that guide customers within the establishment, knowledge-based applications that offer detailed information about the menu items, and entertainment-based applications that enhance the dining experience through interactive games (Crofton et al., 2019; Hsu, 2017). For entertainment, integrating games into digital menus can add significant value. For example, customers engaging with game features on the menu might win free drinks or vouchers for future discounts, enriching their dining experience. This not only leaves a lasting impression but also encourages customers to share their positive experiences with others, both in person and online, thereby generating additional value for the restaurant (Tang et al., 2021). Consequently, this study aims to merge knowledge-driven and entertainment-focused elements within digital menus, aiming to create a multifaceted dining experience. By integrating detailed information about dishes with interactive mini-games, the objective is to elevate customer engagement and satisfaction. This approach seeks to transform digital menus into a conduit for interactive and informative experiences, enriching the dining journey by simultaneously educating and entertaining guests, thereby fostering a more engaging and memorable restaurant visit.

2.2. Media richness, interactivity, immersion, and media novelty

Media Richness Theory originated from the Information Richness Theory (IRT) (Daft & Weick, 1984; Daft & Lengel, 1986). The theory posits that media with rich information content can diminish uncertainty and ambiguity, facilitating clearer understanding and more effective communication within a specific timeframe. In the context of consumer behavior, the richness of product information is pivotal. Consumers often grapple with assessing a product's quality before purchase. However, when the product descriptions are perceived as information-rich, consumers are more likely to have confidence in the product's quality (Sun et al., 2022; Dimoka et al., 2012). Augmented reality menus exemplify this principle by providing comprehensive and rich product information, thereby reducing ambiguity and uncertainty regarding the products offered (Jen, 2021). This enhancement in information quality through AR can lead to better consumer understanding and decision-making.

Interactivity is characterized by the user's ability to easily manipulate and control their digital environment, receiving swift and impactful feedback throughout their engagement (Steuer et al., 1995). Augmented reality elevates this concept by infusing extra sensory dimensions—like auditory cues, objects, avatars, graphics, and text labels—into the real-world setting through digital means. This integration not only enriches the context but also amplifies the visual representation of products, thus offering an enriched interactive experience for consumers (Wedel et al., 2020).

Immersion refers to the profound experience of being deeply engrossed in an activity, a concept first introduced by Csikszentmihalyi (1988). Nakamura and Csikszentmihalyi (2002) further elaborated on this by introducing the idea of a flow experience, a state of intense focus and engagement in an activity that captivates one's attention completely, facilitating a dynamic interaction. According to Finneran and Zhang (2005), this immersive engagement not only heightens the effectiveness of the activity but also significantly boosts the individual's positive emotional responses, enhancing the overall experience. Massetti, (1996) defined novelty as the perception of newness and distinctiveness in comparison to previous experiences. In the context of digital menus, this novelty makes customers feel surprised and excited as if they are doing something new and different, which influences customers' perceived value (Wang & Wu, 2014).

2.3. Menu enjoyment, product quality uncertainty reduction, and purchase intention

Pleasure encapsulates the extent of enjoyment and satisfaction individuals derive while engaging in experiences mediated through various forms of media (Holdack et al., 2022; Venkatesh & Bala, 2008). The interactive features of digital menus engender sensations of delight, enjoyment, and happiness, significantly influencing and enhancing users' behavioral reactions and overall attitudes (Mohamed et al., 2022; Sun & Hsu, 2013). In consumer behavior, Dimoka et al. (2012) presented a conceptual framework on product uncertainty, articulating it as the challenges consumers face in evaluating product features and forecasting their future performance. This uncertainty is a principal hindrance in the consumption process. Mitigating product uncertainty involves diminishing the conjecture and apprehension consumers hold towards a product, which, in turn, bolsters their confidence and assurance in the attributes, quality, and compatibility of the product. Strategies to alleviate these uncertainties include the dissemination of comprehensive product information, the augmentation of interactive elements, and the facilitation of tangible experiences (Kim & Krishnan, 2015). Finally, purchase intention refers to users generating positive responses (reduced uncertainty and increased pleasure) due to external stimuli (digital menus), ultimately leading to a willingness to purchase (Yuan et al., 2021).

3. Methodology

This research was conducted in partnership with L'escargots French Cuisine in Taipei. The establishment is distinguished by its capability to accommodate approximately 60 patrons in its main dining area, supplemented by two discrete private chambers. The researchers designed and implemented a digital menu featuring interactive 3D models of the dishes, accessible through AR technology, complete with zoom, shrink, and rotate functionalities. Additionally, it includes bilingual recipes in Chinese and English, immersive short videos that showcase the cooking process of the dishes, and an interactive mini-game. The customers can scan the QR codes on the menu to access all functionalities (

Figure ***6*** and Figure 7).

Figure 6

The functions of the digital menu

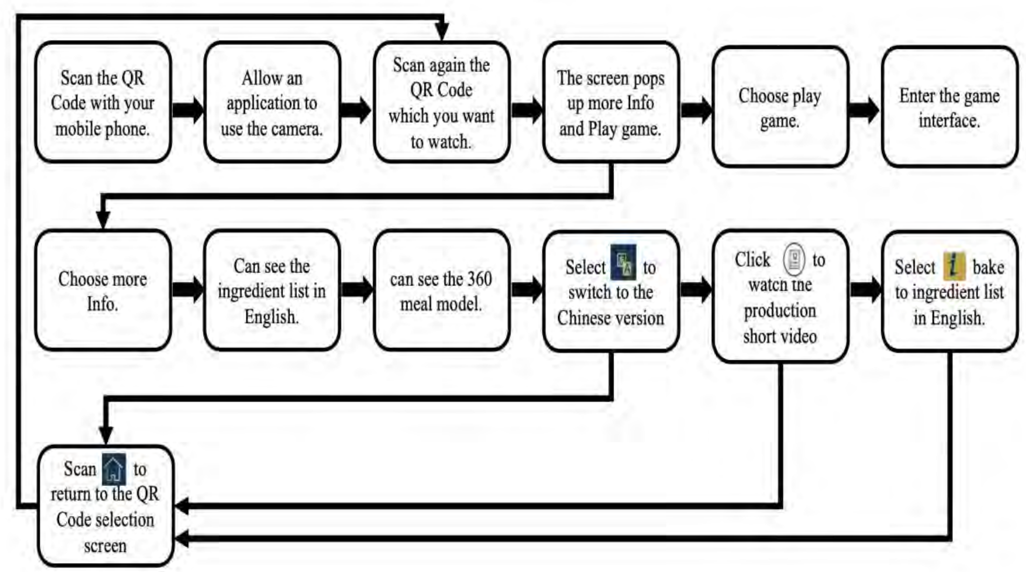

Figure 7

The design of the digital menu

This study employed semi-structured interviews, creating an interview protocol informed by the theoretical constructs mentioned above. The structured guide comprised 25 primary questions and facilitated in-depth dialogues with six specialists possessing diverse professional backgrounds and roles within the restaurant industry and academia (Table 5). For the analytical phase, the study adopted a content analysis approach. This involved a two-stage coding process: initially, open coding was utilized to categorize the data broadly, followed by pattern coding to refine these categories into distinct themes for comprehensive synthesis and interpretation. The peer-checking process was integrated to enhance credibility and ensure the validity of the study.

Table 5

The profile of the interviewees

Interviewees	Gender	Age	Job
R1	Male	51	General Manager of a two-star Michelin restaurant
R2	Female	30	Head waitress at a two-star Michelin restaurant

R3	Female	45	Restaurant off-site manager
R4	Female	23	Public Relations of a restaurant group
R5	Male	39	Tourism and hospitality management professor
R6	Male	58	Tourism and hospitality management professor

4. Results

Six participants experienced the digital menu before undergoing roughly hour-long interviews. Five reported positive experiences with digital menus in the past, highlighting reduced waiting times and clearer ordering processes. Technologically, two were eager to explore new innovations, while four were open to trying new technologies, indicating a general openness yet cautious approach towards technological integration in their experiences.

4.1. Media richness

The factor most commonly cited as influencing food ordering decisions is the digital menu's capability to offer comprehensive information, as noted by five interviewees, accumulating a total of 26 mentions.

"I am satisfied with the operation because the information provided allows me to understand the presentation of the dishes, whereas, with traditional menus, I have to rely on imagination." (R2)
"Augmented reality menus can provide even more detailed information." (R1)
Among the various methods of presenting information, a 360-degree 3D model through AR functionality emerges as the most compelling, receiving nine mentions from 5 interviewees, while the video follows closely with seven mentions by four interviewees. This finding aligns with prior research, which indicates that offering more information in a diverse array of formats boosts customers' purchasing intentions (Chandrashekaran, 2004; Mishra et al., 2021).

"I believe the 360-degree photos will influence customers' appetites. After viewing them, customers will also anticipate the dishes and wonder if they will be the same as what they saw." (R5)
"The video part is quite appealing because it's something you don't usually see. There aren't many opportunities to see it regularly." (R4)

4.2. Sense of experience (media novelty, immersion, interactivity)

Regarding the experiential aspects, the findings are coded into five categories based on the definitions from the literature: novelty, enhanced experience, enjoyment, immersion, and interactivity. All six interviewees identified digital menus as highly novel, with 22 mentions in total. Regarding the enhanced experience, five interviewees reported that a digital menu could significantly improve the dining experience, which was noted 17 times. Concerning enjoyment, all six found the digital menus enjoyable, with 16 mentions. In terms of immersion, they unanimously acknowledged that elements like videos, images, and interface fluidity significantly influenced their concentration levels, a point raised 15 times. Finally, interactivity was mentioned nine times by only four interviewees, indicating room for improvement. Overall, the interviewers indicated that the AR function (360-degree 3D model) and the video induce a sense of novelty and immersion. Allowing users to obtain a variety of information by clicking on different parts of the digital menu enhances the sense of interactivity.

"I feel the experience is quite fresh because I've never encountered features like the ability to rotate dishes in 360 degrees, clear recipe descriptions, and short videos to watch. It doesn't feel like just looking at a menu." (R5, novelty)

"I feel it can enhance my experience, or even improve my overall rating of the restaurant." (R4, enhanced experience)

"I feel like watching the videos gives me a sense of being in the kitchen." (R5, immersion)

"I think it's when you first scan the QR code and the menu appearance pops up. Then, when you click into it, you can see more information. It feels more interactive and direct." (R2, interactivity)

4.3 Product quality uncertainty reduction and purchase intention.

Through the use of digital menus, all six interviewees experienced a reduction in uncertainty regarding product quality; a theme mentioned a total of 17 times. Consequently, this also led to an increase in their willingness to make purchases, cited 16 times. However, the primary factor driving this increased purchase intent was the minimal variance in appearance. With the assistance of videos and images, participants felt reassured about the visual aesthetics, a point raised by four respondents a total of 10 times. Nonetheless, the foremost factor influencing purchase intent was unquestionably the taste of the dishes, which was mentioned by five interviewees a total of 15 times.

"If we compare traditional menus with augmented reality menus, in terms of reducing uncertainty about product quality and enhancing menu enjoyment, augmented reality is better because you can see what it looks like." (R3)

"I was initially unfamiliar with the dishes, and through this process, such as looking at photos, it might trigger my curiosity about this particular dish, so I would want to try it." (R2)

"I think it's the final presentation, like that 3D image. Through the annotations on the picture, I can be more certain about what it looks like, so it affects my willingness to order." (R1)

5. Discussion and Conclusion

The integration of augmented reality, multimedia, and gaming components within digital menus, as explored in this study, signifies an advancement in the restaurant industry's digital evolution. The functionalities of this digital menu are to enhance interactivity and immersion through a richer medium, aiming to foster menu enjoyment and reduce product quality uncertainty. In-depth interviews conducted during this research revealed that digital menus have become an option for customer service in modern society, providing functionalities like menu browsing, language switching, and entertainment. However, there remains a gap in the adoption of new technologies, which are minimally exposed to consumers. This study has unearthed the potential of digital menus to enrich the consumer experience by offering a wider array of content and diverse information formats, which in turn facilitates a better understanding of the dishes, elevates the menu browsing experience, and, consequently, bolsters purchase intentions. During the interviews, the participants highlighted several advantages of digital menus compared to traditional paper ones, including the ability to switch languages, view images, and access more detailed information. Among the various features we integrated into the digital menu, the 360-degree 3D models and videos garnered the most attention. These elements stood out for their ability to create a sense of novelty, immersion, and interactivity. This feedback underscores the importance of the graphical presentation of the dishes in the design of digital menus, suggesting that visually engaging elements can significantly enhance the user experience.

It is important to note that while digital menus can enhance customers' experience and purchase intention, the interviewees also mentioned that the taste of food is still the foremost important factor in choosing restaurants. Despite these advancements, the study identifies a notable challenge: implementing digital menus necessitates considerable investment in time and financial resources. For example, this investment may render AR less feasible for dining establishments that change their menu frequently or those with intricate menus, as building AR models takes a significant amount of time and effort.

Conclusively, this research delineates the transformative role of augmented reality-enhanced digital menus in the restaurant sector. The evidence gleaned from interviews indicates an escalating trend toward digitalization, with AR emerging as a potent tool for fostering more interactive, informative, and enjoyable dining experiences. The respondents' feedback on the AR features points towards a burgeoning consumer demand for immersive and interactive digital encounters within the restaurant industry.
Furthermore, the insights provided by the interviewees, including suggestions for digital menu enhancements like improved interactivity and connectivity, pave the way for future advancements in digital menu design. These enhancements could potentially revolutionize the way consumers interact with menus, thereby enriching their dining journey. Nevertheless, the financial and temporal investments required for AR implementation highlight a significant barrier, especially for luxury dining establishments that prioritize personalized customer-service interactions. This delineates a crucial area for further investigation, particularly in balancing technological integration with the preservation of traditional service quality. Moving forward, it is imperative for continued research to quantify the impact of digital technologies like AR on both customer satisfaction and business performance, offering a more nuanced understanding of digital transformation's role in the hospitality industry's future.

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Assessing sustainable tourism development in a participatory planning approach: The role of tourists' innovativeness and environmental consciousness

Park, Jinah
The School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Zhang, Hanyuan
The School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Hon, Alice
The School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Abstract:

By taking key concepts related to sustainable development such as smartness and creativity, this study proposes a new and more comprehensive indicator system that incorporates tourists' perspectives in a participatory planning approach and uses the indicator to identify variances in tourists' assessment of sustainable tourism development. Tourists' characteristics such as innovativeness and environmental consciousness were found as key antecedents affecting their perceptions of sustainable tourism development. The findings of this study will provide a blueprint for destination governments and policymakers to comprehensively assess their competition potential from tourists' perspective.

Keywords: Sustainable tourism, Destination planning, Indicator system, Tourist characteristics

1. Introduction

Sustainable tourism focuses on maximizing the use of natural and economic resources and also considering tourists' satisfaction and well-being, which was officially endorsed by the United Nations in 1992. To this end, smart technologies and culture-based creativity became two pillars of sustainable tourism development to increase efficiency and ensure sustainability (Sarantou et al., 2021). Drawing on the participatory planning approach which refers to collaboration with all stakeholders such as government policymakers, society, competitors, tourism workforce, and tourists in decision making is vital to achieving the goal of sustainable tourism development. This can be done by improving actors' awareness of environmental and socio-cultural conservation (Rasoolimanesh et al., 2023). However, it remains unclear how and to what extent different stakeholders can understand the concepts of sustainable, smart, and creative tourism and hence, support sustainability in destination development (Roxas et al., 2020). The majority of existing studies on sustainable tourism indicators have concentrated on the planners' perspective only, neglecting the importance of end users such as tourists' experiences in designing sustainable tourism destinations (Font et al., 2021). A few studies utilized surveys of tourists and residents based on established indicator systems (e.g., McLoughlin et al., 2020), but the surveys were only used to provide descriptions of the phenomenon rather than refining the established systems. Therefore, it is important to develop more comprehensive indicators that consider stakeholders' perspectives and contextual factors of destinations (Font et al., 2021).

Accordingly, this study aims to explore and assess a sustainable tourism indicator system based on the participatory destination planning approach. This study consists of two research objectives. First, we examine the indicators for developing sustainable destinations through the lens of existing indicator systems and exploratory investigation. Figure 1 describes the conceptual background and methodological approach for developing the holistic sustainable tourism indicator system. Second, we refine the structure of the sustainable tourism indicator system from the tourists' perspectives and further identify the attributes affecting their perception towards the sustainable tourism system. Provide a brief background to the topic, with some statistics or data to provide a background to the environment or situation. Explain why the study is needed from the academic and practical perspectives. Research objectives should be clearly specified.

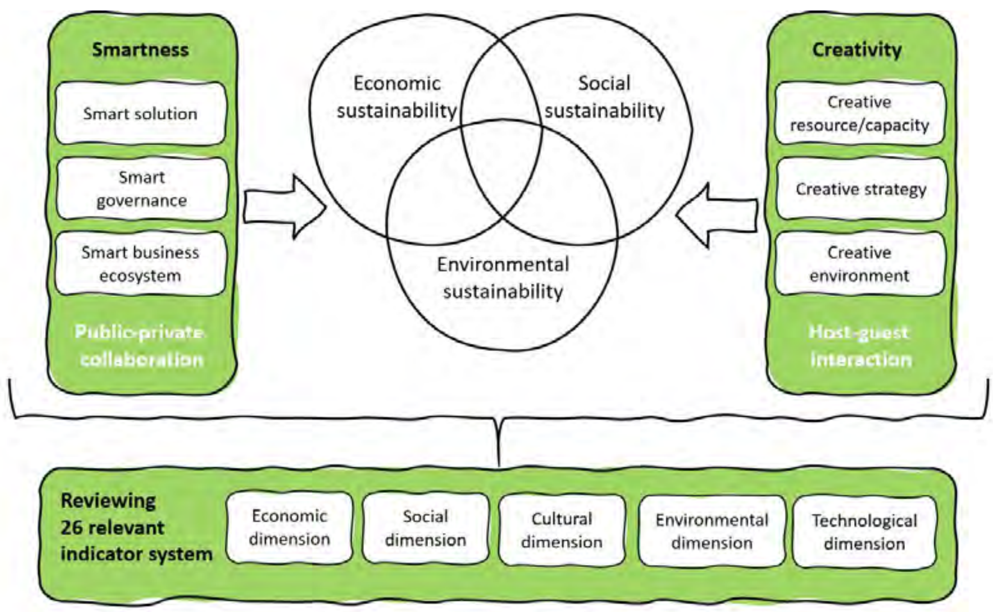

Figure 1 Conceptual background

2. Literature Review

The concepts of sustainability, smartness, and creativity in tourism development are synergistic and refer to the common goals of adding value to tourism stakeholders and increasing the competitiveness of destinations (Ricahrds, 2020; Shafiee et al., 2019). Paired with smart and innovative digital solutions and creativity, sustainable tourism development could help preserve natural resources while supporting economic and sociocultural development in the long run (EU, 2019).

Based on recent technological advancements, smart environments have become a key to achieving economic and environmental sustainability and offering meaningful and sustainable tourist experiences (Gretzel et al., 2015). According to Tussyadiah (2020), the implementation of new technologies to shape a sustainable future is a development trend for research agendas in tourism studies, and the adoption of digital technology and tourism can benefit all stakeholders within the tourism system. Accordingly, the concept of smart tourism is becoming popular in sustainable tourism planning due to the impact of smart initiatives on sustainability (Ivars-Baidal et al., 2023). Creativity is an innovative model of cultural tourism, which includes new creative tourism products and services and a strategy for leveraging economic growth and innovative placemaking for destinations (Gato et al., 2022; Richards, 2020). As an extension of or reaction to traditional cultural tourism, which relies on tangible cultural tourism products, creative tourism allows the destination to be more sustainable and mobile by providing more interactive experiences to the tourists (Tan et al., 2013).

3. Methodology

We conducted a list of article searches in Google Scholar and Web of Science, searching for topics such as “sustainable”, “creative”, “smart”, “tourism”, “destination”, and “indicator”. We collected 26 indicator development articles since 2000. In the 26 articles, 542 indicator themes were found under economic, social, cultural, environmental/ecological, technological, and governance dimensions. After two rounds of screening and review, the items with overlapping and unclear meanings were deleted, resulting in 160 indicator themes. To identify tourists’ perceptions regarding the sustainable tourism indicator system, we hired a professional data collection and marketing research company to administer the questionnaire survey. The questionnaires were distributed to Chinese tourists from February to March 2023. In total, 883 were considered valid after data cleaning.

4. Results

4.1. Sustainable tourism indicator system

The 160 items of the scale were subjected to factor analysis using SPSS 26. Items with a factor loading below 0.5 or a cross-loading above 0.5 were deleted (Nunnally, 1978). Ultimately, 49 items were retained in this study. The rotation yielded six factors: *infrastructure and internet connectivity*, *integrated online marketing communication (and data control)*, *ecological and cultural resources management*, *local community well-being*, *gender fairness*, and *accessibility and inclusiveness*. The Cronbach’s α values of the six factors ranged from 0.822 to 0.909, indicating satisfactory internal consistency within each dimension and adequate reliabilities.

The weights of each item for the aggregate sustainable tourism indicator system were determined by confirmatory factor analysis using R, and found the range between 0.654 to 0.753. At the individual item level, when perceived performance on ‘rate of houses owned by resident people’ and ‘official destination mobile app that offers added value for tourists’ by one point, the overall indicator system increases by 0.753 and 0.739 respectively. Regarding the factors of the indicator system, *accessibility and inclusiveness* (0.722) are the most important for sustainable, smart, and creative destinations, while *gender fairness* (0.699) is the least important.

4.2. Role of innovativeness and environmental consciousness

To further explore key factors affecting tourists' evaluation of sustainable tourism development based on the proposed indicator system, another round of data collection was conducted. The data were collected from a stratified sample of 200 Chinese tourists through the same data company in January 2024. Two inherent predispositions of tourists including innovativeness and environmental consciousness were tested (Parasuraman & Colby, 2015; Zhang & Liu, 2022). The result shows that both innovativeness and environmental consciousness have positive and significant impacts on tourists' overall perceptions of sustainable tourism development, which finally affect tourists' behavioral intentions (Table 1).

Table 1. Estimation results

	β	Std. Error	*t*	Sig
Tourist Characteristics → STP Perception [a]				
Innovativeness	0.273	0.064	4.292	<0.001
Environmental consciousness	0.375	0.080	4.688	<0.001
STP Perception → Behavioral Intention [b]	1.061	0.060	17.811	<0.001

Note. [a] Sustainable tourism development (STP) perception was measured by tourists' perceived importance of the six-dimensional sustainable tourism indicator system; [b] Behavioral intention was measured by (re)visit intention, willingness to pay a higher price, and recommendation intention.

5. Discussion and Conclusion

5.1. Discussion and implications

We proposed an indicator system to more accurately and comprehensively assess the progress of sustainable, smart, and creative tourism destinations, which is vital for managing tourism destinations and businesses. The findings of this study not only provide supporting evidence of the converging concepts of smartness, sustainability, and creativity in tourism development but also offer tourism practitioners insights on participatory planning tools for designing competitive destinations while considering tourists' perspectives. The sustainable tourism indicator system provides a blueprint for government policymakers to comprehensively assess their competition potential from tourists' perspective.

Our findings identified the role of tourists' characteristics, including innovativeness and environmental consciousness, as antecedents of perceived sustainable tourism development. Innovativeness and environmental consciousness which are innate traits of individuals play important roles in forming their perceptions of sustainable destinations. Destination governments and policymakers should take tourists' heterogeneous characteristics in terms of into account when they develop sustainable destination planning and branding strategies. It is necessary to develop a more nuanced understanding of how multi-dimensional sustainable tourism development can be differently assessed by tourist innovators versus later adopters, and greener tourists versus others.

5.2. Limitations of this study and suggestions for future studies

The study has several limitations. First, it assessed the perceptions of Chinese tourists only. However, an investigation of broader groups would be needed to address the heterogeneity of the tourists' perspectives. Second, as another key consumer and co-producer of the destinations, local residents' evaluations of their own place are important. Hence, enlightening and encouraging local stakeholders to participate in sustainable tourism development is critical, and more empirical studies involving resident groups are encouraged.

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Pawprints plus: Summing up visitor perceptions on carbon calculations

Shi, Jade Jieyu
Hospitality Business
Singapore Institute of Technology

Kruesi, Michael Alexander
Hospitality Business
Singapore Institute of Technology

Remy, Detlev
Hospitality Business
Singapore Institute of Technology

Abstract:

The present study investigates visitors' perceptions of carbon footprint calculators (CFCs) and their intention to use CFCs and pro-environmental behavioral intention at wildlife attractions. Using a TAM-based survey with 223 valid responses from Singapore Zoo, the initial findings indicated that Perceived Ease of Use (PEOU) and Personal Innovativeness (PI) significantly and positively influence zoo visitors' intention to engage with CFCs. These findings indicate that visitors to wildlife attractions also care if CFCs are user friendly and PEOU significantly influences their intention to use such technologies. Similarly, people who demonstrate a higher level of Personal Innovativeness are more likely and willing to accept and try new technologies. Furthermore, the study results found that visitors' intention to use CFCs significantly and positively affects their pro-environmental behavioral intention at wildlife attractions. The study's results offer insights into the role of interpretive tools in environmental education and their impact on sustainable behaviors. The research also suggests areas for future research, such as longitudinal studies on behavior change and the integration of various educational strategies to enhance visitor engagement and conservation outcomes.

Keywords: Sustainability, Carbon Footprint, Wildlife Attractions

Ethical journey: A framework to enhance tourist experience and sustainable destination management

Wichupankul, Surarak
Faculty of Hospitality and Tourism
Prince of Songkla University
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Abstract:

Ethical decision-making has an influential role in shaping the quality of tourists' experience and holds significance in sustainable destination management. This study reveals the strategic role of ethical decision-making, emphasizing its impacts on both tourists and destinations. The proposed framework is grounded in the integrative literature review, including a holistic decision-making phase. It offers avenues for future research on decision-making in the context of sustainable destination management, encouraging awareness among key stakeholders about the implications and consequences of ethical decision-making.

Keywords: Ethical decision-making, Tourist experience, Experience phases, Sustainable tourism, Destination management

1. Introduction

Ethical decision-making has been introduced in tourism with its paradoxical aspect between pleasure and morality. Meanwhile, they can be harmonized as there is a compromise between ethical decisions and pleasure in which individual values reinforce ethical choices (Malone, McCabe, & Smith, 2014). The recent tourism studies have complemented the knowledge of motivations to engage in ethical decision-making during the holiday (Teng, Ma, & Jing, 2021) and the measures of ethical decision in tourism (Cohen & Cohen, 2019). There has been limited focus on the role of tourists as active participants in ethical decision-making (Tolkach, Pratt, & Zeng, 2017), despite the ethical approaches should be extended into customer experience management and sustainable destination development strategy (Dwyer, 2023; Godovykh & Tasci, 2020). Tourists' experiences can be positive or negative depending heavily on their choice or decision-making (Malone, McCabe, & Smith, 2014). Therefore, comprehending the integration of tourists' ethical decision-making and tourism experience potentially enables them to engage with pleasure and positive consequences from tourism. The key objective of this study is to propose future research agendas and provide guidelines for practitioners to recognize the significance of tourists' ethical decision-making in enhancing the tourist experience.

2. Literature Review

Ethical decision-making is defined as "a multi-staged process that involves recognizing an issue as moral, making a moral judgement, establishing moral intent, and engaging in moral behavior" (Lovelock & Lovelock, 2013, p. 89). However, this concept excluded the process of how the decision was made. Consequently, Tolkach, Pratt, & Zeng (2017) argued that ethical decision-making involves both attributes that are individual moral reasoning processes or how moral judgement was made. The process of ethical decision-making can be initiated when a person acknowledges the existence of the ethical issue (Lee, Bonn, Reid, & Kim, 2017). In addition, ethical issues may arise before and during the trip experience which accordingly leads to post-trip conflict for any unsettled or partly solved dilemma (Ingram, Caruana, and McCabe, 2017). In a nutshell, ethical decision-making is relevant throughout all the tourist experience phases and most certainly plays an important role in tourists' experience quality (Paramita et al., 2021).

The tourist experience is diversely studied involving its components (Tung & Ritchie, 2011), phases (Godovykh & Tasci, 2020), and constantly investigated of the connection with outcomes of positive emotion (Fileb & Pearce, 2014). The tourist experience is the whole thing a tourist is involved in at a destination (Oh, Fiore, Jeoung, 2007). Each phase in tourist decision-making possibly influences tourist behavior and intention, which consists of pre, during, and post-consumption experience (Godovykh & Tasci, 2020). Additionally, three phases of experience can be categorized based on the tourist location that is pre-experience away from the destination, on-site experience or on-site post-experience, and off-site post-experience (Yachin, 2018). Meanwhile, Ingram, Caruana, and McCabe (2017) proposed that tourists transition and position their experience through prospective, active, and reflective stages.

3. Methodology

The study employed the integrative literature review that enabled the identification of literature gaps and identified the future steps for research and practice (Russell, 2005). The keywords, "ethical decision-making" and "tourist experience", were adopted for the search process. The selected papers undergone three screening steps: (1) removal of duplicate articles (2) assessment of keywords and abstracts, and (3) examination of the research context. The research articles from 2014 - 2023 were included in the literature search. It was conducted in December 2023 employing the online database platforms, Google Scholar and Web of Science database. The title and abstract screening were conducted including reverse snowballing to identify the additional relevant studies. They were critically reviewed and synthesized based on the extent to which the papers examine ethical decision-making and tourist experience. From 27 papers, the antecedents and consequences of ethical decision-making were extracted along with the identification of tourist experience phases.

4. Results

The proposed framework (Figure 1) visualizes the findings which are the relations among antecedents of ethical decision-making, phases of tourist experience, and consequences of ethical decision-making.

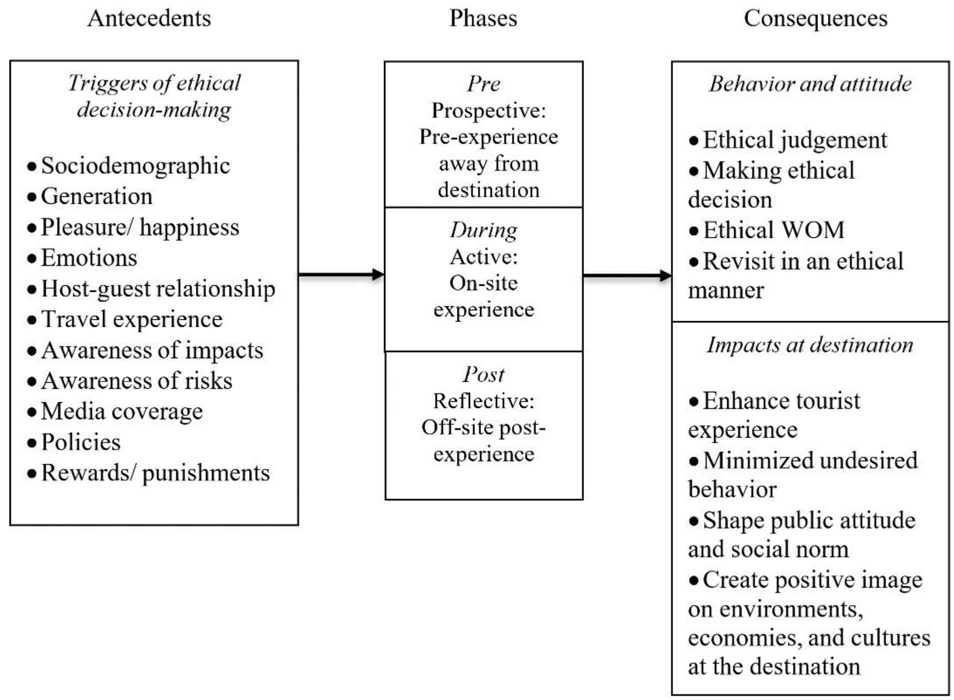

Figure 1. Framework of Tourist Ethical Decision-making

The intrinsic and extrinsic antecedents influenced tourist ethical decision-making including awareness of impacts, pleasure, travel experience, media and policy, education, reward, or benefit gained, and host-guest relationship. Ethical decision-making spanned all tourist experience phases, each phase requiring specific triggers to activate it. The consequences of tourist ethical decision-making primarily affected tourist behavior and attitude. Tourists have made ethical judgements which influence their decision-making regarding their engagement in tourism, word of mouth, and revisit intention. Additionally, the tourist experiences were enhanced, inappropriate behavior was minimized, a positive destination image was created, and public attitude and social norms were promoted. Subsequently, the consequences of tourist ethical decision-making could support sustainable destination management.

5. Discussion and Conclusion

More extensive research has been conducted during the experience phase compared to the pre and post experience phases. This may be attributed to the impacts on tourists and tourism destinations. The results complemented the current study in terms of the impact from the destination perspective (Fakfare et al., 2023) and the importance of ethical decision-making in pre and post-experiences (Fennell, 2015).

The model theoretically extends the research area of ethical decision-making into a more holistic tourist experience covering pre, during, and post-phases. Researchers can apply the proposed model to structure future research and explore the relationships among factors and different phases of experience. For further study, it is suggested to explicitly define tourist experience phases and tourist ethical decision-making based on location and action to enhance the generalizability of the study. Additionally, future studies can incorporate tourist ethical decision-making with tourist experience design to promote sustainable tourism. This model is practically beneficial for creating a better understanding among tourism practitioners and providing guidelines for selecting impactful factors such as media coverage, policies, and rewards to encourage tourist ethical decision-making. Ethical behavior resulting from ethical decision-making will enrich the tourist experience, create positive outcomes for the individual, and contribute to sustainable destination management.

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Fostering a greener campus dining: Boosting gen Z consumers' attitudes toward reusable containers

Ko, Seonwoo
Howard Feiertag Department of Hospitality and Tourism Management
Virginia Tech

Kim, Eojina
Howard Feiertag Department of Hospitality and Tourism Management
Virginia Tech

Abstract:

Sustainability has become integral in daily life, and engaging in sustainable practices at campus dining is an ongoing trend to meet customer needs and minimize environmental harm. Despite these endeavors, food and plastic waste issues remain over time, and perceptions of reusable containers from Gen Z consumers have been overlooked. Using the Elaboration Likelihood Model, this study utilized goal message framing strategies to improve attitudes toward reusable containers by performing an experimental design and Process Model. This study's findings suggest that framing messages through a peripheral route will positively influence attitudes toward reusable containers for users at campus dining.

Keywords: Reusable containers, message framing, waste management, elaboration likelihood model

1. Introduction

Reducing food and plastic waste poses a significant sustainability challenge for the foodservice industry, grabbing attention for its environmental impact, including waste generation and greenhouse gas emissions (EPA, 2023; National Restaurant Association, 2023). In response to this, university dining services have begun movement by implementing strategies to address concerns: it is reported that dining services are the most significant contributor to campus carbon footprint, directly relating to global climate change issues (Li et al., 2015). Among waste management principles regarding the 3Rs (Reduce-Reuse-Recycle) (OECD, 2010), promoting reusable containers has notably emerged as an effective strategy to reduce the number of single-use plastic containers in several universities (Hughes & Williams, 2015). However, sustainability issues persist on campus (Carrillo, 2014), highlighting the necessity for further action.

Despite the widespread availability of reusable containers in dining services, the return rate remains low (Estrada, 2022a), with consumers exhibiting a preference for disposable containers over reusable ones (Greenwood et al., 2021). This underscores the necessity of implementing a built environment for consumers to give them more opportunities to familiarize themselves with sustainable campus activities. Educating individuals at an early stage to be more sustainable is crucial as this can shift individuals' life-long sustainable behavior patterns (Chakraborty et al., 2017). Food consumption is also considered a habitual behavior, so changing attitudes or behavior patterns requires sustained effort over time (White et al., 2019).

Additionally, the largest consumer market for university dining is mostly college students belonging to Generation Z (Gen Z), born between 1995 and 2010 (Sakdiyakorn et al., 2021). This generation is the largest demographic cohort, representing around 32% of the global population, and has shown a higher willingness to take sustainable action (Miller & Lu, 2018). As such, their influence on sustainability is critical in shaping global consumer markets (Tewari et al., 2022). Thus, engaging Gen Z in sustainable practices is essential for driving meaningful change.

Prompts have been discussed as a great trigger to initiate sustainable behavior due to low costs and easy accessibility (White et al., 2019); hence, providing messages has been used to alter consumers' attitudes or behavior in several contexts (Han & Hyun, 2018). Among three types of message framing in hospitality and tourism contexts, including risky choice, attribute, and goal message framing types, goal message framing has been validated to be effective regarding pro-environmental behavior change (Onwezen, 2023). Furthermore, as sustainable behavior is affected by contextual effects (Miao & Wei, 2013), it is plausible which type of goal framing would effectively increase the attitude toward reusable containers in the campus dining context.
The elaboration likelihood model (ELM) helps understand how the messages are processed, distinguishing between central and peripheral routes, which relates to the extent to which you consider a decision before making it (Petty et al., 1986). Although ELM was primarily applied in online communication, this study extends the applicability of ELM in offline contexts, specifically investigating attitudes towards reusable containers in campus dining. According to the existing literature, individuals with high levels of the peripheral route are shown dependency on peripheral cues, such as perceived benefit and image appeal (Cyr et al., 2018). When the levels of the central route are higher, individuals are inclined to need more cognitive processing to assess environmental concerns and environmental knowledge (Liu et al., 2022). In this study, peripheral routes were measured by perceived benefits and image appeal, and central routes were tested by environmental concerns and knowledge.

To sum up, this study utilized three goal message framing strategies to find the effects on attitudes toward returning reusable containers while considering two message processing routes. In this study, we would like to answer two research questions: *"What is the most effective goal message framing strategy for communicating sustainable attitude in university dining services?"* and *"What is the process by which individuals consume information from messages, leading to attitude change regarding the reusable containers in campus dining?"* The remaining parts of this paper are organized as such: the literature review, along with the development of the hypotheses, methodology, results, and discussions.

2. Literature Review

2.1. Sustainability in campus dining

Campus dining, one of the largest categories of the foodservice industry, has shown steady growth, becoming a primary choice for students due to its convenience (Joung et al., 2014; Kim et al., 2009). However, the COVID-19 pandemic has led to a concerning shift towards environmental unfriendliness in campus dining, marked by a surge in single-use plastics and to-go containers to address public health concerns (Molloy et al., 2022). Moreover, in accordance with global circumstances, safety regulations have intensified this trend, mandating single-use plastic containers instead of reusable plastic containers (Kitz et al., 2022). After COVID-19 was alleviated, several sustainable practices have been implemented and reintroduced to follow evolving foodservice norms, such as the adoption of reusable containers, local-grown sources, and food donation (Turenne, 2009; Yoon et al., 2023). Nevertheless, the challenge persists; one college in the United States reported that approximately 1.5 million foam to-go containers were used and discarded in a year on its campus (Hughes & Williams, 2015). Thus, limiting plastic waste at campus dining is still an ongoing challenge for managers in shifting user attitudes and behaviors toward plastic waste, despite the implementation of sustainable practices (Wang et al., 2023).

2.2. Attitude toward reusable containers at campus dining

A reusable container is designed for multiple uses in a system to minimize waste throughout its life cycle (EUR-Lex, 2004). Several campuses have promoted reusable container programs as part of sustainable initiatives to meet society's eagerness for eco-friendly practices (Orzan et al., 2018). However, a gap exists between sustainability and using reusable containers. Although reusable containers can significantly reduce the use of single-use plastic containers in foodservice operations (Greenwood et al., 2021), challenges remain in increasing their actual utilization. Several options are offered to promote using reusable containers, such as offering them for free, with a refundable deposit, or compostable containers for a certain amount of charge (Carrillo, 2014; Estrada, 2022b). Nevertheless, several U.S. campuses reported that many reusable containers had not been used, returned, or discarded (Carrillo, 2014; Estrada, 2022a).
Educating the younger generation is critical for lifelong sustainable behavior change. Sustainable behavior change needs to be habitual formation, so sustainable behavior change takes longer and repeated actions to shift unsustainable behavior (White et al., 2019). Consumers prefer to recycle containers than reuse them, and individuals tend to engage with that practice if they are more familiar with them (Greenwood et al., 2021). Hence, it is plausible that the attitude toward reusable containers is not yet favorable to consumers, and providing a system to make them more familiar with reuse practices is critical. In campus settings, containers are more common due to students' patterns of taking meals between classes or going back to dormitories (Ellison et al., 2019). As campus dining's main target population includes young consumers, implementing sustainable practices is critical, given their tendency to generate waste (Thyberg & Tonjes, 2016).

While measuring actual behavior is ideal, predicting individual behavior patterns is challenging (Ajzen, 1985). Attitude toward the behavior refers to "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (Ajzen, 1991, p. 188), serving as a key predictor influencing intention and actual behavior (Ajzen, 1985). Previous sustainability studies have measured attitudes to predict sustainable behaviors, highlighting the importance of sustainable practices (Chakraborty et al., 2017).

2.3. Goal message framing

Prospect theory outlines how framed messages affect an individual's behaviors and preferences (Kahneman & Tversky, 1979). Message framing, presenting information in two distinct values, positive or negative, is one of the effective communication methods with consumers (Ku et al., 2018). Sustainable behavior patterns vary based on research context and type of message framing

(White et al., 2019). For instance, Whitehair et al. (2013) found that a written message in campus dining reduced 15% of food waste.

Three types of message framing have been categorized: attribute, goal, and risky choice framing. Among these, we chose goal framing for finding effective messages as it is considered a more compelling strategy for promoting sustainable choices by directing consumers toward sustainability-oriented goals (Thøgersen & Alfinito, 2020). Goal framing targets activated goals impacting individual situations (Lindenberg & Steg, 2007). However, the effectiveness of different goal-framed messages on sustainable behavior shows inconsistent patterns due to varied consumer perceptions, such as emotional, economic, and social norm factors (Tate et al., 2014). Goal framing can be categorized into three types based on the desired impact: hedonic and normative goal framing (Lindenberg & Steg, 2007). Gain goal framing enlightens resources gained by goal achievement, particularly more effective for individuals sensitive to resource gains (Chakraborty et al., 2017). A hedonic goal focuses on immediate positive emotions or feelings regarding goal achievement (Lindenberg & Steg, 2007). Normative goal framing emphasizes adherence to social norms and appropriateness, leading individuals to conform without considering personal preferences (Lindenberg & Steg, 2007). Individuals with a high hedonic value are more likely to use sustainable products or practices due to pleasure (Steg et al., 2005), aligning with young consumers' preferences (Eren et al., 2012). Therefore, four hypotheses are developed:
H1a. A gain goal-framed message positively affects attitudes toward reusable containers.
H1b. A hedonic goal-framed message positively affects attitudes toward reusable containers.
H1c. A normative goal-framed message positively affects attitudes toward reusable containers.
H1d. A hedonic goal-framed message is more effective than gain and normative goal-framed messages.

2.4. Elaboration likelihood model
The Elaboration likelihood model (ELM) explains how communication induces attitude change and cognitive elaboration, referring to the extent to which consideration when making a choice (Petty et al., 1986). According to the ELM, individuals process persuasive messages through two distinct routes: the central route and the peripheral route (Petty et al., 1986). The routes determine the extent of attitude changes (Petty et al., 1986). The selection of these routes is determined by the individual's motivation level and ability to engage in cognitive elaboration (Petty et al., 1986).

The central route involves high elaboration, where individuals carefully analyze the information and decide (Petty et al., 1986). This route describes the cognitive process with thorough evaluation, subsequently making decisions depending on the perceived strength and quality (Petty et al., 1986). Environmental concern and knowledge are vital indicators of the central route (Liu et al., 2022). Environmental concern is how individuals are conscious of environmental issues and are motivated to address them (Alibeli & Johnson, 2009). Environmental knowledge influences attitudes through a central route, and a significant relationship was found between consumers’ environmental knowledge and a positive attitude toward sustainable practices (Wu et al., 2013).

In contrast, the peripheral route, involving low elaboration, occurs as a cognitive phenomenon when individuals are unwilling to invest sufficient cognitive resources in thorough evaluation (Pety et al., 1986). Instead, individuals rely on cues, such as perceived benefits and image appeal, to shape their opinions or judgments (Cyr et al., 2018). Image appeal, including visual elements like images and designs, affects consumers' attitudes (Cyr et al., 2018). Similarly, perceived benefit is closely related to the peripheral route, as individuals tend to adopt a positive attitude when immediate benefits are perceived from behavior change (Liu et al., 2022). Thus, hypotheses are proposed, and Figure 1 shows the conceptual framework of this study:

H2a. The central route mediates the relationship between goal message framing and attitude toward reusable containers.

H2b. The peripheral route mediates the relationship between goal message framing and attitude toward reusable containers.

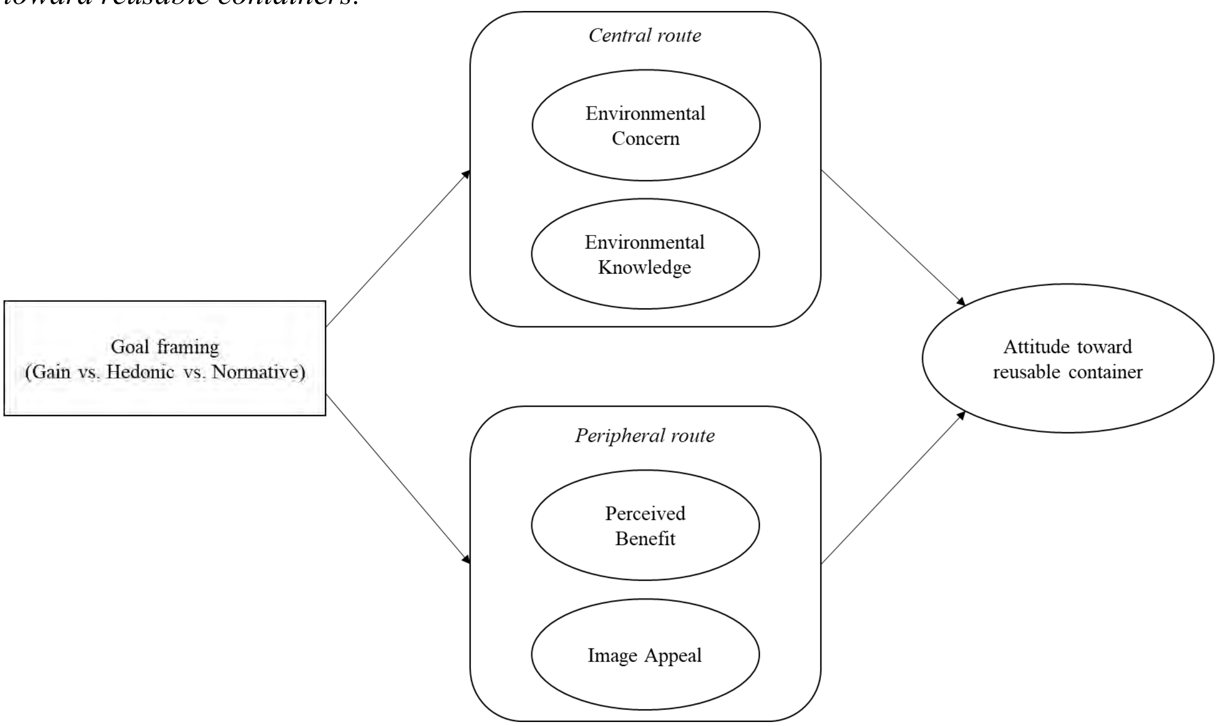

Figure 8. Conceptual framework.

3. Methodology

3.1. Overall research design and sample

A between-subject experimental design was employed to test the hypotheses, recognized for assessing causal relationships while researchers have control over the study (Kirk, 2009). The survey was constructed into five sections. The first section included screening questions, ensuring participants were aged 18 or above and had previous experience using reusable containers at campus dining. Subsequently, participants were randomly assigned to one of four conditions, and we asked them to imagine ordering food at a self-kiosk and seeing the message at the campus dining services. An actual publicly accessed image of the campus dining area was utilized for the scenario realism (Lindzey & Aronson, 1968). The third section included participants answering questions about peripheral routes, central routes, and attitudes toward containers. The fourth section involved questions about manipulation and realism; the last included demographic information questions.

Considering the study's target population is college students, we recruited participants from a university in the U.S., specifically through the School of Communication Research Participation (Sona) System. The Sona System is an online research recruitment system accessible to undergraduate students. Upon completion of participating in research studies, they receive extra credits as compensation.

3.2. Measures
This study measured the scale adapted from previous literature. The attitude toward reusable containers was measured with three items (Ajzen, 1985; Paul et al., 2016). For example, "After viewing the message, I feel favorable toward reusing a green version of the food container" was included. Regarding two variables of the peripheral route, five items were included to measure the image appeal (Cyr et al., 2018), and four items were included to measure the perceived benefit (Liu et al., 2022). In the central route, environmental concerns and knowledge were measured using four items each. Adapted from previous literature, three questions about which features the message highlighted were included to test the manipulation effectiveness. One attention check question was added to ensure the research participants' continued attention to the study. A scenario realism check question was also included to ensure that research participants perceived the scenario as realistic (Lindzey & Aronson, 1968).

3.4 Data analysis
The process model was used to analyze the study's findings because this model enables testing the mediation relationship between independent and dependent variables (Hayes, 2017). Specifically, we performed the mediation analysis using Process Model 4. Goal framing was used as an independent variable, and attitude toward returning reusable containers was used as a dependent variable. In addition, an analysis of variance (ANOVA) was also performed to find the optimal message type on the attitude and to check the effectiveness of manipulation.

4. Results

A total of 144 participants were recruited through a campus research participation system in the United States. In the middle of the survey, researchers added an attention question to ensure whether participants paid attention to the study. Thus, 10 samples that failed to check the appropriate answer to the attention question were excluded from further analysis. A total of 134 samples were finally included to analyze the effectiveness of goal message framing on attitudes toward returning reusable containers while considering central and peripheral routes as mediators.

4.1. Samples
We performed descriptive statistics of sample demographics (see Table 1). All the participants were between 18 and 24 years old, representing Generation Z. Regarding gender, around 58.2% of the samples were females, and the rest were primarily males. About 63.4% of the samples were Caucasian or White. Regarding household income, around 35.1% reported that income is

higher than $100,000, but around 30% did not prefer to report their household income. We did not include educational levels in the survey as we recruited the samples through the university system, assuming their educational level was higher than that of the high school.

Table 1. Sample demographic profile.

Characteristics	*N*	Percentage
Gender		
Male	53	39.6
Female	78	58.2
Non-binary or third gender	1	.7
Prefer not to answer	2	1.5
Age		
18-24	134	134
Race/Ethnicity		
Hispanic/Latino	7	5.2
Asian	20	14.9
Black/African American	8	6.0
Caucasian/White	85	63.4
Multiracial	9	6.7
Prefer not to answer	5	3.7
Household income (USD)		
Below $24,999	23	17.2
$25,000 – 49,999	5	3.7
$50,000 – 74,999	6	4.5
$75,000 – 99,999	12	9.0
Above $100,000	47	35.1
Prefer not to answer	40	29.9
Missing	1	.7

4.2 Results of hypotheses testing

To test H1a through H1c, an analysis of variance (ANOVA) was performed to see the difference between the groups (see Figure 2). We found significant differences among the groups regarding the attitude toward returning reusable containers (F (3, 130) = .763, p<.05). All four scenarios were reported higher than 4 out of 7; this indicates that the respondents showed a positive attitude toward returning containers, thereby supporting H1a through H1c (M_{gain} = 5.80, $M_{hedonic}$ = 6.19, $M_{normative}$ = 6.13, $M_{control}$ = 5.67). The hedonic-framed message was significantly more effective than the other two message types, thereby supporting H1d.

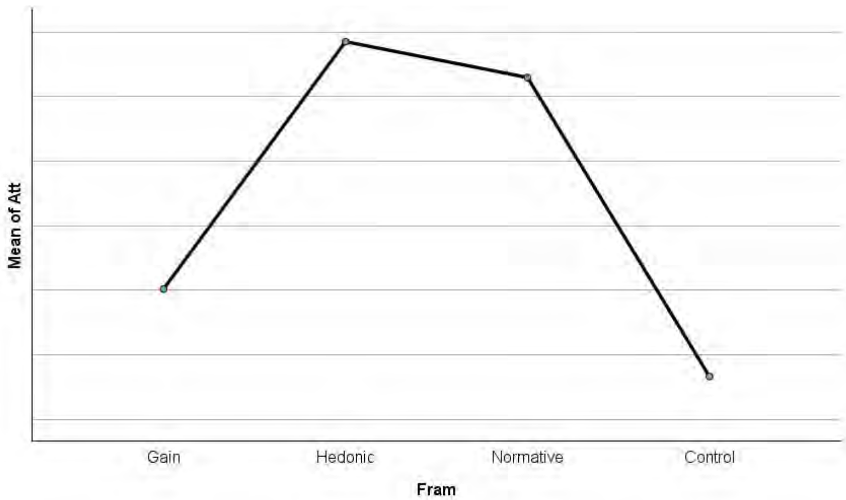

Figure 9. The mean plot of the goal message type.

To test whether the central and peripheral routes mediate the relationship between goal message framing type and attitude, we computed the variables into a central and a peripheral route using the average of the two variables. Specifically, perceived benefit and image appeal were used to compute a peripheral route, and environmental knowledge and environmental knowledge were used to compute a central route. To test H2a through H2d, Process Model 4 with 5,000 bootstrap samples and a 95% confidence interval was performed. We used message framing type as an independent variable (X) and attitude as an outcome variable (Y). The four central or peripheral route variables were used as mediating variables (M), and gender was used as a covariate for controlling confounding variables. First, we did not find the significance of message framing on attitude through the central route; hence, H2c was not supported. We found the significance of message framing on attitude through the peripheral route, supporting H2d. Upon examination of two variables within the peripheral route, message framing significantly influenced perceived benefits (b = .13, 95% LLCI = .02, ULCI = .24). In turn, attitude toward reusable containers (b = .34, 95% LLCI = .17, ULCI = .52). The image appeal mediates the relationship between message framing (b = -.19, 95% LLCI = -.36, ULCI = -.03) and attitude (b = .23, 95% LLCI = .09, ULCI = .38).

Furthermore, Cronbach's alpha was performed to ensure the reliability of measures for this study. All the scales, including attitude, perceived benefit, image appeal, environmental knowledge, and environmental concerns, were reported above the .7 threshold. We also conducted the ANOVA to ensure the participants received the message as manipulated; there was a significant difference between the scenarios (F (3, 130) = 2.714, p<.05). Regarding the scenario realism, participants reported 4.85 out of 7 scales, indicating that they perceived the scenario as realistic.

5. Discussion and Conclusion

Sustainability is currently one of the hot trends in the foodservice industry to combat global environmental issues; most businesses have adopted sustainability strategies (National Restaurant Association, 2023). It is critical to highlight that all stakeholders, particularly consumers, have to participate in these sustainable efforts (Liu et al., 2022). Similarly, campus dining has introduced reusable containers and reduced single-plastic use to make dining more sustainable. Nevertheless, the issue of food and plastic waste has not been resolved due to the lack of customer engagement. Customers have used reusable containers but never returned the reusable containers, leading to the loss of containers and environmental harm (Carrillo, 2014; Estrada, 2022a). Hence, this study attempted to examine the effectiveness of goal-framed messages on positive attitudes toward reusable containers through the central and peripheral routes.

Contrary to previous findings, the results found the positive effectiveness of three types of goal message framing on attitudes toward reusable containers, but only through the peripheral route. Liu et al. (2022) found that customers intended to select low-carbon footprint foods through the central and peripheral routes. We possibly explain the non-significant relationship of the central route and differences from previous studies. First, the target demographic for campus dining primarily comprises Generation Z, who exhibit distinct sustainable behavior patterns, particularly due to familiarity with global environmental issues (Casalegno et al., 2022). Thus, highlighting environmental knowledge and concerns in messages may not effectively trigger attitude changes toward sustainable activities. Additionally, all messages influenced positive attitudes, showing the tendencies observed in previous sustainability studies. Social desirability bias explains that individuals may report socially favorable responses regardless of their actual attitudes or behaviors (Cerri et al., 2019). Taken together, this study contributes to the literature by understanding the message processing to communicate sustainable messages in campus dining and validating the effectiveness of goal-framed messages on positive attitudes towards reusable containers.

This study offers several theoretical takeaways. Its findings elucidate which message framing positively influences attitudes toward returning reusable containers. While the ELM is traditionally applied to understand information processing in online communication contexts (Petty et al., 1986), this study extends its applicability to offline settings, specifically campus dining. By validating the effectiveness of the ELM in different contexts, this study also broadens the scope of the model and provides a deeper understanding of information processing.

Furthermore, our findings provide insights into how goal-framed messages can promote sustainable behaviors, contributing to the existing literature by identifying effective strategies and expanding the applicability within the campus dining environment. Specifically, this study showed that message framing effectively evokes a positive attitude toward reusable containers, particularly through a peripheral route. We elucidate the interplay between theoretical mechanisms and individuals' actual attitudes towards sustainability, considering contextual factors, such as Gen Z characteristics and the effect of social desirability bias on sustainable behavior.

In practice, this study will help researchers and campus dining practitioners understand the psychological process of using reusable containers. Utilizing message framing as a cost-effective strategy can initiate sustainable behavior change, making it feasible for campus dining facilities to integrate these prompts into their ordering processes or near return stations (White et al., 2019). Additionally, current findings inform the development of sustainable marketing strategies targeting Gen Z: knowledge-based messages may not be as effective as those highlighting the peripheral route. The study suggests leveraging multimedia formats, such as videos, to engage Generation Z in sustainable activities to provoke their peripheral route for processing information. Businesses can effectively influence Gen Z toward sustainability by expanding beyond traditional communication channels, like images and text (Murray, 2023).

5.1. Limitation and future studies

Limitations and suggestions for future studies are suggested. First, the study was performed online. Conducting a field experiment will be beneficial in future studies to capture consumers' actual attitudes toward reusable containers. Second, participants may have exhibited social desirability bias, leading to respond positively. Even though the control group received one sentence prompting using containers in the message, the attitude was still reported positively. Future studies may use more comprehensive measurement scales or multiple data sources to capture actual behavior pattern change.

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The determinants of customers' willingness to visit green hotels

Lam, Iok Keng Veronica
School of Hospitality Management
Macao University of Tourism

Yang, Ying Qi
School of Hospitality Management
Macao University of Tourism

Abstract:

The study examines Chinese customers' willingness to visit green hotels through a proposed model of green hotel attributes, green hotel values, environmental concern, personal responsibility, and willingness to sacrifice. PLS-SEM was applied to analyse 207 samples. The study findings show that personal responsibility, willingness to sacrifice and green hotel value significantly influence customers' willingness to visit green hotels. Although environmental concern fails to predict willingness to visit green hotels, customers' willingness to sacrifice showed a significant mediating effect in the relationship between environmental concern and willingness to visit. The finding provides suggestions for green hotel marketing and communications.

Keywords: Green hotels, Environmental concern, Responsibility

1. Introduction

Green practice is one of the most common elements in the corporate social responsibilities of hospitality organizations (Gao & Mattila, 2014). It can also be an essential feature for the development of brand image (Lee et al., 2010; Shanti & Joshi, 2022). In doing so hotels create a positive brand value by satisfying the public as well as achieving long-term sustainability. However, there are always discussions on the challenge of satisfying green hotel guests' needs while maintaining eco-friendly practices (Chua & Han, 2022).

Increasing numbers of studies investigate the factors that influence green hotel visit intentions. Factors such as customers' values, attitudes, and responsibilities can play a significant role in driving green hotel visits (Rahman & Reynolds, 2016; Verma et al., 2019). Marketing stimuli factors such as eco-friendly amenities and green hotel image can influence a person's willingness to visit a green hotel (Huh & Chang, 2017; Kularatne et al., 2019). Despite past research that have been studied the factors that influence customers' behavior towards green hotels, more research is needed for a better understanding of the factors that drive people's green hotel visit intentions.

The aim of the study is to examine Chinese customers' green hotel visit intention through a proposed model of green hotel attributes, green hotel values, environmental concern, personal responsibility, and willingness to sacrifice. The findings of this study offer practical contributions related to green hotel marketing and management.

2. Literature Review

Wang et al. (2018) stated that environmental concern is the extent of people's attention and awareness of environmental issues and their willingness to devote themselves to climate preservation. Environmental concern has a great impact on people's behaviour in protecting the environment. According to Gan and Nuli (2018) and Verma et al. (2019), an intense consciousness of environmental protection is the factor that encourages tourists to pay more attention to green hotels and to pay a price premium for hotels which adopt sustainable principles.

Past studies showed that pro-environmental behaviour can be driven by a strong sense of personal responsibility (Bouman et al., 2020; Ng & Basu, 2019). For example, customers are more likely to be involved in environmentally friendly activities, which optimize the global environment, and have more intention to purchase sustainable products (Verma et al., 2019). It was also suggested that concern for the environment can lead to a person's willingness to make a sacrifice and foster pro-environmental behavioral intentions (Gifford & Nilsson, 2014; Oreg & Katz-Gerro, 2006). As such, we propose the following hypotheses:

H1: There is a significantly positive relationship between environmental concern and willingness to sacrifice.
H2: There is a significantly positive relationship between personal responsibility and willingness to sacrifice.

People's concern for the environment is an important factor that influences customers' visit intention to green hotels (Verma et al., 2019). Their attitudes on environmentally friendly principles reflect the importance of environmental protection in their minds (Noor & Kumar, 2014). Han et al. (2020) reported that people with positive and optimistic pro-environmental attitudes have a higher intention for visiting green hotels and a stronger willingness to stay in green hotels even at a higher price. Since customers' perceptions and attitudes of green practices are intimately related to their awareness of environmental protection (Barber, 2014), the higher level of environmental concern people have, the higher intention they will have on visiting green hotels (Wang et al., 2018). Hence, we propose the following hypothesis:

H3: There is a significantly positive relationship between environmental concern and willingness to visit.

People may be willing to alter their behaviour or give up some benefits to protect the environment (Noor & Kumar, 2014). The willingness to sacrifice for the environment indicates that people give priority to the environment, even if they have to sacrifice their own interests by spending more time and money or giving up one's own convenience and luxury (Rahman & Reynolds, 2016). Past research shows that green hotel guests are encouraged to reuse towels and linens and to bring their own travel necessities instead of using disposable ones. Their pro-environmental belief and practice insist that the sacrifice they make can lead to a positive effect on the environment even if it can cause inconvenience (Kasimu et al., 2012).

In addition, green hotels at times can be considered as a superior product with higher prices compared to other hotels, which require people to make financial sacrifices. Green hotel guests may pay higher prices by receiving a discounted level of convenience and luxury (Rahman, 2018). They could obtain better hotel service that offers more luxurious, convenient, and higher quality experiences for a similar price (Rahman & Reynolds, 2016).

Noor and Kumar (2014) indicated that the more people are willing to sacrifice for the environment, the higher the intention they will have to purchase eco-friendly products. More recently, Chen et al. (2022) suggest that consumers' willingness to sacrifice for the environment exerts a significant positive impact on their green hotel evaluations and booking intentions. Based on the above literature, the following hypothesis is proposed:

H4: There is a significantly positive relationship between willingness to sacrifice and willingness to visit.

People may feel guilty when they visit or consume in an environmentally unfriendly hotel (Han et al., 2019), which is also the reason why they feel they should have the responsibility to stay in a green hotel instead. Accordingly, people believe that when they visit green hotels with the concept of environmental conservation, they fulfil their duty to protect the environment (Paço & Gouveia Rodrigues, 2016). Thus, they are more willing to take responsibility and engage in environmental preservation behaviour by visiting hotels with environmental sustainability principles (Wang et al., 2018). Therefore, the next hypothesis is:
.
H5: There is a significantly positive relationship between personal responsibility and willingness to visit.

It is crucial for green hotels to elaborate on specific green values and characteristics to provide customers with sufficient knowledge about the hotel's contribution to environmental protection (Mishra & Gupta, 2019). Green attributes enable a higher preference for green hotels, such as healthy facilities, amenities, green atmosphere, recycling policy and green certifications (Lee et al., 2010; Millar & Baloglu, 2011). Since psychological forces can enable consumers to visit a green hotel, pay a price premium, and make a sacrifice, it is possible to initiate more targeted environmental management practices and marketing campaigns.

Past research focused on the important role of green hotel image and values and its effect on behavioural intention. For example, green images and environmental protection certification in hotels strengthen the entire hotel's value, and further enhance people's willingness to pay higher premiums, purchase intention and willingness to make recommendations to others (Lee et al., 2010; Rahman & Reynolds, 2019). According to the literature above, the hypotheses are proposed as follows:

H6: There is a significantly positive relationship between green hotel attributes and willingness to visit.

H7: There is a significantly positive relationship between green hotel value and willingness to visit.

It was suggested that one's willingness to sacrifice for the environment is essential for turning one's values into pro-environmental behavior (Tsai et al., 2021). According to Sulemana et al. (2016), when compared to citizens of other countries, African respondents are more willing to make financial sacrifices to prevent environmental pollution due to their overall concern for environmental problems. Similarly, Casado-Díaz et al. (2020)'s found that the awareness of the water problem and willingness to sacrifice to save water can positively affect people's willingness to pay more to stay in hotels. Although it happened that travellers may prefer personal comfort to participating in environmental practices (Dolnicar et al., 2019), it is possible that one's concern for the environment and social norms can lead to green hotel specific behavioural intentions when they are committed to making personal sacrifices (Rahman & Reynolds, 2016). Hence, it is hypothesized as follows:

H8: There is a significant mediating effect of willingness to sacrifice in the relationship between environmental concern and willingness to visit.
H9: There is a significant mediating effect of willingness to sacrifice in the relationship between personal responsibility and willingness to visit.

3. Methodology

This study adopted a quantitative research approach. The data was collected via a questionnaire distributed through the Wenjuanxing online survey platform. The questionnaire was originally written in English. It was translated into Chinese, checked and verified by two bilingual researchers. All measurement items were assessed by employing a 5-point Likert scale, ranking from the lowest 1 (strongly disagree/ not influential at all/ strongly unwilling) to the highest 5 (strongly agree/ highly influential/ strongly willing). Three measurement items for "environmental concern" were adapted from Verma et al. (2019). Three items for "personal responsibility" were measured by referencing Paço and Gouveia Rodrigues (2016). Three items related to "willingness to sacrifice" were employed by Rahman and Reynolds (2016). Three items for "green hotel value" and three items for "green attributes" were applied by Lee et al. (2010). Lastly three items for "Green hotel visit intention" were adopted from Yadav et al. (2019).

4. Results

4.1 Profile of the respondents

A total of 207 valid samples were collected between January and February 2022. In the sample, 30% were male respondents, while 70% were female. Among all the respondents, 72% were from Mainland China, 24.2% were from Macau and 2.4% were from Hong Kong. Participants were all above 18 years old, and the largest percentage of respondents were within the age range of 18-27 years old (48.3%), followed by 38-47 years old (16.4%). Over 80% of the total respondents have received an educational level above an undergraduate degree. Most respondents reported their household income as average (64.7%) and above average (25.6%). PLS-SEM was carried out to test the proposed model.

4.2 Measurement model

The evaluation of the measurement models showed that all the indicators have a loading higher than 0.4 ($p<0.001$). Table 1 shows that the AVE values of the constructs were greater than the minimum level of 0.5. The constructs achieved internal consistency as the composite reliability value was above 0.7. When assessing the discriminant validity, the results also met Fornell-Larcker's requirement as the square root of the AVE of each construct was higher than the correction values among the constructs (see Table 2). The HTMT ratios of the constructs were below the threshold value of 0.9. It is evident from the results that the proposed model has good reliability, convergent and discriminant validity (Hair et al., 2012).

Table 1. Measurement Model Assessment

Constructs	Items	Factor loading	Cronbach's alpha	CR	AVE
Environmental concern (EC)	EC1	0.917	0.876	0.923	0.801
	EC2	0.869			
	EC3	0.898			
Green hotel attributes (GA)	GA1	0.941	0.914	0.946	0.853
	GA2	0.934			
	GA3	0.897			
Green hotel value (GV)	GV1	0.913	0.884	0.928	0.811
	GV2	0.893			
	GV3	0.895			
Personal responsibility (PR)	PR1	0.96	0.948	0.966	0.905
	PR2	0.94			
	PR3	0.954			
Willingness to sacrifice (WS)	WS1	0.887	0.826	0.896	0.741
	WS2	0.874			
	WS3	0.82			
Willingness to visit (WV)	WV1	0.867	0.881	0.927	0.809
	WV2	0.913			
	WV3	0.917			

Table 2. Fornell-Larcker Criterion

	1	2	3	4	5	6
Environment concern (EC)	0.895					
Green hotel attributes (GA)	0.567	0.924				
Green hotel value (GV)	0.397	0.481	0.901			
Personal responsibility (PR)	0.714	0.575	0.454	0.951		

Willingness to sacrifice (WS)	0.465	0.403	0.532	0.436	0.861	
Willingness to visit (WV)	0.374	0.354	0.714	0.481	0.577	0.899

4.3 Structural model

The structural model was examined after the fit of the measurement model had been found acceptable. The structural model tested the casual relationships among the constructs. The primary evaluation for model fit in PLS-SEM was evaluated by the coefficient of determination (R^2), which represents the amount of explained variance of each endogenous variable, and the significant test of the structural paths (Hair et al., 2011). The results show that the coefficient of determination R^2 is 0.238 for willingness to sacrifice and 0.589 for willingness to visit (see Figure 1). The results of a bootstrapping procedure of the path coefficients show that willingness to sacrifice is significantly influenced by environmental concern and personal responsibility. Intention to visit is significantly influenced by the willingness to sacrifice, personal responsibility, and green hotel value.

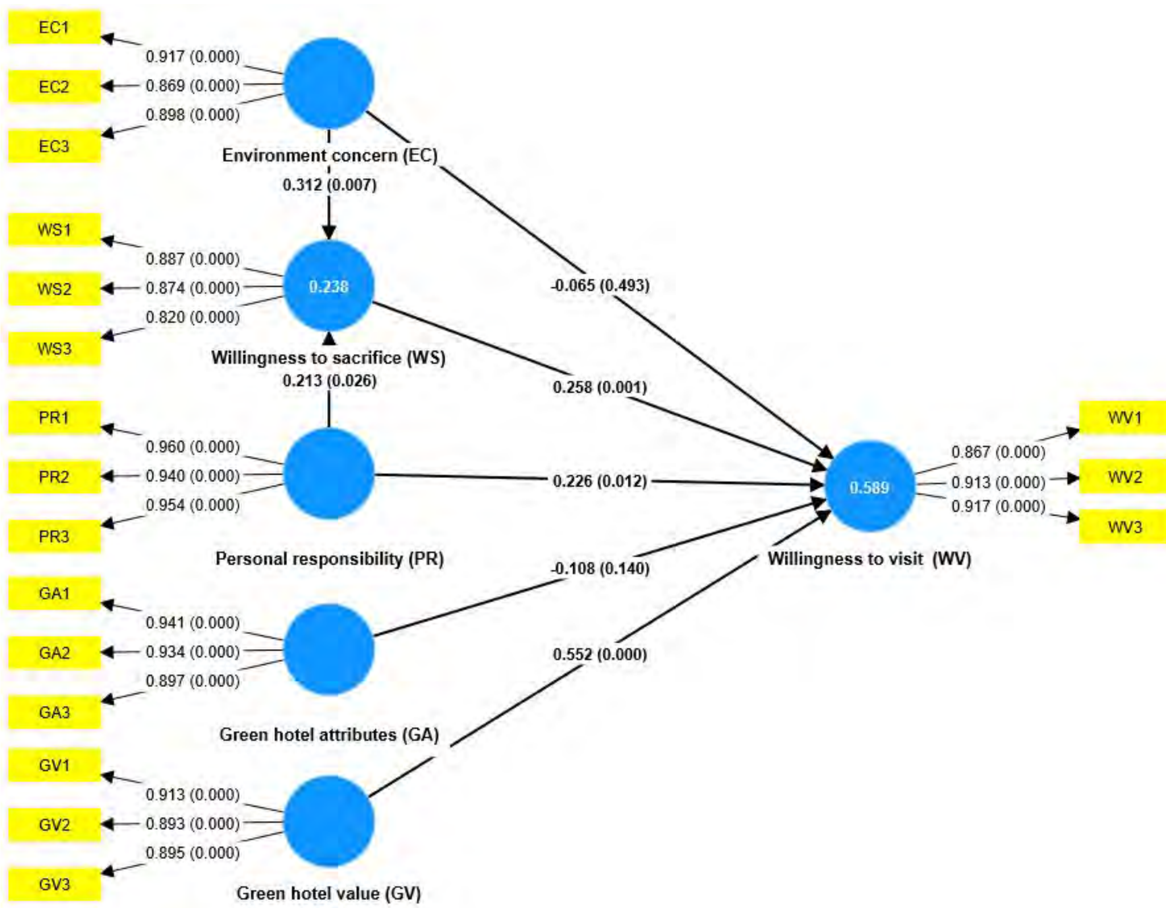

Figure 1. Structural Model Assessment

1. Discussion and Conclusion

The study intends to empirically validate the effect of environmental concern, personal responsibility, willingness to sacrifice, green hotel attributes and green hotel value on customers' willingness to visit green hotels. The study findings indicate that personal responsibility, willingness to sacrifice and green hotel value significantly influence customers' willingness to visit green hotels.

Customers' perceived hotel value ($\beta = 0.552$, $P < 0.001$), which is measured by three items (good value for money, reasonability for price, and benefits offering), predicts one's willingness to visit green hotels the most. The findings imply that green hotel value offers customers confident beliefs towards the hotels, considering there are attractive benefits, thus influencing customers' visit intentions (Kularatne et al., 2019).

In addition, customers' personal responsibility ($\beta = 0.226$, $P < 0.05$) and willingness to sacrifice ($\beta = 0.258$, $P < 0.05$) are significant factors that drive customers' green hotel visit intentions. Customers who strongly believe in personal responsibility and are willing to sacrifice advantages such as convenience, luxury and quality, will be more voluntary to visit green hotels.

This study offered interesting findings that customers' willingness to visit green hotels is strongly predicted by green hotel value which this study emphasized mainly on good value for money, reasonability for price, and benefits offering. Although past studies suggested that personal concern for the environment and green hotel attributes cause pro-environmental behavioral intentions (Rahman & Reynolds, 2019; Wang et al., 2018), this study shows the opposite result in a Chinese context. In addition, the findings of this study imply that a reasonable price plays a significant role in their green hotel visit decision process, contrary to previous findings that customers are willing to pay a price premium for green purchases (Gan & Nuli, 2018; Verma et al., 2019).

Although environmental concern fails to predict willingness to visit green hotels, customers' willingness to sacrifice shows a significant mediating effect in the relationship between environmental concern and willingness to visit. Since personal responsibility also has a significant effect on willingness to visit green hotels, this finding suggests that green hotel marketing communications, especially for the Chinese market, can include messages which emphasize the importance of hotel guests' responsibility and sacrifice for environmental protection. For example, instead of only emphasizing the green hotel attributes and the environmental problems, advertisements for green hotels can arouse customers' egos by mentioning "We all know that the earth is suffering, your commitment to give a hand can ease its pain." Furthermore, this study shows that good value for money is important even though green hotel guests are willing to sacrifice for convenience and luxury. There is a need for green hotel marketers to be cautious in setting prices. A price ceiling higher than a customer's perceived value can hurt green hotel visits.

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The Filipino Gen Z DIY travelers: A qualitative exploration of discovery for first timers in Baguio city

Tugade, Luzviminda
College of Tourism, Hospitality and Transportation Management
Polytechnic University of the Philippines

Abstract:

This study examines the experiences of first-time Filipino Gen Z tourists in Baguio City, their travel motivations, and how they use technology and social media to make the most of their vacations. The analysis revealed that both intrinsic and extrinsic factors are motivating influences to engage in do-it-yourself travel. The experience helps develop a more positive attitude towards travel, gain independence, and utilize one's skills and resources. However, there are several constraints, such as personal skills, comfort level with uncertainties and risk, social interaction, physical limitations, external challenges like time, costs, resource limitations, safety and security issues, and language barriers. Social media and technology were valuable navigation, inspiration, documentation, storytelling, and connection tools. The study's findings significantly impact the tourism, technology, and academic sectors, boosting the standards for independent travel opportunities and better catering to the growing Gen Zs.

Keywords: DIY, Gen Z, Filipino, Baguio City

1. Introduction

Gen Z is the generation born between the middle of the 1990s and the beginning of the 2010s. It comes after Millennials and Generation Alpha (Corey & Grace, 2019). Estimates indicate that Gen Z makes up about 32% of the global population (World Economic Forum, 2018). Self-curated travel experiences that emphasize authenticity and personalization are becoming increasingly popular among this generation, recognized for being tech-savvy and independent (Buhalis, 2000). Over the next two years, Gen Z travelers intend to travel more locally, even with their limited resources, as they feel there is still much to learn about their home region (TGM, 2023).

In the Philippines, many of these young Filipino independent travelers come to Baguio City, a popular tourist destination known for its temperate climate and breathtaking scenery**.** This qualitative investigation aims to identify the driving forces and encounters of first-time Filipino Gen Z independent travelers in Baguio City. It also examines how social media and technology help them plan, navigate, and document their travels.

Academically, this study is crucial to bridge the knowledge gap regarding DIY travel's motivations, challenges, and transformative potential for Filipino Gen Z From a practical standpoint, the study's findings can inform various stakeholders within the tourism industry. Understanding the Gen Z DIY traveler segment allows tourism businesses in Baguio City to develop targeted marketing strategies.

2. Literature Review

2.1. DIY Travel

DIY travel is associated with free independent travelers (FITs) (Kireineko, 2011). However, FITs must prepare more before their trips (Tianhong, 2018). DIY stands for making, modifying, or producing something. Unlike other creative endeavors, DIY projects usually require creativity, design, knowledge, skills, and time. With the help of technology such as the Internet, social media, and mobile applications, DIY travelers can gain the skills needed to learn about cultures, places, and people without relying on professionals. Although other forms of independent and self-organized travel, such as free independent travelers (FIT), are related to the DIY concept, DIY focuses more on the time and effort required to plan and arrange a trip, as well as the principles of independence and flexibility (Tianhong, 2018).

2.2. DIY Travel Motivations

A study by Ibrahim et al. (2019) identifies independence, control, and customization as the primary motivators of do-it-yourself travel. These elements support the idea of autonomy that most young adults aspire to. According to Phan et al. (2020), cost-effectiveness highly motivates young travelers. For Gen Z travelers on a limited budget, DIY travel is a flexible and affordable option. Most of the research indicates that volunteer travel, educational travel, sustainable travel, food exploration travel, entertainment travel, eco-tourism, sports travel, resort travel, and Islamic travel are the top travel trends that Generation Z favors (Ti Loan & Viet Hoang, 2023).

2.3. Gen Z Travel Behavior

In contrast to conventional tourist attractions, Kim et al. (2021) claim that Gen Z prefers authentic experiences and distinctive locations. As they deal with various financial pressures, Gen Z finds budget-friendly options appealing. Buhalis (2020) and Kim et al. (2021) assert that Gen Z travelers heavily rely on technology for planning, researching, and documenting their travels. Gen Z travelers use online platforms, travel blogs, and social media communities for inspiration, booking, and real-time communication. According to Li et al. (2023), a critical part of Gen Z travel is sharing travel experiences on social media platforms. In addition to occasionally inspiring others and setting travel trends, they actively record their travels with images, videos, and narratives. Gen Z travelers are also increasingly choosing eco-friendly travel options (Riveiro et al., 2023).

2.4 Role of Technology and Social Media

Social media is a platform that provides information about travel destinations and tourist enterprises, and it also contains the personal opinions and experiences of those who have traveled to such destinations, which can impact decision-making (Varga & Gabor, 2021). Travel companies can also use social media to gain insight into their customers' opinions and experiences, which can help them better understand their customers and gain a competitive edge in the market (Erol, Ülkü, 2019). As a result, social media platforms have adapted to provide users with personalized content based on their interests by observing their past actions or offering new and more attractive features (Varga & Gabor, 2021).

3. Methodology

The study utilized a descriptive-qualitative research design and interviewed twenty key informants in Baguio City until their insights were saturated. The objective was to comprehend their experiences, motivations, constraints, and the use of social media for DIY travel.

3.1. Measurement

Thematic analysis was used to analyze detailed descriptions and identify recurring themes, revealing patterns, and shared meanings.

4. Results

4.1. Profile of the respondents

Table 1 presents the demographic and travel profiles of the participants in the study.

Table 1. Demographic and Travel Profile

Demographic Profile		Frequency (N=20)	Percentage
Age	18-20	2	1
	21-23	5	25
	24-26	13	65
	27-30	3	9
Gender	Male	15	75
	Female	5	25
Occupation	Student	7	35
	Employed	13	65
Travel Profile			
Number of visits	First Time	20	100
	Repeat	0	
Mode of transport	Private Vehicle	5	25
	Public Transport	15	75
Length of stay	Overnight	2	10
	3-5 days	16	80
	more than 1 week	2	10
Budget	Php 1,000 - 3,000	2	10
	Php 4,000 - 6,000	15	75
	Php 7,000 -10,000	3	15
Companions	Family	7	35
	Friends	13	65

Data suggests most visitors (18-26 y/o) are first-time travelers who prefer public transport (75%) and travel in groups with friends (65%). They stay for 3-5 days (80%) and have a moderate budget (Php 4,000 - 6,000, 75%). This profile is consistent with the characteristics of Gen Z travelers: they are budget-conscious, seek social interaction, and prefer shorter exploration trips.

5. Discussion and Conclusion

5.1. Discussion and implications

Gen Z desires affordable adventure and social connections through DIY travel. Budget, social skills, physical limitations, and safety concerns can limit participation. Social media and technology aid navigation, inspiration, documentation, storytelling, and connection. Stakeholders can adapt offerings and approaches to serve Gen Z DIY travelers better, ensuring fulfilling and enriching travel experiences while promoting responsible tourism practices.

5.2. Conclusion

DIY travel is driven by personal growth and external factors. It fosters a positive travel attitude, independence, and resourcefulness. However, individual limitations such as skills, risk tolerance, social preferences, and external challenges like time, cost, safety, and language can deter people from embarking on such trips. Social media and technology are vital in every travel phase in this digital age, from planning to post-travel activities.

5.3. Limitations of this study and suggestions for future studies

Further research on the travel behavior of Filipino Gen Z tourists in Baguio City is essential. The existing studies may not apply to other travel destinations. Additional studies can provide valuable insights into the tourism industry, enabling it to better serve this young generation. Hence, it is crucial to investigate the travel patterns of Filipino Gen Z tourists who visit Baguio City through further research.

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Self-compassion and pro-environmental behaviors: Insights from an online hotel booking study

Lei, Soey Sut Ieng
Faculty of Business Administration
University of Macau

Ye, Shun
Department of Tourism and Hospitality Management
School of Management, Zhejiang University

Qin, Xue
MBA Education Center
School of Management, Guizhou University

Li, Qi
Faculty of Business Administration,
University of Macau

Wang, Dan
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Abstract:

How to cultivate a stronger sense of responsibility for environmental protection among individuals has been highlighted as one of the most immediate questions to be addressed. Achieving this objective requires people to be genuinely caring and empathetic toward others and the environment. This study explores the potential of self-compassion in motivating tourists' pro-environmental behavior. A mock website was developed to record participants' choices between regular and green hotel services when making an online reservation. Findings suggest significant relationships between self-compassion and choices of certain green hotel services, highlighting the role of psychological attributes alongside the well-documented external and individual attributes.

Keywords: Self-Compassion, Pro-Environmental Behavior, Sustainable Tourism, Green Hotel, Online Booking

1. Introduction

The persistent threats of climate change and global warming to human existence demand immediate and continuous attention. The unique nature of the tourism and hospitality industry (i.e., people-oriented and customer-centric) has made implementing green practices and encouraging pro-environmental behaviors particularly challenging. According to Font & McCabe (2017), travel is normally perceived as a luxury, leisure-oriented, and exploitative consumption activity. Tourists may also display different environmental awareness and behaviors from those at home (Dolnicar, 2020). Additionally, research has indicated that the younger generation seems to be more interested in hedonistic experiences and less concerned about the impact of their actions on others and the environment (Cavagnaro et al., 2021).

Given the uniqueness of tourists, it is necessary to evoke their sense of responsibility when they are in foreign destinations. However, previous research has mainly focused on the roles of external factors such as incentives and regulatory policies in steering consumption behavior (e.g., Demeter et al., 2023; Line et al., 2018; Song et al., 2023), rather than the potential of internal factors especially those that may motivate moral behavior. As tourists normally seek hedonic experiences and values such as enjoyment, comfort, and efficiency, considering these unique characteristics when formulating environmental strategies helps in devising more targeted and effective approaches. Hence, in addition to examining the effects of external factors and interventions, awakening individuals' environmental awareness and cultivating a pro-environmental mindset among tourists is equally important.

Based on the works of Weaver and Jin (2016) and Gerber (2023), this study explores the potential of self-compassion in influencing tourists' pro-environmental behavior. Weaver and Jin (2016) argued that developing sustainable tourism requires people's genuine desire for "better" tourism and the well-being of the world. Gerber (2023) advocates that self-compassion (i.e., being kind not only to others but also to oneself) could be a protective factor that leads to greater psychological health, happiness, and optimism, which in turn motivates one to support and participate in pro-environmental initiatives (Neff, 2003; Neff et al., 2007). However, how self-compassion could be leveraged to engage individuals in prosocial behavior is unclear. This study examines the potential relationship between self-compassion and individuals' choice of green services in a travel context. Participants' self-reported self-compassion ratings were collected, and their choices between regular and green hotel services were recorded through completing a hotel reservation on a mock hotel website. Binary logistic regression was conducted to examine the effects of the independent variables on the dichotomous dependent variables.

2. Literature Review

2.1 Research on tourists' sustainable behavior

Tourism is often viewed as a commercial venture. Stakeholders usually tend to prioritize the maximization of personal and financial returns. Optimizing customer experience while accounting for environmental concerns may seem to present a conflict and require sacrifices from both the service providers and customers. Scholars have highlighted the critical role of tourists in mitigating negative environmental impacts, suggesting that if tourists become more aware of the environment and act more cautiously, the sustainability of both the environment and the tourism industry could be improved (Demeter et al., 2023).

Pro-environmental behavior can be affected by internal and external factors (Kollmuss & Agyeman, 2002). Internal factors are primarily related to individual characteristics, such as personal motivation, environmental knowledge, values, and attitudes. Wood and Rünger's (2016) habit theory suggests that people's behaviors are primarily guided by automatic cognitive processes. The Focus Theory of Normative Conduct (Cialdini et al., 1991) emphasizes how social norms influence people’s behavior. Norm activation theory (Schwartz, 1977) suggests that when people realize the consequences of their behaviors, they become aware of their responsibilities for their actions which activates moral norms. The literature has also acknowledged the influences of external factors such as politics and infrastructure on shaping pro-environmental behaviors. For example, research on nudging has been conducted to understand how choice architecture could be designed to change behaviors (Sunstein, 2013; Thaler & Sunstein, 2009). Common nudges designed for this purpose include default options (e.g., setting double-sided printing as default) and placing sustainable products at eye level on shelves.

However, in addition to these well-documented internal and external factors, emphasizing ethics and cultivating a mindset of fairness, integrity, and propriety are also pivotal in achieving sustainable tourism goals (Weaver & Jin, 2016). A sense of fairness and integrity fosters a community spirit. When people act in ways that align with their beliefs and values, their actions (e.g., pro-environmental behaviors) are likely to be consistent and enduring. Hence, how to cultivate a stronger sense of responsibility for environmental protection among individuals has been highlighted as one of the most immediate questions to be addressed (Huang & Shih, 2009). Achieving this objective requires individuals to be knowledgeable and empathetic toward others, society, and the environment (Perterson, 1982). Cultivating a pro-environmental mindset among tourists so that they genuinely care about the environment, appreciate mother nature, respect life, and cherish natural resources requires approaches beyond nudges, policies, and social norms.

2.2 Self-compassion and pro-environmental behaviors

Tourists may behave differently at a destination than at home. They may also be less concerned about the environment at the destination compared to when they are at home (Dolnicar, 2020). Weaver and Jin (2016) hence associate the concept of compassion with sustainable tourism development, suggesting that a genuine desire for the well-being of others is required from individuals to co-construct a green community. This echoes concepts such as ‘just tourism’, ‘altruistic tourism’, ‘hopeful tourism’, and ‘slow tourism’, which underscore people’s engagement with moral principles and ethics such as reciprocity and partnership in achieving sustainability (Lumsdon & McGrath, 2011). However, while these concepts have long been introduced, and despite the merits inherent in these concepts, severe waste problems remain in the tourism and hospitality industry.

To initiate change and action at the individual consumer level, Weaver and Jin (2016) argued that effective precursors are required to motivate people to act in line with such ideology. They thus propose compassion as this missing catalyst and conceptualize it as a potential facilitator for sustainable tourism by fostering a genuine belief in these ideas and a sincere desire for collective good. Later, Gerber (2023) proposes that combatting climate change and existential threats does not only require one’s compassion towards others but also oneself. Originating from Buddhism, self-compassion has been defined as “the ability to hold one’s feelings of suffering with a sense of warmth, connection and concern” (Raes et al., 2011, p.250). Gerber (2023) explained how self-compassion might be utilized as a self-protective altruism model for one to engage in prosocial behavior and stress reduction. Individuals with stronger sense of self-compassion typically exhibit greater degree of self-kindness, mindfulness, and common humanity (Neff, 2003; Neff, 2003; Raes et al., 2011). Mindful individuals tend to be more reflective on their thoughts and actions, and pay higher attention to their immediate environment, experiences, and interactions with the natural world.

According to Neff (2003), the core elements of self-compassion include being kind to oneself; acknowledging sufferings and pains as part of the human experiences; and not exaggerating nor focusing solely on painful feelings. Self-compassion does not absolve one from taking responsibility. Genuine self-compassion should lead one to recognize the big picture more clearly, acknowledge one's failures to be socially responsible, and encourage one to change where needed to become a better self. Being self-compassionate implies that one would be more proactive in avoiding harmful behaviors to ensure the well-being of self as well as others (Neff, 2003). Despite the potential of self-compassion in motivating people's desire for 'better' tourism, empirical evidence that supports the relationship between self-compassion and pro-environmental behavior is limited.

3. Methodology

3.1 Data collection

To better understand the role of self-compassion in influencing pro-environmental behaviors, we collected data from 200 participants through an online survey. These participants were asked to imagine as if they were planning an upcoming trip and were invited to complete a hotel reservation process on a mock website developed by the authors and a third-party consultancy company. Pro-environmental behaviors were reflected by participants' choices between regular and green hotel services they indicated during the online reservation process. A series of green hotel service options were provided for the participants to choose from as part of the reservation procedure. This design is in response to the call for the application of methods that can capture actual behaviors rather than self-reported attitudes or behavioral intentions (Dolnicar, 2020). Participants were informed that the costs of the green service options and the regular service options were the same.

3.2 Measurement

Self-compassion was recorded by adapting Raes et al.'s (2011) scale. The dependent variables in this study are the service options chosen by the participants (i.e., regular vs. green hotel services) (Table 1). Demographic variables and controlled variables (i.e., pro-environmental attitude, place attachment, social norm) were also incorporated into the model. AMOS 23.0 and IBM SPSS statistics software were used to analyze the data. The dependent variables (participants' choice of service) have 0 and 1 binary values (0 = regular hotel service, 1 = green hotel service). Therefore, the binary logistic regression model is suitable for data analysis (Atkinson and Massari 1998).

Table 1. Definitions of Variables

Variables	**Description**
Make up bed upon request (vs. daily service)	No=0; Yes=1

Reuse towels (vs. disposable) Organic and locally sourced snacks (vs. regular) Carbon emissions tracker (vs. none)		
Pro-environmental attitude	ProEnAtt1 ProEnAtt2 ProEnAtt3 ProEnAtt4	
Place attachment	PAttach1 PAttach2 PAttach3 PAttach4	1=Strongly disagree; 2=Disagree; 3=Somewhat disagree; 4=Neutral; 5=Somewhat agree; 6=Agree; 7=Strongly agree
Social norm	SocialNorm1 SocialNorm2 SocialNorm3	
Self-compassion	SelfCompassion1 SelfCompassion2 SelfCompassion3 SelfCompassion4 SelfCompassion5	
Gender		male=1; female=2
Age		1=18-25;2=26-30;3=31-40;4=41-50;5=51-60;6=above 60
Education		1=Under high school graduate;2=Some college;3=Associate's degree;4=Bachelor's degree;5=Master's degree or above
Income (USD)		1=Under 1,000;2=1001-2000;3=2001-3000;4=3001-4000;5=4001-5000;6=above 5000

4. Results

4.1. Profile of the respondents

The sample contains 200 completed responses. Within the sample, there were 107 males (53.5%) and 93 females (46.5%). Most participants were aged between 26-40 (55%), while those aged 18-25 and over 60 each accounted for 12% of the sample respectively. The overall education level of the respondents is relatively high, with 57% of the respondents owning a bachelor's degree or above, and 15.5% have not graduated from high school. Most respondents' income level is greater than 5,000 USD (34.5%), followed by 4,001-5,000 USD (15.5%), and below 1,000 USD (10.5%).

4.2 Reliability and validity

The reliability and validity of the independent variables were tested by using a CFA with MLM estimation. Cronbach's α and composite reliability (CR) values for each variable were calculated to verify the reliability. As shown in Table 2, the Cronbach's α and CR value of variables are all above the value of 0.7 recommended by Nunnally & Bernstein (1994), indicating appropriate reliability.

A CFA model was performed to test the validity of variables. The measurement model demonstrated a good fit to the data: $\chi 2/df=1.413$, GFI = .922, CFI = .981, NFI= .938, RMSEA = .046. These indices indicate that the model is a good-fitting model (Hair et al. 2014). According to Churchill (1979), validity refers to convergent and discriminant validity. The results of confirmatory factors analysis are presented in Table 2. All standardized loadings are above 0.5 and significant ($t > 2.576$, p-value < .05), which indicates that all variables have good convergent validity (Stylidis, 2017).

Discriminant validity was assessed by comparing the intercorrelations of the variables with the square root of the average variance (Petrick 2002). The results are presented in Table 3. The common variance among pairs of variables was less than the respective Average Variance Extracted (AVE) values (Fornell & Larcker, 1981), reflecting acceptable discriminant validity.

Table 2. Results of Confirmatory Factor Analysis (N=200)

Variable	Items	Factor Loading	Cronbach's Alpha	CR	AVE
Pro-Environmental Attitude	PEA1	0.609***	0.865	0.878	0.648
	PEA2	0.836***			
	PEA3	0.877***			
	PEA4	0.867***			
Place Attachment	PA1	0.850***	0.925	0.928	0.764
	PA2	0.932***			
	PA3	0.916***			
	PA4	0.790***			
Social Norm	SN1	0.893***	0.889	0.891	0.732
	SN2	0.806***			
	SN3	0.865***			
Self-Compassion	SC1	0.838***			
	SC2	0.783***	0.894	0.894	0.628
	SC3	0.771***			
	SC4	0.756***			
	SC5	0.810***			

Note: ****p<0.001*.

Table 3. Discriminate Validity Analysis from CFA

Variable	Mean	SE	Pro-Environmental Attitude	Place Attachment	Social Norm	Self-Compassion
Pro-environmental attitude	5.8025	.06494	**0.805** [a]			
Place attachment	5.5338	.08743	0.445[b]	**0.874**		
Social norm	5.0500	.08771	0.444	0.391	**0.856**	
Self-Compassion	4.7480	.09574	0.191	0.284	0.479	**0.792**

[a]Bold diagonal values: square root of the variance that is common between the factors and their respective measures.
[b]Values below diagonal are the correlations between factors. To establish discriminant validity, the diagonal values should exceed any other corresponding entries in their respective rows or columns.

4.3 Results of multicollinearity analysis

The results of the collinearity statistical test are shown in Table 4, two indicators of collinearity statistics—tolerance and VIF values—are calculated to test the multicollinearity among the independent variables. The results reveal no multicollinearity problem as all variables are less than 5 and greater than 0.1 Tolerance values show that all variables are independent and satisfy the requirement (Saha et al., 2020).

Table 4. Results of Multicollinearity Analysis (N=200)

Variables	Collinearity Statistics	
	Tolerance	VIF
Pro-Environmental Attitude	.779	1.284
Place Attachment	.790	1.265
Social Norm	.675	1.482
Self-Compassion	.801	1.249

4.4 Binary logistic regression

Binary logistic regression was then conducted to test the model. The binary logistic regression model was first diagnosed, followed by main effect testing. The model diagnosis of the four models (model1, model2, model3, model4) that predict participants' choices of different green hotel services are summarized in Table 5. The Omnibus Tests of all four models are significant, indicating that the results of all models are meaningful. The Nagelkerke R square and Cox-Snell R square indicate that the model is relatively good. Hosmer-Lemeshow (H-L test) results show that the goodness of fit of the four models is appropriate (P>0.05) (Bera, Saha & Bhattacharjee, 2020).

Table 5. Model Diagnose

	Model1	Model2	Model3	Model4
	DV=Make up bed upon request	DV=Reuse towels	DV=Organic and locally sourced snacks	DV=Carbon emissions tracker
Omnibus Tests of Model Coefficients				
Chi-square	28.257	29.546	55.287	52.225
df	19	19	19	19
Sig.	.079	.058	.000	.000
Model Summary				
-2 Log likelihood	237.369[a]	246.992[a]	221.652[a]	212.400[a]
Cox & Snell R Square	.132	.137	.242	.230
Nagelkerke R Square	.179	.183	.322	.313
Hosmer and Lemeshow Test				
Chi-square	8.166	6.646	14.746	14.052
df	8	8	8	8
Sig.	.417	.575	.064	.080

Note: N=200; [a]Estimation terminated at iteration number 4 because parameter estimates changed by less than 0.001.

In the binary logistic regression model, control variables and independent variables are included as influencing factors for choosing green hotel services. The analysis results are shown in Table 6. Among the control variables, age has a significant effect on the choices of “organic and locally sourced snacks” and placing a “carbon emissions tracker” in the room. Education level has a significant effect on the choices of “make-up bed upon request” and “carbon emissions tracker”. Income is significantly related to the choices of “reuse towels”, “organic and locally sourced snacks”, and “carbon emissions tracker”. Among the four independent variables, pro-environmental attitude is significantly related to the choice of a “carbon emission tracker” (β=0.543, OR=1.721, $p<0.05$). Place attachment has a significant effect on the choice of “organic and locally sourced snacks” (β=0.450, OR=1.568, $p<0.05$). Social norm is significantly related to the choices of “makeup bed upon request” (β=-0.342, OR=0.710, $p<0.05$) and “organic and locally sourced snacks” (β=0.290, OR=1.337, $p<0.1$). Self-compassion has a significant effect on the choices of “reuse towels” (β=0.243, OR=1.275, $p<0.1$) and “carbon emission tracker” (β=0.365, OR=1.441, $p<0.05$).

Table 6. Result of Binary Logistic Regression (N=200)

	Model 1	Model 2	Model 3	Model 4
	DV=Make up bed upon request	DV=Reuse towels	DV=Organic and locally sourced snacks	DV=Tracker reminder

	B	OR	B	OR	B	OR	B	OR
Gender[a]								
Gender(1)	-.071	.931	-.343	.710	.021	1.021	-.409	.664
Age[a]								
Age(1)	.235	1.264	.488	1.629	-.509	.601	.063	1.065
Age(2)	-.091	.913	.173	1.189	-1.032	.356	-.239	.787
Age(3)	-.277	.758	.241	1.272	-.967	.380	.247	1.280
Age(4)	-.814	.443	-1.097	.334	-1.676**	.187	-1.555*	.211
Age(5)	-.219	.803	-.184	.832	-2.055**	.128	-1.143	.319
Edu[a]								
Edu(1)	1.011*	2.750	.282	1.326	-.074	.929	-.472	.624
Edu(2)	.934	2.545	-.547	.579	-.922	.398	-1.985**	.137
Edu(3)	.474	1.607	.031	1.031	.506	1.658	-.519	.595
Edu(4)	.123	1.131	.160	1.173	.207	1.230	.447	1.564
Income[a]								
Income(1)	.464	1.591	1.037	2.822	1.280*	3.595	1.395*	4.033
Income(2)	1.062	2.891	1.193	3.298	.887	2.428	.690	1.993
Income(3)	-.954	.385	1.251*	3.495	1.078	2.938	.122	1.129
Income(4)	-.325	.723	1.112	3.040	1.561**	4.763	.536	1.710
Income(5)	.315	1.370	1.379**	3.973	1.863**	6.445	-.214	.807
PEA	.136	1.146	.160	1.174	-.035	.966	.543**	1.721
PA	-.123	.884	-.132	.877	.450**	1.568	-.074	.929
SN	-.342**	.710	.161	1.175	.290*	1.337	.145	1.156
SC	-.110	.896	.243*	1.275	.126	1.134	.365**	1.441
Constant	1.153	3.167	-3.393	.034	-4.791	.008	-3.947	.019

Note: [a] represent "reference group" Gender[a] =male, Gender (1)=female; Age[a] =18-25, Age (1)- Age (5) represent 26-30, 31-40, 41-50, 51-60 and above 60; Edu[a]= Under high school graduate, Edu(1)- Edu(4) represent Some college, Associate's degree, Bachelor's degree, Master's degree or above; Income[a]=under 1000USD, Income(1)- Income (5) represent 1001-2000, 2001-3000, 3001-4000, 4001-5000, above 5000. PEA=Pro-environmental attitude, PA=place attachment, SN=social norm, SC=self-compassion.

*, **, represent significance at the confidence level of 0.1, and 0.05, respectively.

5. Discussion and Conclusion

5.1. Discussion and implications

This study identifies significant relationships between self-compassion and choices of certain green hotel services, highlighting the role of psychological attributes alongside the well-documented external and individual attributes. While we are well aware of the self-compassion concept, and its potential has been explored and discussed, our understanding remains largely theoretical due to the lack of empirical evidence detailing whether and how this concept might have an impact. This study discovered that the effects of self-compassion could be manifested in the online hotel booking process. By testing participants' choices through a mock website, this study responds to scholars' call for methodologies that goes beyond collecting self-reported attitudes and behavioral intentions by observing actions (Dolnicar & Demeter, 2024). Notably, the effects of self-compassion remain significant when the control variables are introduced in the model.

This study contributes to the conversation on the factors influencing pro-environmental behaviors in the tourism and hospitality literature. It explores the potential of motivating pro-environmental behaviors through cultivating a compassionate mindset, rather than focusing on the individual attributes that could hardly change (e.g., sociodemographic) or regulatory interventions such as nudging tools that might not necessarily induce genuinely heartfelt actions (e.g., Demeter et al., 2023; Line et al., 2018; Song et al., 2023).

Echoing the arguments raised in previous studies, individuals' mental resilience, and in particular self-compassion, might be a potential motivator for acting environmentally friendly and inspiring a mindset for sustainability which is beneficial for individuals to stay committed to combating climate change (Moser, 2020; Weaver & Jin, 2016). As an important factor associated with psychological well-being, the effects of a compassionate mindset on motivating environmentally friendly behaviors might be more enduring and long-lasting, compared with incentive programs and regulatory interventions (Neff, 2009).

5.2. Conclusion

This study incorporates self-compassion in the model of shaping tourists' pro-environmental behavior. Practitioners and policy-makers may consider integrating the concept of self-compassion into their environmental education and communication strategies. Enhancing self-compassion and emotional resilience of the society as a whole, rather than relying on short-term or irregular incentives and intervention policies, seems to be a promising approach to sustain both the communities' and tourists' pro-environmental attitudes and behaviors in the long run. Practitioners and policymakers may consider promoting connectedness, mindfulness, and more caring communities through, for example, incorporating self-compassion exercises into education curricula, training programs, and behavior change programs.

5.3. Limitations of this study and suggestions for future studies

This study focuses on the relationship between self-compassion and pro-environmental behaviors, rather than the antecedents of self-compassion. Future research may further explore how compassionate behaviors can be encouraged. Given the limitations of cross-sectional data, future research may conduct longitudinal studies to gauge the extent to which self-compassion sustains pro-environmental attitudes and behaviors over time. The data in this study were collected from a specific group of participants. Future studies may expand the sample size and collect data from other nationalities to better understand the impact of self-compassion on pro-environmental behaviors.

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Exploring a state university as campus tourism in Manila, Philippines: A mixed method study of students' perspectives

Vergara, Lizbette R.
College of Tourism, Hospitality and Transportation Management
Polytechnic University of the Philippines

Keywords: State University, Campus Tourism, Students, Manila

1. Objectives

Campus tourism is a growing trend in urban tourism. This study explores the potential of the State University in Manila, Philippines, as a destination for campus-based tourism. The study will identify factors that influence participation, differentiate benefits and challenges, recognize niche markets, and map the university's SWOT to establish it as a destination for campus-oriented tourism experiences.

2. Methodology

During the summer term of May 2023, a study was conducted on campus tourism to explore its key influencing factors, perceived benefits, and challenges from students' perspectives. The DMO Framework was employed to investigate how campus tourism impacts the local community, the environment, and the economy. The researchers collected 1013 valid responses using Google Forms and an interview guide, including quantitative and qualitative data. Before the investigation, the instruments were refined based on expert suggestions and reviewed by the university's ethics committee. A five-point Likert scale was used in the survey to provide quantifiable measures of the research variables. Descriptive statistics were employed to determine the mean assessment of the study variables and were analyzed with SPSS. Thematic analysis was also conducted to recognize patterns and associations in the qualitative data.

3. Main Results and Contributions

Key influencing factors of campus tourism

When it comes to campus tourism, students are most enticed by a university's reputation and prestige, followed by accessibility, attractions, effective drivers, and amenities. The reputation and prestige of a university are significant since they can boost a student's social status, personal prestige, and overall well-being. While amenities are also crucial in providing students with a comfortable and convenient experience during campus tourism activities, the reputation and prestige of the university are the primary motivators for students to participate in campus tourism activities. These findings can provide valuable insights into the role of Destination Marketing Organizations (DMOs) in promoting campus tourism and which attributes are most attractive to students.

Perceived benefits and challenges of campus tourism

Many students believe that campus tourism has more benefits than challenges. Tourism, in general, positively impacts the local economy and creates opportunities for economic and educational growth. However, some concerns need attention, such as increased prices of services on campus, littering, waste accumulation, conflicts with visitors, and security issues. These issues that arise from campus tourism are economic, environmental, and socio-cultural. Students who have experienced campus tourism can provide valuable insights into its benefits, drawbacks, and the factors influencing their perceptions and behaviors. Understanding their viewpoints can help develop effective strategies for managing and promoting campus tourism.

Niche markets in campus tourism

Many students believe the institutions they partner with are most likely to engage in campus tourism. When partner institutions visit a college or university, it allows both the visiting and host institutions to learn more about the campus, academic programs, and student life. This also helps to promote the college or university to a broader audience.

Apart from partner institutions, other market segments of campus tourism include travel professionals, researchers, local students, investors, alums, visiting faculty, domestic and international tourists, and nearby residents based on their visit propensity. However, residents living near the campus are perceived to have the slightest interest in visiting it due to their familiarity, limited time, perception of it as a local destination, and lack of marketing and promotion of campus tourism activities.

Niche market segments can be used to attract visitors to campus tourism activities that align with their interests and preferences. By identifying and targeting these market niches, universities can develop effective campus tourism strategies that appeal to many visitors.

Mapping of the university's SWOT

Strengths	**Weaknesses**
• Academic excellence and branding • Positive reputation • Historical appeal • National shrines • Accessibility • Proactive partnerships • University manmade lagoons • Local food stalls • University souvenir store • Office of international affairs • Diverse academic activities	• Lack of developed facilities • Lack of open spaces for recreation • Unmaintained toilets • Lack of funding for campus tourism development • Lack of visitor centres/support facilities • Lack of organized campus tour • Shortage of trained personnel
Opportunities	**Threats**
• Host events • Generate income generating projects • Promote research and curricular programs • Utilize the expertise of its faculty, staff and students • Promote educational and cultural significance • Promote the university as part of the urban tourism landscape • Attract local and international students	• Safety and security issues • Other universities as competitors • Natural disasters • Pandemics and viruses

4. Limitations

Although the research findings are significant, it is essential to recognize the limitations imposed during the research process. The study solely focused on a particular state university in Manila, Philippines, and did not consider other colleges or universities in the region or country. Therefore, the research's conclusions cannot generally be applied to other campus tourism destinations in the Philippines. Also, the study had a narrow scope because it only considered students' perspectives and did not consider the viewpoints of other stakeholders such as faculty, staff, and residents.

5. Conclusions

Regarding campus tourism, students can offer valuable insights into the most appealing activities for visitors. However, universities should be aware that the demographics of the student population could impact their perspectives on campus tourism. Despite this, students' views can be valuable in creating attractive campus tourism programs for various market segments. The university should maintain its reputation and status by enhancing surrounding amenities and attractions to encourage more students to participate in campus tourism.

State universities have the potential to become popular campus tourism destinations with cultural significance and favorable locations. By promoting sustainable tourism practices and collaborating with local businesses, universities can boost the local economy and provide learning opportunities for students and other interested market segments. The university can attract a wide range of stakeholders by highlighting its unique qualities and exploring innovative ways to distinguish its campus tourism offerings for specific target groups.

Performing a SWOT analysis can help universities develop effective strategies to boost campus tourism, promote sustainable practices, and drive local economic growth by identifying their strengths, weaknesses, opportunities, and threats.

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Plant-based alternativrs: Consumers’ value, attitude, and behavior

Cho-I, Park
Smart Tourism Education Platform
Kyung Hee University

Young Namkung
College of Hotel & Tourism Management
Kyung Hee University

Abstract:

This study aims to investigate the impact of consumers’ values and attitudes on consuming plant-based alternatives employing the value-attitude-behavior framework. The results revealed that environmental consciousness and health consciousness significantly affected attitudes toward plant-based alternatives(PBAs). Also, positive attitudes toward PBAs were critical for the formation of PBAs repurchase intention and ultimately PBAs restaurant visit.

Keywords: Plant-based alternatives(PBAs), Value-Attitude-Behavior(VAB) framework, consumer value, attitude, behavior intention, behavior

1. Introduction

Meat production accounts for 57% of global greenhouse gas emissions from all food production, which is twice the amount from plant-based food production (Xu et al., 2021). Some research mentioned that switching to a plant-based diet could reduce greenhouse gas emissions by up to 49% in global (Poore & Nemecek, 2018). In turn, the foodservice industry is recognized as a significant major contributor to global climate change in terms of food production and consumption (Lund-Durlacher & Gössling, 2021). Accordingly, major quick-service restaurant chains such as Burger King, Subway have added ‘meat-like’ menus (Ye & Mattila, 2021). Starbucks, a global coffee brand, is committed to sustainability by adding and expanding its plant-based menu across its beverages and food offerings, aiming to reduce its carbon footprint by 50% (Failla, 2020).

Health consciousness and environmental sustainability have often discussed as the important factors of developing plant-based alternatives (PBAs) (Ismail et al., 2020; Vainio, 2019). This consumers’ conscious structure is a criterion that can be used to select food and justify food-related behavior (Grunert & Juhl, 1995). Shifting towards a plant-based diet, from the consumers’ point of view, has positive health benefits (Fan et al., 2019; Kim et al., 2019) and may also significantly improves environmental sustainability (Zhang, Hughes & Grafenauer, 2020). In addition, from the perspective of enterprise, understanding consumers’ attitudes toward products and purchasing behavior can be useful for businesses to explore insights on sustainable marketing models in the market (Thøgersen et al., 2015).

In the hospitality domain, numerous studies have identified the importance of the ‘Value-Attitude-Behavior (VAB)’ theory in explaining consumers’ sustainable behavior

(Brouwer et al., 2022; Sadiq, Adil & Paul, 2022). This theory propounded by Homer & Kahle (1988) focused on consumers' personal value influencing their decision-making process (Kautish & Sharma, 2019). The extant literature on consumer behaviour suggested that both altruistic and egoistic value do play an important role in determining eco-friendly behaviour (Tan, Abd Aziz & Ngah, 2020; Verma, Chandra & Kumar, 2019). Health consciousness is an egoistic value that benefits the individual, while environmental consciousness is an altruistic value because it helps the environment rather than the individual (Magnusson et al., 2003). In accordance with recent PBAs research (Bakr, Al-Bloushi & Mostafa, 2022; Rahman & Reynold, 2019) conceptualization, this study considers health consciousness as egoistic value and environmental consciousness as altruistic value.

Based on an extensive PBAs literature review, we noticed that several studies have primarily been conducted consumers' purchase intention as a final variable. Although the recent surge of PBAs on foodservice industry has received considerable attention, existing literature has not yet investigated the influence of the preceding variables on their utimate PBAs restaurant visit. Furthermore, most of research on PBAs have primarily focused on plant-based meat alternatives. Also, prior research mentioned that 'attitude-behavior gap' (Nguyen et al., 2019; Schäufele & Janssen, 2021) and 'intention-behavior gap' (Birch & Memery, 2020). Is really exist those gaps?

Given this research gap, this study aims to 1) investigate the impact of consumers' values (health consciousness, environmental consciousness) on their attitudes toward PBAs and 2) to examine the relationship among attitudes, PBAs repurchase intentions, and PBAs restaurant visit.

2. Literature Review

2.1. Plant-based alternatives(PBAs)

Plant-based alternatives(PBAs) are foods manufactured using proteins extracted from plants(e.g., soy, pea) and have a similar shape, taste to livestock products such as meat, milk and include plant-based meat alternatives, plant-based milk alternatives, plant-based eggs and plant-based beverages (Park, Park & Lee, 2020). Accordingly, the characteristics of PBAs should have similar nutritional, sensory, and technical properties to animal-based products (Gómez, Ibañez & Beriain, 2019; Tangyu et al., 2019). We defined, consistent with prior studies' definition, plant-based meat alternatives and plant-based milk alternatives overwhelming scale of the global alternatives food market as PBAs. Both Health and environmental consciousness are frequently mentioned as the major fators of developing PBAs (Aschemann-Witzel et al., 2021; Ismail et al., 2020). Consumer studies reported that PBAs offer health benefits and is good in terms of environmental sustainability. In addition, increased consumer interest in PBAs has resulted in more consumers reducing meat as important component of their diet (Starowicz, Poznar & Zieliński, 2022). As a result, food enterprises are paying more attention to the growth potential of the PBAs, and the number of vegetarian restaurants in the foodservice industry is also increasing (Ploll & Stern, 2020).

2.2. Value-Attitude-Behavior(VAB) Framework

The VAB theory, propounded by Homer & Kahle (1988), suggests that consumers' values are significant in forming attitudes, which in turn results in behavior (Kautish & Sharma, 2019). The notion of value is defined as a way in which people are guided to behave(Schwartz, 1968). Attitude refers to an individual's consistent tendency to react favorably or unfavorably toward the objects in question (Vaske & Donnelly, 1999), and it is created based on more constant and enduring values. Additionally, it is dominant that an individuals' behavior is determined by their values and attitudes (Homer & Kahle, 1988). This means that individuals enact particular behaviors based on the priority of perceived values (Beatty et al., 1985). Therefore, the VAB theory postulates that an individuals' values and attitudes are considered precursory variables of an intention and behavior (Kahle, 1980). Consequently, the hierarchical structure among values, attitudes, intention and behavior emphasizes that values are the fundamental factors and based on values and attitudes, an individual manifests an actual behavior (Homer & Kahle, 1988).

2.3. Conceptual model and hypothesis development

2.3.1. Values(health consciousness, environmental consciousness) and attitudes toward PBAs

Health consciousness means evaluation of one's readiness to engage in healthy behavior (Becker et al., 1977) and is an egoistic value that benefits the individual (Magnusson et al., 2003). Consuming PBAs can reduces adverse health risks, including a cardiovascular diseases (Fehér et al., 2020), cancer, and diabetes through their antioxidant properties (Zujko & Witkowska, 2014). Consequently, health conscious consumers show behavior to reduce animal-based food consumption and consume plant-based foods (Tobler et al., 2011). Several studies have validated the noteworthy relationship between health consciousness and attitudes. Bakr, Al-Bloushi & Mostafa (2023) reported a positive relationship between consumers' health consciousness and attitudes toward PBAs. This findings is consistent with Marcus, Klink-Lehmann & Hartmann's research (2022), which affirmed the effect of attitude on behavioral intention including repurchase in the future. Thus, we posit following hypothesis as:

Hypothesis 1
Consumers' health consciousness has a positive impact on attitudes toward PBAs.

Consumers' environmental consciousness has been raised as one of the main values for consumers to choose foods in the context of purchasing PBAs (Profeta et al., 2021). This is a prerequisite for eco-friendly consumption (Dembkowski, 1998; Mintu-Wimsatt, 1997), and is an altruistic value because it helps the environment rather than the individual (Magnusson et al., 2003). Alibeli & Johnson (2009) defined environmental consciousness as the degree to which an individual recognizes and tries to solve environmental problems. And this concept also included attitudes and evaluations of one's own and others' environment-related behavior, concerns about environmental issues (Kim & Choi, 2005). A recent study by Profeta et al. (2021) presented environmental consciousness as one of the key values for choosing environmentally friendly foods, and demonstrated that it had a positive effect on attitudes toward PBAs. Similarly, research documented that consumers who are concerned about environmental issues have positive attitudes toward PBAs (Bakr, Al-Bloushi & Mostafa, 2022; Marcus, Klink-Lehmann & Hartmann, 2022). Thus, the following hypothesis is proposed:
Hypothesis 2
Consumers' environmental consciousness has a positive impact on attitudes toward PBAs.

2.3.2. Attitudes toward PBAs and PBAs repurchase intention

Consumers' attitudes is vital because it precedes behavioral intention to perform a specific behavior (Kotler et al., 2016). Pandey, Ritz & Perez-Cueto (2021) proved that consumers' attitudes toward the products act as a factor influencing consumption intention. In line with the results of a study (Marcus, Klink-Lehmann & Hartmann, 2022), which reported attitudes have the strongest effect on behavioral intention in the future, Bakr, Al-Bloushi & Mostafa (2022) found that positive attitudes significantly improved consumers' PBA behavioral intentions. In other words, a favorable attitudes toward PBAs can have a positive effect on PBAs repurchase intention. Thus, we posit following hypothesis as:

Hypothesis 3
Attitudes toward PBAs has a positive impact on PBAs repurchase intention.

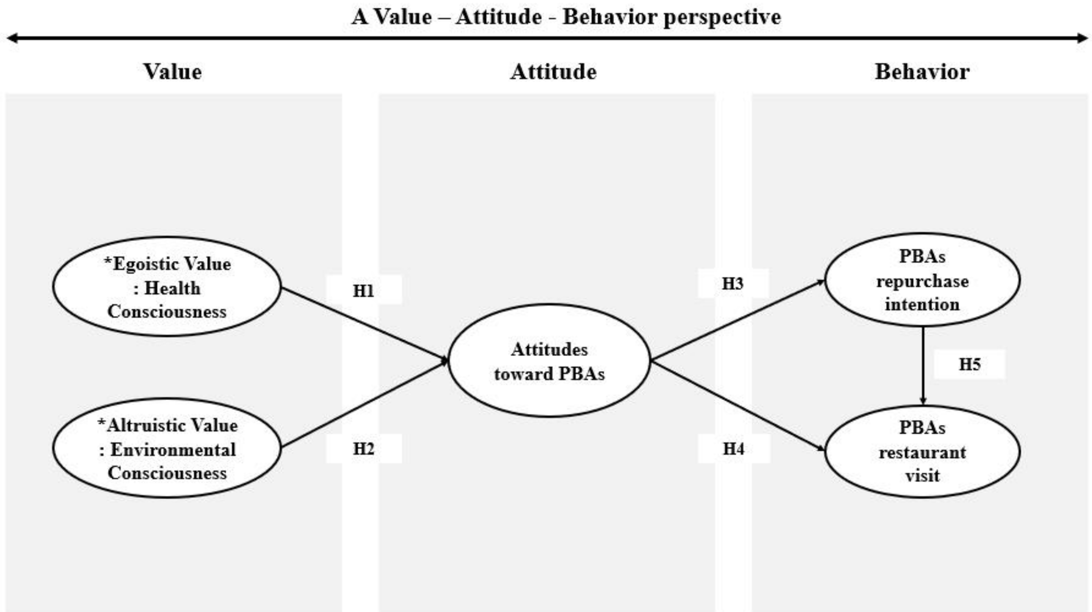
2.3.3. Attitudes toward PBAs and PBAs restaurant visit
The link between attitudes and actual behavior varies across studies. Some research argued that consumers' attitudes do not always precede behavior, leading to an attitude–behavior gap (Nguyen et al., 2019; Schäufele & Janssen, 2021). Whereas, recent studies underlined a clear relationship between attitudes and actual behavior (Nguyen & Dang, 2022; Sadiq, Adil & Paul, 2023). Although there exists inconsistency in the extant literature, we assume that positive relationship between attitudes and actual behavior. Hence, the following hypothesis is proposed:

Hypothesis 4
Attitudes toward PBAs has a positive impact on PBAs restaurant visit.

2.3.4. PBAs repurchase intention and PBAs restaurant visit
Although the prevailing opinion is that consumers' behavioral intention is a critical factor in actual behavior (Ajzen, 1991), some studies in consumption contexts have not extablished a causal relationship between intention and behavior (Birch & Memery, 2020; Singh & Verma, 2017). On the contrary, Agag & Colmekcioglu (2020) proved that consumers' behavioral intention effect on actual behavior. Similarly, a study verified that consumers' intention to consume PBAs is an influential factor in actual consumption (Pandey, Ritz & Perez-Cueto, 2021). Supporting this results, Chakraborty et al. (2022) noted that purchase intention and buying behavior hold positive association. Hence, we assert that repurchase intention have a positive impact on PBAs restaurant visit. Accordingly, we propose the following hypothesis:

Hypothesis 5
PBAs repurchase intention has a positive impact on PBAs restaurant visit.

Figure 1 presents the research model and hypotheses.



*PBAs: plant-based alternatives

Fig. 1. Research model

3. Methodology

3.1. Measurement

Based on prior research, all scale items were modified to fit the study's context. Health, environmental consciousness in the value dimensions were respectively assessd using 4 items, adopted from Hansen, Sørensen & Eriksen (2018), Namkung & Jang (2017), Tarkiainen & Sundqvist (2005), Schlegelmilch, Bohlen & Diamantopoulos (1996) and Yadav & Pathak (2016). Attitudes toward PBAs was measured with 3 items adopted from Fishbein & Ajzen (1977) and Chen (2007). PBAs repurchase intention and PBAs restaurant visit were measured with 3 items respectively adopted from Zeithaml et al. (1996). All survey items were measured using 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Table 1 displays the items included in the scale.

3.2. Data collection

Based on feedback from the pilot test, ambiguous sentences were modified and made to the final questionnaire. Participants were limited to those over 20 years old who have experienced purchasing PBAs within the last 3 months. A self-administered online survey was conducted over a week in November 2023 through a research company in Korea.

3.3. Data analysis

Data analysis was performed using SPSS 25.0 and AMOS 23.0 statistical software. First, respondents' socio-demographic backgrounds and PBAs consumption patterns were tested. Second, to confirm the validity and reliability of the study variables were performed confirmatory factor analysis (CFA). Finally, the proposed hypotheses were conducted to verify using structural equation modeling (SEM). A total of 8 responses were eliminated from the original data, 392 responses were included in the final analysis.

4. Results

4.1. Profile of the respondents

The results show that 50.5% of the respondents were female and 49.5% were male. Most of respondents were their 20s and 30s, single (54.3%), office workers (43.6%), university studuent/graduates (79.1%) and Seoul resident (27.3%). In terms of PBAs consumption patterns, the most recently purchased PBAs was plant-based milk alternatives (58.7%), the place which PBAs purchased were offline (hypermarkets/warehouses) (43.4%).

4.2. Measurement model

To evaluate the validity and reliability of the measurements, this study conducted confirmatory factor analysis (CFA). As shown in Table 1, results showed a desirable fit. All standardized coefficients were greater than 0.70, representing the convergent validity as advised by Hair et al. (2009). The values of average variance extracted (AVE) and composite construct reliability (CCR) were higher than 0.50 and 0.70, respectively, confirming convergent validity and reliability of the measures (Fornell & Larcker, 1981). In addition, Cronbach's alpha coefficients were over the reference value of 0.7, supporting internal consistency between the variables (Nunnally, 1978). The values of the AVE were greater than the the squared correlation between the constructs, which is evidence of discriminant validity (Fornell & Larcker, 1981).

4.3. Structural model

Structural equation modeling(SEM) results with standardized path coefficient and t-values were depicted in Table 2. The research model had an acceptable indicator for the goodness of fit (Fornell & Larcker, 1981). Customers' health consciousness (β=0.310, p<0.001) and environmental consciousness (β=0.414, p<0.001) had positively influenced attitudes toward PBAs. Regarding the effect of attitudes toward PBAs had a positive effect on PBAs repurchase intention (β=0.853, p<0.001) and PBAs restaurant visit (β=0.318, p<0.001). Finally, the PBAs repurchase intention was significantly associated with PBAs restaurant visit (β=0.439, p<0.001). Thus, all hypotheses were supported. The proposed model assigned 40% to attitude, 73% to intention, 53% to behavior, demonstrating a strong prediction capacity.

Table 1. Results of confirmatory factor analysis.

<table>
<tr><th colspan="3">Constructs</th><th>M±S.D.</th><th>Standardized loading</th><th>AVE</th><th>CCR</th><th>Cronbach's α</th></tr>
<tr><td rowspan="3">Values</td><td rowspan="3">HC</td><td>I choose food carefully for my health.</td><td>5.10±1.17</td><td>0.813</td><td rowspan="3">0.730</td><td rowspan="3">0.915</td><td rowspan="3">0.915</td></tr>
<tr><td>I think about my health issues often.</td><td>5.29±1.19</td><td>0.865</td></tr>
<tr><td>I pay a lot of attention to my health.</td><td>5.20±1.18</td><td>0.880</td></tr>
</table>

		I try to choose healthy foods.	5.29±1.19	0.859			
	EC	I am interested in environmental protection.	4.97±1.29	0.872	0.742	0.920	0.897
		I buy products that have a less harmful impact on the environment.	4.70±1.29	0.887			
		I tend to be conscious of environmental issues when purchasing products.	5.43±1.21	0.896			
		I buy products that have less impact on the environment if they are the same.	5.15±1.30	0.786			
Attitudes	ATT	Choosing PBAs was a wise decision.	4.68±1.17	0.882	0.716	0.883	0.878
		I am satisfied with selecting my choice of PBAs.	4.81±1.14	0.899			
		PBAs are trustworthy.	4.96±1.02	0.750			
Behavior	PRI	I plan to continue purchasing PBAs in the future.	4.89±1.25	0.793	0.761	0.905	0.897
		I would like to spread information about PBAs.	4.59±1.25	0.896			
		I would like to share product information about PBAs with my friends.	4.59±1.30	0.922			
	PRV	If I have a chance, I will visit a PBAs restaurant.	4.33±1.44	0.925	0.865	0.951	0.950
		I will visit PBAs restaurants.	4.21±1.44	0.950			
		I would like to visit the restaurant if they sell PBAs menu.	4.26±1.41	0.915			

$\chi2$=279.186, df=109, p<0.001, $\chi2/df$=2.561, NFI=0.954, TLI=0.964, CFI=0.971, IFI=0.971, RMR=0.050, RMSEA=0.063

HC: Health Consciousness, **EC**: Environmental Consciousness, **ATT**: Attitudes toward PBAs, **PRI**: PBAs Repurchase Intention, **PRV**: PBAs Restaurant Visit

Table 2. Results of hypothesis test.

Path		Standardized Estimate	C.R.	P	Results
H1	HC → ATT	0.310	5.600***	0.000	Supported
H2	EC → ATT	0.414	7.433***	0.000	
H3	ATT → PRI	0.853	16.265***	0.000	
H4	ATT → PRV	0.318	3.419***	0.000	
H5	PRI → PRV	0.439	4.697***	0.000	

$\chi2$=313.050, *df*=113, p<0.001, $\chi2/df$=2.770, GFI=0.910, NFI=0.948, TLI=0.959, CFI=0.966, IFI=0.966, RMSEA=0.067

Total variance explained(R^2): R^2 for Attitude toward PBAs=**0.401**; R^2 for PBAs Repurchase intention=**0.728**; R^2 for PBAs restaurant visit=**0.532**

5. Discussion and Conclusion

5.1. Discussion and implications

The present study has several theoretical implications. First, VAB appeared to be a robust theoretical framework that was applied to investigate the sequential relationship of values, attitudes and behaviors toward consumers' decision-making within the PBAs context. Second, this study extended the existing literature emphasizing the link between attitude-behavior and intention-behavior. Most studies have dealt with the relationship between attitude and repurchase intention. This research found the important linkage among attitude towards PBAs, PBAs repurchase intention and PBAs restaurant visit.

Our findings provide practical implications for PBAs brand marketers and foodservice operators. First, our study reveals that health and environmental consciousness are essential factors in inducing favorable attitudes toward PBAs, which in turn is influence on PBAs repurchase intention and PBAs restaurant visit. Therefore, we suggest that PBAs companies use health benefits and environmental sustainability of their products as marketing strategy. When promoting products, for instance, marketers can form consumers' favorable attitudes by providing consumer with practical information concerning health benefits and environmental consequences of PBAs consumption through their advertisements and SNSs. Second, restaurants can consider adding PBAs menu as an option to their menu items. Furthermore, PBAs enterprise could consider partnership with restaurants to promote their products. In the case of a domestic PBAs company (e.g., Maeil dailies), they developed a plant-based beverage menu in collaboration with local cafes and promoted its own products. If restaurants utilize such method as a competitive advantage strategy, it can give consumers a novelty dining experience and serve as an opportunity to identify future markets based on consumer responses. As a result, co-developing and promoting plant-based menu items may lead to positive outcomes for both PBAs enterprises and restaurants, such as increased consumers' favorable attitude, repurchase intention, and finally restaurant visit. Third, regarding demographic characteristics of respondents in our study, more than half were in their 20s and 30s (59.6%), single (54.3%). The PBAs companies need to segment consumers considering their influence in society and purchasing power, and it is necessary to appropriately mix PBAs products, distribution channels, promotions, and prices to appeal to target consumers. Our results also have shown that purchases made through the offline stores accounted for the highest percentage (43.4%). This may mean that offline distribution channels should need to be strengthened when selling PBAs.

5.2. Conclusion

The analysis reveals that values(health, environmental consciousness) significantly affects attitudes toward PBAs. Thus, our results support hypothesis 1, 2 and are in line with findings from previous studies (Bakr, Al-Bloushi & Mostafa, 2023; Marcus, Klink-Lehmann & Hartmann, 2022). The results reflect the increasing consumers' demand for sustainable and healthy food products. The attitudes toward PBAs were the crucial factor to create PBAs repurchase intention and PBAs restaurant visit. This adds to the literature finding influences of attitudes concerning intention (Bakr, Al-Bloushi & Mostafa, 2023; Marcus, Klink-Lehmann & Hartmann, 2022) and the behavior (Nguyen & Dang, 2022; Sadiq, Adil & Paul, 2023), confirming respectively, hypothesis 3, 4. Thus, this implies that consumers' favorable attitude is a vital predictor of PBAs repurchase intention and PBAs restaurant visit. We also find that PBAs repurchase intention had significant impact on PBAs restaurant visit and thus, hypothesis 5 is confirmed. This is consistent with previous studies (Agag & Colmekcioglu, 2020; Chakraborty et al., 2022). The research findings emphasize that values are significant predictor of attitudes towards PBAs. Additionally, in line with previous research concerning food selecting behavior, attitudes were crucial in forming intention and behavior (Kopplin & Rausch, 2022; Marcus, Klink-Lehmann & Hartmann, 2022).

5.3. Limitations of this study and suggestions for future studies

The current study has some limitations. First, research data were collected from South Korea. Thus, future study is necessary to apply our research framework using other countries with different cultural backgrounds. Second, measuring actual behavior is not simple in case of relatively novel foods like PBAs. Accordingly, our study used behavioral intention scales to measure PBAs restaurant visit. Some research indicated that there is sometimes 'intention-actual behavior gap' (Birch & Memery, 2020). To fill this gap, we recommend that future studies use items measuring actual behavior. Third, considering the revenue growth rate of the PBAs market globally, it is necessary to extend research subjects to various PBAs products (plant-based eggs). Finally, further study should investigate the influence of other inferential variables related to PBAs consumption. Product attributes (sensory appeal, price) and situational factor (product availability) can be considered, which are mentioned as major determinants of consumers' purchasing behavior. In doing so, consumers' purchasing behavior will be able to more effectively understood.

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Going green: The role of transition into eco-friendly dining of food establishments

Menowyn C. Bantog
Polytechnic University of the Philippines

Jerra Mae Angela M. Limchiu
Polytechnic University of the Philippines

Jan Jedson C. Umali
Polytechnic University of the Philippines

Arleen D. Peralta
Polytechnic University of the Philippines

Dr. Daryl Ace V. Cornell
Department of Hospitality Management
Polytechnic University of the Philippines

Abstract:

This study examined how restaurants benefit from sustainable practices. Interviews with owners showed increased profits and reduced expenses due to the switch. This shift was driven by Marikina's strong environmental policies. Additionally, eco-friendly practices boosted customer satisfaction and potentially attracted new clients. Notably, all participants composted food waste, adhering to city regulations. This research highlights the positive outcome for restaurants and consumers while addressing the gap in knowledge about why restaurants go green. It paves the way for future studies exploring how businesses can best adapt to adopting sustainable dining practices.

Keywords: Eco-friendly dining, Sustainable policies, Sustainable dining practices, Customer satisfaction

1. Introduction

Philippine businesses are embracing sustainability. Consumer demand for eco-friendly practices creates a competitive edge, driving companies towards a "triple bottom line" that considers people, profit, and the planet (YCPS, 2022). This shift surpasses traditional CSR, focusing on shared value creation. Integrating environmental and social aspects into daily operations is no longer just ethical, but strategic for improving efficiency, effectiveness, and overall performance (Cantele & Cassia, 2020; Cantele & Zardini, 2018).

The food industry exemplifies this shift, replacing single-use plastics and foam with eco-friendly alternatives. This reflects a growing focus on sustainability and reducing environmental impact, despite the affordability of plastic that continues to drive its production.

The purpose of this study is to determine what pushes establishments to shift to sustainable dining and whether adapting it makes them more profitable. The findings of this study contribute to the sustainable dining of food establishments and consumers. This will also help address the knowledge gap by identifying what drives the restaurants to implement sustainable practices, it will also provide suggestions and potential research materials on how businesses will adapt to sustainable dining.

2. Literature Review

2.1 Challenges

Studies show restaurant managers hesitate to adopt eco-friendly practices due to concerns about reduced profits (Berezan, 2010; Perramon et al., 2014; Raab et al., 2017). High energy and waste generation pose further challenges. While sustainability research is growing, the focus has primarily been on consumers, overlooking the restaurant management perspective (Baloglu & Raab, 2020). Fewer studies explore the motivations and perceived benefits that might encourage restaurants to integrate sustainable practices.

2.2 Policies

Marikina City enacted a ban on plastic and Styrofoam in 2012, targeting both primary and secondary packaging in restaurants and stores (Callaleja, 2012). This ordinance, following the trend in Metro Manila, aimed to phase out plastic bags and packaging for dry goods while regulating their use for wet items. A six-month grace period with public information campaigns allowed for a smooth transition towards a more sustainable city.

3. Methodology

3.1 Measurement

This qualitative study explores factors driving restaurants to adopt eco-friendly practices and the impact on profitability in Marikina City. Purposive sampling (Campbell et al., 2020) will target Marikina City restaurants recognized for sustainable practices due to the city's focus on health (WHO, Alliance for Healthy Cities).

Six business owners/managers meeting these criteria will be interviewed to gain in-depth insights (McGrath et al., 2019). Semi-structured interviews are chosen to capture the participants' unique perspectives on this transition.

Participants	Gender	Marital Status	Established before the plastic ban
Participant 1	Male	Single	No

Participant 2	Male	Single	No
Participant 3	Male	Single	Yes
Participant 4	Female	Single	No
Participant 5	Male	Single	No
Participant 6	Male	Single	No

Table 1: Demographic profile

The table provides a demographic profile of the participants, detailing their gender and whether they were established before the implementation of the plastic ban and eco-friendly ordinance in Marikina City.

4. Results

4.1 Key Drivers

These are the transition drivers that participants mentioned based on their experience when they shift to more eco-friendly dining. The motivations of transition that the participants cited are a reflection of their experiences moving towards more environmentally friendly dining behaviors. The following are the key drivers that made them shift to eco-friendly dining: Government policies, Customer preferences, Culture of environmental responsibility, Reduced environmental impact, Cost savings, Improved brand image, and Potential for increased profits. However, transitioning comes with challenges, first is the cost of investment, operational adjustments, and potential decrease in water efficiency. Overall, the study suggests that while challenges exist, the transition towards eco-friendly practices offers significant environmental and economic benefits for the food service industry in Marikina City. Government regulations, customer preferences, and a growing emphasis on environmental responsibility are driving this positive shift.

SUMMARY OF RESULTS	
Motivation for Transition	Government policies, Customer preferences, Environmental Responsibility, Environmental Impact, Cost Savings, Improved Brand Image, Potential increase in profits
Challenges in Transition	Cost of investment, New operational procedures, Potential Decrease in Water Efficiency

5. Discussion and Conclusion

5.1 Discussion, Implications and Conclusion

Food businesses in Marikina City are adopting more environmentally friendly methods as a result of increased customer demand, government legislation, and sustainability awareness. Although there are financial and environmental advantages to this shift, such as decreased waste, lesser operating costs, and enhanced brand perception, there are drawbacks as well, such as higher dishwashing and upfront investment.

Despite the lack of any green certifications, restaurants stress cost-cutting initiatives such as employing reusable containers and LED lighting. This emphasizes the requirement for a more thorough system to evaluate and accredit environmentally friendly businesses.

It is interesting to note that the change creates opportunities for new businesses. Participating in sustainability events helps restaurants acquire a reputation and draw in consumers who support environmentally friendly practices.

5.2 Limitations of this study and suggestions for future studies

Although the sample size and location have limited the study's scope, it nevertheless serves as a model for other businesses looking to go greener. Larger-scale research in the future can offer more comprehensive insights and promote the food industry's wider adoption of sustainable practices.

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Understanding value co-creation and value constellation in green restaurants

Chen Wu
Graduate Institute of Sport, Leisure and Hospitality Management
National Taiwan Normal University

Athena H.N. Mak
Graduate Institute of Sport, Leisure and Hospitality Management
National Taiwan Normal University

Abstract:

Green consumerism has been a new trend in the hospitality industry in recent years. While the values and motivations of consumers have been extensively studied, few attempts have been made to investigate the influence and interaction between green restaurant operators and customers. The objectives of this study are: (1) to explore values conveyed by green restaurant operators**,** (2) to examine the value propositions of green restaurants by using the value constellation**,** (3) to investigate values perceived by customers at green restaurants, and (4) to assess whether value co-creation is achieved in green restaurants. The key findings of this research involve uncovering the Value Constellation Models of three study cases, visualizing the value constellation along with the relationships among actors, and identifying the potential values of green restaurants. These findings contribute to the literature on the value concepts of green restaurants in Taiwan.

Keywords: Green Restaurants, value proposition, Perceived Value Theory, Value Constellation, Value Co-creation

1. Introduction

The surge in green restaurants reflects a global trend towards sustainable practices (Bilas et al., 2022). With a noticeable increase in consumer preferences for green awareness, understanding the values influencing this trend is crucial (Wirtz, 2020). This study explores the dynamics between green restaurant operators and consumers, addressing a gap in the current literature. Academically, it contributes to understanding the value concepts of communication in green restaurants. From a practical standpoint, insights from this study guide operators in aligning their strategies with consumer values, fostering a deeper connection between the green trend and consumer choices.

The purpose of this study is to explore the value concepts as perceived value, value constellation and value co-creation between green restaurant operators' and customers' perspectives among green restaurants located in Taiwan. The objectives of this study are: (1) to explore values conveyed by green restaurant operators; (2) to examine the value propositions of green restaurants by using the value constellation; (3) to investigate values perceived by customers at green restaurants; (4) to assess whether value co-creation is achieved in green restaurants. The findings are anticipated to uncover the dynamics of value creation within green restaurants, emphasizing the mutual interactions and relationships among various perspectives. This will contribute to the further development of green restaurants.

2. Literature Review

2.1. Green Practices and Green Restaurants

The definition of green restaurants is different with national policies and consumers' awareness, many organizations formulate and standardize green restaurants through the eco-friendly or energy-efficient level like GRA (Green Restaurants Associations from the US), GDG (Green Dining Guide from Taiwan) (Lu, 2021) Previous literature showed the green management standards comprise three aspects: green foods, green environment, and green equipment (Teng et al., 2014). The number of green restaurants continues to increase, there are 400 green restaurants to promote green dining in Taiwan in 2023. (Green Dining Guide, 2023).

Green practices not only provide a value-added service but also engage in environmental protection initiatives in green restaurants (Kim et al., 2017). Restaurant owners adopt green practices to create a distinctive image with a high level of customer satisfaction, which differentiates them from their competitors. Although the impact on financial performance may not be significant or satisfactory, restaurants that implement green practices can achieve a distinctive market positioning (Perramon et al., 2014), especially given the increasing number of customers who have become more environmentally-conscious and are seeking sustainable consumption (Sharma, 2021).

2.2. Value Proposition

Vargo and Lusch's (2004) Theory of Marketing Evolution reveals the shift in societal material exchange from tangible resources to intangible value. Value Proposition is a tool that further elucidates the elements of core value concepts and commits to delivering value (Kowalkowski, 2011; Vorbach et al., 2019). According to Kambil et al. (1996), a value proposition involves providing customers with features that meet their needs and communicate value. It also functions as a mechanism for enhancing stability in relationships with stakeholders, extending beyond customers and value providers to include the broader stakeholder network (Frow & Payne, 2011; Vorbach et al., 2019).

In the operation of green restaurants, value proposition is a key factor in shaping the corporate image, guiding behavior, and bringing long-term success to the business (Kwok et al., 2016). Green restaurants, through the practice of green principles, can generate green value propositions, allowing customers to perceive these value attributes. The key lies in effectively conveying value and how the interaction between different roles influences value.

2.3. Perceived Value Theory

Perceived value theory is a conceptual framework that explores how individuals evaluate the worth of a product or service based on their perceptions of what they receive and what they give in return (Schwartz, 1992; Zeithaml et al., 2020). It is commonly used to understand how consumers subjectively assess the benefits they receive compared to the costs or sacrifices associated with a specific product or service (Sánchez-Fernández & Iniesta-Bonillo, 2007).

Perceived value is often categorized into five dimensions: functional value, epistemic value, conditional value, social value, and emotional value. Social value within perceived value is considered as the ability to enhance individual self-image and social recognition, influencing consumer willingness (Sheth et al., 1991; Zauner et al., 2015). Furthermore, green consumer behavior is frequently influenced by consumers' perceived value. Understanding the perceived value of consumers in green restaurants can help narrow the gap between perception and behavior (Sivapalan et al.,2021).

2.4. Value Constellation

Value constellation is a new value logic that can redefine the relationships and values among actors by creating a network of relationships among suppliers, consumers, and partners. (Normann & Ramírez, 1993; Vanhaverbeke & Cloodt, 2006). This is a network of relationships with distinct structures that endure to improve exchange and create value with a value constellation conceptualized based on these structures (Kowalkowski et al., 2013).

The creation of value in this constellation is through interactions, and it can improve the resilience of resources more than establishing a value chain (Kieliszewski, 2012). This framework allows operators to combine their internal resources with their partners to generate value. In a value constellation, operators have the flexibility to offer what they want to create customer value, they also can consider the networks of other firms in the value constellation (Patrício et al., 2011). This means that operators need to collaborate with other actors in the value constellation to create value that benefits everyone.

2.5. Value Co-creation

Galvagno and Dalli (2014) proposed the theory of value co-creation, introducing market mechanisms into traditional consumer-supplier demand-supply relationships, and highlighting the continuous generation of value through the various roles. As the attributes of products are practically shaped through services, value co-creation plays a pivotal role in the service industry. Čaić et al. (2018) utilized the value constellation network to explore the value co-creation and co-destruction resulting from the intervention of service robots in the network of elderly people. Through the framework of the value constellation, interactions and collaboration among different roles can collectively generate value.

While traditional perspectives focused on how can add value, the contemporary emphasis is on the ongoing process of innovation between businesses and customers, leading to the creation of more distinctive products, services, and experiences (Vorbach et al., 2019). The priority of value co-creation is not only on the inherent attributes of product exchange but more significantly on the value collectively shaped through interactions with other customers throughout the relationship process (Kowalkowski, 2011; Vargo & Lusch, 2004). This shift signifies that the concept of value co-creation has surpassed the traditional viewpoint of value delivery solely provided by businesses and now underscores the collaboration and interaction between businesses and stakeholders in the joint creation of value.

3. Methodology

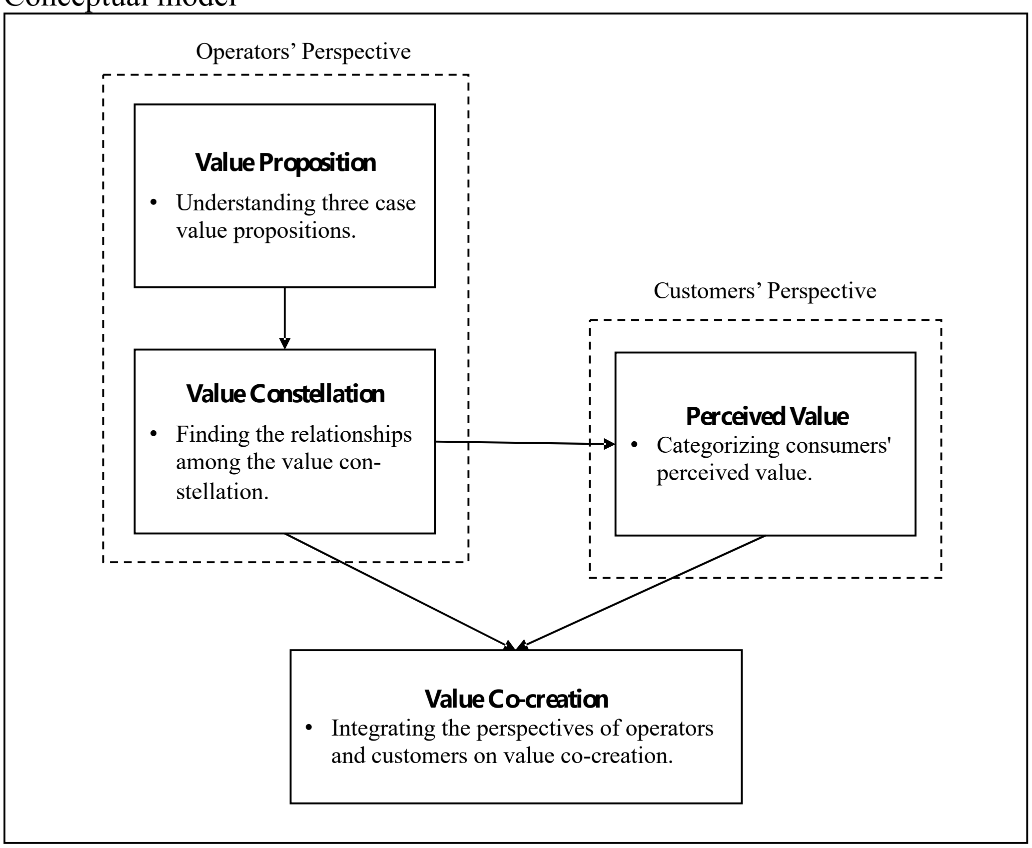
3.1. Research design, sampling, and data collection

This exploratory study has adopted a collective case study approach to explore the value constructions and to capture the influence of value among diverse customers in green restaurants situated in Taipei. Semi-structured in-depth interviews combined with the context disruption interview (CDI) method were used with the specific topic focusing on exploring the value proposition and green restaurant owners' relationship network within their contexts (Čaić et al., 2018). To measure the perceived value of customers, semi-structured in-depth interviews were utilized, with a specific focus on investigating the mutual influence and relationships that underscore customers' values.

For green restaurants, interviews were conducted with the owners of green restaurants between March and April 2023. The data were collected from three green restaurants recruited through purposive sampling. The criteria for selecting green restaurants as cases included: (1) being listed in the Taiwan Green Dining Guide (GDG), a sustainable food service guide in Taiwan; (2) having been in operation for over three years; and (3) having a seating capacity of over 30. For the customer, interviews were conducted with 12 customers who had consumed food at the three selected green restaurants during the period between September and December 2023. All interviews were audio-recorded, and any visualizations created by the participants were photographed. The following figure presents the conceptual model of this study (Figure 1).

Figure 10

Conceptual model



3.2 Case description

Restaurant Case 1 (R1) is an exotic cuisine restaurant located in Taipei that was founded in 2014. The restaurant has 45 seats and has five full-time and three part-time employees. The annual sales were approximately NT$6 million in 2022.

Restaurant Case 2 (R2) is a Western cuisine combined with Taiwanese flavor restaurants and it has been in operation since 2011. The restaurant has 38 seats and two full-time and five part-time employees. The annual sales were approximately NT$4 million to 5 million in 2022.

Restaurant Case 3 (R3) is a gluten-free vegan restaurant, established in 2016, with a seating capacity of 42. It employs 10 full-time and 4 part-time staff members, achieving an annual revenue of NT$12 million in 2022.

3.3 Context disruption interview

The main method used in this study was the context disruption interview (CDI) method. The CDI method can be used to explore and understand how people make decisions and behave in complex situations (Čaić et al., 2018). The method involves intentionally disrupting the context of a decision or behavior that is being studied to better understand how individuals conceive (Sanders, 2000). Since value constellation is an abstract and complex concept, the visually expressive mode is apparently to express for participants via conducting a context disruption interview in four steps: (1) mapping and visualizing actors' relationship net in green restaurants with generative cards activities; (2) asking participants actively immerse in the relationship network (e.g. describing the most impressive interaction); (3) disrupting the participants to explore the potential value generated by different actors (e.g., asking them to think of adjusting a menu item); and (4) getting back to the visual relationship net via a discussion with participants to identify the value of each actor and regroup the value constellation (Čaić et al., 2018). The merits of CDI method are innovation to gain insights into participants' intuitive thoughts, create new scenarios or situations to assumptions, and encourage them to think completely (Čaić et al., 2018).

3.4 Data analysis

This study undertook an iterative process with data coding and analysis. The coding methods adopted included open coding, axial coding, and selective coding (Corbin and Strauss, 1990). To enhance the trustworthiness of data, peer debriefing, member checks, and self-reflexivity were used. Additionally, data triangulation was employed to further validate and strengthen the robustness of the findings.

4. Results

4.1. Profile of the Participants

Customers were selected through purposive sampling, with the selection criteria including previous dining experience at green restaurants. Initial participants were introduced by the first-stage interviewees and subsequently interviewed randomly on-site between September and October 2023. The interviews involved a total of 12 consumers, identified as C1-C12, where 'C' represents Customer. The majority of the customer sample was female (91.7%), with age distribution primarily between 21 and 40 years old (50%) and the second-highest between 41 and 50 years old (25%) (Table 1).

Table 6 Demographic Profile of Customers

ID	Gender	Age	Rest. ID.	Education Level	Occupation	Average Monthly Income (NTD)	Frequency of Dining
C1	F	21-30	R3	Master's degree	Student	Below 26,400	twice
C2	F	41-50	R1	PhD degree	Professor	N/A	6 times or more
C3	F	41-50	R2	College / Undergrad. degree	Marketing	35,001-45,000	6 times or more
C4	F	51-60	R2	College / Undergrad. degree	Finance	65,000 or above	Twice a month
C5	F	51-60	R1	College / Undergrad. degree	N/A	N/A	Twice a month
C6	F	65 or above	R1	College / Undergrad. degree	Retired	N/A	First time
C7	F	41-50	R1	Master's degree	N/A	65,000 or above	5-6 times per month
C8	M	21-30	R2	Master's degree	Unemployed	N/A	Once a month
C9	F	21-30	R3	Master's degree	Tutoring	35,001-45,000	First time
C10	F	21-30	R3	Master's degree	Human Resource	45,001-55,000	Twice a month
C11	F	21-30	R3	Master's degree	Teacher	45,001-55,000	2-3 times per month
C12	F	21-30	R3	College / Undergrad. degree	Designer	35,001-45,000	First time

4.2. Value Constellation Model

During the interviews, participants created their green restaurants' specific value constellation visual model (Figures 3, 5, and 7). The main value proposition of Restaurant 1 (R1) was to improve sustainable environmental consciousness. Restaurant 2 (R2) wanted to use eco-friendly ways to make consumers feel more assured of their food. Restaurant 3 advocates that a plant-based whole-food diet is the key to achieving these value goals. The similarities in their

values are environmental protection and healthy dining (please refer to Figures 3, 5, and 7 for the Value Constellation Models).
The findings of this study have generated a holistic understanding of the relationships among a value constellation of actors such as small-holder farmers and intermediates which may be applicable in green restaurants in similar settings. Significant multi-form supportive actors as business partners are identified to provide the physical space with financial support from the shareholders of green restaurants and identify the value of green restaurants (please refer to Figures 2, 4 and 6 below for the relationship network among green actors).

The figures of the context disruption interview (CDI) method are being illustrated. There are four steps involved in the CDI method: Step 1 involves confirming the relationship net in green restaurants. Step 2 involves asking participants to actively immerse in the relationship network. Step 3 disrupts the participants to explore potential value generated by different actors. Finally, Step 4 is the new network of value constellation by green restaurants. The output of Step 1 and Step 4 of the three restaurant cases (R1, R2, R3) are shown below. Dotted lines represent weaker relationships or influences.

Figure 2

Step 1: the relationship network by R1

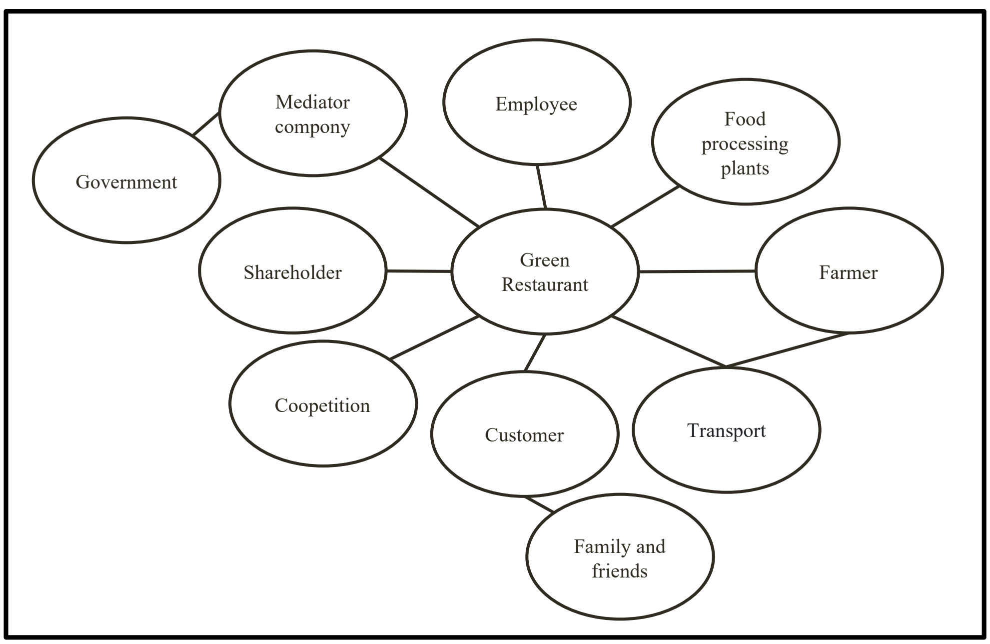


Figure 3

Step 4: the value constellation network by R1

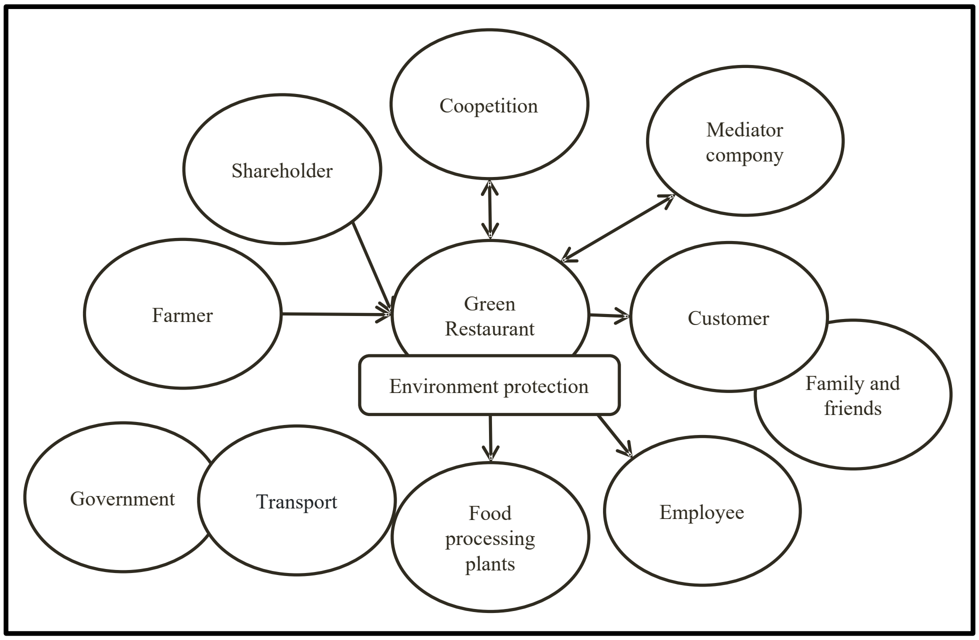


Figure 4
Step 1: the relationship network by R2

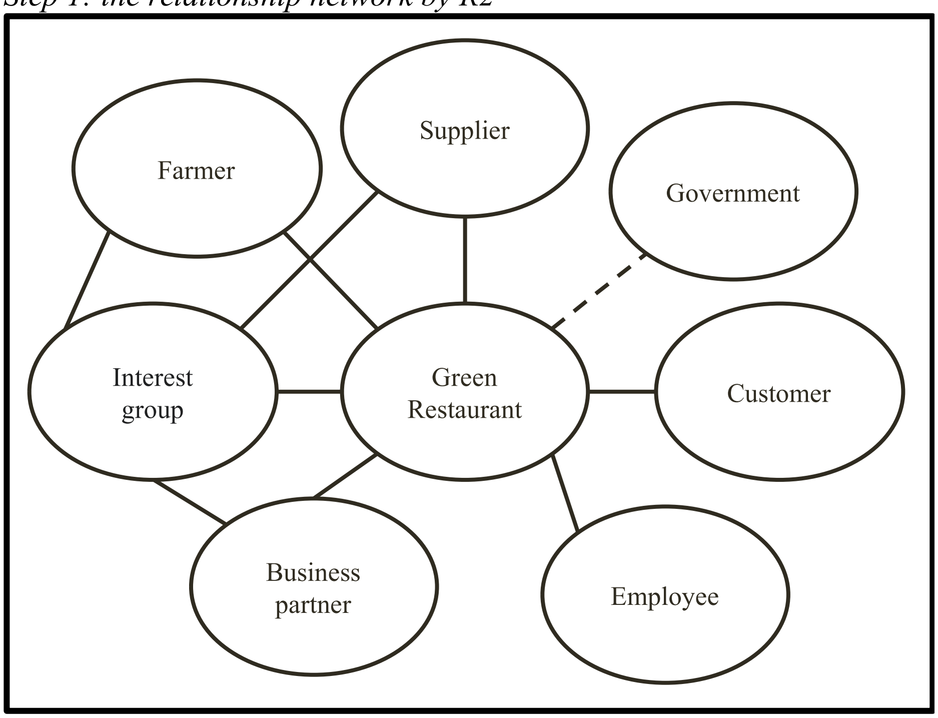


Figure 5
Step 4: the value constellation network by R2

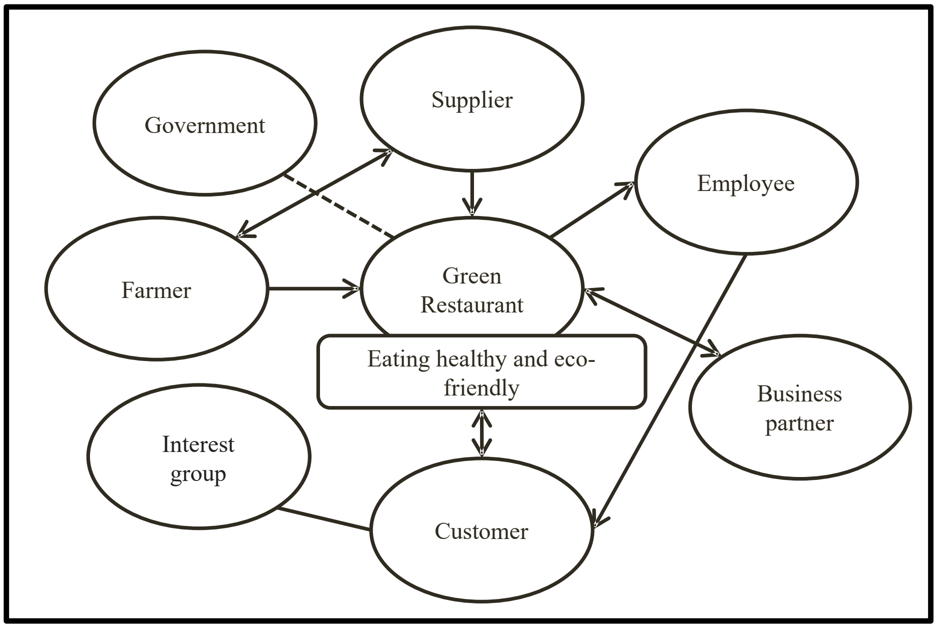


Figure 6
Step 1: the relationship network by R3

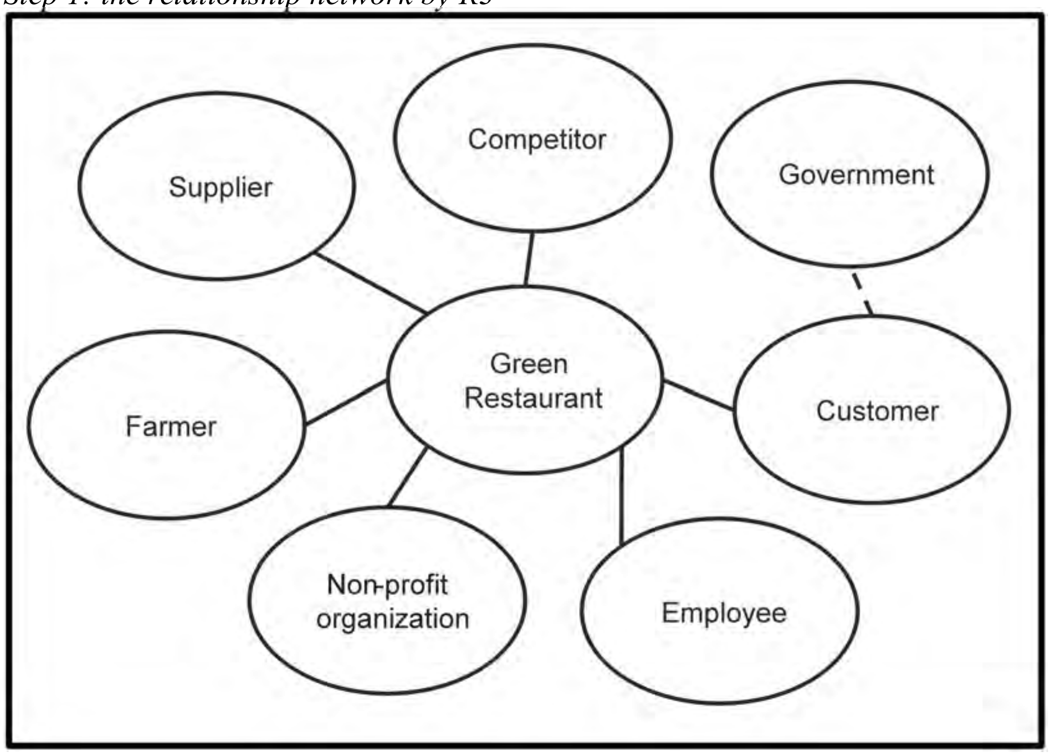
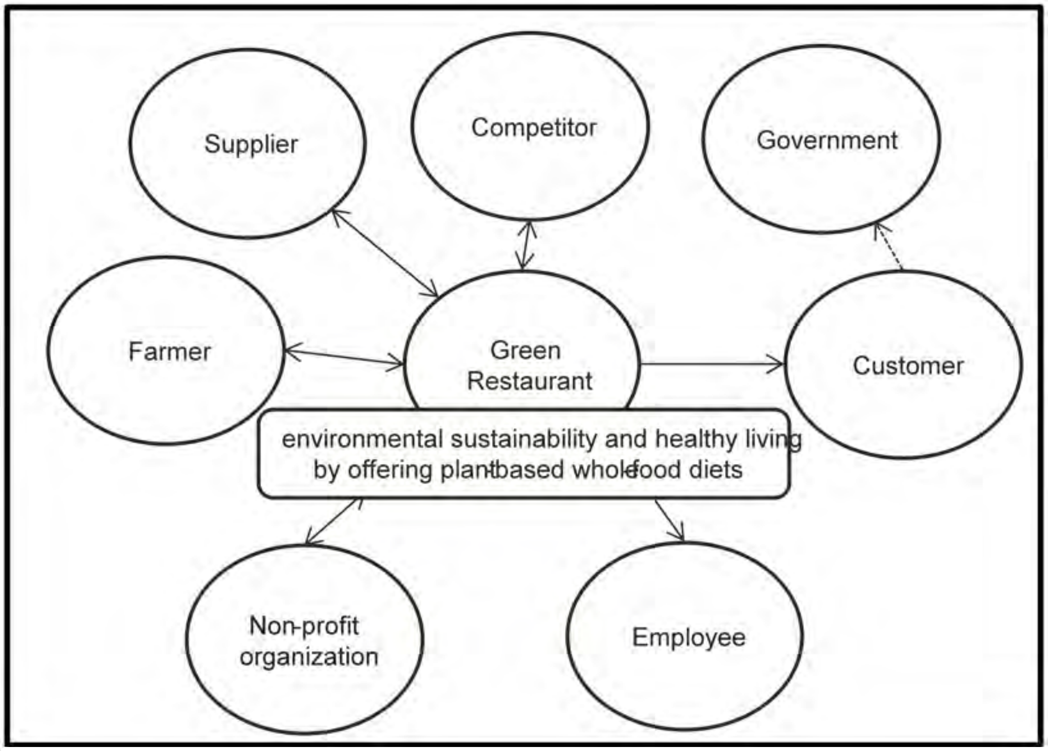


Figure 7
Step 4: the value constellation network by R3



4.3. Perceived Value

This study categorizes consumers' perceived value atmosphere into four dimensions: Health Value, Environmental Value, Social Value, and Food Value. Consumers perceive green restaurants as placing a greater emphasis on Health Value by offering healthier or fresher vegetables and fruits compared to regular restaurants (Ozdemir & Caliskan, 2015). This perception stems from consumers experiencing higher vegetable and fruit content in the meals of green restaurants, coupled with a focus on nutrition and ingredient sourcing (Kim et al., 2011). Consumers associate Environmental Value with green restaurants due to the adoption of various eco-friendly practices, including sustainable sourcing of ingredients and equipment. Consumers encounter these environmental factors during their dining experiences, leading them to mention terms such as "sustainability," "sustainable awareness," and “green consciousness” in the context of the restaurant's value transmission (Arun et al., 2021; Sher et al., 2019). Social Value is experienced by consumers across different green restaurants throughout the entire dining experience. For instance, in C3's description, R2 imparts "fairness and justice" as a value, while R3 communicates the concept of fair and just ingredient sourcing through its menu. According to consumer narratives, the perceived value transmission from the restaurant is a sense of dedication to quality in meal requirements and food quality, as well as the promotion of the concept of good food (Ozdemir & Caliskan, 2015). Although green restaurants are establishments that adopt green practices and values, fundamentally, they remain restaurants. Therefore, consumers attribute the conveyed value to the intrinsic value of food in this context.

Table 7. Perceived Value of Customers at Green Restaurants

Perceived Value	**Customer ID**	**Rest. ID**	**Gender**	**Age**	**Direct Quotes**
Health Value	C1	R3	F	21-30	In the context of green restaurants, I would expect them to offer relatively healthier or fresher vegetables and fruits compared to other restaurants. They might focus on creating combinations, and the proportion of fruits and vegetables in their dishes would likely be higher.
Health Value	C7	R1	F	41-50	Green restaurants, on their part, should prioritize nutritional health and the sourcing of their ingredients.
Environmental Value	C3	R2	F	41-50	In terms of operations, they may focus more on sustainability in certain aspects, such as sustainable sourcing of ingredients or sustainable equipment.
Environmental Value	C5	R1	F	51-60	It seems like the message they want to convey is to support local farmers, engage in eco-friendly farming practices, and promote environmental awareness.
Environmental Value	C9	R3	F	21-30	I feel it's a very natural vibe because, including the entire design of the storefront and the styles of the dishes on the menu, all these continuously convey some green consciousness to the consumers.
Social Value	C3	R2	F	41-50	I feel it conveys to me a sense of values like social justice. It's what they want to communicate. I don't think it's about the producers or certain brands, but rather, I think they feel that everyone, when dining, should reasonably have access to good, quality food at a fair price. That's what they consider a form of fairness or justice.
Social Value	C9	R3	F	21-30	Including on their menu, they would write about the source of their ingredients and what materials they use. This allows consumers to clearly know what they are eating, what part of their body it benefits,

					and that its source is very fair and just.
Food Value	C8	R2	M	21-30	R2 prioritizes delivering delightful culinary experiences, with the owner's meticulous attention to detail evident in every dish. Despite the unassuming presentation, each bite reflects a commitment to maintaining top-notch quality, showcasing a genuine passion for excellent food.
Food Value	C10	R3	F	21-30	In terms of the food, I feel that he is very dedicated to promoting the concept of good food. This aspect, I believe, sets him apart from ordinary restaurants.

4.4. Value Co-creation

In interviews with consumers, the restaurant's value proposition is introduced, leading to discussions with customers about the co-creation of value. Three main aspects were identified from consumer feedback: education, relationship expansion, and culinary inspiration. In terms of 'education,' the focus is primarily on dietary education, manifested through participation in activities and restaurant introductions. 'Relationship expansion' is achieved by extending the scope of value co-creation throughout the entire green restaurant network. Beyond getting to know small-scale farmers, consumers also establish close connections with suppliers providing environmentally friendly ingredients or seasonings, creating a tightly-knit network. 'Culinary inspiration' summarizes how consumers, through their dining experiences at the green restaurant, gain inspiration and skills in cooking. This expands their taste palate and involves active participation in culinary practices. Throughout this process, consumers not only enjoy the services provided by the restaurant but also aim to integrate this experience into their daily dietary choices, creating a unique value of their own. This interaction is reflected in their curiosity about the dishes and their desire to learn and share culinary experiences, forming a process of value co-creation.

Table 8 Value Co-creation in Green Restaurants

Value Co-creation	Custome r ID	Rest . ID	Gender	Age	Direct Quotes
Education	C2	R3	F	21-30	I find the educational aspect quite intriguing because it involves actually hearing from the producers inside a restaurant. We had the opportunity to listen to these producers sharing their experiences, and we even engaged in tastings and smell tests. Seeing the producers firsthand and understanding their perspectives left a lasting impression on me.
Education	C11	R3	F	21-30	The interaction and collaboration are fine,

					but during dining experiences or when they are promoting, you can feel that they are actively promoting their philosophy. It gives a sense of educating the consumers to some extent.
Relationship Expansion	C2	R3	F	21-30	Through these experiences, I get to know not only small-scale farmers but also suppliers of environmentally friendly ingredients or seasonings. It forms a close-knit network.
Relationship Expansion	C4	R2	F	51-60	For example, if they use a certain type of eggs, I will also buy eggs from the farm they source them. I subscribed to the farm that raises chickens because of them. It's about trust, and it becomes a network through these connections.
Culinary Inspiration	C9	R3	F	21-30	I also want to develop similar dishes on my own. It's not exactly research and development, but I want to know how they make their dishes so that I can incorporate it into my daily cooking.
Culinary Inspiration	C10	R3	F	21-30	It created more value for me, perhaps to some extent. After dining at their restaurant, I can now refer to their combinations when cooking at home, which adds value for me.

5. Discussion and Conclusion

5.1. Discussion and implications

This study delves into green restaurants, uncovering the Value Constellation Models, Perceived Value, and Value Co-creation dynamics. Unique propositions in the Value Constellation Models (R1, R2, R3) emphasize environmental consciousness, consumer assurance, and a plant-based diet, showcasing shared values such as environmental protection and healthy dining.

In terms of Perceived Value, consumers link green restaurants to heightened Health and Environmental Values, emphasizing fresher options and eco-friendly practices. Social Value emerges from perceptions of fairness and justice in responsible sourcing.

Value Co-creation involves education, relationship expansion, and culinary inspiration, with consumers actively engaging in dietary education, expanding green networks, and seeking culinary inspirations.

The findings of this study have significant theoretical implications as they enable us to understand the value constellation and the relationships among actors, identifying potential value propositions within green restaurants. This study also enriches the existing literature on customer-perceived value within the green restaurant sector in Taiwan, offering valuable insights for future academic research. From an industry perspective, this study's implications are equally significant. Restaurant owners and managers can leverage these findings to enhance their business strategies, particularly in aligning their operations with the values of sustainability and health that resonate most with their customers. Such strategic alignment can enhance customer satisfaction, loyalty, and overall business performance in the competitive landscape of the green restaurant industry.

5.2. Conclusion

Through three case study restaurants, this research summarizes the green values proposed by Choi and Parsa (2007), which include health, environmental, and social values. Initially, the three case study restaurants only mentioned environmental and health values, but hidden social values were discovered through disruptive interviews. In addition to recognizing health, environmental, and social values, customers also appreciate the intrinsic value of the restaurant's food offerings. Customers can comprehend the value propositions of green restaurants, and in value co-creation, the value transmission in actual collaboration is more tangible and significant. The value co-creation in green restaurants brings not only culinary enjoyment, but also value transformation, and forms a phenomenon of collective value creation. Interactions among different roles constitute the overall green value constellation network, where value shines and circulates endlessly within this constellation. The purpose of this study was to explore the value concepts of green restaurants and identify the values within value constellation. Understanding the relationship in green restaurants through value constellation can help us improve the values created.

5.3. Limitations of this study and suggestions for future studies

While insightful, this study has limitations. The small sample size may impact generalizability. Future research should explore a larger, more diverse sample for a comprehensive view of the green restaurant domain. This includes investigating the interactions of various roles within green restaurants and comparative studies across different regions and types of restaurants can provide valuable insights. These recommendations guide future research for a more thorough exploration. The literature concerning the utilization of the value constellation model is currently limited. Green restaurants, due to their unique operating models involving diverse roles, are highly suitable for implementing complex and specific value constellation networks. This model is applicable to various roles across different contexts, facilitating further comparative and cross-cultural studies that yield diverse results.

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Correlation of entrepreneurial competencies and innovation of themed restaurants in CALABARZON region

Maranan, Rhikie Rose P.
College of International Tourism and Hospitality Management
University of Perpetual Help System DALTA Calamba

Borbon, Noelah Mae D. Borbon
College of Accountancy, Business, Economics and International Hospitality Management
Batangas State Unversity JPLPC Malvar
College of Tourism and Hospitality Management
Faith Colleges Tanauan

Abstract:

Entrepreneurs are forces for economic change because they raise living standards, increase wealth, lower unemployment, and contribute to industrialization and economic progress. For the business to have a competitive advantage. Advancement is essential to every business's survival and is essential to entrepreneurship. The study concentrated on the connection between entrepreneurial competencies and innovation. Entrepreneurial competencies entail different characteristics that involve knowledge, skills, and personality. The only competencies examined in the study were those related to the seven entrepreneurial competencies, namely strategic, conceptual, opportunity, organizing and leading, relationship, technical, and personal. However, other competencies may have been considered and used to expand on the value of the other competencies and generate more viable outcomes for future study. Innovation is defined as bringing any new problem-solving idea into the generation, acceptance, and implementation of new ideas in the management, marketing, processes, products, or services. Entrepreneurial competencies are useful for mitigating environmental pressures resulting from operational turbulence as the firm drives toward improving innovation outputs. The research study utilized a descriptive-correlational research design. The sampling design was stratified random sampling with a replacement method. Each province had an equal chance of being selected as a respondent. Hence, those provinces that did not meet the target sample were replaced with other respondents. Some themed restaurants were closed due to the pandemic, and some refused to answer. Two hundred seventy-two employees of Themed Restaurant were the primary respondents who answered a total of 66 adapted-modified questionnaires. Based on the result of the study, entrepreneurial competencies, and innovation are positively correlated with one another. With this educational institution, the restaurant business and the government should look into the following variables and include them in future studies to sustain economic activity through entrepreneurship

Keywords: Entrepreneurial Competencies, Innovation, Themed Restaurant

1. Introduction

Rising living standards, individualized purchasing patterns, and the Philippines' quickly changing economic landscape all affect the restaurant industry there. Restaurant owners search for and employ tactics to get a competitive advantage. Digitization, standardization, and manufacturing advancements can all help achieve it. To get outstanding results, state-of-the-art techniques and technologies must also be used (Chien & Tsai, 2021). More entrepreneurs need to develop innovative problem-solving techniques to succeed in the competitive business sector.

In the economy, entrepreneurs are change agents. To create commercial value in today's market, entrepreneurs must have strong behavioral, intellectual, management, and attitude competencies. Understanding the nature of entrepreneurial competencies is necessary to enhance entrepreneurship. This paper seeks to address the research vacuum by analyzing the entrepreneurial abilities needed by entrepreneurs to improve innovation. Commercial firms, which are defined by quickly changing environments, have undergone a reflective revolution as a result of the expanding significance of entrepreneurship research over the past few decades. As a result, there is an enormous demand for and supply of entrepreneurial education, as shown in the study by Schneider and Albornoz (2018).

Entrepreneurial competencies are higher-level, improvable characteristics entailing personality traits, skills, and knowledge that bring about the ability to accomplish something through resources. Entrepreneurs are visionaries, mavericks, and risk-takers. Some of the tasks of entrepreneurs include product conceptualization, product launching, and product innovation. Entrepreneurial competencies also try to encapsulate the capacity of an entrepreneur to start and nurture an undertaking and effectively identify and combine various resources, such as Tangible and intangible resources (Gümüsaya & Bohnéc, 2018).

This study looked into ways to help those who want to start their businesses in the food industry become more innovative and competent entrepreneurs. The CALABARZON region is included in the study, which focuses on the several food service businesses there. There are a lot of well-known small eateries and themed restaurants in the CALABARZON region. The impact of entrepreneurial innovations on entrepreneurial competencies was redeveloped by the researcher. We would have a better understanding of the level of entrepreneurial competencies necessary to achieve creative entrepreneurship

2. Literature Review

2.1. *Entrepreneurial competencies*

The essential quality of a person that leads to effective action and exceptional performance at work is competence. To produce commercial value in today's economy, entrepreneurs are required to possess the necessary and prerequisite competencies, such as an exceptional attitude, intelligence, demeanor, and management leadership. The study by Ataeia et al. (2020) emphasized entrepreneurial competencies, stating that the complexity of entrepreneurship systems necessitates the creation of entrepreneurs with specific talents and competencies. The capacity to achieve through resources is brought about by the important personality traits, abilities, and knowledge that comprise entrepreneurial competencies. It includes acquired characteristics, abilities, attitudes, and knowledge.

A study on entrepreneurial abilities has been undertaken by several researchers. Chandler and

Jansen's (1992) study included the following competencies: opportunity, intense effort, conceptual, human, political, and technical-functional. Several research on entrepreneurial competencies have been conducted over the years. The understudy competencies in Man et al.'s study are commitment, organizing, conceptual, relationship, opportunity, and organizing. Hayton and Kelly (2006) however point out that the study did identify competencies related to innovating, brokering, advocating, and sponsoring. Opportunities for innovation, corporate expansion, and improved skills and proficiencies from organizational resources are made possible by strategic competencies. The presentation and growth strategies of the company might be impacted by strategic visualization (Behling & Lenzi, 2017). Strategic competencies, according to Wigboldus (2009), prepare and equip individuals and groups to adopt positions and maneuver in a highly structured and methodical environment. The obstacles it faces in achieving its goals are ever-changing. Marginalization results from a lack of strategic competencies, which impedes one's ability to comprehend and adapt to such changing settings. According to Aidara et al. (2020), an entrepreneur's ability to develop workable company plans is referred to as strategic competency. The capacity of entrepreneurs to identify, develop, and evaluate the best prospects on the market is known as opportunity competency. Entrepreneurs are driven to establish businesses and take significant risks to convert unique prospects into profitable ventures Pepple and Enouh, 2020). Rasmussena, Mosey, and Wright (2014) contend that seeing opportunities is an intellectual activity in which various players have distinct tasks to perform along the course of the entrepreneurial process. Using and exploiting organizational, financial, physical, technological, and human resources—all of which are important in various enterprises—challenges opportunity competencies. Entrepreneurs must take on multiple responsibilities and manage diverse functional domains, necessitating the aptitude to arrange and arrange diverse resources within the company. According to Finn's (2021) study, a high degree of connectedness allows an organization to coordinate entrepreneurship while keeping those who have different objectives at arm's length. The idea of entrepreneurship and the actors' future capacity to plan and carry out entrepreneurial activity are shaped by this more and less intense connectedness. It implies that keeping an eye on things is crucial to maintaining the company's effectiveness. In a similar vein, company owners ought to keep an eye on their operations to ensure proper execution. Building networks is one of the important aspects of relationship competencies, according to a study by Esubalewa & Raghurama (2020). Relationship competencies were mentioned as being essential and looking into other people's cooperation within an organization (Lopatka, 2021). It shows how an entrepreneur may build, maintain, and apply effective communication skills in interpersonal and group settings based on trust and contact with all organization stakeholders Aidara et al. (2020). Among the entrepreneurial talents that entrepreneurs must possess to secure and strengthen their sustainable competitive advantage in the business world are technical competencies (Mahadalle & Kaplan, 2017). The food service business is a part of the industrial economy, and technical integration makes it more compliant and efficient while also supporting the implementation of sustainability throughout the sector (Shet & Pereira, 2021). The abilities of an entrepreneur that aim to spark business growth. It was stated in "All Successful Entrepreneurs," 2017 that bringing your entrepreneurial skills to the table is a crucial first step towards launching a firm using a tried-and-true strategy. Pepple and Eunoh's (2020) study states that personal competency also encompasses significant traits and skills that contribute to the development of one's power. Additionally, it increases a person's efficacy in completing particular difficult jobs, like running their own business.

2.2 Entrepreneurial Innovation

In the current competitive landscape, innovation is essential for businesses, as without it, none can survive Muñoza et al. (2022). It is crucial to entrepreneurship as well. It is described as incorporating any novel approach to problem-solving into the creation, adoption, and application of novel concepts, procedures, goods, or services (Buhalis, 2016). Innovation among different restaurant types and categories introduces useful implications to assist owners in improving their brand positioning, claim Lee et al. (2021). Gaining a competitive edge through efficient management of the innovation process is another. According to Chou et al. (2012), organizations and individuals have different adoption and integration processes for innovations. Organizational scales, structures, and attitudes toward innovation are all part of the organization. It also encompasses external business settings. There is a favorable correlation between resource richness, inventive belief, risk-taking willingness, and business innovation. The backgrounds of innovation adoption—adopter characteristics, social networks, government and environmental assistance, and technological know-how—have been discussed in other studies. Improved explanations of innovation adoption behavior have been proposed.

Volery (2020) defines marketing innovation as the use of novel marketing techniques, such as perceptible adjustments and trends in a product or service's distribution, pricing, design, or promotion. Restaurant marketing innovations promote their businesses or client loyalty programs on social media platforms (Lee et al., 2016).

The newest and most innovative approaches to management structures, work organization, or external relations are referred to as management innovations. Examples of these approaches include developing new internal connections, supervising and approving employees, career development, and worker's compensation Lee, Hallak, Sardeshmukh (2016). According to Yu et al. (2022), management innovation is the organization's capacity to develop and apply new management practices, procedures, methods, structures, and strategies to enhance a business's performance and support a durable competitive advantage that is challenging to match. Khosravi et al. (2019). Process innovations are modifications made "behind the scenes" to boost effectiveness, efficiency, and productivity. Examples include adding more automation or new equipment. Process innovations also include new energy sources and more effective manufacturing techniques Lee, Hallak, & Sardeshmukh (2016). In addition, product innovation refers to the use of fresh or updated noteworthy advancements in production-related fields. The evolution of the production organization or process techniques and measures is supported by the definition of methods, procedures, and functional structures, as well as by the adoption of changes in equipment and technology Muñoza, Carusoa, Gazabonc, SOñab & Osorio (2022). According to Lee, Hallak, and Sardeshmukh (2016), "product innovations" are new or greatly improved products, such as the introduction of new components, intermediate goods, and materials and resources. The introduction of a new good or service is also assertively correlated with product innovation. The service industry cannot function without service innovation. Technology, economic models, expertise, organization, and demand are all combined in service innovation to either drastically improve current services or gradually build whole new ones. The most important people to assess an offering's novelty and worth are its customers (Shin & Perdue, 2022).

2.3 Entrepreneurial Competencies and Innovation

The study of Umar, Omar, Hamzah, and Hazim (2018) showed that 77% of innovative change as fostered by entrepreneurial competencies indicates a relationship between innovation and the performance of enterprises. It was also revealed that technical competency, strategic competency, and organizing and leading competency were the essential factors in improving innovation in the firms. Moreover, Strategic competency was the significant influence among all entrepreneurial competencies towards innovation in which individuals highly competent in strategic and conceptual thinking lead to innovation behavior. However, it shows that the correlation of opportunity competency, relationship competency, and technical competency to innovative performance is not statistically significant Mohsin, Halim, Ahmad, And Farhana (2017).

3. Methodology

3.1 Participants of the Study
In this research study, 272 employees of Themed Restaurant in the CALABARZON region were the survey's primary respondents. The employees were assessed according to their Entrepreneurial Competencies and Entrepreneurial Innovations. The employees include the rank and file, supervisor, and managerial positions of both the back and front of the House. The following employees were the respondents to represent their entrepreneurial competencies towards innovation. It was not limited to the managers and supervisory level since the rank and file are also part of the operation. Owners have omitted aa respondents so as not to put some bias. Respondents' percentage distribution regarding the demographic profile. The respondents are 26 to 35 years old, are college graduates, have a Field of specialization in culinary, rank and file as a position, and have worked for five years or less at the back of the House. Regarding age, most respondents are 26-35 years old, with 133 or 48.9 percent frequency distribution. It was followed by 18-25 years old with 112 or 41.2 percent, while 19 of the respondents or 7 percent were 36-45 years old and 5 of the respondents, or 1.8 percent were 46-55 years old. Lastly, only 1.1 percent or three respondents are 56 years old and above. Aged 18 – 25 are on a rendezvous and seeking something and do not have a fixed goal on their career, for they are looking for something that fits in based on their standards. The themed restaurant commonly employs ages 26 – 35 because they are in their prime career. Moreover, those aged 18 – 25 are looking for serious and stable jobs in the restaurant industry.

3.2 Sampling Design
The sampling technique adopted in this study was stratified random sampling with a replacement. The Locale of the study is Region IV-A, which comprises 5 Provinces. This region is known for having an exciting and wide array of themed restaurants. The list of themed restaurants was sorted from TripAdvisor. A survey qualifier was included in the research questionnaire to ensure that only legitimate themed restaurants and respondents would be part of the survey. A total of 40 Themed restaurants in the CALABARZON area were part of the study.

3.3 Measurement
Frequency and percentage distribution describe the demographic profile in terms of age, educational attainment, Field of specialization by subject area, position at work, years of work experience, and department.
Weighted Mean and Rank were used to determine the Entrepreneurial competencies in strategic, conceptual, Relationship, Opportunity, organizing and leading, Relationship, technical, and

personal. Weighted Mean and rank were used to assess the Entrepreneurial Innovations in marketing, management, process, product, and service innovations.

The result of the Shapiro-Wilk Test showed that the p-values of all variables are less than 0.05, meaning that the data set was not normally distributed. Therefore, the Kruskal-Wallis test for more than two groups was used as part of the non-parametric tests to determine the significant differences. Likewise, Spearman rho was used to test the significant relationship. All analyses were performed using SPSS version 26.

4. Results

Present results of data analyses. Tables and Figures will be helpful to explain the findings.

4.1. Entrepreneurial Competencies and Innovation

Indicators		**Interpretation**	**Rank**
Entrepreneurial Competencies			
Strategic	4.54	Extremely likely	1
Relationship	4.49	Likely	2.5
Technical	4.49	Likely	2.5
Organizing and Leading	4.47	Likely	4.5
Conceptual	4.47	Likely	4.5
Opportunity	4.45	Likely	6
Personal	4.44	Likely	7
Composite Mean	**4.49**	**Likely**	
Entrepreneurial Innovations			
Marketing	4.52	Strongly Agree	1
Management	4.51	Strongly Agree	2
Process	4.51	Strongly Agree	2
Product	4.51	Strongly Agree	2
Service	4.47	Agree	5
Composite Mean	**4.50**	**Strongly Agree**	

Legend:4.50-5.00=Extremely Likely;3.50-4.49=Likely;2.50-3.49=Moderately Likely;1.50-2.49=Unlikely;1.00-1.49=Extremely Unlikely

Legend:4.50-5.00=Strongly Agree; (SA) 3.50-4.49=Agree; (A) 2.50-3.49=Moderately Agree (MA);1.50-2.49=Disagree (D);1.00-1.49=Strongly Disagree (SD)

Table 1 summarizes the assessment of Entrepreneurial Competence and Innovation. Data reveal that respondents strongly agreed with Entrepreneurial innovation with a composite mean of 4.50 and Entrepreneurial competencies with a composite mean of 4.49 interpreted as likely.

Strategic Competency is one of the essential competencies now that the restaurant has faced a tremendous pandemic effect. As the competency ranked the highest, it was evident in the themed restaurants in the CALABARZON region to manage new strategies to improve the business. The restaurant industry was striving but could not manage to surpass the challenges they faced for years now.

Entrepreneurs should identify directions for the enterprises' development, set objectives and plans, and execute the strategies. Strategic competencies entail entrepreneurs commanding the big picture, setting specific action goals, and effectively implementing strategies to realize predefined goals (Yeh & Chang, 2018).

Lastly, as for Entrepreneurial innovations indicators, marketing innovations (4.52) ranked highest. All indicators under Entrepreneurial innovations were interpreted as strongly agree except for services in which the respondents only agree.

Marketing innovation is significant for the restaurant because it will help reach more clients. Creating a marketing innovation will sustain the connections to its customers. Marketing innovations include improving distribution channels, especially now that the restaurant industry is facing a pandemic. Many establishments are crossing to more aggressive marketing than the traditional one to capture their market.

Table 2

Correlation Between Paired Variables of Foodservice Businesses

Paired Variables	rho-value	p-value	Interpretation
Entrepreneurial Competencies & Entrepreneurial Innovations	0.683**	0.000	Highly Significant

** Correlation is significant at the 0.01 level

Table 2 describes the Correlation between paired variables of foodservice businesses. As reflected in the table, the computed rho-values ranging from 0.683 – 0.821 show a strong to a very strong positive correlation.

It shows a strong positive correlation between entrepreneurial competencies and innovation (p=0.000). Innovation is crucial for themed restaurants because of their unique features to entice customers. Entrepreneurs must have the appropriate competencies to undertake innovative projects in the themed restaurant. SMEs are advised to broaden their competencies to move their businesses forward, or they are at risk of being left behind in today's borderless global market. It was mentioned by Wickramaratne, et al (2014) that enhancing owner/manager entrepreneurial competencies would lead to innovativeness. It was also indicated in the study of Umar, et al. (2018) that there is a positive and significant relationship between entrepreneurial competencies and innovation in business success. Restaurants must build these entrepreneurial competencies by adopting new techniques and innovations and changing deep-rooted systems Mohsin et al. (2017).

5. Discussion and Conclusion

5.1. Discussion and implications

The present study augments the entrepreneurship literature by providing pragmatic data on the relationship between owner/managers' entrepreneurial competencies and Entrepreneurial innovation and its dimensions. It reveals that entrepreneurial competencies are crucial for Entrepreneurial innovation and, thereby, the success of business firms. The findings are essential to developing competent entrepreneurs, similarly providing more resources and a positive environment. Consequently, these results propose that relevant parties such as educational and business practitioners should facilitate the entrepreneurs to develop their entrepreneurial competencies. Therefore, identifying perilous factors that enhance entrepreneurial competencies is advantageous and valuable for the government and the non-government sector in developing activities that strengthen entrepreneurship.

Further, identifying eloquent relationships between different competencies and their scopes will allow a more focused approach and methodologies to designing entrepreneurial training programs. Also, the present study may provide insight for managers and staff of the themed restaurant to assess their level of entrepreneurial competencies. It can determine their training requirement, allowing them to enhance competencies and adopt necessary and appropriate entrepreneurial strategies. It may mitigate and assess the challenges and issues arising in the restaurant market that an entrepreneur in this market should be knowledgeable about.

5.2. Conclusion

The respondents agreed that among the Entrepreneurial competencies, it was strategic competencies were ranked the highest. Strategic competencies are vital for the Restaurant Business, which improve the business's mission, vision, and goal, which every employee must understand.

Marketing innovation is significant for the restaurant business. The respondents agreed that among the innovations, it was marketing innovation that ranked the highest. The restaurant business has a very competitive market. There should be an aggressive marketing campaign and look for ways to innovate in marketing to improve its business. It was found that entrepreneurial competencies such as conceptual and personal significantly differed between ages 26-25. Whereas for the highest educational attainment, college graduates significantly differ in organizing and leading, technical, and personal. Moreover, the field of specialization has a significant difference in conceptual competencies between not related and tourism and Relationship and Personal between not related and culinary, and between not related and tourism. The Entrepreneurial technical competencies have a more significant assessment of employees working in front of the house and have a supervisory position and rank and file position at work.

Entrepreneurial Competencies and Innovation have a high positive correlation. Entrepreneurial competencies and Innovation have a relationship in which restaurant employees should have a high level, good competencies, and proper orientation. It may improve and use this in keeping entrepreneurial innovation that would benefit the restaurant establishment in the CALABARZON region.

5.3. Limitations of this study and suggestions for future studies

Since only themed restaurants were utilized to collect data for the study, the study's limitations are related to the sort of restaurant that was used. In the future, academics may examine the entrepreneurial competencies and entrepreneurial innovation of personnel in different kinds of food service establishments. To better understand which entrepreneurial competencies are most likely to be advantageous for food service enterprises, a variety of additional characteristics may also be taken into account.

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Dining-in dilemmas: Customer perceptions of restaurant surcharge fees and their impact on revisit intention

Choi, Hayeon (Hailey)
Department of Hospitality and Retail Management,
Texas Tech University

Joung, Hyun-Woo (David)
Department of Nutrition and Hospitality Management,
The University of Mississippi

Choi, Eun-Kyong (Cindy)
Department of Nutrition and Hospitality Management,
The University of Mississippi

Hong, Chanmi
Department of Nutrition and Hospitality Management,
The University of Mississippi

Abstract:

Surcharge fees have become increasingly common in restaurants due to increased costs over the last few years. This research investigates their impact on consumer perceptions and behaviors using the Stimulus-Organism-Response framework, exploring how social compliance, inflation awareness, and sensitivity influence perceptions of price fairness, acceptance of surcharge fees, and revisit intentions. By illuminating these dynamics, the study provides valuable insights for academic research and practical applications in the restaurant industry, aiding in the development of consumer-aligned pricing strategies.

Keywords: Restaurant Surcharge Fees, Stimulus-Organism-Response Framework, Price Fairness, Revisit Intention

1. Introduction

In recent years, surcharges have become contentious among restaurant customers (Maze, 2023; Strozewski, 2024). The National Restaurant Association reported in 2023 that 15% of restaurants introduced surcharges on their customers' bills to cover increased costs. Ranging from 3% to 20%, these surcharges, distinct from tips, are commonly added to restaurant bills, labeled with various names such as hospitality fee, kitchen appreciation fee, and temporary inflation fee, and encompass a range of expenses including health insurance, inflation, credit card transactions, or even tap water (Dickler, 2023; Maze, 2023; Strozewski, 2024). The prevalence of surcharges is further fueled by inflation, labor shortages, and increasing minimum wages, which justifies their implementation and contributes to their increasing adoption across the restaurant industry (Maze, 2023).

Despite strategic considerations behind surcharge implementation from restaurants, consumers often find themselves confused by these additional fees (Rakoczy, 2022). The lack of transparency surrounding surcharge fees raises ethical concerns, with many not prominently displayed on the menu board and often charged without clear disclosure to customers until they receive their bills, leading to surprise and frustration (Strozewski, 2024). Anticipating potential regulatory intervention, restaurants may need to enhance background information and clear communications regarding these surcharges (Strozewski, 2024).

As dining out becomes more expensive due to rising costs, understanding the effects of surcharge fees on consumer behavior becomes imperative (Strozewski, 2023). Among restaurant operators implementing surcharges, 81% anticipate maintaining this practice for over a year, highlighting the necessity for further research into its impact on consumer perceptions and behavior (National Restaurant Association, 2023). However, despite the increasing prevalence of surcharge fees, a notable gap in the literature exists regarding their impact in the restaurant industry. Existing studies have predominantly examined surcharge fees within online shopping or banking contexts (e.g., Stavins, 2018). Therefore, this study aims to investigate consumer perceptions and attitudes towards surcharge fees in the restaurant industry, utilizing the Stimulus-Organism-Response framework. It examines the impact of bills with surcharge fees and signage about surcharge fees on social compliance, inflation awareness, and sensitivity, and subsequently on price fairness, acceptance of surcharge fees, and revisit intention.

2. Literature Review

2.1. Stimulus-Organism-Response Framework

In this research, the Stimulus-Organism-Response (SOR) framework guides the exploration of restaurant surcharge fees' effects. According to this theory, stimuli prompt internal responses, subsequently shaping their behavioral responses (Mehrabian & Russell, 1974). The SOR framework, validated for understanding consumer reactions, has been used in various settings, ranging from online to offline environments (Malhotra, 2005).

2.2. Stimulus

Surcharges represent significant environmental stimuli influencing consumer behavior across sectors like airlines, hotels, and restaurants (Greenleaf et al., 2016). Previous research indicates diverse consumer responses to surcharge fees on their bills (Kimes & Chen, 2021; Naipaul, 2002). Customers often decide whether to pay surcharges by scrutinizing their bills and relying on their understanding of these fees (Strozewski, 2023). Additionally, the lack of background information and clear communications with customers surrounding surcharge fees worsens consumer confusion and frustration, leading to perceptions of unfairness (Strozewski, 2024). Understanding the impact of restaurant surcharge fees and providing information about them as stimuli is crucial to examining their effect on organism and response constructs.

2.3. Organism

Social compliance, encompassing feelings of shame, guilt, regret, has been utilized in tipping-related studies and significantly influences tipping intentions and behaviors (Koku & Savas, 2016; Whaley et al., 2014). Inflation awareness reflects consumers' understanding of broader economic trends and their implications for pricing structures (Ranyard et al., 2008). Inflation-aware consumers tend to be more sensitive to pricing changes, potentially adjusting their behavior towards surcharge fees. Additionally, consumers' sensitivity to surcharges significantly influences their behavioral intentions (Xia & Monroe, 2004).

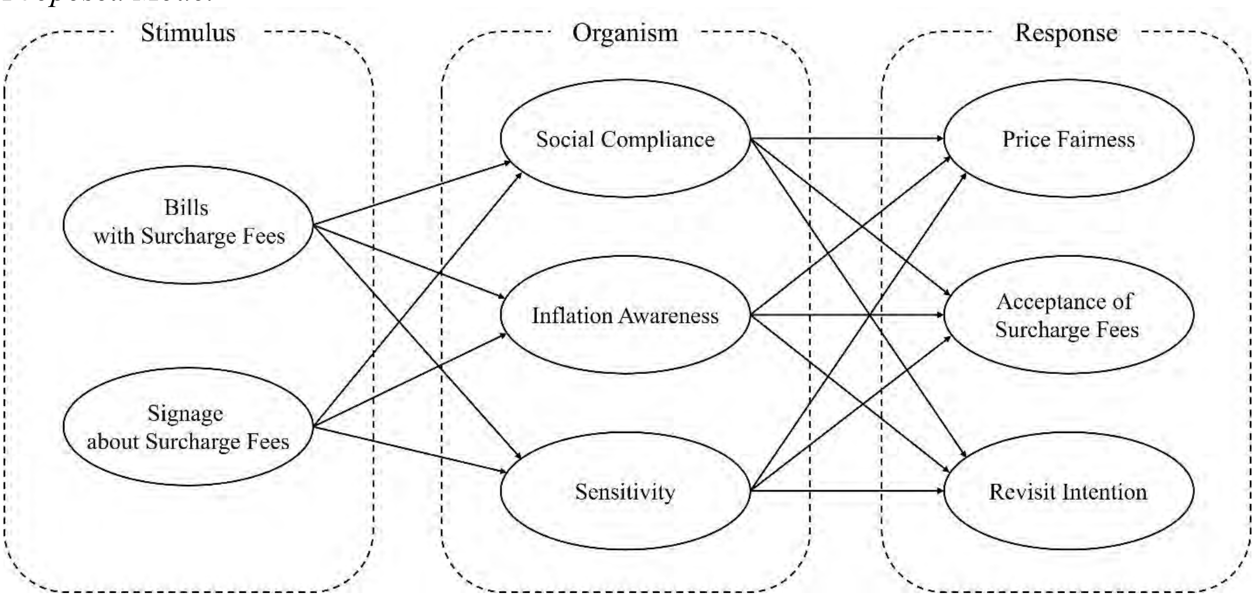
2.4. Response

The response construct includes key aspects such as perceptions of price fairness and acceptance of surcharge fees. Price fairness denotes consumers' perceptions of pricing equity, with higher surcharge amounts often diminishing perceptions of fairness (Sheng et al., 2007). Acceptance of surcharge fees relates to individuals' willingness to tolerate and pay these additional charges, influenced by various factors including consumer attributions regarding different types of surcharges (Xia & Monroe, 2004). Additionally, consumers are less likely to revisit restaurants imposing surcharge fees and are less inclined to recommend them to others (Rakoczy, 2022).

The proposed model is presented in Figure 1.

Figure 1

Proposed Model



1. Methodology

A self-administered questionnaire will be developed based on a comprehensive literature review, consisting of two sections: measurement of the study constructs using a 7-point Likert scale and demographic profiles. To ensure accurate data collection, screening questions will confirm respondents are over 18 years old and have visited a casual dining restaurant in the past 6 months.

The target population comprises customers who have patronized casual dining restaurants within the past 6 months. Geographically diverse samples will be collected using Prolific, with participants compensated $1.80. Approximately 350 responses will be collected to ensure a sample size with a 95% confidence level, 5% margin of error, and adequate effect size.

Data will be analyzed using SPSS 29 and AMOS 29, with descriptive statistics used for socio-demographic profiles. Following the methodology of Anderson and Gerbing (1988), confirmatory factor analysis (CFA) will evaluate the measurement model's reliability and construct validity. Structural equation modeling (SEM) will then test the proposed model.

2. Results

This is a work-in-progress paper.

3. Discussion and Conclusion

The objective of this study is to assess customers' perceptions and behavioral intention towards restaurants implementing surcharge fees. This research aims to analyze how these fees affect various aspects, including social compliance, inflation awareness, sensitivity, perceptions of price fairness, acceptance of surcharge fees, and revisit intentions.

The findings from this study will have significant implications for pricing strategies, both in academic research and practical applications within the restaurant industry. By exploring the dynamics within the SOR framework, this study can provide valuable insights into the underlying mechanisms guiding consumer decision-making processes. Furthermore, by uncovering the impact of surcharge fees and signage, this research can aid in the development of guidelines and best practices for transparent implementation, helping restaurants devise effective pricing strategies that align with both financial objectives and consumer preferences.

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The effects of multinational corporations' psychological contract fulfillment, employee organizational identification, and global mobility on job and career satisfaction - A case study of the taiwanese employees of club med

Lee, Hui-Hsin
Graduate Institute of Sport, Leisure and Hospitality Management
College of Sports and Recreation
National Taiwan Normal University

Lui, Tsz-Wai
Graduate Institute of Sport, Leisure and Hospitality Management
College of Sports and Recreation
National Taiwan Normal University

Abstract:

This study examines the impact of psychological contract fulfillment, organizational identification, and global mobility on job/career satisfaction in multinational corporations, aiming to address gaps in global mobility research. Results highlight the role of fulfilling economic and developmental obligations in enhancing organizational identification and satisfaction. Global mobility, characterized by communication skills and adaptability, significantly influences job and career satisfaction. While organizational identification is more influential in job satisfaction, global mobility has a greater impact on career satisfaction. These findings inform strategic HR practices crucial for multinational corporations' employee satisfaction and loyalty.

Keywords: Global Mobility, Psychological Contract Fulfillment, Organizational Identification, Job Satisfaction, Career Satisfaction

1. Introduction

With the advancement of the internet and technology, globalization is a trend that all countries and organizations must face. There are many large multinational corporations in the hospitality industry. In the highly competitive hospitality industry, attracting talented employees is crucial for a company's success. When employees possess communication, adaptability, professional skills, and a concern for international issues, they can gain a wide variety of work experiences and opportunities for growth with the support of multinational corporations. In recent years, the Taiwanese government has emphasized the development of global mobility skills among students (Ministry of Education, 2013). However, current research on global mobility in Taiwan focuses on the educational context; little attention has been paid to industry professionals' global mobility in the workplace.

The concept of psychological contract is established based on exchange between contributions and inducements (Schermerhorn, 1988), and the fulfillment of the psychological contract is often used to evaluate whether a company fulfills employees' expectations towards the organization. These expectations usually include working conditions, job requirements, and workload intensity

(Northcraft, 1990). Fulfilling the psychological contract through competitive compensation and a positive corporate culture enhances employees' sense of belonging. This identification with the organization positively influences their dedication, which is critical for employees’ job and career satisfaction. However, in the past, scholars studying the psychological contracts between organizations and employees have primarily focused on the effects of psychological contract breach (Parzefall & Coyle-Shapiro, 2011; Robinson & Morrison, 1995) instead of psychological contract fulfillment.

This study's contributions are twofold. First, it addresses the research gap of global mobility by exploring its effect on job and career satisfaction among Taiwanese industry professionals in multinational corporations. Second, it shifts the perspective to focus on psychological contract fulfillment as an organization-related factor to explore its potential impact on employees’ organizational identification. This shift provides an understanding of different aspects of the psychological contract and allows us to grasp the relationship more comprehensively between organizations and employees.

2. Literature Review

1.1. Job satisfaction

Job satisfaction, initially outlined by Hoppock (1935) and later expanded upon by Locke (1976), **sig**nifies a favorable assessment of one's work or work experience. Catt (1991) sees it as deriving enjoyment or fulfillment from work, while Oshagbemi (2000) describes it as a positive emotional response to any job. This subjective concept encompasses factors such as salary, supervisors, the nature of the job, colleagues, and opportunities for advancement (Churchill Jr et al., 1974). Job satisfaction is "the extent of positive emotional fulfillment experienced by employees in their work or work experience, influenced by physiological, psychological, and environmental factors."

In the hotel industry, there has been considerable research on job satisfaction (Glaveli et al., 2019; Pan, 2015), which has also been recognized as an important indicator of productivity in the hospitality industry (Pan, 2015). Low job satisfaction among hotel employees can decrease the performance of both employees and business units, thereby providing customers with lower-quality service (McPhail et al., 2015). The factors related to job satisfaction and organization include the hotel's service type, employment duration (permanent, temporary, or seasonal), and the location and nature of the job (Glaveli et al., 2019; Pan, 2015).

1.2. Career satisfaction

Super and Hall (1978) define a career as the positions an individual holds throughout life, encompassing their occupations (Super, 1957). Seibert and Kraimer (2001) describe career success as accumulated positive work-related experiences, categorized as intrinsic (subjective) success and extrinsic (objective) success (Guan et al., 2019). Extrinsic success is measured by factors such as salary and promotions, which are observable outcomes (Seibert & Kraimer, 2001), whereas subjective career success refers to internal career success is measured by career satisfaction and a sense of accomplishment, depending on the subjective evaluation of the goals and expectations of the employees themselves (Judge et al., 1995). Greenhaus et al. (1990) note that career satisfaction stems from meeting subjective and objective career expectations, including development, achievement, goals, income, and advancement.

Organizations supporting employees with job-related activities contribute to career satisfaction (Ghosh & Reio Jr, 2013). Chang et al. (2020) differentiate between job and career satisfaction, emphasizing that career satisfaction pertains to the overall career rather than specific jobs. In the hospitality industry, it's common to apply cross-departmental training or job rotation to keep employees passionate about their work and to meet their career development expectations. If a job satisfies employees' needs and provides sufficient support within an organization, employees will feel satisfied with their careers (Chang et al., 2020).

1.3. Global mobility

Globalization, facilitated by technology and information dissemination, has diminished once-distant cultural and economic gaps (Chang, 2021). Global mobility encompasses the flow of capital and the integration of talent and knowledge (Chen, 2019). Lauring and Selmer (2014) stressed the role of open-mindedness and curiosity in promoting global mobility. The Taiwanese government prioritizes global mobility in talent development to bolster competitiveness (Ministry of Education, 2013). Global mobility encompasses four dimensions: communication, adaptability, professional skills, and concern for international issues.

Communication is the transfer and understanding of meaning, allowing information and ideas to be conveyed effectively (Robbins & Judge, 2018). Communication skills represent an individual's ability to effectively receive and interpret messages while taking appropriate actions to respond to them. Cross-cultural communication has become one of the important aspects of international personnel training today (Bennett, 2013).

Adaptation is the psychological change process that occurs in individuals from different cultural groups during prolonged exposure to one or more cultures (Sam & Berry, 2006). Expatriate workers must readjust to their work, colleagues, and local culture with each relocation. After interacting with colleagues or customers from different cultural backgrounds, expatriate workers begin to internalize their understanding of that culture, adjusting to find the most appropriate way to work. Over time, expatriate workers examine their past attitudes and thoughts towards different cultures. Reflecting on these can help them adapt more easily to working in another country with a different culture next time.

Professional skills and knowledge are deemed more crucial than language abilities in the context of globalization and global mobility (Wen, 2019). Having more professional skills and knowledge not only enhances one's competitiveness but also creates more career opportunities for oneself. Finally, a concern for international issues indicates international awareness and humanistic literacy (Ministry of Education, 2016). Expatriate employees of multinational corporations, in addition to adapting to different cultures, should also possess an awareness of embracing multiculturalism and caring about international affairs.

Previous research has found that the cultural values of expatriates themselves and the host country's values affect satisfaction (Froese & Peltokorpi, 2011). Job satisfaction increases with improved language skills, flexibility, adaptability, and the ability to balance family and work (Culpan & Wright, 2002). Therefore, we propose:

H1: *Employees' global mobility has a positive impact on job satisfaction.*

Lazarova et al. (2021) pointed out that expatriate personnel continue to move throughout their careers from one country to another. Career satisfaction is the accumulation of a person's work experience and the degree of positive psychological state related to work (Seibert & Kraimer, 2001). Mello et al. (2023) conducted a literature review of 144 articles on expatriates and career success, finding that expatriates must continually adapt to different cultures and company policies and engage in various types of work, impacting their careers. Therefore, we propose:

H2: *Employees' global mobility has a positive impact on their career satisfaction.*

1.4. Organizational identification

Organizational identification stems from social identity theory, which reflects employees' understanding and connection to the organization (Ashforth & Mael, 1989). Organizational identification strengthens cohesion and organizational success through factors like trust, empowerment, communication, and external reputation (Riketta, 2005), fostering a sense of unity by aligning individual values and goals with the organization's (Epitropaki, 2013). Organizational identification addresses the need for security and belonging and reduces uncertainty (Whetten & Godfrey, 1998), influencing cognition, emotion, and behavior (Hsu, 2002).

Organizational identification involves strongly believing in and accepting an organization's goals and values (Porter et al., 1974). It creates a sense of alignment between employees and these organizational aspirations (Miller et al., 2000). Higher levels of organizational identification lead to organizational actions aimed at rewarding employees, thereby enhancing their satisfaction (Dutton et al., 1994). Moreover, strong organizational identification leads to a more positive and proactive approach to work situations, resulting in higher job satisfaction (Van Dick et al., 2004). Therefore, we propose:

H3: *Employees' organizational identification positively influences job satisfaction.*

Each employee's career planning may vary, and some research suggests organizations are responsible for assisting in this planning (Baruch, 2006). Career satisfaction is based on fulfilling an individual's subjective and objective career expectations, including development, achievement, and goals (Greenhaus et al., 1990). Srivastava et al. (2020) studied managers in Delhi, India, and suggested that organizational identification can positively influence career satisfaction, especially when an employee's goals align with those of the organization and feel a sense of belonging and support in achieving their career objectives. Therefore, we propose:

H4: *Employees' organizational identification positively influences career satisfaction.*

1.5. Psychological contract fulfillment

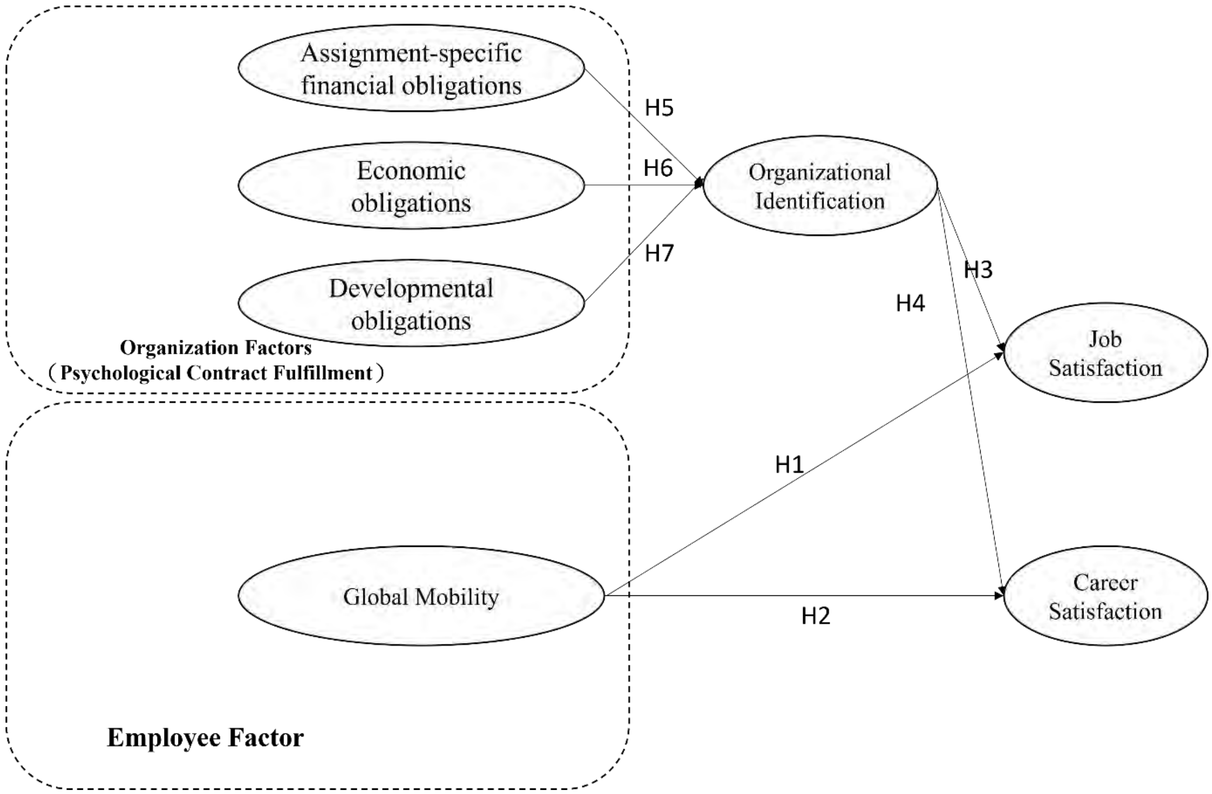
Argyris (1960) introduced the Psychological Contract to help organizations understand and interpret the dynamics between employees and employers. If supervisors ensure and respect informal norms in the contract, such as promoting independence, ensuring adequate pay, and providing job stability, employees maintain high productivity and job satisfaction. Rousseau (1995) defined a psychological contract as beliefs shaped by organizations, framing it as an agreement of exchanges between organizations and individuals. Fulfilling the psychological contract, which includes individual perceptions and employers' obligations, enhances employees' sense of organizational duty, trust, job satisfaction, and retention (Robinson, 2006).

Expatriate employees need to directly immerse themselves in foreign living and working conditions. These employees often experience more intense cultural shocks. Previous studies have suggested that the psychological contracts of expatriate employees are the same as those of employees working in their home country (Chen, 2010). However, besides adapting to work, expatriate employees also require additional support from their companies, such as living allowances, language training, and assistance in finding accommodation. Expatriates might also assume that the company is responsible for their personal safety and family care (Guzzo et al., 1994). McNulty et al. (2013) pointed out that the psychological contract of expatriates should include special obligations of support the organization provides during the assignment, such as relocation assistance. Psychological contract fulfillment includes economic and developmental obligations (Bal et al., 2010). Additionally, we incorporate Guzzo et al.'s (1994) concept of Assignment-specific Financial Obligations, covering expenses related to expatriation, such as living costs, relocation expenses, and expatriate allowances.

Past research has emphasized the dynamic interplay between psychological contracts and organizational identification (Rousseau, 1998). Masterson and Stamper (2003) placed psychological contracts and organizational identification within the same framework, terming it "Perceived Organizational Membership." Within their framework, fulfilling psychological contracts can enhance employees' perception of their organizational membership by satisfying their needs. Meanwhile, organizational identification corresponds to the sense of belonging related to the perception of organizational membership. This explains why individuals seek membership in an organization due to the satisfaction of needs, importance, and a sense of belonging. Scholars have noted that the failure of organizations to fulfill their obligations under the psychological contract negatively impacts employees' organizational identification (Ng, 2015). Conversely, when organizations fulfill their obligations through emotional, organizational commitment, or cognitive organizational identification, employees' psychological contract fulfillment is enhanced (De Ruiter et al., 2018). Therefore, we propose:
H5: *The organization's fulfillment of assignment-specific financial obligations positively influences employee organizational identification.*
H6: *The organization's fulfillment of economic obligations positively influences employee organizational identification.*
H7: *The organization's fulfillment of developmental obligations positively influences employee organizational identification.*

We summarize the research framework in Figure 11**.**

Figure 11
Theoretical framework



3. Methodology

3.1. Research context

The study engages with both current and former employees of Club Med. Club Med is a large multinational resort group founded by Gérard Blitz in 1950. It was the first in the world to operate on an "all-inclusive" model. Club Med currently has 73 resorts and one cruise ship across 26 countries on five continents. The workforce at Club Med is distinctively categorized into G.Os (Gentle Organizers) and G.Es (Gentle Employees). Typically, G.Es are local hires from the resort's host country, whereas G.Os are international employees. Club Med aims to provide guests with a relaxing journey without the barriers of communication or cultural differences, hence recruiting individuals from around the world who possess various skills, are hospitable, and are enthusiastic about working at its resorts. Club Med's G.Os undergo an annual rotation, engaging in assignments at different resorts worldwide. This strategy is advantageous for the employees, allowing them to immerse themselves in new cultures and interact with a broad spectrum of colleagues and guests.

To recruit participants for this study, an invitation was disseminated through various social media platforms, including the Taiwan Club Med G.O Facebook group, Line groups, and WeChat groups, accompanied by a link to an online survey. The data collection phase spanned from August 1 to September 15, 2023. A total of 95 responses were received; however, after excluding 12 incomplete submissions, 83 were deemed valid for analysis.

3.2. Measurement

The survey used the Likert Scale to measure the research constructs. The measures of job satisfaction were adopted from De Ruiter et al. (2018), and career satisfaction measures were referenced from Greenhaus et al. (1990). Global mobility was measured using the scale developed by Chen (2016) and Huang (2019). Organization identification was evaluated using the IDPG scale, a tool developed by Mael and Tetrick (1992). Finally, the three dimensions of psychological contract fulfillment are measured using the scales from Bal et al. (2010) and Guzzo et al. (1994).

3.3. Data analysis

Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to evaluate the proposed theoretical framework. "Global Mobility" is a higher-order component comprising "Communication," "Adaptability," "Professional skills," and "a concern for international issues." This Reflective-Reflective Hierarchical Component Model enhances model simplicity (Polites et al., 2012). The Disjoint Two-Stage Approach is used to process the hierarchical component model. In Stage One, we computed the latent variable scores of the four dimensions of global mobility. We then use these scores in Stage Two as indicators of the higher-order component (i.e., global mobility) in the measurement model (to assess reliability, convergent validity, and discriminant validity) and the structural model (to evaluate the hypotheses).

4. Results

4.1. Profile of the respondents

Among the 83 participants, 24% were males and 76% were females. The majority were unmarried (69%) and aged between 21 and 30 (58%). 88% held a university degree. Regarding previous departmental experience, 47% worked in the Sports team, 37% in the Front Office, and 34% in the Mini Club. 64% held the position of G.O., while 36% held supervisory roles. The most common monthly salary range was 20,001-25,000 NTD (30 %). Most had 1-3 years of work experience (31%). Around half joined Club Med between 2015 and 2019, with 49.4% starting during university or shortly after graduation. 29% had prior hospitality industry experience, and 14% were former sports coaches. 78% had no prior international work experience. As of the survey period, 50 had left their positions, while 33 remained employed.

4.2. Measurement model

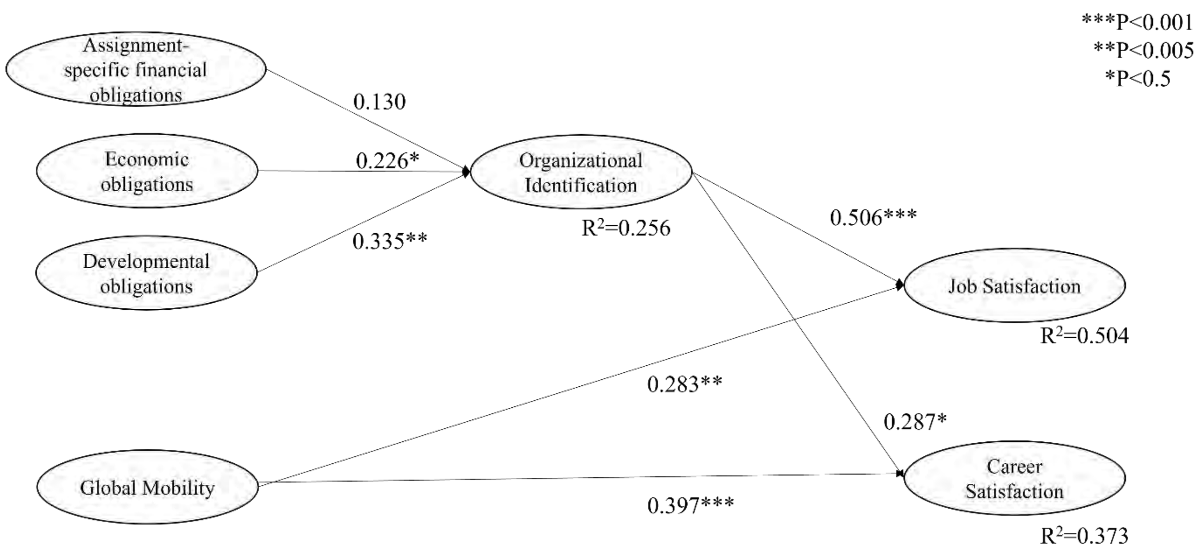
The Cronbach's α and composite reliability of all constructs are above 0.7, and the average variance extract (AVE) of all constructs are above 0.5, indicating satisfactory convergent validity and reliability. Furthermore, all HTMT values were below 0.9, affirming discriminant validity.

4.3. Structural model

The structural model used the bootstrapping technique to evaluate the research hypotheses. The structural model results indicate that economic and development obligations significantly enhance the employees' organizational identification. Both organizational identification and global mobility significantly affect job and career satisfaction. Contradictory to our expectation, assignment-specific financial obligations do not influence organization identification (H5 is not supported). (

Figure *12*). A further qualitative inquiry of several current and past employees reveals that it might be that Club Med provides airfare for inter-village transfers, accommodation, and meals only. However, the employees' salaries are not adjusted based on the standard of living expenses of various countries, nor are relocation allowances provided. G.Os are paid based on the minimum wages of their home country. Therefore, G.Os do not perceive the fulfillment of assignment-specific financial obligations for specific tasks (annual rotation) by Club Med.

Figure 12
Structural model



5. Discussion and Conclusion

5.1. Discussion and conclusion

While past research focused on the negative impact of psychological contract breaches, our study shifts to the positive realm of fulfillment, exploring its potential influence on employee organizational identification. Our results show that when an organization fulfills its economic and development obligations, employees perceive higher organizational identification. Higher organizational identification in employees leads to higher job and career satisfaction, aligning with past research results (Srivastava et al., 2020; Ugheoke et al., 2022).

This study uniquely explores the relationships among the constructs from organizational and employee perspectives by integrating global mobility, an employee-level variable, offering comprehensive insights. It pioneers Taiwan's exploration of global mobility beyond education, linking it to organizational adaptation and satisfaction.

The research results show that the higher an employee's global mobility, the higher their job satisfaction, consistent with the findings of Froese and Peltokorpi (2011) on the positive impact of the gap between expatriates' cultural values and those of the host country on satisfaction, as well as with Culpan and Wright (2002)'s study results on the job satisfaction of expatriate female managers. Employees with higher global mobility also have higher career satisfaction, aligning with the findings of Mello et al. (2023) in their literature review on expatriates and career success.

For job satisfaction, the results show that the impact of organizational identification on job satisfaction (Path Coefficient = 0.506) is nearly twice that of global mobility (Path Coefficient = 0.283), indicating that employees' sense of belonging and identification with an organization have a higher positive impact on job satisfaction compared to global mobility. On the other hand, for career satisfaction, the study found that the impact of global mobility on career satisfaction (Path Coefficient = 0.396) is stronger than that of organizational identification (Path Coefficient = 0.287). This may be because individual global mobility, compared to single organizational identification, holds more importance in an individual's career planning. An employee's global mobility signifies an enhancement of their capabilities, profoundly impacting their future career choices and development. In summary, the research results emphasize the importance of organizational identification in enhancing job satisfaction, while global mobility plays a more critical role in affecting individual career satisfaction. These findings provide valuable insights for organizational management and personal career development.

5.2. Limitations of this study and suggestions for future studies

There are two main limitations in this study. First, the sample size is relatively small, with 83 valid responses. While Partial Least Squares Structural Equation Modeling (PLS-SEM) is suitable for small samples with non-normal distribution, the smaller sample size may limit the representativeness and generalizability of the results. It may also result in an insignificant relationship in H5. Second, the study participants are limited to Taiwanese G.Os who have worked or are working at Club Med. The sample population is confined to one country, which may limit the representativeness and generalizability of the study results.

For future research, it is suggested that additional variables such as work environment and leadership styles be considered. Additionally, it would be beneficial to include a time element to track employees' perceptions of organizational fulfillment of psychological contracts across different career stages and their changes in organizational identification, job satisfaction, and career satisfaction. This helps in understanding the evolution of these variables throughout employees' career development. Expanding the scope and sample size of the study population by including employees from various industries, different multinational corporations, and diverse cultural backgrounds or exploring the perspectives of employees from different multinational enterprises would contribute to establishing more comprehensive research results.

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The moderating influence of supervisor attitude on the association between organizational commitment and engagement of employees

Ligan, Victoria O.
Research and Development Institute
Joji Ilagan International Schools

Dalagan, Juninah D.
Office of the Innovations Excellence
Joji Ilagan International Schools

Abstract:

Many articles claim that employees leave their companies because of toxic leadership. This paper aimed to investigate whether supervisor attitudes (SA) moderate the relationship between organizational commitment (OC) and employee engagement (EE) in educational institutions. The study sourced samples from two higher learning institutions in Davao City using stratified random sampling. The results of Pearson r-tests were significant. However, the hierarchical regression model showed that while OC directly influenced EE, SA and its interaction with OC did not significantly impact employee engagement. This finding suggests that the individual effects of OC and SA remain crucial in enhancing employee engagement levels.

Keywords: organizational commitment, supervisor attitudes, employee engagement, moderating influence, Joji Ilagan International Schools

1. Introduction

When confronted with problematic leadership, employees are prone to disengagement, counterproductive behavior, and turnover (Bakkal et al., 2019; Hattab et al., 2022; Naeem & Khurram, 2020). This type of leadership poses significant risks to individuals, teams, and organizations. Operating within an environment characterized by fear, mistrust, and low morale, employees may experience decreased productivity, disengagement, and dissatisfaction (Brouwers & Paltu, 2020; Wolor et al., 2022).

There were several studies on employee disengagement due to unfavorable work environments. Findings revealed that unsuitable leadership and work environments severely threaten organizations and employees (Al Soqair et al., 2023). Bhandarker and Rai (2019) found that employees tend to become avoidant or assertive towards these kinds of leadership as their coping strategy. Researchers have studied organizational commitment, work engagement, and supervisor attitude (Ampofo, 2020; Kao et al., 2019) separately. However, this study explored whether supervisor attitude moderates the relationship between organizational commitment and teachers' engagement in the schools surveyed.

Here are the objectives of this study:

1. Describe teachers' organizational commitment in terms of affective, continuance, and normative commitment.
2. Describe supervisor attitudes regarding management style and supervisory relationships.
3. Assess teachers' work engagement regarding vigor, dedication, and absorption.
4. Determine the significance of the relationship between supervisors' attitudes and teachers' organizational commitment, supervisors' attitudes and teachers' work engagement, and teachers' organizational commitment and work engagement.
5. Determine the moderating influence of supervisor's attitudes on teachers' organizational commitment and work engagement.

Hypothesis

The test of the null hypothesis is a p=0.05 level of significance.

There is no significant relationship between:

1. supervisors' attitudes and teachers' organizational commitment
2. supervisors' attitudes and teachers' work engagement
3. teachers' organizational commitment and work engagement
4. Supervisors' attitudes do not significantly influence teachers' organizational commitment and work engagement.

2. Literature Review

This study also reviews related literature relevant to understanding the variables of this study. This study has three variables: Organizational Commitment as the independent variable with indicators, namely affective commitment, continuous commitment, and normative commitment (Allen & Meyer, 1990). The moderator variable is the Supervisor's Attitude, with indicators such as management style and supervisory relationship (Scarpello & Vandenberg, 1987). The dependent variable is Employee Engagement with indicators such as vigor, dedication, and absorption (Schaufeli & Bakker (2004).

2.1. Organizational Commitment

Organizational commitment (OC) pertains to how an individual identifies with and actively participates in a specific organization (Mowday, Steers, & Porter, 1979; Manuel, Ligan, & Bandiola, 2022). OC is increasingly emphasized by human resource managers as a crucial determinant of employee retention (Aboramadan et al., 2020; Cherif, 2020). Human resource managers are tasked with grasping the elements fostering employee commitment to enhance retention rates and productivity (Al-Jabari & Ghazzawi, 2019). Affective commitment refers to the teachers' emotional attachment and identification towards their organization (Allen and Meyer, 1990; Mowday et al., 1979). It brings an intense yearning to stay in the organization, with loyalty and a strong sense of belonging. These employees have positive feelings toward the organization and very high motivation to contribute to the organization's success (Nguyen et al., 2020). Rawashdeh and Tamimi (2020) claimed the importance of organizational support in the employees' decision to stay.

Similarly, continuance commitment arises when an employee feels loyal to the organization. Employees remain in their organization until they retire, reducing turnovers (Academy to Innovate HR, 2023). Some literature established the connection between continuance commitment and intrinsic motivation, influencing employees to continue (Kasogela, 2019). Other aspects of the job, such as job characteristics and task identity, are also factors that influence continuance commitment (Umukoro & Egwakhe, 2019).

Finally, normative commitment is a sense of obligation to stay. This type of commitment compels employees to remain in the organization no matter what. This commitment stems from a belief that staying with the organization is the morally correct or socially responsible course of action (Mind Tools, 2024). Normative commitment predicts positive socialization experiences within the organization and the alignment of the organization's mission and values with the individual's values (Khan et al., 2021).

2.2 Supervisor Attitude

Supervisor Attitude is essential for employee engagement and productivity. Studies have shown a positive relationship between supervisor support and various aspects of employee well-being and commitment, including employee performance, work-life balance (WLB), job satisfaction, life satisfaction, and organizational commitment (Talukder & Galang, 2021). Research indicates that managers should identify first the reason for an employee's lack of enthusiasm before applying a targeted strategy (Clark & Saxberg, 2019). In some instances, supervisors have a bottom-line mentality focused primarily on maximizing financial profits or achieving specific performance metrics, often at the expense of other considerations such as ethical principles, employee well-being, or long-term sustainability (Farasat & Azam, 2022). Supportive leadership behaviors play a vital role in employees maintaining a positive attitude toward clients. It fosters positive employee-client interactions and acknowledges the complexity of factors influencing employees' attitudes toward their supervisors (Keulemans & Groeneveld, 2020). A positive attitude considers employees' safety (Kao et al., 2019) and productivity (Gülbahar, 2020; Yang et al., 2020).

2.3 Employee Engagement

Employee engagement is the antithesis of burnout (Sun & Bunchapattanasakda, 2019). Engagement refers to the teachers' vigor, dedication, and absorption in this study. Vigor refers to the energy, enthusiasm, and resilience employees bring. Teachers with vigor proactively seek solutions to possible setbacks and are resilient to obstacles as they invest their emotions in their work (Cortés-Denia et al., 2023).

Dedication refers to the teachers' expression of commitment, enthusiasm, and devotion to their organization and their work. Dedicated teachers exhibit deep emotional obligation to their roles by showing a strong sense of purpose and the willingness to contribute to the school's success no matter the magnitude. These teachers persevere amid challenges and are passionate about fulfilling their school duties and responsibilities (De Leon et al., 2022; Mazzetti et al., 2023).

Lastly, absorption refers to the teachers' deep concentration and engrossment toward their work.

It involves total immersion in the tasks, forgetting the quick passing of time. Teachers who are entirely absorbed in their tasks do not keep watch of the time; their goal is to finish the task ahead with a heightened and intense focus, anticipating its joy (Bakker, 2022; Decuypere & Schaufeli, 2020). Moreover, absorption in a task increases creativity and overall satisfaction (Decuypere & Schaufeli, 2020; Tóth-Király et al., 2021).

2.2. Theoretical and Conceptual Frameworks

Several theories help organizations understand how supervisor's attitudes moderate the relationship between organizational commitment and employee engagement. These theories supply frameworks for interpreting the dynamics of toxic leadership, offering potential interventions and strategies that will uphold healthier leadership practices within the organization. This study used two theories: Trait Theory and Transactional Leadership Theory. Trait theory analyzes leadership by focusing on the traits and characteristics of individuals. It can explain toxic leadership by studying why leaders exhibit harmful behaviors at work (Cervone & Pervin, 2022; Jayawickreme et al., 2019; Tett et al., 2021). Understanding individual differences in shaping commitment, attitude, and engagement at work is essential. In addition, Transactional Leadership Theory also explains supervisor attitudes, focusing on the exchange between leaders and followers. It often uses rewards and punishments to motivate performance. Supervisors who exhibit transactional behaviors prioritize themselves over their followers, resulting in adverse outcomes. This approach is not guaranteed to achieve the goals as it may not cultivate solid emotional connections or intrinsic motivation, limiting commitment. While transactional leadership promotes incentivization of performance, it achieves short-term goals and limits the promotion of a deep sense of commitment and sustained engagement, unlike transformational leadership (Wahyuni et al., 2020; Young et al., 2021). Below is the conceptual framework of the study.

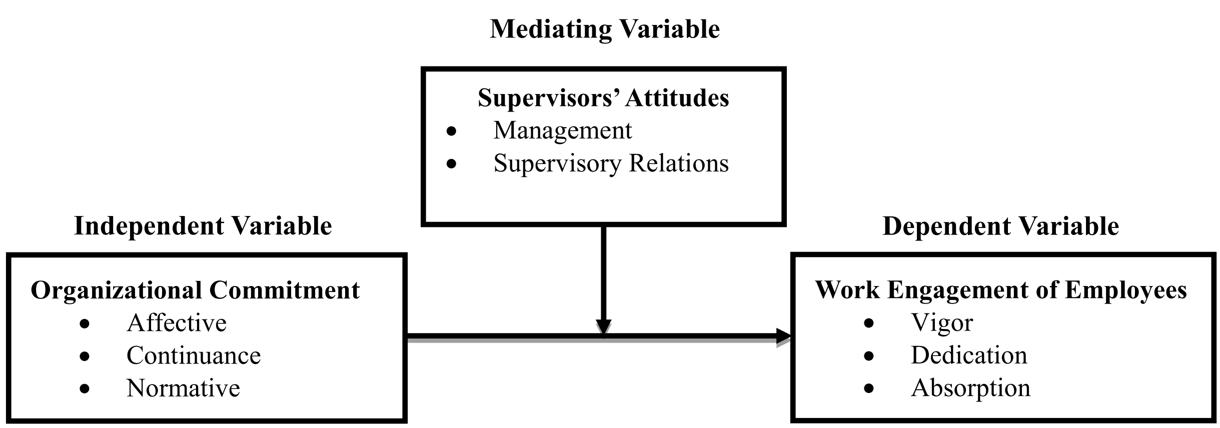

Fig 1. The Conceptual Paradigm of the Study

3. Methodology

3.1. Measurement

Quantitative analysis is the most suitable research design for this study because it involves people's perceptions. The basis of this idea is the assumption that the social world can be measured and quantified and that researchers can use it to draw inferences about the population from a sample. Researchers also use them in business, market, and public opinion polling (Bhatt, 2020; Sileyew, 2019).

In this study, the researchers used stratified random sampling to select samples. Stratified random sampling allows everyone in each institution to be selected (Iliyasu & Etikan, 2021; Zhao et al., 2019). Respondents were teachers from Institution A, with 113 samples, and 102 teachers from Institution B. So, the total samples were 215. The researchers excluded the supervisors and heads of offices as they were the points of analysis in this study. Due to privacy and confidentiality, the researchers cannot disclose the names of the academic institutions where they sourced the samples.

Furthermore, data analysis used the mean and standard deviation, Pearson r, and hierarchical regression analysis. The interaction term, the product of organizational commitment and supervisor attitudes, tested the moderating effect or influence on employee engagement. In addition, the study used these adapted instruments for the survey: the 24-item organizational questionnaire by Allen and Meyer (1990), the 2007 Citywide Employee Attitude Survey produced by the City and County of Denver's Career Service Authority, and the Utrecht Work Engagement Scale (UWES) developed by Schaufeli & Bakker (2004). Respondents rated each item with a five-point Likert Scale: 5 for strongly agree (always accurate), 4 for agree (often accurate), 3 for neutral (sometimes accurate), 2 for disagree (seldom accurate), and 1 for strongly disagree (never accurate).

4. Results

Two hundred fifteen teachers from two higher educational institutions (HEIs) responded to the survey. The independent variable in this study was organizational commitment, the moderator variable was supervisor attitudes, and the dependent variable was employee engagement. Hypothesis testing was set at 95% confidence and 5% significance levels.

Table1. Level of Organizational Commitment

Indicators	Mean	SD	Description
Affective Commitment	3.27	0.85	Moderate
Continuance Commitment	3.68	0.77	High
Normative Commitment	3.47	0.61	High
Overall	**3.47**	**0.77**	**High**

Table 1 shows respondents' organizational commitment level interpreted based on three indicators: affective, continuance, and normative commitments. The affective commitment reflects employees' emotional attachment and involvement in the organization. It received a moderate rating (M=3.27). The rating means that the respondents were neutral about the statements in the survey. On the other hand, continuance and normative commitments received high ratings, with respective mean scores of 3.68 and 3.47. The scores suggest that the respondents agreed that the statements in the survey were often accurate.

Furthermore, the overall result is high, with a mean score of 3.47. The individual results showed that continuance commitment is the most vital dimension (M=3.68). The finding suggests that the respondents' emotional attachment to the organization is moderate, although they may feel a strong obligation to stay because of their perceived costs or moral grounds.

Table 2. Level of Supervisor Attitude

Indicators	Mean	SD	Description
Management Approach	3.61	0.55	High
Supervisory Relationship	2.98	0.88	Moderate
Overall	**3.30**	**0.80**	**Moderate**

Table 2 presents the supervisor attitudes, analyzed through the two indicators: management approach and supervisory relationship. The 3.61 mean score for the management approach indicates that the teachers perceived the items in the survey to be often accurate about their supervisors in handling management responsibilities. The mean score suggests that the teachers view their supervisors as effective in their managerial roles, contributing positively to the work environment. On the other hand, supervisory leadership is moderate at a 2.98 mean score. This result means that the respondent teachers were neutral about the statements concerning their supervisor's leadership. This score indicates that supervisors can still improve and strengthen rapport and engagement between their teams. Similarly, the overall score of 3.30 is moderate, signifying a moderate level of supervisor attitude as perceived by the teachers. This result conveys the need for supervisors to improve their supervision for a more favorable perception of their attitudes to improve teachers' organizational commitment and work engagement.

Table 3. Level of Employee Engagement

Indicators	Mean	SD	Description
Vigor	4.69	0.47	Very High
Dedication	4.67	0.51	Very High
Absorption	3.41	0.73	High
Overall	**4.26**	**0.83**	**Very High**

Table 3 shows the teachers' level of engagement at work, measured by vigor, dedication, and absorption. The overall mean score is very high, at 4.26. The result means that the respondent teachers agreed that the statements in the survey were always accurate about their work engagement. Notably, in terms of vigor, the result showed that respondents demonstrated intense energy and enthusiasm in their work, as shown by the 4.69 mean score. This high vigor suggests that employees are highly motivated and invested in their tasks and responsibilities.

Similarly, dedication is rated very high, with a mean score of 4.67, indicating a strong commitment and enthusiasm towards their work and organization. However, in the dimension of absorption, the mean score of 3.41 reflects a high level of engagement but slightly lower than vigor and dedication. The overall mean score of 4.26 underscores the very high level of engagement across all dimensions combined. This result suggests that the respondents are highly motivated, committed, and absorbed in their work, contributing positively to their job performance and overall organizational success.

Table 4. Correlation Test (Pearson r)

Correlated Variables	R-value	p-value	Remarks
Organizational Commitment and Supervisor Attitude	0.085	0.000	significant
Organizational Commitment and Employee Engagement	0.456	0.000	significant
Supervisory Attitude and Employee Engagement	0.246	0.000	significant

Table 4 presents the correlation test results. The coefficients indicate significant relationships between key variables within the organizational context. Firstly, the correlation between Organizational Commitment and Supervisor Attitude yields an R-value of 0.085 with a p-value of 0.000, indicating a significant positive correlation. The result suggests that the positive perception of supervisor attitudes among teachers increases as organizational commitment increases, although the correlation strength is relatively weak.

Next, the relationship between organizational commitment and employee engagement is more substantial, with an R-value of 0.456 and a p-value of 0.000. These figures indicate a highly significant positive correlation. This result implies that increased employee engagement, such as vigor, dedication, and absorption, is associated with higher levels of organizational commitment. Furthermore, the relationship between supervisor attitude and employee engagement is moderate, positive, and significant, with an R-value of 0.246 and a p-value of 0.000. The result indicates the association between supervisor attitudes and work engagement.

Table 5. Hierarchical Regression Analysis

	Employee Engagement (dependent variable)					
	Coefficient	*Standard Error*	*t-Stat*	*P-value*	Lower 95% CI	Upper 95% CI
Intercept	1.393	1.132	1.231	0.220	-0.838	3.624
Organizational Commitment (OC)	0.670	0.324	0.324	0.040	0.032	1.308
Supervisor Attitude (SA)	0.345	0.333	1.036	0.301	-0.311	1.000
Interaction Term (INT)	**-0.062**	**0.095**	**-0.652**	**0.515**	**-0.249**	**0.125**

Table 5 presents the result of hierarchical regression analysis. This result provides an understanding of the relationship between Organizational Commitment (OC), Supervisor Attitude (SA), an Interaction Term (INT), and their impact on Employee Engagement (EE). The intercept coefficient 1.393 is not statistically significant since its p-value is 0.220. The result suggests that the baseline level of employee engagement is not significantly different from zero without considering organizational commitment (OC), supervisor attitude (SA), or the interaction term (INT).

OC coefficient is 0.670, with a 0.040 p-value. The result is statistically significant at $p<0.05$. The result suggests that higher levels of OC are associated with higher EE. On the other hand, the SA coefficient of 0.345 with a p-value of 0.301 is not statistically significant at $p<0.05$. The result implies that SA alone does not significantly impact EE when considered independently of other factors. The INT with a coefficient of -0.062 at p-value 0.515 indicates that the interaction between OC and SA negatively influences EE. The coefficient is not also significant. The result suggests that the combination of OC and SA, as represented by the Interaction Term (INT), does not substantially impact Employee Engagement.

In summation, supervisor attitudes and the interaction term (INT) are not significant predictors of employee engagement. It is crucial to note that a non-significant interaction term does not mean that there is no interaction effect at all. However, the result means that the observed interaction effect is not statistically significant insofar as the regression model and the available data are concerned. Thus, further investigation is needed to comprehensively understand the nature of the interaction between organizational commitment (OC) and supervisor attitudes (SA).

5. Discussion and Conclusion

A significant relationship exists between supervisors' attitudes and organizational commitment. When employees perceive that their leader is responsible, their organizational commitment increases, and their turnover intentions decrease (Haque et al., 2019). In other words, employees become more committed when they find support from their leaders, such as their managers or supervisors. The effect of responsible leadership can reach even outside the workplace through organizational commitment (Afsar et al., 2020). The reason is that the leader's commitment inspires employees. In other words, it is imperative to recognize the significant relationship between the attitudes of supervisors and the organizational commitment of employees because it can build a positive work culture and enhance employee engagement that will drive organizational success. Organizations must leverage this relationship by prioritizing leadership development, effective communication, and aligning organizational core values for long-term employee satisfaction and retention.

Moreover, a significant association exists between supervisors' attitudes and employees' engagement. This finding highlights the critical role of leadership in upholding a positive work environment and culture that enhances employee engagement, contributing to organizational success. Some studies revealed that positive supervisor attitudes are vital in shaping employees' engagement and decision to stay in their organization (Arifin et al., 2019; Lee et al., 2019)—conversely, abusive supervision demotivates employees and promotes poor work attitudes and motivation. Thus, organizations must provide leadership interventions to prevent abusive supervisors. In the same vein, organizations must provide employees a way to voice their concerns (Wang et al., 2020). A supervisor's positive attitude can invite employees' trust because they feel safe; they can voice their feelings about themselves and their job roles (Basit, 2021). This situation will inspire a worthwhile work experience among employees.

Furthermore, a significant relationship exists between employees' organizational commitment and work engagement. This significant relationship highlights the importance of creating a positive work environment that nurtures employees' commitment. This relationship will lead to meaningful work engagement and more motivated, success-driven, and innovative employees (Yandi & Havidz, 2022).

Finally, understanding whether supervisor attitudes moderate the association between organizational commitment and employee engagement is vital. This understanding can inform administrators of their decisions regarding organizational policy to avoid toxic leadership. Some studies found that toxic leadership increases employees' turnover intentions (Bakkal et al., 2019; Naeem & Khurram, 2020). Inversely, Zhang et al. (2015) found that person-supervisor fit moderates the negative relationship between organizational commitment and turnover intention. In other words, it is crucial to consider the interpersonal dynamics between supervisors and employees. A good relationship between supervisors and employees can shield against turnover intentions and potentially increase productivity and organizational outcomes.

5.1. Conclusion

This study concludes that teachers have a high organizational commitment. The moderate level of supervisor attitudes suggests areas for improvement in leadership and relationship-building with teachers. The very high employee engagement is a positive outcome of the study. This outcome indicates teachers' high motivation, involvement, and enthusiasm about their work. These can result in robust productivity, job satisfaction, and overall organizational success. On the other hand, the significant relationships between organizational commitment, supervisor attitudes, and employee engagement underline the interconnectedness of these variables within an organizational context. Furthermore, the finding that supervisors' attitudes do not moderate the relationship between organizational commitment and employee engagement suggests the more substantial influence of other factors in increasing the level of engagement among teachers rather than supervisor attitudes.

With these findings and conclusions, the researchers offer these recommendations:

1. Future researchers may conduct qualitative research on this topic to explore factors contributing to high organizational commitment and teacher engagement.
2. Administrators and organizations may provide training and development programs for supervisors to enhance their leadership skills, promoting better workplace relationships.
3. Administrators may implement sustainable strategies to advance employee engagement further—for example, career development opportunities, supportive work culture, and recognition programs.

5.2. Limitations of this study and suggestions for future studies

This study has several limitations. The first is the issue of the generalizability of the findings due to the small sample size, limiting the applicability of results to broader populations. Second, the study relied on self-reported measures for assessing OC, SA, and EE, which may lead to issues with validity measurement and social desirability bias. Finally, the study was cross-sectional, which could hinder the study's ability to establish causal relationships that may happen over time. However, future research can address these limitations by employing experimental or longitudinal designs with more diverse samples.

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Which sets of key characteristics are more likely to lead to occupational fraud in hospitality and tourism?

Karadag, Ersem
Rockwell College of Business
Robert Morris University

Madanoglu, Melih
Coles College of Business
Kennesaw State University

Abstract:

Asset misappropriation, a type of occupational fraud is a major problem for organizations throughout the world. However, little is known which factors influence size of the fraud committed in hospitality and tourism. This study aims to fill this gap by using 33 cases of fraud that are $250,000 or higher in hotels, country clubs and restaurants. By employing qualitative comparative analysis, we investigate how some key characteristics of the organizations play a role in the size of occupational fraud.
Keywords: Occupational Fraud, Organizational Characteristics, Asset Misappropriation

1. Introduction and Literature Review

Asset misappropriation, a type of financial fraud is a major problem for organizations throughout the world. According to the Association of Certified Fraud Examiners (ACFE) Report of 2024, it is estimated that a typical organization loses 5% of its annual revenue to fraud. To put this in perspective, a loss of 5% would amount to $5.2 trillion of the Gross World Product of $104.5 trillion in 2023. The figure on total fraud is just an estimate and, given multiple constraints and limitations, the true cost of fraud on a global scale is impossible to calculate (ACFE Report, 2024). ACFE has been conducting fraud research worldwide since 1996 and publishes the "Report to the Nation on Occupational Fraud and Abuse". This report provides many aspects of fraud on a global basis. However, industry-based research in hospitality area is somewhat limited even though hospitality businesses are prone to fraudulent activities.

Fraud, as an act of corruption normally happens in organizations where governance structures are weak or have become corrupted themselves. This is a worldwide trend, which cuts across all sectors (Hansen et al., 2005). Financial professionals in the hospitality and tourism industry might be wondering how much of this information is pertinent to their own organizations and how much rests on their shoulder as an individual responsibility to improve fraud prevention and detection (McFarland and Newman, 2013).

Asset misappropriation is one of the largest categories of fraudulent cases in almost every industry. According to the ACFE 2024 report, 15% of asset misappropriation occurs in operations departments, 12% in accounting departments, 11% executive/upper management levels, 11% in sales operations, 8% in customer service departments and 7% in purchasing departments. Firms lose critical financial and non-financial resources at all operational levels due to fraudulent activities of their managers and employees. When an organization experiences such a loss, a much higher revenue needs to be generated to offset that loss to remain profitable.

Studies conducted in numerous industries state that the major cause of fraud is having weak internal controls. Firms with a weak internal control are more susceptible to fraudulent asset misappropriation schemes (KPMG, 2004). Internal control deficiencies include lock of segregation of duties, physical safeguard, independent checks, proper authorization, proper documents and records, overriding existing controls, and inadequate accounting system (Albrecht, 2008). The most effective anti-fraud controls tools are reported as code of conduct, internal audit, fraud hotline, management review, independent audit committee, fraud training for employees and managers, and anti-fraud policy (ACFE, 2024). Firms take many initiatives to reduce fraudulent activities in their respective workplaces and spend considerable amount of money to hire accountants and auditors to prevent and detect fraud (Liekweg, 2014). Yet, 12% of fraud takes place in accounting/finance departments (ACFE, 2024). Thus, fraud prevention emerges as a very difficult task to achieve. What is more, it is still not known which factors influence size of the fraud committed. This study aims to fill this gap by uncovering which combinations of fraud characteristics are more likely to lead to a large-scale fraud. By using 38 cases of fraud of $250,000 or more in hotels, country clubs and restaurants, we investigate how fraud methods, internal control vulnerabilities and characteristics of the organizations play a role in the size of the fraud. More specifically, the research question of this study asks: How do combinations (sets) of characteristics help predict large-scale fraud in hospitality industry? The following core proposition is employed to answer this question: Fraud characteristics will collectively influence large-scale fraud; such that multiple combinations of these characteristics will lead to large-scale fraud.

2. Methodology

2.1. Sample and Data

To identify which combinations of characteristics lead to large-scale fraud, we employ, a crisp-set Qualitative Comparative Analysis (QCA). The sample of this study includes occupational fraud cases 2005 and 2023. Occupational fraud denotes that the fraudulent activity is committed by a person through embezzlement or asset misappropriation of his/her employer. Approximately, 118 fraud cases were identified by searching major news sources such as Google News, Lexis Nexis database, Factiva etc. The fraud cases (N=33) where the loss was at least $250,000, were retained for the final analysis (See Table 1). This sample size is considered optimal for QCA because it falls in the so-called ideal sample size range of 10 to 50 cases (Fiss, 2011).

2.2. Data Analysis and Predictor Conditions

Items pertaining to the type and method of fraud were used as predictor conditions for the fraud size. We adopted crisp-set QCA, where all conditions are calibrated as 0 or 1. The outcome in this study is large-scale fraud. It is coded as 1 where the committed fraud is $500,000 or higher and 0 when it ranges between $250,000 and $499,999. All predictor conditions are categorical and were coded as follows. First, all fraud cases where the misappropriation was in the form of cash were coded as 1. Non-cash cases where the embezzlement was in form of other assets, falsification of documents or the use gift cards were coded as 0. The second condition is whether the business is a hotel (=1) or not (=0). Next, employee type is coded as 1 for manager, and 0 for a line-level employee. Last, employees holding financial jobs such as finance and accounting take the value of 1, while all others are coded as 0.

2.3.Estimation Procedures and Data Analysis

This study rests on the argument that various combinations or combinations of fraud characteristics lead to a large-scale fraud. More specifically, this paper is based on equifinality assumption. That is, there exist multiple paths that lead to an outcome (i.e., large-scale fraud).

QCA reports three different "solutions": complex, parsimonious, and intermediate (Fiss, 2011). The intermediate solution is commonly accepted as optimal and it will be used in this paper (Greckhamer, 2013; Misangyi & Acharya, 2014). There are two measures to help ensure that the proposed model has power and has relevancy. The first measure is consistency, which ranges between 0% and 100%. A threshold of 80%, is used, which means that any path or combination of conditions should predict large-scale fraud with 80% consistency (Ragin, 2008; Fiss, 2011).

The second measure is called coverage. It shows the percentage of cases (i.e., large-case fraud) that are correctly predicted through the proposed model. Very low coverage may imply that the proposed model has a low relevance of predicting an outcome (Misangyi & Acharya, 2014).

The analysis in this paper rests on the key assumption that characteristics of fraud do not operate in isolation but are rather interdependent. Therefore, the fraud size equation is described as follows:

Fraud Size = f(fraud conditions)$_{it}$ = f(cash-based fraud, employment position firm type, financial)

3. Expected results and future directions

While this paper is work-in-progress, it is expected that numerous conditions will lead to the posited outcome. As a robustness check, authors will include fraud cases below $250,000 to determine whether the same conditions would lead to the new measure of large-scale fraud ($250,000 or higher). Future studies should use other objective measures to conduct some parametric analysis to shed light into types of fraud and their consequences on organizations.

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Table 1. Fraud Cases used in this Study

Case #	Name of the company	State	Frauster's Position	Fraudster's Department	Age	Gender	Amount
1	Sleep Inn, Alleddale	MI	Hotel Manager	Administration	39	F	$ 873,000
2	TradeWinds Beach Resort		Chief Financial Officer	Finance/Accounting and Information Technology	58	M	$ 782,000
3	Pelham Country Club	NY	Controller	Finance/accounting	47	F	$ 720,000
4	Radisson Flagstaff	CA	Financial Controller	Finance/Accounting	54	M	$ 681,000
5	Daytona Beach Shores Days Inn	FL	GM	Administration	41	M	$ 640,000
6	Millenium Biltmore Hotel	CA	Financial Controller	Accounting/Finance	61	M	$ 626,000
7	Brookside Country Club	NJ	Controller	Finance/accounting	51	F	$ 615,000
8	St. John the Baptist Parish Hotel	LA	General Manager	Administration	49	F	$ 600,000
9	One Off Hospitality, LLC	IL	Bookkeeper	Finance/accounting	61	F	$ 600,000
10	The Crossings Golf Course Carlsbad	CA	Controller	Finance/accounting	52	F	$ 595,000
11	Super 8 Hotel Central Point	OR	Operation mng and Assistant Hotel Mng	Administration	62 and 56	M/F	$ 561,000
12	Nemacolin Country Club	PA	Manager	Administration	35	M	$ 530,000
13	Bad & Breakfast Hotel Savannah		Manager	Administration	47	F	$ 508,000
14	Westin San Dego Hotel	CA	Director of Finance	Acct/Finance	36	M	$ 500,000
15	Somerby Golf Course	MN	Controller	Accounting/Finance	64	M	$ 500,000
16	Asbury Park Hotel	NJ	General Manager	Administration	41	M	$ 486,000
17	Chesnut Ridge Golf Resort	PA	Chief executive	Administration	53	M	$ 360,000
18	A Nationwide Chain Hotel	NJ	Senior Analyst	Administration	46	M	$ 317,000
19	Residence Inn & Courtyard Marriott	MA	GM	Administration	41	F	$ 300,000
20	Shilo Hiltop Suites, POMANA	CA	GM	Administration	68	M	$ 300,000
21	Roswell Restaurant	GA	Manager	Administration	56	M	$ 300,000
22	Little Crow Country Club	MN	General Manager	Administration	56	M	$ 292,000
23	Walden Lake Golf and Country Club		Sales director	Sales & Marketing	38	M	$ 270,000
24	Rainier Inn, Lewis-McChord	WA	Accountant	Account/Finance	52	F	$ 250,000
25	NY based Hospitality Company		Chief Operation Officer	Administration	47	M	##########
26	Miccosukee Resort & Gaming	FL	EIGHT employees	Employees		M/F	$5,300,000
27	Sheraton University Hotel	PA	GM & Chief Engineer	Administration	57 & 60	M/ M	$3,040,000
28	Sheraton University City Hotel	PA	General Manager	Administration	58	M	$3,000,000
29	Harbor Hill Timeshare Resort		Office Manager	Administration	63	F	$1,800,000
30	Fair Oaks Three Hotels	CA	Managers	Administration	50/58/51	M/F	$1,000,000
31	St.Paul Gold Club	MN	Controller	Finance/accounting	53	F	$1,000,000
32	Charleston Marriott Town Cntr	WV	Accountant & General Casher	Accounting	53	M	$ 955,000
33	Denny's Restaurant	MN	Director of Operations	Administration	59	F	$ 881,000

Unlocking the Polillo paradise: Understanding Filipino male travelers' perspectives to fuel tourism growth

Apigo, David John
College of Tourism, Hospitality and Transportation Management
Polytechnic University of the Philippines

Abstract:

One of the unfamiliar destinations in the Philippines is Polillo Island, which offers abundant natural beauty, including lush forests, fish and bird sanctuaries, crystal-clear waters, and stunning beaches. In recent years, the island has been slowly gaining attention from locals. This study aims to determine the perception of Filipino male travelers on Polillo Island and apply the ERG theory. Other studies stated that male travelers need more attention and are understudied. Aside from that, it aims to contribute to the understanding of promoting and developing Polillo Island as a sustainable tourism destination. The researchers used the ERG Theory to identify existence, relatedness, and growth as the three demands that must all be met for a person to be motivated, allowing them to comprehend how Filipino males perceive Polillo Island as a travel destination. As a research method, a descriptive cross-sectional design was utilized. The sampling technique used is convenience sampling, wherein researchers selected 384 respondents based on availability and accessibility. The research findings reveal that most respondents say they visited the island for relaxation, and their preferred activities are Island Hopping and Beach Hopping. The major problem during their stay is the limited access to reliable internet and communication. Natural Attractions are factors to consider the most important when traveling to the island. This reveals that Filipino male travelers have expressed conflicting thoughts on promoting Polillo Island's tourist sector. Researchers encourage researchers to prioritize innovative approaches to advertise the island and successfully target potential Filipino male visitors. The concerns and challenges revealed should be the subject of future investigations.

Keywords: Erg theory; perception; male travelers; Polillo island; island promotion

The tourism industry in the Philippines has experienced significant growth in recent years, with many visitors arriving in the country (Department of Transportation, 2023). The islands of the Philippines, in particular, have played a vital role in fueling this tourism surge. With their breathtaking landscapes, abundant natural resources, and storied cultural heritage, these islands have become an enticing destination for travelers from both h local and international travelers (Arellano,2020). Despite the observed growth in the tourism sector in the country, Polillo Island, on the other hand, remains relatively unknown, especially to domestic tourists (Tourism Municipality of Polillo Island, 2023; Lagbas, 2016). According to the Polillo Islands Biodiversity Conservation Foundation (n.d.) and the Philippine Biodiversity Conservation Foundation, Inc. (n.d.), the island is still developing as a sustainable tourism destination. It has only started to attract attention from local travelers due to the development of marine transportation. As a result, a research gap exists concerning the potential of Polillo Island as a tourist destination.

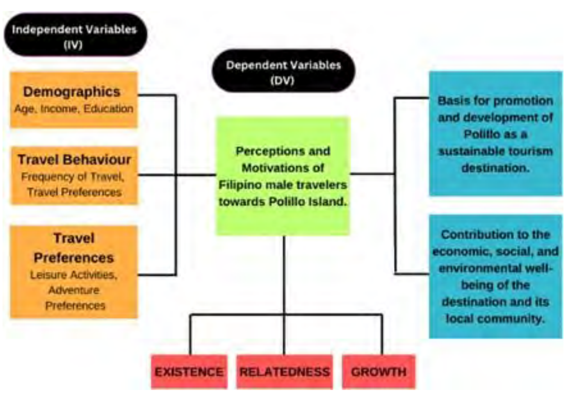
Although male visitors constituted a substantial part of the tourism business, comprehensive research into their different requirements and motives was lacking (Kara & Mkwizu, 2020).

There is a lack of extensive research on the experiences and opinions of male travelers in the tourism industry, which mostly emphasizes the experiences of women (Ying & Wen, 2019; Pung et al., 2019). In addition, a significant proportion of tourists who visited Polillo Island were women, indicating a noticeable imbalance in the distribution of visitors by gender (Tourism Municipality of Polillo Island, 2023). This study sought to fill this void by examining the perspectives and incentives of Filipino male tourists in choosing Polillo Island as a destination. Gaining insight into male travelers' perspectives regarding Polillo Island is essential for tourism managers and organizations to formulate effective tactics to enhance the island's appeal and attract more tourists.

The study sought to address various research questions that guided the research process: "(1) Attributes of Filipino male travelers in relation to their demographics, travel behavior and travel preferences. (2) This study explores the perspectives of Filipino male travelers when they visit Polillo Island with a specific focus on themes of existence, relatedness and growth. (3) The study also seeks to find out the difficulties and concerns faced by Filipino male travelers when visiting Polillo Island. The aim of the study is to offer significant insights for tourism managers, stakeholders and organizations in decision-making and strategy development to attract more tourists to Polillo Island by focusing on male travelers' perception of the island.

Research Framework

The study's framework is founded upon Alderfer's ERG theory (1969), which classifies human requirements into three tiers: Existence, Relatedness, and Growth. Demographic features, travel behavior, and travel preferences are important factors that greatly impact people's perceptions and motivations. within the boundaries of Polillo Island.



1. Literature

ERG THEORY

The ERG theory, created by Clayton Alderfer, was employed to evaluate the attitude of Filipino male travelers regarding Polillo Island. This idea, based on Abraham Maslow's hierarchy of needs, centers around three dimensions: existence, relatedness, and growth. Shin & Kim (2020) state that existence refers to the fulfillment of physiological, social, and external esteem demands, whereas relatedness focuses on interpersonal interactions with family, friends, and coworkers. Growth refers to the development of one's own sense of worth and the realization of one's full potential. In contrast to a rigid hierarchy, the ERG Theory proposes that various requirements might be triggered concurrently (Alderfer, 1969). It provides a versatile approach by considering needs as a spectrum rather than a rigid hierarchy. Additional study is required to examine the impact of the presence, relatedness, and growth demands described in the theory on tourist decision-making, contentment, and overall travel experiences. Moreover, there is a dearth of research investigating the influence of various tourism activities and destinations on satisfying the three demands outlined in the ERG theory. By addressing this study gap, we can improve our comprehension of tourist motives and provide significant insights for tourism professionals to create customized experiences that cater to the varied requirements of travelers, using the ERG theory as a basis.

POLILLO ISLAND AS A TOURIST DESTINATION

Rebancos et al. (2021) conducted research to analyze the tourism opportunities and barriers of Polillo Island. The researchers surveyed the island's natural attractions, biodiversity and cultural heritage, as well as existing tourism infrastructure and management techniques. The study highlighted the importance of sustainable tourism development in order to protect the distinct natural and cultural resources of Polillo Island. In addition, it recognized the need for effective management approaches, active community participation and collaboration between stakeholders to guarantee the sustainable success of ecotourism on the island. The findings of the study increase the understanding of sustainable tourism practices in island destinations and provide valuable insights for policy makers and stakeholders in promoting responsible tourism development on Polillo Island. Furthermore, Villanueva et al. (2020) showed that Polillo Island is a charming place celebrated for its beautiful natural scenery and peaceful atmosphere. With pristine coastlines, verdant forests and scenic views, it appeals to individuals who appreciate nature and those who want exciting experiences. Polillo Island offers a peaceful and scenic escape from city life, providing a peaceful atmosphere and breathtaking natural beauty. Although the journey to Polillo Island may involve difficult journeys, the reward is the unspoiled charm and unspoiled charm of its natural environment. Cruz et al. (2020) state that... Zhang et al., 2020 argue that although there is some previous study on Polillo Island, there is still a considerable lack of information on several aspects of the island's sustainable development.

According to Khoo-Lattimore C. et al. (2018), different gendered visitors show different preferences for specific activities that a destination provides. In this respect, exploring the topic of tourist interaction from a gender perspective can benefit destination marketers to better identify who their target tourists are and what they want to engage with. Authors Ying & Wen, 2019 Pung et al., 2019 Yang, 2020 Tham, 2020 reported a substantial gap regarding the perspective and experiences of men in the tourism industry. Studies of male travelers in the industry are still scarce, with most attention paid to the experiences of women. Existing research has primarily focused on women's experiences; The difficulties faced by male travelers receive less attention.

TRAVEL PREFERENCE

Chandirimani et al. (2021) found that Male visitors preferred public transportation, nightlife, and outdoor activities, while female visitors preferred shopping malls, restaurants, art galleries, museums, theaters, and events. As Otoo et al. (2020) mentioned, the choice of a facility or service, housing, mode of transportation, necessary travel technology, desired tourist activities, and the production of tourist experiences are only a few examples of travel-related variables that are usually influenced by tourist preferences. Company products, services, communication, image, attractiveness, and business operations influence tourist perception. Holiday activities' decisions and preferences are influenced by factors like length of stay, price sensitivity, hotel preferences, transportation, and seasonality (Orden-Mejía et al.,2022).

2. Methodology

The method of research employed in this study was a descriptive cross-sectional design. The target population consisted of Filipino male travelers with diverse backgrounds regarding their demographics, travel experiences, and travel behaviours, ensuring a comprehensive representation.

The study's sample size of 384 respondents was selected using Cochran's method to account for an unknown population. This ensures that there is a sufficient representation of Filipino male travelers, which in turn increases the statistical reliability and generalizability of the study's conclusions. The researchers employed convenience sampling as the sampling technique, enabling them to choose individuals based on their availability and accessibility. This approach involved persons who possessed pertinent expertise and familiarity with Polillo Island.

3. Results and discussion

3.1. Demographic Profile of the Respondents.

3.1.1. Distribution of the respondents in terms of age.

Age Group	Frequency	Percent
18 - 30 years old	193	50.3%
31 - 40 years old	85	22.1%
41 - 50 years old	53	13.8%
51 - 59 years old	33	8.6%
60 years old and above	20	5.2%
Total	384	100%

Table 1.1 shows the distribution of the respondents in terms of age group. With a total count of 384 respondents, 50.3% of the responses are 18 – 30 years old and 5.2% of

the responses are 60 years old and above.

1.2. Distribution of the respondents in terms of travel behaviour.

How many times have you visited Polillo Island in the past?	Frequency	Percent
1 - 2 times	219	57%
3 - 4 times	97	25.3%
5 and above	68	17.7%
Total	384	100%

Table 1.2 shows the distribution of the respondents in terms of travel behaviour, specifically, the number of times visited Polillo island. With a total count of 384 respondents, 57% of the responses has visited the island 1 – 2 times and 17.7% of the responses has visited the island more than 5 times.

1.3. Distribution of the respondents in terms of travel behavior reason for visiting the island.

What is your reason for visiting Polillo Island?	Frequency	Percent
Nature Appreciation	85	22.1%
Cultural Immersion	27	7%
Relaxation	168	43.8%
Adventure	104	27.1%
Total	384	100%

Table 1.3 shows the distribution of the respondents in terms of travel behaviour, specifically, the reasons for visiting the island. With a total count of 384 respondents, 43.8% of the responses says that they visited the island for relaxation and 7% of the responses says that they visited the island for cultural immersion.

1.4. Distribution of the respondents in terms of travel behaviour.

When traveling to Polillo Island, which of the following activities do you enjoy the most?	Frequency	Percent
Strolling	8	2.1%
Water Sports	34	8.9%
Trekking and Hiking	12	3.1%
Island Hopping and Beach Hopping	179	46.6%
Sunbathing and Swimming	151	39.3%

Total	384	100%

Table 1.4 shows the distribution of the respondents in terms of travel preferences, specifically, the preferred type of activities. With a total count of 384 respondents, 46.6% of the responses says that their preferred type of activities is Island Hopping and Beach Hopping and 2.1% of the responses says that their preferred type of activities is Strolling (with a total count of 8 respondents).

1.5. Distribution of the respondents in terms of travel behavior in selecting a travel destination.

When selecting a travel destination, which of the following factors do you consider the most important?	**Frequency**	**Percent**
Relaxation and Leisure	66	17.2%
Adventure and Outdoor Activities	48	12.5%
Food and Cuisine	22	5.7%
Cultural and Historical Attractions	8	2.1%
Natural Attractions	240	62.5%
Total	384	100%

Table 1.5 shows the distribution of the respondents in terms of travel preferences, specifically, the factors to consider the most important when traveling to the island. With a total count of 384 respondents, 62.5% of the responses says that the factors to consider the most important when traveling to the island is Natural Attractions and 2.1% of the responses says that the factors to consider the most important when traveling to the island is Cultural and Historical Attractions.

How do you prefer to explore Polillo Island?	Frequency	Percent
Walking	8	2.1%
Using Public Transportation	92	24%
Renting a motorcycle or bike	63	16.4%
Exploring on your own with a map and guidebook	118	30.7%

Joining a guided tour group	103	26.8%
Total	384	100%

Table 1.6 shows the distribution of the respondents in terms of travel preferences, specifically, the preferred type to explore the island. With a total count of 384 respondents, 30.7% of the responses says that their preferred type to explore the island is Exploring on your own with a map and guidebook and 2.1% of the responses says that their preferred type to explore the island is Walking (with a total count of 8 respondents).

3.2. Level of perception of Filipino male travelers in visiting Polillo Island, in terms of:

3.2.1. Existence

Statement	Weighted Mean	S.D	Verbal Interpretation
How would you rate the basic amenities (e.g., clean water, electricity, food)?	3.52	0.775	Satisfied
How would you rate the transportation?	3.49	0.801	Satisfied
How would you rate the accommodation?	3.67	0.769	Satisfied
How would you rate the safety and security of the tourists?	3.73	0.817	Satisfied
Grand total	3.61	0.66	Satisfied

Note: Very Satisfied (5.00 – 4.04), Satisfied (4.03 – 3.43), Neutral (3.42 – 2.62), Dissatisfied (2.61 – 1.81), Not Satisfied (1.80 – 1.00)

Table 2.1 shows the level of perception of Filipino male travelers visiting Polillo Island regarding its existence. Based on the result, the statement "How would you rate the safety and security of the tourists?" exhibits the highest weighted mean of 3.73 with a verbal interpretation of satisfied, indicating that travelers are generally satisfied with the safety measures on the island. According to Zou & Yu (2022), the safety climate of a destination refers to the general perceptions of safety within that destination. In the context of tourism, a feeling of safety is the emotional response of individuals when the safety conditions of the external environment align with their personal safety needs. However, the statement "How would you rate the transportation?" exhibits the lowest weighted mean of (3.49) with a verbal interpretation of satisfied." The lower rating for transportation needs improvement in this area. Transportation is a crucial component in shaping the impression of a destination, serving as a foundation for a thriving tourism sector and exerting significant influence on the evolution of a tourist destination (Jangra et al., 2023). The overall weighted mean for the parameter "existence" is (3.61) with a standard deviation of 0.66.

2.2. Relatedness

Statement	Weighted Mean	S.D	Verbal Interpretation
How would you rate the belongingness and connection with the people and places you visited	3.73	0.817	Satisfied
How would you rate your experience with the local culture (e.g., festivals, traditions, food)	3.69	0.815	Satisfied
How would you rate your interaction with the locals (e.g., making friends, learning their way of life)	3.78	0.811	Satisfied
Grand Total	3.76	0.771	Satisfied

Note: Very Satisfied (5.00 – 4.04), Satisfied (4.03 – 3.43), Neutral (3.42 – 2.62), Dissatisfied (2.61 – 1.81), Not Satisfied (1.80 – 1.00)

Table 2.2 shows the level of perception of Filipino male travelers in visiting Polillo Island in terms of relatedness. Based on the result, the statement "How would you rate your interaction with the locals (e.g., making friends, learning their way of life" exhibits the highest weighted mean of (3.78) with a verbal interpretation of (Satisfied) indicating that travelers are generally satisfied with interaction with locals. This finding is also consistent with the study of Chen et al. (2020), which affirms that social interactions play a role in the collaborative generation of tourism value. For instance, a casual conversation between a visitor and a resident enhances the experiences of both individuals within the destination. However, the statement "How would you rate your experience with the local culture (e.g., festivals, traditions, food)?" exhibits the lowest weighted mean of (3.69) with a verbal interpretation of (Satisfied). The lower rating for experience with the local culture indicates that there may be scope for improvement in this area. Culture ignites authenticity and distinctiveness in global tourism. "Tourism experiences" connect locals and visitors to native cultures, with local engagement crucial for visitor satisfaction and product development. Beyond hosting, local communities actively shape regions' identities and atmospheres in tourism (Muñiz, 2023). The overall weighted mean for the parameter "relatedness" is (3.76) with a standard deviation of 0.771.

2.3. Growth

Statement	Weighted Mean	S.D	Verbal Interpretation
How would you rate the opportunity for personal growth and development (e.g., learning new skills, challenging yourself)	3.52	0.722	Satisfied
The opportunity for unique and memorable experiences (e.g., trying new activities, visiting unusual destinations)	3.66	0.811	Satisfied

To what extent do you feel stimulated and engaged while traveling in Polillo Island?	3.61	0.774	Satisfied
Grand Total	3.57	0.726	Satisfied

Note: Very Satisfied (5.00 – 4.04), Satisfied (4.03 – 3.43), Neutral (3.42 – 2.62), Dissatisfied (2.61 – 1.81), Not Satisfied (1.80 – 1.00)

Table 2.3 shows the level of perception of Filipino male travelers in visiting Polillo Island regarding growth. Based on the result, the statement "The opportunity for unique and memorable experiences (e.g., trying new activities, visiting unusual destinations)" exhibits the highest weighted mean of (3.66) with a verbal interpretation of (Satisfied). The findings show a positive perception of Filipino male travelers towards the opportunity for unique and memorable experiences on Polillo Island, which aligns with the concept of growth as an essential motivator in travel. According to Maslow's hierarchy, individuals seek personal development and self-actualization through novel experiences and challenges (Maslow, 1954).Meanwhile, the statement" "How would you rate the opportunity for personal growth and development (e.g., learning new skills, challenging yourself")" exhibits the lowest weighted mean of (3.52) with a verbal interpretation of (Satisfied). The lower rating for personal growth and development indicates that there may be scope for improvement in this area. To address this, insights The study of Balakrishnan (2023) shows that adventure tourism values skill-building and personal development, as it fosters personal growth, self-confidence, and skill enhancement. Introducing adventure-based activities on Polillo Island that promote skill acquisition, personal challenges, and self- improvement caters to the growth needs of Filipino male travelers. The overall weighted mean for the parameter" "grow" h" is (3.57) with a standard deviation of 0.726.

3. What are the challenges and issues Filipino male travelers encounter during their visit to Polillo Island?

Major Challenges or Issues Encountered	Frequency	Percentage	Ranking
Limited transportation options	43	11.20%	4
Availability of Accommodations options	25	6.51%	7
Limited amenities and services	51	13.28%	2
Limited access to reliable internet and communication	139	36.20%	1
Availability of tourism activity options	44	11.46%	3
Insufficient or inadequate facilities within the attractions	42	10.94%	5
Road Infrastructure	40	10.42%	6
Total	384	100%	

Table 3 shows the challenges and issues Filipino male travelers encountered during their visit to Polillo Island. With a total count of 384 respondents, 36.20% of the responses faces Limited access to reliable internet and communication (with a total count of 51 respondents), 13.28% of the responses faces Limited amenities and services (with a total count of 51 respondents), 11.46% of the responses faces Availability of tourism activity options (with a total count of 44 respondents), 11.20% of the responses faces Limited transportation options (with a total count of 43 respondents), 10.94% of the responses faces Insufficient or inadequate facilities within the attractions (with a total count of 42 respondents), 10.42% of the responses faces Road Infrastructure (with a total count of 40 respondents), and 6.51% of the responses faces Availability of Accommodations options (with a total count of 25 respondents).

4. Conclusion

This study showed that most respondents are 18 to 30 years old. The respondents are primarily single and college. The majority of the respondents have a monthly income of 20,000 to 29,999. Most Filipino male travelers have visited the island 1 to 2 times and are mostly staying for at least 1 to 3 days on the island. They have also shared that they mostly spent around php 4,000 to php 6,999 during their last visit. Moreover, the main reason for visiting the island is to relax. Camping / renting is the preferred majority of respondents for their accommodation, while island hopping and beach hopping are the most chosen activities to enjoy. Moreover, Filipino cuisine ranked first in preferred cuisine, while natural attractions are one of the most important factors to consider when traveling on an island. Lastly, the respondents' preferred method of exploring Polillo is exploring on their own with a map and guidebook.

The level of perception of Filipino male travelers in visiting Polillo island, in terms of existence, is that based on the findings, respondents are satisfied with the basic amenities (e.g., clean water, electricity, food), transportation, accommodation, and safety and security of the tourists. Furthermore, in the level of perception of Filipino male travelers in visiting Polillo island, in terms of relatedness, the respondent's belongingness and connection with the people and places they have visited, their experience with the local culture (e.g., festivals, traditions, food), and interaction with the locals (e.g., making friends, learning their way of life), based on the outcome, they are all satisfied with it. Finally, the perception of Filipino male travelers in visiting Polillo island in terms of growth, the opportunity for personal growth and development (e.g., learning new skills, challenging yourself), the opportunity for unique and memorable experiences (e.g., trying new activities, visiting unusual destinations), and how much they feel stimulated and engaged while traveling in Polillo island all result in satisfaction.

The major challenge or issue that the respondents have encountered during their trip is limited access to reliable internet and communication. This is followed by the limited availability of amenities and services, indicating a significant concern. Another notable challenge is the limited options for tourism activities. Additionally, respondents expressed the difficulty of accessing transportation options as a notable issue. Insufficient or inadequate facilities within attractions were also highlighted as a significant concern. Road infrastructure emerged as another challenge, albeit to a lesser extent. Lastly, the availability of accommodation options was identified as the least significant challenge or issue faced by Filipino male travelers during their trip.

5. Recommendations

Based on the findings, the researchers recommend that future researchers explore more questions relating to the Pillars of Sustainability. The objectives may focus more on how it will and can improve the tourism sector in Polillo Island in terms of promotion, marketing, and developing tourism infrastructure.

To add a new study about the Polillo group of Islands, future researchers can conduct a study focusing on the other Islands, namely Patnanungan, Jomalig, Panukulan, and Burdeos, by using or applying the same theory used by the researchers.

The researchers recommend that future studies be based on both male and female travelers' perceptions. In addition, the study's gathered result in age group shows that 18 to 30 years old has the most responses. For this reason, researchers suggest that future researchers focus on knowing the perception of elders.

6. Practical Implications and Future Research Directions

Destination marketing: Understanding their perceptions will help tourism authorities and stakeholders design effective marketing strategies to attract and engage this demographic.

Destination development: The study identifies areas for improvement based on the perceptions of male Filipino travelers and how destination managers can improve tourism infrastructure, services, and attractions on Polillo Island to meet the preferences and needs of this target market.
Future researchers can diversify the sample by including a broader range of Filipino male travelers, considering different age groups, occupations, and travel motivations. Employing a mixed methods approach, combining qualitative methods with quantitative surveys, can provide a deeper understanding of their perceptions as well as a longitudinal approach to understanding the evolving perceptions of Polillo Island over time, which can significantly contribute to advancing knowledge, guiding destination management, and enhancing experiences for this demographic.

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Exploring the cross-level effects of leaders' job crafting and leisure crafting on hotel employee outcomes

Teng, Chih-Ching
Department of Restaurant, Hotel and Institutional Management
Fu Jen Catholic University

Cheng, Ya-Jen
Department of Business Administration
National Taiwan Normal University

Abstract:

This study proposes examining the influence of leaders' job crafting and leisure crafting on employee outcomes. It focuses on 210 teams comprising a total of 787 employees from international hotels. The findings indicate that leaders' job crafting positively influences employees' job crafting and innovative behavior, while their leisure crafting impacts employees' leisure crafting but not significantly their job satisfaction. Additionally, employees' job crafting mediates the relationship between leaders' job crafting and innovative behavior. However, leaders' leisure crafting has a minimal direct effect on employee job satisfaction.

Keywords: Job crafting, Leisure crafting, Innovative behavior, Job satisfaction, Multi-level investigation

Sustaining the climbs of ifugao rice terraces as a UNESCO heritage site amidst climate change: Challenges, practices, and interventions

Montances, Yolanda T. Tugade. Luzvominda O. Zuniga, Regina B.
Polytechnic University of the Philippines

Abstract:

The Ifugao rice terraces in the Philippines are a cultural heritage preserved for over two thousand years. The indigenous Ifugao people created the terraces and are an excellent example of the blend of physical, sociocultural, economic, religious, and political factors. They have been recognized as a UNESCO World Heritage Site due to their sustainability and harmonious relationship with the environment. Presidential Decrees 260:1973 and 1505:1978 declare them National Treasures, and Republic Act No 10066:2010 ensures their protection and conservation as a National Cultural Heritage.

This paper analyses the current state of the rice terraces in Batad, focusing on the impact of climate change on the region's cultural and heritage aspects. Additionally, it will assess the level of awareness among farmers and their families regarding their role in preserving this world heritage site.

Keywords: Ifugao Rice Terraces, Climate Change, Heritage, Sustainable

1. Introduction

The Ifugao Rice Terraces are a significant model of a two-millennia-old living heritage. It is a UNESCO World Heritage Site that is now in peril due to climate change. This threat affects not only the heritage site but also the agricultural heritage system of the farmers in Ifugao. This paper aims to fill a gap in the geographic extent of research on indigenous perceptions of climate change, which were previously concentrated in the African tropical region, the Himalayas range, and the polar region.

This paper presents insights gathered from various stakeholders through a qualitative data-gathering approach to shed light on the following research objectives: (a) to determine the traditional practices of the residents in preserving the rice terraces; (b) to recognize its significance from the perspective of different stakeholders; (c) to identify the challenges and/or impact brought by climate change in preserving the Ifugao Rice Terraces, and (d) to propose supporting interventions to enhance local knowledge and approaches towards the sustainability of the Ifugao Rice Terraces.

2. Literature Review

2.1. Sustainable Development

According to a study by Peizhe et al. (2022), climate change threatens the sustainability of cultural heritage sites worldwide. To address this issue, decision support tools must be developed to prioritize and optimize organizational actions that promote historical preservation and adaptation. This urgent need for effective cultural heritage preservation practices under climate change is recognized by the International Council on Monuments and Sites (ICOMOS, 2019). Similarly, the China Foundation for Cultural Heritage Conservation Fund and the Asian Initiative for Cultural Heritage Conservation both acknowledge the significance of considering the impact of climate change on Asia, the world's largest and most densely populated continent, which is home to human civilization's birthplace and the fastest-growing and most vibrant region in the world.

Heritage

Ducusin et al. (2022) have highlighted the increasing threats that climate change poses to preserving UNESCO World Heritage Sites and Globally Important Agricultural Heritage Systems (GIAHS). Despite being one of the most vulnerable provinces in the Philippines to climate change, the Ifugao Rice Terraces (IRT) have received little attention in this regard. Climate projections for the Ifugao province indicate a rise in temperature of 0.9°C by 2020 and 1.9°C to 2.1°C by 2050 (Kawasaki, 2012), which makes it crucial to understand how the local community perceives climate change and what measures they can adopt to cope with its consequences.

3. Methodology

3.1. Measurement

The study used a qualitative research design to gather evidence-based findings through a case study approach in Batad, one of the UNESCO Heritage Sites in the province of Ifugao. The team used a structured interview guide, observation form, and secondary data from previous studies to validate the findings. They adopted the information power concept and triangulation technique, which involves using multiple data sources to gain a comprehensive understanding of phenomena. The research team considered primary data with the consent of twenty-four carefully chosen participants, including farmers, residents, local tour guides, government personnel, and tourists.

4.1. Table 1. Demographic Profile of Key Informants

NAME	AGE	GENDER	OCCUPATION	YEARS OF RESIDENCY	LOCATION
Adella Jane Balugat	73	Female	Farming, Selling Products and Services	Since Birth	Banaue
Dominga Naod	73	Female	Farming, Former Barangay Chairman	Since Birth	Banga-an
Emesto Tumapang	54	Male	Barangay Chairman	Since Birth	Banga-an
Virginia Tumapang	63	Female	Farming	Since Birth	Banga-an
Uncle Ramon	61	Male	Farming	Since Birth	Batad
Fernando	60	Male	Farming	Since Birth	Batad
Sylvia Bullajon	23	Female	Unemployed	Since Birth	Batad Inn
Laviña Bahyu	34	Female	Farming	Since Birth	Batad Inn
Gemma Munhin	33	Female	Farming	10 Years	Batad Inn
Mary Pablo	42	Female	Farming	10 Years	Batad Inn
Adelina	54	Female	Farming	Since Birth	Batad Inn
Elizabeth	53	Female	Farming	Since Birth	Batad Inn
Pedro	69	Male	Farming	Since Birth	Batad
Grel	39	Female	Farming	Since Birth	Batad Inn
Linda Pamorca	62	Female	Farming	Since Birth	Batad
Irene Binuag	40	Female	Farming	Since Birth	Batad
Joseph "Windy" Allja	52	Male	Farming, Tour Guide, Baby Sitter, Gardener	Since Birth	Batad
Anna Nguyen	38	Female	Designer (Bristish - Vietnamese from Barcelona, Spain)	-	Batad Inn
Albert	38	Male	Software Developer (Spanish from Barcelona, Spain)	-	Batad Inn
Klakel	44	Female	Bar and Hotel Employees (Spain)	-	Blue House
Pere	45	Male	Bar and Hotel Employees (Spain)	-	Blue House
Lorenzo	50	Male	Bar and Hotel Employees (Spain)	-	Blue House
Donald Mongolnan	36	Male	Vice Mayor (2nd Term), Former SK, City Councilor = Total of 11 Years as a Public Official	Since Birth	Banaue LGU
Romeo Heppog	43	Male	Baranggay Captain, Former Tour Guide, Student from Baguio (Graduate)	Since Birth	Batad

The residents of the area where the Ifugao's manage the land have lived there for a long time, mostly since birth, and have worked in farming or other occupations. Since the land does not have titles, its rights to use are community-based and passed on through inheritance. Some tourists who visited Batad, which is a popular destination, also shared their insights about climate change. Responsible behavior by tourists can help address the impact of climate change. According to a report by UNWTO and ITF, global tourism could increase by 25% by 2030. Women are more interested in providing their insights regarding climate change, indicating that they have stronger environmental values than men. This is especially true since men often migrate from rural to urban areas to seek employment due to extreme weather events, leaving women in charge of land and households without legal privileges or social authority, according to UNCC.

5. Discussion and Conclusion

5.1. Discussion and implications

The Ifugao Rice Terraces hold immense importance for the indigenous people living in the Cordillera Mountain range, not only environmentally but also socio-culturally and economically. As a result, it is crucial to combine traditional farming and land management practices with modern ones to preserve them. Climate change is a significant threat multiplier for these terraces, and it is critical to adopt urgent measures to prevent it from affecting nations worldwide. Moreover, an investigation into the non-participation of indigenous youth is recommended, and long-term observations and simulation experiments should be conducted to gain a deeper understanding of the environmental, socio-cultural, and economic issues surrounding the Ifugao Rice Terraces.

5.2. Conclusion|

The Ifugao Rice Terraces are a significant aspect of the indigenous people's environmental, socio-cultural, and economic living in the Cordillera Mountain range. However, climate change threatens the socio-cultural values of the Ifugao people. Therefore, it is essential to integrate modern farming and land management practices with traditional ones to preserve the province's stunning hand-carved rice terraces and cultural practices. The multistakeholder efforts of concerned players are needed to sustain its integrity and survival. The investigation of indigenous youth non-participation and the application of sustainability indicators in policy and decision-making amidst climate change are necessary. Finally, the study implicates a sophisticated understanding of climate change and related issues.

5.3. Limitations of this study and suggestions for future studies
Although the contributions of this study are meaningful, they should be analyzed based on the limitations related to the research process focused on a single case study. Considering that the study employed a descriptive-qualitative approach, the proponents attribute its inability to establish cause-and-effect relationships to its limitations. The selected informants may not be truthful during the survey questions, and the choice of words during the interview may influence the descriptive findings.

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Which stakeholders do firms benefit from ESG engagement in a global hospitality industry?

Lee, Seoki
Hwang, Da Hyun S.
School of Hospitality Management
The Pennsylvania State University

Ham, Sunny
Department of Food and Nutrition
Yonsei University

Abstract:

This study investigates the effect of a firm's ESG investment on various firm performances that reflect implications for three primary stakeholders: consumers, employees, and shareholders/owners in a global hospitality context. Moreover, this study examines the proposed relationships for sub-hospitality sectors separately (i.e., hotels, casinos, and restaurants) to explore possible differences across the hospitality sub-sectors. The results of this study, although mixed, provide a basis for untangling some previous empirical results regarding the impact of ESG on firm performance.

Keywords: ESG, Stakeholders, Consumers, Employees, Investors

1. Introduction

Although the exact term was coined for the first time in the "Who Cares Wins?" report by the United Nations Global Compact which became more popular after the term was used again in the United Nation's Principles for Responsible Investment (PRI) report in 2006, similar concepts to the environmental, social, and governance (ESG) have existed for a while, such as social investing. The concept of ESG was originally created purely from the investor's perspective, meaning that investors are encouraged to invest in those firms that are environmentally friendly and socially responsible with a good and transparent governance structure (i.e., non-financial metrics) rather than invest in firms purely based on financial metrics. ESG concept gradually gained attention from investors since its inception, and then its significance became very dominant in the global corporate world throughout the COVID-19 pandemic. Due to the global dominance of the ESG concept and overlapping dimensions of social and environmental issues, the scope of ESG seems to have expanded to cover other similar concepts such as corporate social responsibility (CSR) and sustainability in recent years.

While there are numerous different aspects regarding the ESG, many practitioners and scholars have been wondering about how firms' ESG practices (i.e., socially responsible and environmentally friendly practices with good governance) influence their firm performance since that is the ultimate bottom line that shareholders or owners are primarily interested in. In addition, more people started arguing that, for ESG practices to be sustainable in the corporate world, they should be developed as one of a firm's core strategies that create meaningful business value for the firm (Chandler, 2017). This means that a firm's mere giving to charities out of its profits may not be perceived as good ESG practices in terms of creating or maximizing business value for and sustaining the existence of the firm. However, the relationship between ESG and firm performance (FP) is yet to be determined as there are conflicts within the results of the current literature representing positive, negative, and non-significant relationships (Aupperle et al., 1985; Awaysheh et al., 2020; Barnett & Salomon, 2006; del Mar Miras-Rodríguez et al., 2015; Shin et al., 2022). The same inconclusiveness also exists in the hospitality literature for the ESG-FP link (Lee, Yeon, & Song, 2023). To further investigate the underlying reasonings behind the conflicting results, attention has been given to potential mediators and boundary conditions (i.e., moderators) for the ESG-FP link (Shin et al., 2022; Ye et al., 2021). Although we acknowledge the significance of exploring important mediators and moderators, we also argue in this proposal that the ESG-FP link should be first disentangled from each of the various stakeholders' perspectives.

The stakeholder theory (Freeman, 1984) takes into consideration the relationship between companies and their stakeholders for financial outcomes (Barnett, 2007). Based on this theory, adhering to the needs of various stakeholders can be financially beneficial (Barnett, 2007; Freeman, 1984). There are reasons why firms choose to engage in ESG practices and it can be described through the lens of the primary stakeholders, that is, consumers, employees, and shareholders/owners (Freeman, 1984). Regarding consumer relations, a firm's ESG engagement can improve its brand image, which can subsequently influence consumers' satisfaction with and loyalty to the firm. Such positive influences will eventually impact consumers' purchasing behavior that will have an implication for a firm's revenue improvement. In terms of employee relations, on the other hand, firms' ESG engagements likely improve employees' morale and satisfaction with their firms which will eventually enhance retention rate and productivity. These ultimate benefits have more of cost implications than revenue implications. Lastly, regarding shareholder relations, a firm invests in ESG practices to satisfy its existing shareholders and further attract new investors in a favorable term for the firm which can be translated into a lowered cost of equity. Accordingly, the current study investigates the effect of a firm's ESG investment on various firm performances that reflect implications for these three primary stakeholders: consumers, employees, and shareholders/owners in a global hospitality context. Moreover, this study examines the proposed relationships for sub-hospitality sectors separately (i.e., hotels, casinos, and restaurants) to explore possible differences across the hospitality sub-sectors.

2. Literature Review

2.1. ESG and financial performance

The evolving norms in the dynamic business world, encompassing legal, moral, social, and financial aspects, coupled with an increased emphasis on transparency and sustainability practices, have created demands for firms to align their actions with the expectations of society and various stakeholders beyond the sole interests of shareholders (Behl et al., 2022; Odell & Ali, 2016; Waddock, 2004). A central question arising around the field of sustainability practices in the corporate world is to what extent a firm must compromise profitability when investing in and implementing ESG practices (Morgenstern et al., 2022). While scholars have dedicated attention to exploring the ESG-FP connection, the empirical results have been inconclusive, with mixed findings (Shin et al., 2022).

Studies affirming a positive correlation between ESG practices and FP frequently rely on Freeman’s (1984) stakeholder theory. According to the stakeholder theory, financial rewards are anticipated when companies take responsibility for meeting stakeholders’ expectations. For example, Peng and Isa (2020) highlight the advantages of actively engaging in ESG practices, which align with the principles of the stakeholder theory. Such benefits mentioned in their study include increased productivity among employees due to improved morale (Baron, 2008), reduction in consumption of energy and material (Qi et al., 2014), and cultivation of positive relationships with various stakeholders (e.g., consumers, employees, regulators, and the local community) in which the company involves (Hou, 2019). Scholars embracing this perspective contend prioritizing relationships with stakeholders can result in high financial performance due to enhanced brand reputation, customer and employee loyalty, and the ability to attract and retain talented personnel — all vital elements contributing to a firm’s overall competitiveness and fiscal performance (Shi & Veenstra, 2021; Freeman, 1984). Similarly, numerous studies (e.g., Velte, 2017; Zhao et al., 2018) support ESG and FP’s positive association.

Contrastingly, based on the agency theory (Jensen & Meckling, 1976), engaging in ESG practices can cause conflicts of interest between management and shareholders as they may not be in the best interest of shareholders (Peng & Isa, 2020). The trade-off theory or shareholder theory (Friedman, 1970) also supports a negative relationship between ESG and FP, arguing that a firm’s sole responsibility is to maximize shareholders’ profit, whereas investing in ESG practices could lead to higher operating costs, potentially reducing profitability (Qureshi et al., 2021). Accordingly, several past studies building on the agency theory (Peng & Isa, 2020) and the trade-off theory (Chen et al., 2021) have empirically found the negative ESG-FP association (e.g., Brown et al., 2006; Barnea & Rubin, 2010).

When considering various arguments of these two conflicting arguments, it becomes apparent that some of the arguments with opposite implications may not be mutually exclusive. For example, a firm’s investment in ESG practices may improve its brand image and reputation among consumers which can enhance consumers’ purchasing behaviors and eventually increase the firm’s revenues while it may increase its operating costs at the same time. What needs to be investigated to have a better understanding of financial implications of a firm’s ESG engagement, therefore, is to examine the effect of ESG practices on different outcomes reflecting different stakeholders. Accordingly, this study focuses on financial outcomes aligned with three primary stakeholders of customers, employees, and shareholders: revenues, costs, and cost of equity, respectively. Next, the relevant literature on these three perspectives is reviewed.

2.2. Revenue perspective

To enhance revenue through sustainable practices, it is necessary to understand the factors driving consumers' purchase intention. In the hotel industry, pricing is a pivotal strategic tool for managing revenue (Noone & Mattila, 2009). The concept of "price fairness" centers on the assessment of whether a price is deemed as "right, just, or legitimate versus wrong, unjust, or illegitimate" (Campbell, 2007, p. 261). The perceived fairness of a price is closely tied to consumers aligning their values with a company's ESG initiatives. Essentially, ESG's impact on customer spending depends on customers' perception of alignment between their values and the firm's ESG efforts (Bhagwat et al., 2020). Previous research emphasizes that customers often favor brands that mirror their way of life and identities (Bhagwat et al., 2020). Consequently, as firms respond to social and environmental pressures, they can uncover new revenue sources that many competitors overlook (Porter et al., 2019).

Fundamentally, a firm engaging in ESG activities should positively impact its revenue if the ESG initiatives are attractive to its consumers (Gillan et al., 2010). Based on a survey by Expedia Group (2022), ninety percent of travelers actively seek sustainable options during their journeys, and sixty-five percent of consumers desire environmentally friendly transportation or accommodation on their upcoming trips. Even though 74% of consumers find sustainability during travel expensive, half of them would be open to paying more if presented with a more sustainable option (Expedia Group, 2022). Research has also indicated that climate change and environmental sustainability hold significant importance for younger Americans, which serves as a strong indicator that the demand for sustainable travel choices is likely to increase over time (U.S. Travel Association, 2023). This type of demand presents a new opportunity for businesses to attract fresh consumers and foster customer loyalty, leading to enhanced revenue.
Moreover, loyalty influences loyal customers' purchasing decisions and others' decisions through referrals (McCain et al., 2019). Additionally, given the intense competition in hospitality firms, differentiation is needed to retain customers, and ESG activities can serve that purpose. Therefore, we anticipate a positive correlation between ESG scores and revenue, given their influence on fostering customer loyalty and the growing appeal of firms' socially responsible activities.

2.3. Labor costs perspective
The significant economic impact of employee sentiment is affirmed by existing literature (Bhagwat et al., 2020), and given that labor costs are identified in the hospitality industry as one of the highest operating expenses, we examine the effect of ESG on labor costs. Though the importance of human resource (HR) strategies in reducing employee turnover is acknowledged, the restaurant sector, which is renowned for its labor-intensive nature, generally provides employees with low hourly pay, limited chances for full-time employment, meager perks, and restricts employees from exercising much autonomy in their work methods (Batt & Lee, 2014). These characteristics of the restaurant industry are not limited but extended throughout hospitality firms where labor is considered material (Daszyńska-Żygadło et al., 2016). As a service-driven sector, the hospitality sector heavily relies on the interaction between guests and employees. This is a common trait among industries that rely on close employee-consumer connections, which often highlights the importance of promoting employee value creation to enhance overall productivity in the workplace (Feng et al., 2017).
A robust ESG proposition can assist in attracting and retaining high-quality employees, increasing employee motivation through a sense of purpose, and ultimately enhancing overall productivity (Koller et al., 2019). According to the social exchange theory and the norm of reciprocity (Blau, 1964; Eisenberger et al., 1986), employees perceive their organization's actions and practices as indicative of its commitment to them, and in response, employees demonstrate loyalty and dedication

to the firm (Faleye & Trahan, 2011). Previous research has demonstrated that activities like ESG can generate employee satisfaction and personal fulfillment (Greguras et al., 2014). These outcomes, in turn, positively influence recruitment (Jones et al., 2014), retention (Bode et al., 2015), and the identification of employees with the firm (Glavas & Godwin, 2013) (Bhagwat et al., 2020). Moreover, the extent employees believe their work benefits others influences their motivation to engage in “prosocial” behavior (Koller et al., 2019).

On the other hand, a firm’s investment in employee-related ESG initiatives such as paid leave policy, tuition reimbursement program, childcare allowances, etc. can certainly increase labor costs. While we well acknowledge that it is critical for employees to be considered essential stakeholders since they play a critical role in helping companies build a sustainable competitive advantage (Edmans, 2012; Bhagwat et al., 2020), which can lead to overall enhanced performance, there is little empirical evidence on whether a firm’s engagement in ESG initiatives increase or decrease labor costs. Accordingly, this study is to test the effect in an exploratory, non-directional manner.

2.4. Cost of equity perspective
Cost of equity (COE) reflects the amount investors are willing to pay for an investment in a company relative to its expected return. COE is affected by both financial and non-financial dimensions of sustainability performance (i.e., ESG activities) and their disclosures (Ng & Rezaee, 2015). Much of the previous literature has examined the impact of non-financial dimensions of sustainability performance in two streams, one with the disclosure of sustainable activities such as ESG and two with the performance of these activities (Ng & Rezaee, 2015). The main argument for the first stream is based on information asymmetry and transparency (e.g., Dhaliwal et al., 2011), while the second focuses mainly on the firm value enhancement from the ESG performance (e.g., El Ghoul et al., 2011), gaining the interests of investors. In particular, our study examines the influence ESG performance has on the cost of equity.

Based on the shareholder value concept, investors anticipate that managers will invest in projects until the project's return surpasses the cost of capital (Renneboog et al., 2008) while simultaneously protecting shareholders’ interests (Mishra & Modi, 2016). Investors must critically evaluate which ESG projects will generate future cash flows aligned with their anticipated return. Given that COE reflects the risk associated with achieving the expected return, assessing the impact of investing in ESG activities on the company's overall value is crucial.

On the one hand, investors may perceive ESG as an inefficient use of financial and human resources, lacking a clear connection to a firm's financial value (Bhagwat et al., 2020). There is a concern that as managers devote more resources, including time and attention, to ESG initiatives, they may have fewer resources available for crucial profit-generating activities such as operations and innovation (Bhagwat et al., 2020; Nalick et al., 2016). Additionally, in a competitive market, a firm that prioritizes social and environmental goals over profits may encounter challenges surviving the competition and could face disciplining actions from the market for corporate control (Rennebood et al., 2008).

On the other hand, stakeholder relationships constitute a crucial element of a firm's competitive edge, and investors are specifically attentive to the impact firms' actions have on these relationships (Groening et al., 2016; Bhagwat et al., 2020). Consequently, investors closely monitor and assess a firm's customer engagement to anticipate its revenue (Anderson et al., 1994; Bhagwat et al., 2020). According to Ng and Rezaee (2015), financial and non-financial sustainability performances are crucial for improved stakeholder communication and engagement (Benabou & Tirole, 2010; Cheng et al., 2014; Eccles et al., 2014). They argue that disregarding ESG risks would prevent the goal of maximizing shareholders' wealth from being achieved (Staub-Bisang, 2012). Moreover, they suggest that the non-financial ESG aspects of sustainability performance are as important as financial performance, introducing new risks and opportunities for investors to evaluate portfolio investment valuation, as indicated by anecdotal evidence (United Nations, 2013). Their findings indicate that firms with vital environmental and governance initiatives experience a decrease in their COE, consistent with previous research. However, firms with solid social initiatives do not experience a decrease in their COE.
It is argued that under the assumption that engagement in ESG activities plays a significant role in decreasing firms' risk and value, the ESG disclosure, providing insights regarding a firm's ESG activities and initiatives, has the potential to diminish asymmetry in information, leading to increased transparency, resulting in COE reduction (Dhaliwal et al., 2014). Prior research confirms this (e.g., Ashbaugh et al., 2004; Chen et al., 2009; Pham et al., 2012) as their findings support that firms with effective corporate governance structures can reduce perceived risk and information asymmetry, leading to decreased COE (Ng & Rezaee, 2015).

Moreover, adopting ESG practices can lead to cost reduction and overall increased firm performance, which provides more opportunities to invest in ESG practices despite having limited capital resources (Waddock & Graves, 1997), creating a favorable positive loop for investors. Emphasizing ESG performance could potentially open doors for firms to recognize various risks—strategic, operational, reputational, compliance, and financial—that may have an impact on their future performance and overall value as an organization (Kiron et al., 2013; Ng & Rezaee, 2015).

Considering the conflicting arguments and mixed empirical findings in the extant literature regarding the ESG-COE link, we propose to empirically examine the relationship between ESG and COE in the global hospitality industry in a non-directional manner.

3. Methodology

3.1. Data collection
We collected individual ESG scores and financial data of publicly traded global hospitality firms from the Refinitiv global database. Refinitiv is considered one of the most comprehensive databases for ESG scores, offering global coverage (Refinitiv, n.d.). Since Refinitiv provides ESG data from 2002, the sample period spans from 2002 to 2022. The collected firms are based on the North American Industry Classification System (NAICS), which includes hotels (excluding casino hotels) and

motels, casino hotels, casinos except casino hotels, full-service restaurants, limited-service restaurants, and snack and non-alcoholic beverages bars. The initial sample covers 36 countries and has a total of 1,331 observations. After deleting outliers using a specified threshold for the studentized residual value of 4 proposed by Younger (1979), the analysis used a reduced sample size of 1,301 observations in total. We separated the data into three groups: Casinos & Casino Hotels, Hotels & Motels, and Restaurants.

3.2. Estimation methods

This study conducted panel analysis, addressing firm- and year-specific heterogeneities, to examine the main effect of three individual dimensions of ESG on four outcomes (revenue, labor costs, operating expenses, and cost of equity). To decide between a two-way random-effects or fixed-effects model, the Hausman test was employed for each model of each group. Based on the obtained results, we chose the fixed-effects model when the p-value was less than 0.05, and when bigger, the random-effects model was chosen. To account for heteroscedasticity, robust standard errors were used. This study first examines the effect of the aggregated ESG score, then further tests the effect of each of three individual ESG factors (i.e., E, S, and G). Moreover, the study not only investigates the concurrent relationship (at t) but also the lagging relationship for three years (t+1, t+2 and t+3). We used two additional measures for cost of equity to be more comprehensive.

4. Results

Results for each of the three groups are presented in Tables 1 (Casinos & Casino Hotels), 2 (Hotels & Motels), and 3 (Restaurants). We present statistically significant coefficients (from a 10% significance level) of only the main variables, excluding control variables, in a summarized manner in the tables. For all insignificant results, we indicate them as ‘insig’. The ‘fe/re’ column indicates whether the model is analyzed with a two-way fixed-effect or random-effects model. ‘fe’ represents a fixed-effects model while ‘re’ indicates a random-effects model.

Considering the fact that we analyze three different sub-sectors and at four different time periods (at t to t+3), it is expected to be challenging to interpret our results in a neat manner. Clearly, the three sub-sectors appear to show different impacts of ESG (aggregated and separately) on three different outcomes. We attempt to untangle those results as much as we can here.

First, for casinos and casino hotels (Table 1), the aggregated ESG shows an insignificant impact on revenue at t to t+2, but shows a negatively significant impact at t+3. E does not show any significant coefficient throughout all periods (t to t+3) while S shows a negative impact on revenue at t+3. G appears to positively impact revenue (but at a 10% significance level) at t and t+1), but then its significance disappears afterward. Regarding labor expense, while the aggregated ESG (at t), E (at all four periods), S (at t+3), and G (at t+1) present a positively significant coefficient, except S. Regarding cost of equity, the aggregated ESG (at t), E (at t), and G (at t) shows a negatively significant coefficient while S (at t+1 and t+2) demonstrates a positively significant coefficient.

Second, for hotels and motels (Table 2), the aggregated ESG (at all four periods), E (all four periods), and G (at t) show a positively significant coefficient. Regarding labor expense, the aggregated ESG (at t+2 and t+3), E (at t+1, t+2, and t+3), and G (at t) show a positively significant coefficient. For cost of equity, only E (at t+1) shows a negatively significant coefficient.

Lastly, for restaurants (Table 3), E (at t and t+2) demonstrates a negatively significant coefficient on revenue while S (all four periods) presents a positively significant coefficient. Regarding labor expense, the aggregated ESG (at all four periods) and S (all four periods) show a positively significant coefficient while E (at t) shows a negatively significant coefficient. For cost of equity, only E (at t+3) presents a negatively significant coefficient.

Table 1. Results of Casinos & Casino Hotels

	fe/re	ESG	E	S	G	N
Revenue (REV) at t	fe	insig	insig	insig	0.004214*	417
REV at t+1	fe	insig	insig	insig	0.004702*	374
REV at t+2	fe	insig	insig	insig	insig	336
REV at t+3	fe	-0.01802***	insig	-0.01424***	insig	302
Labor Expense (LE) at t	fe	0.009316**	0.007769***	insig	insig	259
LE at t+1	fe	insig	0.009551***	insig	0.005982**	236
LE at t+2	fe	insig	0.015921***	insig	insig	219
LE at t+3	fe	insig	0.01346***	-0.01269***	insig	199
Cost of Equity (COE) at t	fe	-0.0005*	-0.00058**	insig	-0.00029*	270
COE at t+1	fe	insig	insig	0.000449**	insig	252
COE at t+2	fe	insig	insig	0.000433*	insig	238
COE at t+3	fe	insig	insig	insig	insig	221

Note: Revenue, Labor expense, and Operating expense are all log-transformed; *, **, and *** represents the significance level of 10%, 5%, and 1%, respectively, and N represents sample size.

Table 2. Results of Hotels and Motels

	fe/re	ESG	E	S	G	N
Revenue (REV) at t	fe	0.009065***	0.004482**	insig	0.005057***	353
REV at t+1	fe	0.008933***	0.006785***	insig	insig	304
REV at t+2	fe	0.004747*	0.006491***	insig	insig	264
REV at t+3	fe	0.004977*	0.003204**	insig	insig	226
Labor Expense (LE) at t	fe	Insig	Insig	insig	0.006421***	227
LE at t+1	fe	Insig	0.005071*	insig	insig	198
LE at t+2	fe	0.011035**	0.005031*	insig	insig	173
LE at t+3	fe	0.013817**	0.00536*	insig	insig	151
Cost of Equity (COE) at t	fe	insig	insig	insig	insig	232
COE at t+1	fe	insig	-0.00056**	insig	insig	200
COE at t+2	fe	insig	insig	insig	insig	177
COE at t+3	fe	insig	insig	insig	insig	152

Table 3. Results of Restaurants

	fe/re	ESG	E	S	G	N
Revenue (REV) at t	re	insig	-0.00202**	0.00247*	insig	533
REV at t+1	re	insig	Insig	0.002533*	insig	462
REV at t+2	re	insig	-0.00183**	0.003252**	insig	400
REV at t+3	re	insig	Insig	0.0025*	insig	344
Labor Expense (LE) at t	fe	0.004901***	-0.00224**	0.005907***	insig	387
LE at t+1	fe	0.006246***	insig	0.005326***	insig	335
LE at t+2	fe	0.007898***	insig	0.006674***	insig	291
LE at t+3	fe	0.007676***	insig	0.005265***	insig	253
Cost of Equity (COE) at t	fe	insig	insig	Insig	insig	381
COE at t+1	fe	insig	insig	Insig	insig	331
COE at t+2	fe	insig	insig	Insig	insig	292
COE at t+3	fe	insig	-0.00043*	Insig	insig	253

5. Discussion

Generally, the findings are mixed, thus it is challenging to provide one clean picture about the impact of ESG (aggregated and separately) on three outcomes. However, our findings still reveal some patterns and provide meaningful implications.

First, for casinos and casino hotels, their engagement in G tends to help increase revenue while their investment in all three ESG together or in S may result in reduced revenue in a long-term. Their investment in all ESG together, E and G appear to increase their labor expense, and only their investment in S may result in reduced labor expense in a long-term. Lastly, the aggregated ESG, E, and G are found to decrease cost of equity while the investment in S can increase cost of equity in a lagging manner.

For hotels and motels, except S, both the aggregated or individual ESG (E and G) tend to improve their revenue while those same ESG dimensions appear to increase labor expense as well. These findings may suggest that if we take only profit measures or value measures as firm performance, we may find insignificant results. Lastly, only E demonstrates to reduce cost of equity.

For restaurants, while their investment in E tends to hurt their revenue, investment in S is found to improve revenue in a consistent manner. However, their investment in all ESG together and S increase labor expense while only investment in E reduces labor expense. Lastly, their investment in E only results in a reduced cost of equity.

The results of this study, although mixed, provide a basis for untangling some previous empirical results regarding the impact of ESG on firm performance. For example, an insignificant main effect of ESG investment on firm performance (measured by profitability or market value) found in the previous hospitality literature might be a result of mixed impacts of ESG on different outcomes such as an increase in both revenue and expense. With these findings, we now have a clearer picture of how various hospitality firms' investment in ESG, aggregated and separate, impact different corporate stakeholders and thus associated outcomes.

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Driving Sustainable Performance: Transformational Leadership, Employee Behaviors, and Organizational Culture in the Tourism and Hospitality Industry

Zheng, Yuheng
School of Hotel Management
Tourism College of Zhejiang

Gao, Lisa
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Thomas, Nicholas
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Abstract:

This study explores the impact of external-focused organizational cultures (OCs) on employee pro-environmental behaviors (PEBs) and ESG performance in tourism and hospitality organizations. It examines the role of adhocracy culture and its interaction with transformational leadership (TFL) in promoting PEBs, validating the mediating roles of psychological empowerment (PE) and perceived insider status (PIS). A time-lagged investigation involving 57 Chinese organizations including 712 valid employee surveys and 131 team leader surveys were obtained. This research enhances understanding of leadership and organizational culture's influence on ESG outcomes.

Keywords: transformational leadership; employee pro-environmental behavior; organizational culture; psychological empowerment; perceived insider status

1. Introduction

The tourism and hospitality industry faces criticism for its environmental impact, making environmental management crucial for ESG efforts. Despite the abundant studies on employee PEBs in the tourism and hospitality industry, the existing literature is limited to the following perspectives. First, despite the notion that leaders are key in driving employees' intrinsic motivation to exceed their required duties has been validated (Prasad and Junni, 2016), scholars have mainly explored the impact of environment-specific leadership on employee PEBs, such as environment-specific transformational leadership (Moin et al., 2021; Peng et al., 2021), charismatic leadership (Tuan, 2019), and inclusive leadership (Thabet et al., 2023). As an ESG reputation creates economic value for organizations by increasing profitability and alleviating risk levels (Li et al., 2023), we argue that encouraging employees to engage in PEBs through the influence of leaders may be more than simply encouraging the employees to imitate the leaders' ethical behaviors. In the current research, we examine the impact of transformational leadership (TFL) on employee PEBs and subsequent enhancement of ESG reputation by focusing on the following research questions (RQs):

RQ1: Does the effect of TFL on employee PEBs depend on the organizational cultures in the tourism and hospitality industry?

RQ2: Do PE and PIS act as mediating variables in the relationship between TFL and PEBs?

This study contributes to the existing literature by establishing a connection between employee PEBs with ESG outcomes in the tourism and hospitality industries and highlighting the OC as an important yet unexplored boundary condition between the TFL and PEB. In addition, we demonstrate that PE and PIS act as serial mediating variables in the relationship between TFL and employee PEBs, providing a reference for future research on employee PEBs.

2. Literature Review

2.1. External-focused OCs based on the competing value framework

The competing values framework (CVF) categorizes organizational cultures into four types: clan culture, bureaucracy culture, adhocracy culture, and market culture. This study focuses on two externally focused OCs: adhocracy culture, which prioritizes flexibility and innovation, and market culture, which emphasizes competitiveness and control. Adhocracy culture promotes innovative products and initiatives like eco-hotels and green marketing elements. Market culture focuses on improving productivity and revenue growth through small enhancements. Adhocracy culture emphasizes growth through innovation, while market culture highlights productivity improvement as core competencies (Hartnell et al., 2011).

2.2. TFL and employee PEBs

Transformational leadership (TFL) has long been a focal point in leadership research due to its ability to inspire employees to exceed expectations (Buil et al., 2019). TFL comprises four components: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, all of which are closely linked to employee PEBs. Firstly, TFL with idealized traits encourages employees to adopt morally upright behaviors, shaping their positive moral self-image (Kim et al., 2019). Secondly, inspirational motivation instills a sense of collective purpose and optimism among employees, driving their engagement in PEBs as they recognize their impact on organizational success (Jung et al., 2003). Thirdly, intellectual stimulation enhances employees' self-efficacy, enabling more efficient task completion and freeing up energy for extra-role behaviors like PEBs (Pillai and Williams, 2004). Finally, TFL with individualized consideration facilitates employees' personal development by leveraging organizational resources, fostering attachment and identification, and motivating joint efforts to address future challenges (Banks et al., 2016). Given the growing recognition of the significance of ESG aspects for the long-term competitiveness of tourism and hospitality organizations, subordinates of transformational leaders are expected to engage more frequently in employee PEBs (Su and Swanson, 2019). Consequently, we propose that TFL is positively related to employee PEBs

2.3. The mediating roles of PE and PIS

The mediating role of psychological empowerment (PE) and perceived insider status (PIS) in the relationship between transformational leadership (TFL) and employee pro-environmental behaviors (PEBs) is explored. PE, defined by Spreitzer (1995) as a mental state encompassing competence, meaning, impact, and self-determination, is influenced by TFL. TFL boosts employees' confidence, expertise, and proactive behavior, deepening their understanding of their roles and increasing their perception of organizational impact. PE, in turn, positively influences employee PEBs as employees with higher competence, meaning, impact, and self-determination are more likely to engage in extra-role behaviors that benefit the organization. Additionally, TFL contributes to employees' PIS by demonstrating care, respect, and soliciting their ideas. PIS is associated with a sense of belonging, obligation to contribute, and preferential treatment, motivating employees to exert more effort and engage in PEBs. Therefore, a positive relationship exists between TFL and PIS, which further mediates the relationship between TFL and employee PEBs. The sequential mediating role of PE and PIS suggests that TFL enhances PE, which subsequently enhances PIS, leading to increased employee PEBs. Consequently, the following hypotheses are proposed: PE and PIS sequentially mediate the relationship between TFL and employee PEBs.

2.4. Moderating role of adhocracy vs. market culture

Organizations exhibit different organizational cultures (OCs) based on their goals and strategies. Adhocracy culture, characterized by organizational innovation and adaptability, aims to lead and change consumption concepts (Lukas et al., 2013). In the tourism and hospitality industry, innovation is prevalent, and employees in adhocracy culture organizations are encouraged to break established processes and contribute to industrial innovation (Cameron, 2008). This positive perception leads to an increase in employee psychological empowerment (PE) across its four dimensions. Conversely, market-oriented organizations emphasize clear goals, effective incentives, and providing high-quality services to meet shareholders' expectations (Cameron and Quinn, 2011). In such cultures, employees focus on achieving externally oriented goals through process control rather than innovation and personalized services. As a result, employees attribute organizational success to management decisions rather than themselves, and the emphasis on personal achievement and career development may lead to competition, mistrust, and reduced PE among employees. Therefore, adhocracy culture positively moderates the relationship between transformational leadership (TFL) and PE, while market culture positively moderates the relationship between TFL and PE. See Figure 1 for the theoretical framework.

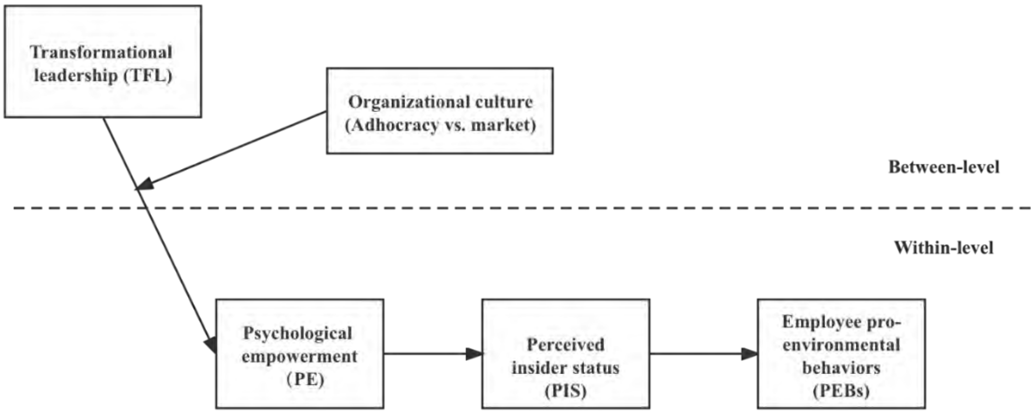

Figure 1. Theoretical Framework.

3. Methodology

To ensure sample representativeness, multi-source time-lagged dyadic data was collected from work teams in 47 hotels and 12 travel agencies in China. Authorization from senior executives was obtained, and surveys were distributed to 800 employees and 140 team leaders in sealed envelopes during the initial phase (T1). The sample comprised teams with at least four members. After removing incomplete surveys, 712 valid employee surveys (response rate: 89%) and 131 team leader surveys (response rate: 93.6%) were obtained.

One month later (T2), employees who completed a valid survey at T1 were approached for further responses on PE, PIS, and OC measures. After excluding dropouts, the final sample included 130 leader-employee dyads with 686 employees. The average employee sample size per team was 5.27. Participants who completed both surveys received gifts.

Measures used a 5-point scale, and the scales' reliability were satisfactory. Transformational leadership, PE, PIS, adhocracy culture, market culture, and pro-environmental behavior were assessed using established scales (α>0.8). Demographic variables included age, gender, education level, organizational tenure, rank, and group size.

4. Results

4.1. Profile of the respondents

Demographically, 41.4% of the valid employee sample were male, 21.3% had a bachelor's degree or higher, and 57.5% had worked for over three years. Among the 130 team leaders, 53.1% were male, 50.06% had a bachelor's degree or higher, and 89.2% had worked for over three years. Additionally, 13.8% of team leaders supervised more than 15 employees.

4.2. Hypothesis testing

In the study, multilevel structural equation models were used to analyze the hypotheses using Mplus 8.5 (See Table 1). The results showed that TFL had a positive direct effect on PEBs (b=0.654, p<0.001). The mediating effect of PE between TFL and PEBs was also significant (b=0.146, 95% C.I. [0.030, 0.299]). Additionally, PIS mediated the relationship between TFL and PEBs (b=0.145, 95% C.I. of [0.071, 0.222]). The serial mediating effects of PE and PIS were established (b=0.104, 95% C.I. [0.037, 0.194]). The moderating role of organizational culture was examined, and it was found that adhocracy culture positively moderated the relationship between TFL and PE (b=0.59, p<0.05), while market culture did not have a significant effect on this relationship (b=0.12, p>0.05).

	Mediation testing				Moderator testing	
	PEBs Model 1	PE Model 2	PIS Model 3	PEBs Model 4	PE Model 5	PE Model 6
Intercepts	1.43* （0.725）	1.201 （0.687）	1.059 （0.618）	-0.432（0.781）	3.586*** （0.315）	3.653*** （0.31）
Individual level						
Employee sex	-0.001 （0.04）	0.054 （0.038）	0.01 （0.045）	-0.018（0.038）	0.054（0.038）	0.054（0.038）
Employee age	-0.001 （0.027）	0.046 （0.032）	-0.01 （0.025）	-0.01（0.024）	0.046（0.032）	0.046（0.032）
Employee education background	0 （0.032）	0.027 （0.032）	0.013 （0.036）	-0.011（0.028）	0.027（0.032）	0.027（0.032）
Employee organizational tenure	0.016 （0.019）	0.018 （0.022）	0.017 （0.018）	0.007（0.018）	0.018（0.022）	0.018（0.022）
employee rank	-0.016 （0.018）	-0.047* （0.021）	-0.009 （0.016）	-0.001（0.015）	-0.047* (0.021）	-0.047*(0.021）
Between level						
Leader sex	-0.044 （0.08）	0.009 （0.084）	-0.035 （0.1）	-0.037（0.067）	0.033（0.084）	0.024（0.082）
Leader age	0.035 （0.058）	-0.038 （0.062）	0.056 （0.067）	0.034（0.048）	-0.066（0.066）	-0.039（0.061）
Leader education background	-0.057 （0.048）	-0.056 （0.06）	0.085 （0.062）	-0.06（0.04）	-0.066（0.062）	-0.048（0.059）
Leader organizational tenure	-0.041 （0.047）	0.076 （0.055）	-0.148** （0.055）	-0.028（0.037）	0.112（0.058）	0.062（0.055）
Work team size	-0.042 （0.05）	0.014 （0.06）	0.076 （0.063）	-0.071（0.045）	0.009（0.059）	0.005（0.061）
Leader rank	0.068 （0.056）	0.038 （0.09）	0.089 （0.065）	0.025（0.046）	0.025（0.087）	0.045（0.09）

Independent variable						
TFL	0.654**（0.139）	0.597***（0.15）	0.479**（0.147）	0.259*（0.13）	0.662***（0.129）	0.581***（0.149）
Moderator 1						
AD					0.13（0.07）	
TFL× AD					0.59*（0.192）	
Moderator 2						
MK						-0.096（0.082）
TFL× MK						0.12（0.26）
Mediator						
PE			0.575**（0.108）	0.244*（0.094）		
PIS				0.302***(0.078)		
σ2	0.304**（0.022）	0.363***（0.028）	0.394**（0.033）	0.251***（0.02）	0.363***(0.028)	0.363***（0.028）
τ00	0.216**（0.034）	0.264***（0.047）	0.307**（0.045）	0.142**（0.022）	0.243**（0.044）	0.26***（0.045）

Table 1. Moderation and Mediation Tests

5. Discussion and Conclusion

5.1. Discussion and implications

The study confirms the positive impact of TFL on PEBs in the tourism and hospitality industry. It highlights the mediating roles of PE and PIS in the relationship between TFL and PEBs. Furthermore, the study explores the moderating effects of adhocracy culture and market culture on the effectiveness of TFL. The findings contribute to the understanding of ESG enhancement strategies in the industry and emphasize the importance of organizational culture as a contextual factor in leadership effectiveness.

Theoretically, this study contributes to the literature by focusing on ESG enhancement strategies in the tourism and hospitality industry, specifically examining the relationship between TFL and employee PEBs. It expands the understanding of the role of organizational culture as a boundary condition for leadership effectiveness. The study also provides insights into the psychological mechanisms underlying the leadership-employee PEBs relationship, drawing on self-determination theory (SDT) and social exchange theory (SET). It deepens the understanding of the substitute for leadership theory and highlights the importance of micro-level perspectives in examining the impact of leadership styles on employee behavior.

Practically, the study offers practical insights for organizations and leaders in the tourism and hospitality industry. It emphasizes the significance of TFL in promoting employee PEBs and suggests that leaders should focus on providing idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration to motivate employees effectively. Communication and leadership training programs can help leaders develop the necessary skills to inspire and engage their employees. Additionally, the study highlights the importance of cultivating an adhocracy culture to enhance ESG performance. Organizations should assess their organizational culture regularly and consider adopting strategies that promote an adhocracy culture, aligning profitability with environmental efficiency and ESG performance.

5.2. Conclusion

In conclusion, the study's findings underscore the positive impact of transformational leadership on employee pro-environmental behaviors in the tourism and hospitality industry, highlighting the mediating roles of psychological empowerment and perceived insider status, and emphasizing the importance of organizational culture as a contextual factor, providing valuable insights for organizations to enhance their environmental and ESG performances.

5.3. Limitations of this study and suggestions for future studies

Our study has a few limitations that should be acknowledged. Firstly, the examination of the mediating role of PE and PIS in the relationship between TFL and employee PEBs primarily focused on a Western cultural context. The concept of PIS originated in Western culture, and cultural differences between China and the West may significantly influence the formation of PIS, raising questions about the generalizability of our findings to Western societies. Secondly, despite the strengths of our field investigation, including a large sample from multiple sources and a multi-level analytic strategy, there are inherent limitations to survey research in terms of establishing causal relationships compared to experimental methods. Additionally, despite efforts to ensure anonymity, there is a possibility of biased ratings in the dyadic data. To address these limitations, future research should incorporate experimental designs to strengthen causal inferences in the study of employee PEBs.

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Beyond the moment: How extraordinary travel experiences inspire tourists' Pro-environmental choices

Nan (Iris) Xue
School of Hotel and Tourism Management
The Chinese University of Hong Kong

Elisa K. Chan
School of Hotel and Tourism Management
The Chinese University of Hong Kong

Lisa C. Wan
School of Hotel and Tourism Management
The Chinese University of Hong Kong

Abstract:

Tourist engagement in pro-environmental choices plays a critical role in sustainable tourism development. Nonetheless, there remains a limited understanding of how prior travel experiences shape tourists' pro-environmental decision-making. By employing a survey and a lab experiment, this study seeks to investigate the influence of extraordinary travel experiences on tourists' pro-environmental choices. Our initial findings indicate that extraordinary travel experiences can enhance tourists' sense of empowerment, thereby motivating them to adopt pro-environmental behaviors. This research contributes to the current literature on the novel antecedent of promoting pro-environmental tourism choices and underscores the importance of leveraging extraordinary travel experiences to inspire pro-environmental behaviors among tourists.

Keywords: Extraordinary travel experience; Pro-environmental choices; Sustainable tourism; Experimental design

1. Introduction

Despite being one of the world's largest industries, tourism incurs considerable environmental costs while driving economic and societal growth (Sharpley, 2020). In order to ensure sustainable long-term growth and prosperity for both the global community and the tourism sector, it is imperative that tourism becomes more ecologically sustainable. One way to promote sustainable tourism is through enhancing tourists' pro-environmental behavior (Juvan & Dolnicar, 2017; Xu et al., 2020).

Extant research has identified various factors influencing tourists' pro-environmental choices, primarily focusing on interventions that encourage environmentally sustainable behaviors during vacation, such as triggering beliefs, increasing pleasure, and driving social norms (e.g., De Groot et al., 2021; Dolnicar et al., 2020; Foroughi et al., 2022; Gössling et al., 2019; Pham et al., 2019). However, little attention has been given to exploring whether individuals' past travel experiences have an impact on their inclination toward future pro-environmental choices. The revelation that certain types of tourists' prior travel experiences might exert an influence on subsequent environmentally conscious choices holds the potential to mitigate the deleterious impact of travel on the environment and the global ecosystem. Consequently, this study endeavors to elucidate the pivotal role of extraordinary experiences, a concept of important significance in the domain of travel experiences, in shaping tourists' pro-environmental decision-making.

2. Literature Review

2.1 Extraordinary Travel Experience

Extraordinary experience refers to an experience that is uncommon, infrequent, and goes beyond the realm of ordinary experience (Bhattacharjee & Mogilner, 2014). According to Orazi and Van Laer (2023), extraordinary experiences share three identifiable features: intensity, denoting sensory and emotional richness; engagement, which involves drawing consumers into the experience through a socially constructed framework; and temporality, encompassing its inherently time-limited nature.

Within the context of the tourism literature, Goolaup and Nunkoo (2021) emphasize the multidimensional facets of tourists' extraordinary experiences, which encompass an intrinsic connection to their inner selves and freedom to explore. Additionally, these experiences entail the formation of 'communitas', characterized by the development of friendships and bonds arising from shared encounters. They also involve serendipitous and surprising encounters, the adoption of various identities and behaviors, as well as a sense of self-discovery and connection. Furthermore, it is crucial to emphasize that extraordinary experiences are not only observed in contrast to the ordinary but are further defined as an experience that is highly emotional, imbued with significant meaning, unique, and possesses transformative potential (Duerden et al., 2018). In the current research, we define an extraordinary travel experience as one that is uncommon, infrequent, and filled with high emotion and meaning.

2.2 The Influence of Extraordinary Travel Experience on Tourists' Pro-environmental Choices

As stated, an extraordinary travel experience stands in contrast to an ordinary experience. To be specific, it may encompass the exploration of a lesser-known destination, profound immersion in the local culture and traditions, or the occurrence of transformative moments. Engaging in extraordinary travel experiences invariably exposes individuals to novel challenges and unfamiliar environments, necessitating a departure from their comfort zones and fostering adaptability (Duerden et al., 2018). In this process, individuals frequently acquire a heightened sense of mastery and accomplishment, augmenting their personal empowerment. Moreover, the physiological and affective states associated with extraordinary travel experiences, such as excitement and curiosity, have been shown to potentiate personal empowerment (Riva et al., 2012). These positive emotions engender a positive feedback loop, reinforcing individuals' perception of capability and confidence, thereby fueling further exploratory endeavors.

Besides, we propose that individual empowerment may trigger their pro-environmental choices. Substantial empirical evidence supports a positive correlation between these constructs. For instance, individuals with elevated levels of empowerment exhibit a greater propensity to engage in environmentally responsible behaviors, encompassing practices like recycling, energy conservation, and the use of public transportation (Begum et al., 2021; Lopes et al., 2023). It is conceivable that individuals anticipate psychological rewards when undertaking altruistic acts, such as pro-environmental behaviors, including the experience of happiness, the alleviation of guilt, or the enhancement of self-image. Furthermore, they are more inclined to make pro-environmental choices when the potential benefits outweigh perceived sacrifices. Empowerment contributes intrinsically to the rewarding nature of pro-environmental behavior, as individuals endowed with a sense of resourcefulness regard such actions as fulfilling rather than burdensome, or even sacrifices (Begum et al., 2021). As a consequence, this sense of competence diminishes the perceived sacrifices and costs associated with expending time and effort on pro-environmental actions, rendering them a source of personal fulfillment. Consequently, we formally hypothesize that,

Hypothesis: Previous extraordinary travel experiences will enhance tourists' pro-environmental choices.
In the next section, we would like to employ two studies to verify this hypothesis.

3. Methodology

3.1. Study 1
The objective of Study 1 is to test the proposed relationship between extraordinary travel experiences and tourists' pro-environmental choices.

Method. We recruited two hundred and eleven U.S. participants from Prolific (50.2% female; M_{age} = 43.08). Participants were first asked to recall one of their most recent travel experiences and provide a detailed description. Then, participants scored on the scale to indicate to what extent they think the travel experience they just recalled was extraordinary. We also provided a hint that by extraordinary, we mean a travel experience that was unusual and went beyond the realm of their other regular travel experience, and provided high emotion and meaning. Next, participants were asked to imagine that they were planning a trip in the near future and looking to make a hotel reservation. During their online search, a nice hotel caught their eye, and the hotel offered two distinct room types: the regular room and the pro-environmental room. The difference between the two types of rooms is that the pro-environmental rooms earned a prestigious certificate of eco-friendliness. While the pro-environmental room contributed to environmental sustainability, it was priced slightly higher than the regular room. Then, participants indicated their preference, willingness to pay, and word of mouth towards the two types of hotels. Participants were also asked to indicate their general feelings about their preference for pro-environmental hotels and their booking frequency of pro-environmental hotels as covariate variables. Finally, demographic information was provided.

Results and discussion. The bivariate correlation analysis revealed that respondents' extraordinary experience significantly correlates with their positive evaluations of pro-environmental rooms. Specifically, tourists' previous extraordinary travel experience is positively correlated with their preference ($r(211) = 0.13$, $p = .053$) and word of mouth ($r(211) = 0.23$, $p = .001$) for pro-environmental rooms. Thus, our hypothesis is supported. The results provide preliminary evidence for our hypothesis, specifically that tourists' extraordinary travel experience is associated with a higher preference for pro-environmental rooms. The subsequent studies directly investigated the causal influence of extraordinary travel experiences on tourists' evaluations of pro-environmental choices.

3.2. Study 2

Study 2 was conducted to provide empirical evidence of the causal relationship between tourists' extraordinary travel experiences and their preference for pro-environmental choices.

Method. The sample of Study 2 was determined via G*Power software, a popular tool for running the power test (Xue et al., 2023). The results indicated that at least one hundred and twenty-eight participants would be needed when the main effect reached a medium effect size (i.e., 0.25) with 80% power. Then, we recruited two hundred and seventy U.K. adults (50.2% female; M_{age} = 38.89) from Prolific during the last week of May 2023. We designed a two-cell (extraordinary vs. ordinary) between-subject experiment in which the extraordinary condition serves as a treatment, and the ordinary condition serves as the control group. Participants were randomly assigned to one of the two conditions. First, they were asked to recall one of their extraordinary (vs. ordinary) traveling experience. As in Study 1, we provided a hint to explain that by extraordinary (vs. ordinary), we mean a travel experience that was unusual (vs. usual) and beyond (vs. within) the realm of their regular travel experiences. For extraordinary travel experiences, we also emphasized high emotion and meaning during the process. We requested participants to describe the experience in as much detail as possible. Then, one question was displayed as a manipulation check (i.e., To what extent do you think the travel experience you recalled above is extraordinary?). After that, participants were asked to imagine that they planned to take a trip to City A next month and would like to make a hotel reservation. After searching online, they have narrowed down their options to two hotels (Hotel A and Hotel B) for final selection. The two hotels shared three common attributes and differed in three pro-environmental attributes. Next, participants indicated their general preferences, attitudes, and word of mouth for Hotel A and Hotel B. Then, as in Study 1, participants indicated their general feelings about their preference for pro-environmental hotels and their booking frequency of pro-environmental hotels as covariate variables. Finally, demographic information was provided by participants.

Results and discussion. The results showed that the manipulations of extraordinary and ordinary experiences were successful. Participants in the extraordinary condition rated the experience they recalled as more extraordinary than those in the ordinary condition (M = 5.56 vs. 2.09, $F(1, 268) = 434.636$, $p < .001$, $\eta p^2 = 0.62$).

In the main analysis, the results of ANCOVA, after controlling tourists' general preference for pro-environmental hotels and booking frequency, revealed that, compared to ordinary travel experiences, extraordinary travel experiences are more likely to trigger tourists' pro-environmental choices. Specifically, participants recalling the extraordinary (vs. ordinary) experience are more likely to prefer the pro-environmental hotel (M = 4.79 vs. 4.19, $F(1, 266) = 4.42$, $p = .037$, $\eta p^2 = 0.16$) and provide a positive word of mouth to the pro-environmental (M = 4.63 vs. 4.10, $F(1, 266) = 6.51$, $p = .011$, $\eta p^2 = 0.24$). Therefore, our hypothesis was further supported.

4. Conclusion

This research aims to contribute to both theoretical and managerial aspects. The theoretical contribution of this paper is its exploration of the role of extraordinary travel experiences in shaping tourists' pro-environmental decision-making. In the previous literature, little research has explored whether and how tourists' previous travel experiences will contribute to their future pro-environmental decision-making. Addressing this knowledge gap represents a crucial stride towards bridging the link between travel experience and pro-environmental behavior. By introducing the sense of empowerment in this process, this research theoretically explains why this impact holds. By employing one survey and one experiment, this research empirically tests the main effect of previous extraordinary travel experiences on tourists' pro-environmental choices. From a managerial standpoint, on the one hand, it provides tourism practitioners with an avenue to harness the potential for fostering pro-environmental choices among tourists who have undergone extraordinary experiences, such as skydiving and bungee jumping; on the other hand, it highlights the importance of designing travel experiences that not only create emotional connections and meaningful experiences but also increase tourists' sense of empowerment in performing pro-environmental behaviors. By increasing tourists' empowerment in performing pro-environmental behaviors, tourism practitioners and policymakers can help promote sustainable behaviors and contribute to a more sustainable tourism industry.

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Gamifying the online modules of sustainable tourism: A 21st century learning design perspective

Notorio, Paul Anthony C.
School of Hotel, Restaurant and Institution Management
De La Salle-College of Saint Benilde
Tourism Management Department
De La Salle University-Dasmariñas

Ricaforte, Benigno Glenn R.
School of Hotel, Restaurant and Institution Management
De La Salle-College of Saint Benilde

Abstract:

This study aims to develop a gamified theoretical model rooted in the need to integrate the constructs of gamification elements, effective gamification implementation, 21st century skills, and achievement of learning outcomes. A survey from three higher educational institutions throughout the Philippines was conducted. Structural equation modelling through partial least squares was used to test the research hypothesis. A theoretical model was developed which shows how learning outcomes can be better achieved. This study posits its value on its theoretical contribution in the from the perspectives of gamification in tourism education in an Asian developing country.

Keywords: Gamification, Tourism Education, 21st century skills, Sustainable Tourism, PLS-SEM Technology

Green growth of tourism through technological innovation

Yunkyoung, Jo
Smart Tourism Education Platform
Kyung Hee University

C. Michael, Hall
Department of Management, Marketing, and Tourism
University of Canterbury

Yoo-shik, Yoon
College of Hotel and Tourism Management
Kyung Hee University

Myung Ja, Kim
College of Hotel and Tourism Management
Kyung Hee University

Abstract:

This study examines the impact of technological innovation on the green growth of tourism across four continental regions adopting green growth theory. Employing panel Granger causality tests, IRF, and FEVD, the research reveals the bidirectional causal relationship between green growth and green technologies in tourism. The study contributes to the academic discourse by expanding the application of STIRPAT to sustainable tourism and green growth and provides practical implications for stakeholders.

Keywords: Green growth, Tourism, Technological innovation, STIRPAT, Sustainability, Econometric analysis

1. Introduction

Tourism is one of the largest economic sectors worldwide, with a significant impact on the economy, the environment, society, and culture (United Nations World Tourism Organization (UNWTO), 2024). However, the tourism development has led to various environmental challenges, such as water shortages, waste pollution, loss of biodiversity, and habitat destruction (Law et al., 2017). Moreover, the tourism industry is responsible for approximately 8% of global greenhouse gas (GHG) emissions, contributing to climate change and its devastating consequences (UNWTO, 2024). In response to these challenges, the concept of green growth has emerged as a potential solution to promote sustainable tourism development while minimizing environmental impacts and reducing energy and carbon emissions (Hall, 2013; Pan et al., 2018).

Green growth is an approach to sustainability that emphasizes the importance of achieving sustainable economic growth while protecting the environment through technological innovation (Fabozzi et al., 2022). The concept of green growth is supported by several international organizations, such as the UNWTO, that have identified green growth as a viable pathway to achieving sustainable development through inclusive growth driven by innovation and efficiency, thereby enabling the creation of new opportunities and outcomes for society, the economy, and the environment (Hickel & Kallis, 2020; Hall, 2022).

The application of the green growth paradigm to the tourism industry aims to minimize environmental impact and reduce energy and carbon emissions through ecological-human-cultural integration (Pan et al., 2018). Various forms of sustainable tourism, such as eco-tourism, rural tourism, agrotourism, and cultural tourism, have been identified as key contributors to the green growth of tourism (Pan et al., 2018; Panzer-Krause, 2019). These types of tourism offer unique experiences that allow tourists to enjoy and appreciate nature and cultural resources while actively contributing to the long-term vitality and health of ecosystems (Anna et al., 2003). Furthermore, sustainable tourism plays a crucial role in promoting sustainable regional economic and community development (Anna et al., 2003).

To achieve green growth in tourism, it is essential to emphasize the importance of using efficient technological and socio-economic innovations to reduce GHG emissions, conserve water resources, improve waste treatment, protect ecosystem diversity, preserve cultural heritage, and foster effective communication with local communities in the planning and policy-making processes for sustainable tourism development (Hall, 2022; Pan et al., 2018). Additionally, a more nuanced understanding of the nature of green growth and economic growth strategies through innovative technologies is necessary (Panzer-Krause, 2019). Recent studies have begun to examine tourism's green growth using green growth indices or inclusive green growth indices that encompass both green and economic growth aspects (Shang et al., 2023; Zhang et al., 2022; Zhao et al., 2021). However, there is a significant lack of research examining the role and relationship of innovative technologies as a critical factor in tourism green growth.

Although studies have been conducted at the national income level (Shang et al., 2023) and for specific countries and regions (Zhang et al., 2022), from a global perspective, research on tourism green growth by continent remains limited. Additionally, studies analyzing the relationship between green growth and tourism demand in the short and long term are scarce. Accordingly, in order to fill this significant research gap, this study aims to address these gaps by examining how technology affects tourism green growth in the short and long term across five continental regions. Furthermore, the study aims to offer practical implications for stakeholders, including governments, businesses, and local communities, by highlighting the importance of innovative technologies and sustainable tourism practices in achieving green growth.

2. Literature Review

2.1. Green growth theory

Green growth is a term first used by a research team at Yale University in the United States when they published the Emerging Market Indicator in *The Economist* on January 29, 2000 (Lee, 2011). The core of green growth theory is based on the idea that technology enables sustainable economic growth while protecting the environment (Fabozzi et al., 2022) . UNESCAP (2006) defined green growth as achieving economic growth to reduce poverty without worsening environmental resource constraints and the climate crisis, and the OECD (2009) explained green growth as a process that fosters investment and innovation to support sustained growth and helps create new economic opportunities. The World Bank (2012) explained the concept of inclusive green growth as inclusive growth must be green growth, and green growth must be inclusive - in other words, green growth is regarded as the only pathway to sustainable development. Therefore, green growth pursues low-carbon and climate-resilient economic growth opportunities, prevents or recovers pollution, maintains a healthy and productive ecosystem, creates green jobs, reduces poverty, and improves social inclusion (Barua, 2021). UNEP (2013) takes green growth a step further and proposes the concept of a green economy (Allan & Meckling, 2023).

Green growth aims to transform resource constraints and the climate crisis into opportunities for economic growth by reducing resource consumption and GHG in various industries and enhancing economic growth and welfare (UNESCAP, 2013). To this end, countries worldwide have established and adopted renewable energy production policies and regulations and are investing significant capital in innovation (Barua, 2021). In recent years, research on the relationship between innovative technologies and green growth, such as eco-technology and green technology, has been steadily increasing, emphasizing the importance of efficient technologies in promoting green growth (Barua, 2021; Koçak., et al., 2020; Ulucak, 2020; J. Zhao et al., 2022).

2.2. Green growth of tourism

Tourism development has led to water shortages, waste pollution, and loss of biodiversity and habitat (Law et al., 2017). In addition, anthropogenic emissions have created a global climate crisis. According to the World Health Organization (2023), climate change is projected to cause 250,000 deaths per year between 2030 and 2050, with health damage costs estimated at USD 2-4 billion per year; with the emissions of the tourism industry therefore potentially being responsible for 20,000 deaths per year (8% of GHG emissions), resulting in an annual economic loss of USD 1.6-3.2 billion. In response, the tourism industry proposed green growth of tourism as a way to minimize environmental impact and reduce energy and carbon emissions (Hall et al., 2015; Pan et al., 2018; Hall, 2022).

Eco-tourism, sustainable tourism, rural tourism, agrotourism, and cultural tourism are frequently framed as the types of tourism that can contribute to green growth (Pan et al., 2018; Panzer-Krause, 2019). Each of these offers unique experiences, allowing tourists to not just enjoy and appreciate nature and cultural resources but also to actively contribute to the vitality and health of ecosystems in the long-term (Anna et al., 2003). Moreover, they play a crucial role in promoting sustainable regional economic and community development (Anna et al., 2003).

To achieve green growth in tourism, it is necessary to emphasize the importance of efficient interventions in reducing anthropogenic change and the rundown of natural capital by reducing impacts per metric of consumption, e.g. per passenger kilometre in transport (Hall, 2022; Pan et al., 2018). However, a more differentiated understanding of the nature of green growth and economic growth strategies is needed through the role of innovative technologies (Panzer-Krause, 2019). In response, studies have begun to examine tourism's green growth using a green growth index or inclusive green growth index, which encompasses both green and economic growth (Shang et al., 2023; Zhang et al., 2022; Zhao et al., 2021).

3. Method

3.1. STochastic estimation of Impacts by Regression on Population, Affluence, and Technology

STochastic estimation of Impacts by regression on Population, Affluence, and Technology (STIRPAT) models the impact of population, economic activity, and technological factors on the environment. Therefore, the study expands the STIRPAT model by inputting various variables that can affect the environment based on Equation (1).

$$\mathrm{lnI}_{it} = \alpha_i + \beta \mathrm{lnP}_{it} + \sum_{j=1}^{2} \gamma_j lnA_{j,\,it} + \sum_{k=1}^{3} \delta_k lnT_{k,\,it} + \sum_{z=1}^{3} \mu_z lnTO_{z,\,it} \quad (1)$$

$$I_{it} = (Green\ Growth\ Index_{it})$$

$$A_{it} = (GDP\ per\ capita_{it}, Ratio\ of\ tourism\ to\ GDP_{it})$$

$$T_{it} = (Globla\ Innovation\ Index_{it}, Environmental\ revenue_{it}, patent_{it})$$

$$TO_{it} = (Tourism\ receipts_{it}, Ttourism\ arrivals_{it}, Ttourism\ expenditures_{it})$$

3.2. Method

This study uses four econometric models as (i) panel Granger causality test, (ii) panel vector autoregression (PVAR) model, (iii) impulse response function (IRF), and (iv) foresting error variance decomposition (FEVD). The Granger causality test is a method proposed by Granger (1969) to analyze the causal relationship between two variables using an F-test based on time series data. In order to solve the problem of endogeneity between the dependent and independent variables, this study aims to conduct a panel Granger test based on the temporal precedence of causation through the PVAR model estimated by the generalized method of moments method. The PVAR can analyze the effect of the simultaneous external shock of all variables on each variable. IRF is a method of analyzing the response of a variable to a time-varying shock of another variable. In this way, IRF can examine the response of endogenous variables to structural shocks and the extent to which this impact is over time. On the other hand, FEVD is an analysis that examines how much structural shock affects endogenous variables. FEVD is a method of estimating the variance of forecast errors of the endogenous dependent variable for each forecast period, and evaluating the relative contribution by expressing the proportion of each structural shock in this variance as a percentage.

This study uses panel data from 2010 to 2021 for 131 countries, collected from the Global Green Growth Institute, World Bank, WIPO, and OECD. To analyze green growth in tourism, the study employs analytical techniques such as the panel Granger causality test, panel vector autoregression, impulse response function, and forcasting error variance decomposition.

4. Results

4.1. Granger causality test

Granger causality tests were analyzed based on PVAR. This study categorized four continental regions: Africa, Asia-Pacific, Europe, and the Americas. In all regions the green growth index is found to Granger cause population, GDP per capita, environmental revenue, patent applications, GII, tourist arrivals, tourism receipts, and tourism expenditures. Africa presents that the green growth index granger causes GDP per capita, the ratio of tourism to GDP, environmental revenue, GII, arrivals of tourists, tourism receipts, and tourism expenditures. For the Asia-Pacific the green growth index granger causes population, GDP per capita, the ratio of tourism to GDP, environmental revenue, patent applications, GII, tourist arrivals, tourism receipts, and tourism expenditures. GDP per capita, tourism to GDP, environmental revenue, and GII are found to be Granger causal. For Europe the green growth index has a Granger causal relationship with population, GDP per capita, tourism to GDP, environmental revenue, patent applications, GII, tourist arrivals, tourism receipts, and tourism expenditures. GDP per capita, tourism to GDP, environmental revenue, GII have Granger causality with the green growth index. For the Americas the green growth index has Granger causality with population, GDP per capita, tourism to GDP, environmental revenue, patent applications, tourist arrivals, tourism receipts, and tourism expenditure.

4.2. Impulse Response Function

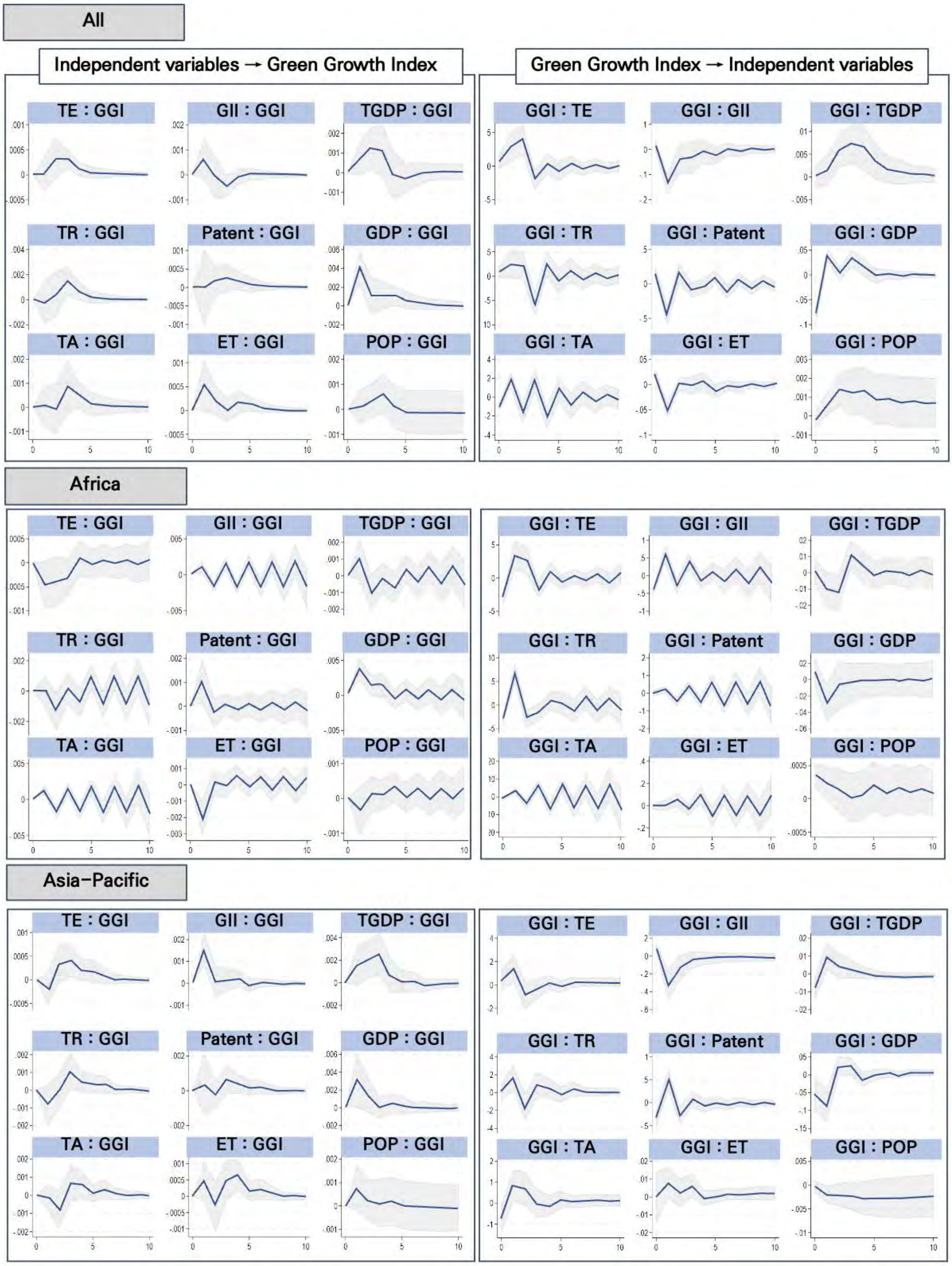
Based on the estimate PVAR, the shock response of the green growth index when each variable change by one unit and the shock response of each variable when the green growth index changes by one unit will examined over ten years (Figure 1).

According to the all (A), population result, GDP, the ratio of tourism to GDP, GII, environmental revenue, patent applications, tourism receipts, arrival tourist, tourism expenditure shock respond positively to the green growth index in the short term. However, the shock response declines over time and eventually returns to the original level. In the case of result B, It can be seen that the green growth index has a positive response to population and the ratio of tourism to GDP in both the short and long term. The green growth index has a negative impact on GDP, GII, environmental revenue, patent application, and tourism receipts in the short term. Tourism expenditure showed a positive shock response in the short term.

For Africa (A), the population, GDP shows a positive impact shock response on the green growth index in the short term. The ratio of tourism to GDP, environmental, and tourism expenditure revenue shows a negative impact shock response. The GII shows repeated negative and positive shock responses to the green growth index. In the result of B, the green growth index shows a positive shock impact response to the population in the short term. The green growth index has a negative shock impact on the GDP per capita and the ratio of tourism to GDP in the short term. The green growth index shows a positive impact shock response in the short term to tourism receipts and tourism expenditure. The arrival of tourists shows that negative and positive shock responses are repeated in the short and long term.

In the Asia-Pacific (A), tourism receipts, tourist arrivals, and tourism expenditures respond negatively in the short term, then positive shock responses. Looking at the result B, the green growth index has a negative impact on the population in the short and long term. GDP per capita, the ratio of tourism to GDP have a negative shock response in the short-term. The green growth index has a negative short-term shock response to the GII, while environmental revenue and patent applications have a positive shock response. The green growth index is found to positively impact tourism receipts, the arrival of tourists, and tourism expenditure in the short term.

In the case of Europe (A), all independent variables display limited impact response to the green growth index in the short and long term. According to result B, the impact response of the green growth index on independent variables is also extremely limited. According to result A for the Americas, all independent variables have positive shock responses to the green growth index in the short term and then return to their original levels. Looking at result B, the green growth index has a negative short and long term impact on the population. The green growth index has a positive short term impact on GDP and tourist arrivals. For the other variables, the green growth index has a negative short-term impact.


All
Independent variables → Green Growth Index
Green Growth Index → Independent variables
TE : GGI
GII : GGI
TGDP : GGI
GGI : TE
GGI : GII
GGI : TGDP
TR : GGI
Patent : GGI
GDP : GGI
GGI : TR
GGI : Patent
GGI : GDP
TA : GGI
ET : GGI
POP : GGI
GGI : TA
GGI : ET
GGI : POP
Africa
Asia-Pacific

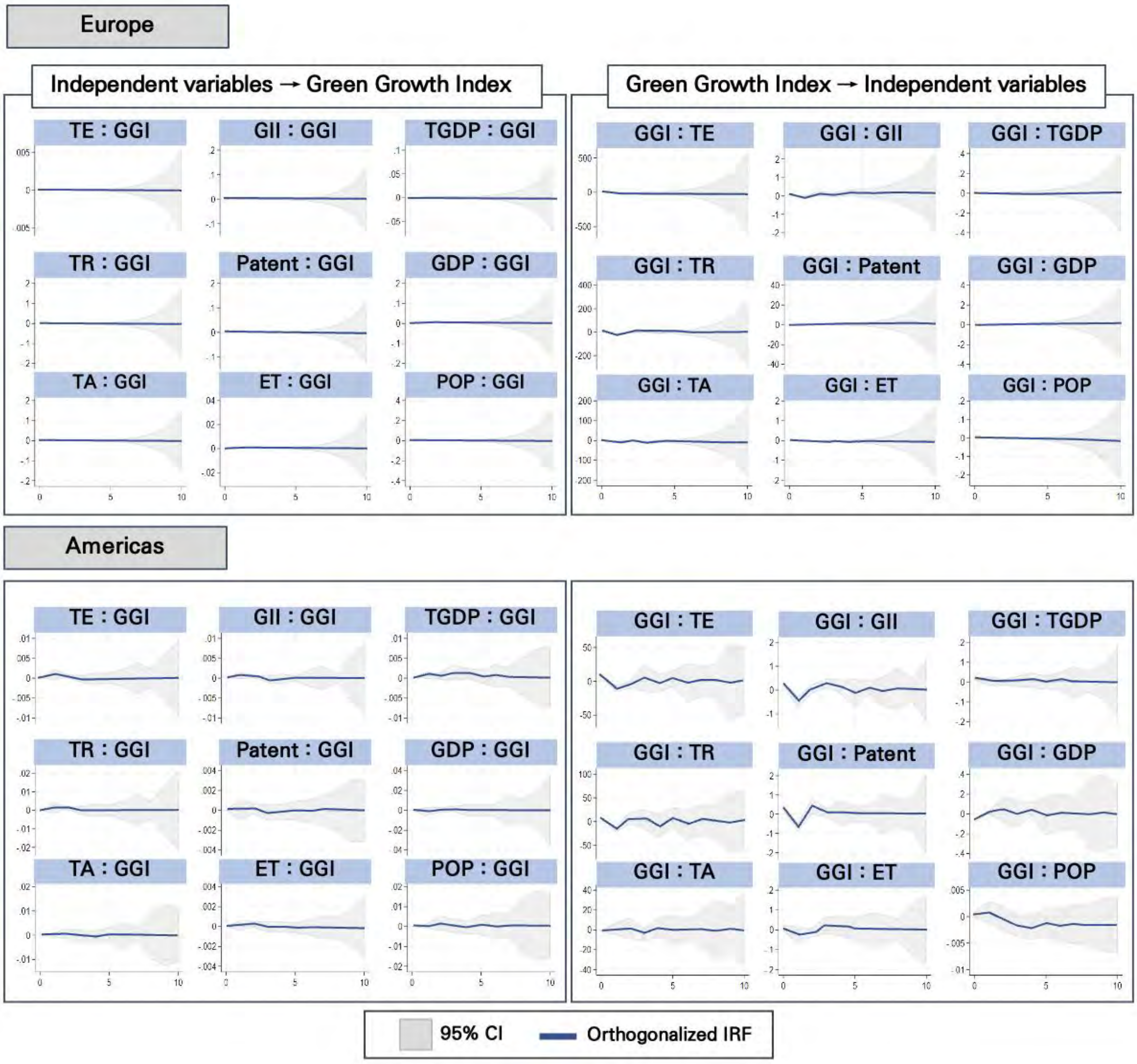


Figure 1. Result of IRF

Note: A is the independent variables → green growth index, B is green growth index → independent variables. green growth index: GGI, pop: Population, GDP: GDP per capita, TGDP: The ratio of tourism to GDP, GII: Global Innovation Index, ET: Environmental revenue, patent: patent application, TR: tourism receipts, TA: Number of arrivals tourist, TE: Tourism expenditures

4.3. Forecast Error Variance Decomposition

FEVD illustrates the proportion of the variance in a variable's forecast error that is explained by its own past values and by those of other endogenous variables. Table 2 shows the FEVD results of independent variables for the green growth index. In Africa, population, GDP per capita, and the ratio of tourism to GDP have low explanatory power for the green growth index in years 1, 5, and 10, while other variables have relatively high explanatory power in 10 years. Among them, GII explains more than 45% of the green growth index variance in years 5 and 10, indicating a very significant impact. For the Asia-Pacific, the explanatory power of the green growth index is generally low, around 4%, except for the GII, which is about 23% from the fifth year, which is higher than other variables. In Europe, all variables better explain the green growth index over time. Among them, GDP, GII, tourist arrivals, and tourism expenditure explains over 40% of the variance in year 10. It means that four variables significantly impact the green growth index. In case of the Americas, except for patent applications and tourism receipts, the remaining variables explain the green growth index better over time. Tourism expenditure is the most essential variable, explaining 35.09% of the green growth index.

Table 2. Results of FEVD (A)

Continent	Period	(A) Independent variables → GGI (Unit: %)								
		pop	GDP	TGDP	ET	patent	GII	TA	TR	TE
All	5	1.73	6.60	3.89	7.25	5.88	11.84	4.14	2.45	3.89
	10	1.61	6.58	4.35	7.58	5.84	11.86	4.34	2.56	3.95
Africa	5	1.61	3.24	7.14	11.48	18.23	47.23	37.79	34.67	27.76
	10	1.26	3.23	7.23	28.19	35.02	46.81	44.86	35.63	28.22
Asia-Pacific	5	2.38	3.39	3.59	0.48	4.52	23.83	1.53	1.47	1.50
	10	3.71	3.31	3.61	0.52	4.22	23.07	1.57	1.50	1.56
Europe	5	18.73	42.35	10.95	18.39	17.73	24.44	33.33	31.12	40.03
	10	33.36	49.99	14.83	28.69	35.43	40.15	42.80	31.94	45.56
America	5	5.83	19.57	15.29	10.83	26.23	24.73	15.28	24.86	34.88
	10	8.11	19.87	15.82	10.97	26.16	25.50	15.43	27.25	35.09

Note: green growth index: GGI, pop: Population, GDP: GDP per capita, TGDP: The ratio of tourism to GDP, GII: Global Innovation Index, ET: Environmental revenue, patent: patent application, TR: tourism receipts, TA: Number of arrivals tourist, TE: Tourism expenditures

Table 3 shows the FEVD results of the green growth index for independent variables. In All, it is confirmed that the explanatory power is lower than that of A. Among them, it can be seen that the GII and the arrivals of tourists are described as higher than other variables. In Africa, the explanatory power of the green growth index for GDP per capita and the ratio of tourism to GDP is around 4%, while the other variables are very low, within 1%. From this, we can see that the green growth index is more sensitive to each variable. Looking at Europe, it has a relatively low explanatory power compared to A. Among them, the green growth index explains a 13.13% variance in GDP per capita in ten years, which can be a relatively important variable. However, other variables showed a low explanatory power of less than 4%. Through this, we can explain that each variable is more important to the green growth index. America has a very low explanatory power compared to A. Population and GDP per capita have the highest explanatory power among the variables.

Table 3. Results of FEVD (B)

Continent	Period	(B) GGI → Independent variables (unit: %)								
		pop	GDP	TGDP	ET	patent	GII	TA	TR	TE
All	5	0.21	8.55	1.35	0.15	0.06	0.25	0.41	1.24	0.09
	10	0.24	8.69	1.38	0.16	0.06	0.25	0.41	1.25	0.09
Africa	5	0.11	7.50	1.03	1.81	0.49	4.03	4.40	1.01	0.19
	10	0.13	6.32	1.08	1.54	0.39	8.23	8.39	2.09	0.14
Asia-Pacific	5	0.20	3.64	4.14	0.30	0.22	0.77	0.43	0.63	0.11

	10	0.21	3.66	4.15	0.32	0.25	0.77	0.47	0.70	0.13
Europe	5	2.16	10.21	4.30	0.47	0.15	0.22	0.94	0.40	0.00
	10	2.99	13.13	3.92	0.55	0.40	0.36	1.27	0.77	0.00
America	5	2.97	3.21	3.11	0.06	0.09	0.65	0.68	2.63	0.95
	10	3.80	3.31	3.81	0.10	0.11	0.64	0.77	2.62	0.93

Note: green growth index: GGI, pop: Population, GDP: GDP per capita, TGDP: The ratio of tourism to GDP, GII: Global Innovation Index, ET: Environmental revenue, patent: patent application, TR: tourism receipts, TA: Number of arrivals tourist, TE: Tourism expenditures

5. Discussion and Conclusion

5.1. Discussion

The results of this study confirms the value of green growth approaches for sustainable tourism. It has long been argued that sustainable tourism should focus on finding the appropriate balance between the economy, society, and the environment. This study highlights the potential significance of technological efficiency oriented approaches for encouraging more sustainable international tourism while maintaining economic growth (Pan et al., 2018).

Innovative technologies promote sustainable green growth. The bidirectional Granger causality between the green growth index and technological innovation (environmental revenue, GII) indicates that innovative technologies are integral to green growth policies. Innovative technologies play a crucial role in promoting sustainability because they not only contribute to developing eco-friendly technologies and services but also serve as a mechanism for ensuring balanced economic development (Sharif et al., 2023). Innovation technologies provide innovative solutions by enhancing environmental sustainability, thus becoming fundamental in the formation of sustainable interventions (Razzaq et al., 2023).

The interaction between green growth and the economy (GDP, tourism to GDP) can lead to sustainable economic growth. As the government's interest in green growth increases, new and diverse industries are created by converging between existing industries and the environment. Among them, more sustainable forms of tourism, such as eco-tourism, rural tourism, and accessible tourism, are emerging in the tourism industry (Pan et al., 2018). The advancement and expansion of the tourism industry can play a significant role in reducing carbon emissions and enhancing resource utilization efficiency to achieve green growth (Razzaq et al., 2023). This trend is a cross-industry phenomenon, including tourism, reinforcing that green growth is a vital strategy for fostering a sustainable economy.

Economic growth enables abundant investment in green growth strategies, such as technological innovation and energy and resource efficiency improvements (Razzaq et al., 2023). In terms of the tourism industry, economic growth creates a conducive environment for investment and fosters green governance by expanding transportation and tourism infrastructure, which leads to better and more tourism activity (Hall, 2013; Shang et al., 2023). In other words, the economy, green growth, and tourism can form a virtuous circle.

The green growth index induces a short-term positive shock in tourism expenditure, and tourism receipts and the number of tourists cause a non-uniform shock response. Tourists spend money in various sectors such as accommodation, restaurants, transportation, and entertainment while traveling. The green growth index is composed of four elements: efficient and sustainable resource use, natural capital protection, green economic opportunities, and social inclusion (Global Green Growth Institute, 2022), and its impact appears positive in the short-term as it can promote short-term economic growth. Significantly, tourism receipts and tourist arrivals are factors that influence not just economic income but also the environment, society, and culture in general (Hall et al., 2015), which explains the non-uniform impact of the green growth index.

5.2. Theoretical Implications

This study is significant academically in that it presented a green growth model of tourism using STIRPAT. STIRPAT has previously been used to demonstrate the relationship between GHG, CO_2 emission, and renewable energy in the context of urbanization, economic growth, and technology. In the case of tourism, the relationship has been examined through the sustainable development index (Destek & Aydın, 2022), municipal solid waste (Arbulu et al., 2017), and wastewater emissions (Ahmad & Jabeen, 2023) to present sustainable tourism. Still, so far, there are very limited studies that examine green tourism using the green growth index. Therefore, this study was able to expand the academic horizon in that it examined tourism by applying STIRPAT, and it was able to extend the traditional boundaries of existing research by providing insights into sustainable tourism through the green growth index.

This study highlights the importance of innovative technologies in the green growth of tourism. Efficient technologies have previously been identified as a critical factor in achieving green growth (Barua, 2021; Koçak et al., 2020; Ulucak, 2020; J. Zhao et al., 2022). Nevertheless, until now, research on innovative technologies to achieve green growth in the tourism context is very rare, and research on this relationship through environmental revenue and patent application is limited. This study therefore fulfils the need for green growth in tourism by emphasizing the significance of innovative technologies in green tourism.

5.3. Practical implication

The interaction between green growth and tourism shows that green growth in tourism is possible. Green growth of tourism requires ecological, human, and cultural harmony while minimizing environmental impact (Pan et al., 2018). Therefore, to achieve green growth in the tourism industry, it is necessary to implement various policies that promote green tourism. For green tourism to be practical, governments and businesses must take the lead in establishing policies that are specifically tailored to the technological and innovation characteristics of each country and region. These policies should be aimed at reducing emissions and improving resource use efficiency to maintain natural capital. Equally important is their role in preserving the region's cultural identity, promoting social equity, and fostering collaboration among governments, businesses, local communities, and tourists.

In the tourism industry, improving the green growth index encourages the eco-friendly management of tourist destinations, leading to an increase in tourism income and the number of tourists. Green governance among companies, governments, and institutions that operate eco-friendly businesses ensures environmental sustainability and supports sustainable tourism industry management. In this process, a quality tourism experience can be provided to tourists, and a strong foundation for sustainable tourism development provided. These interactions can have a positive impact not only on the tourism industry but also on the entire economy, which plays an important role in achieving long-run economic and environmental goals.

5.3. Limitations of this study and suggestions for future studies

This study examines green growth by allocating countries to continental regions, but there were limitations that reflect the differences in economy, society, and culture of each country in detail. In particular, the weak IRF observed in Europe and the United States and the low explanatory power of tourism in Asia highlights the need for more diversity across countries. In future studies, we should focus on green growth by identifying economic groupings in more detail, including UNCTAD, UNWTO, and World Bank regions, as well as examining countries individually to identify more specific problems and explore solutions. This approach will allow for a deeper understanding of green growth and contribute to the development of more customized green growth and tourism strategies.

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From Waste to Want: Leveraging Co-branding to Boost Upcycled Food Purchase

Huh, Yoonhyung
Department of Apparel, Events, and Hospitality Management
Iowa State University

Xu, Yang
School of Travel Industry Management, Shidler College of Business
University of Hawaii at Mānoa

Jeong, EunHa (Lena)
Department of Apparel, Events, and Hospitality Management
Iowa State University

Abstract:

This study examines the challenges related to the acceptance of upcycled foods and proposes co-branding as a strategic approach to positively influence consumer perceptions and foster acceptance. The study investigates the impact of brand and product fit, as well as consumer knowledge of upcycled foods, on shaping attitudes and driving purchase intentions. The research aims to discover effective co-branding strategies that can significantly enhance the appeal of upcycled foods, promoting broader consumer acceptance of these products, thereby contributing to the advancement of sustainability efforts.

Keywords: Upcycled Food, Co-Branding, Product-Fit, Brand-Fit, Knowledge

1. Introduction

Globally, about one-third of food produced for human consumption, or 1.3 billion tons, is wasted yearly, contributing to environmental and economic problems like greenhouse gas emissions and increased food insecurity (Aschemann-Witzel et al., 2023). Upcycling food production, transforming unused ingredients into new, edible products (Spratt et al., 2021), has emerged as a solution to food waste (Moshtaghian et al., 2021), supporting a sustainable food system by reducing waste and creating value-added products with positive environmental impacts (Asioli & Grasso, 2021). Despite their potential benefits, upcycled foods encounter public acceptance challenges, as the idea of utilizing recycled food materials is still novel to consumers (Moshtaghian et al., 2021). A study found that nearly 80% of U.S. consumers are unfamiliar with upcycled food and only a small percentage of consumers associate upcycled foods with quality products that are safe to eat (4.1%; Grasso et al., 2023). The question remains: how can we effectively promote the value of upcycled food to increase consumer awareness and purchase intent?

An effective strategy for enhancing consumer awareness and acceptance of upcycled food could involve a co-branding approach, which integrates the distinctive characteristics of two or more brands to create a unique product that conveys the shared values of each brand (Washburn et al., 2000). Co-branding leverages the unique associations of each brand to differentiate and promote a product effectively in competitive markets (Paydas, 2021). Grounded by a signaling theory in the marketing literature, this strategy not only enhances brand awareness but also provides consumers with greater assurance about product quality (Rao et al., 1999), potentially overcoming their initial reservations especially if one of the brands is perceived as undesirable or concerning to consumers (Helmig et al., 2008). Thus, to identify an effective strategy for promoting upcycled food, this study explores the impact of co-branding and investigates how this approach influences consumer acceptance and perception of upcycled food products.

The literature on co-branding emphasizes the significance of brand congruence as a pivotal concept. Congruence, also termed fit or similarity (Fleck & Quester, 2007), denotes the perceived likeness between the brands. McDaniel (1999) stresses the importance of selecting brands that are compatible with one another to enhance this congruence. Prior studies have identified two key determinants for positively evaluating co-branded products: Brand fit and Product fit. Product fit refers to how consumers perceive the compatibility between the two product categories, while brand fit pertains to the alignment of brand perceptions (images and associations) of the partners (Paydas, 2021). Baumgarth (2004) underscore the significance of brand and product fit in determining the success of co-branded products. Existing research presents mixed results regarding the more effective strategy. As summarized by Turan (2020), some researchers argue that brand fit holds more sway, while others contend that product fit is paramount. Bouten et al. (2011) further emphasize that a fit in both brand and product induces more positive evaluations.

Regarding the promotion of upcycled food, selecting a brand with both high product fit and high brand fit may prove beneficial. However, given its novelty to consumers, the relative importance of product fit and brand fit may vary depending on consumers' level of knowledge about upcycled food. Knowledge about upcycled foods not only enhances perceived usefulness (Verdurme & Viaene, 2003) but also reduces perceived risk, which directly affects purchase decisions (McCarthy et al., 2007). For instance, Consumers with higher upcycled food knowledge may perceive lower risk and better understand the eco-friendly nature of these products. Therefore, when paired with relatively low product fit, their attitude and purchase intention may not differ compared to high brand and product fit. Conversely, if paired with low brand fit, attitude and purchase intention may decrease compared to high brand and product fit. For consumers with lower upcycled food knowledge, perceived risk may be higher, and understanding of eco-friendliness lower. In this case, pairing with low product fit could significantly decrease attitude and purchase intention compared to high brand and product fit. However, if paired with low brand fit, attitude and purchase intention may not differ compared to high brand and product fit.

The purpose of the paper is to identify effective way to promote upcycled food. More specifically, this study investigates the effects of co-branding tactics in promoting upcycled food. The specific purposes of this paper are: (1) to identify what type of co-branding, in terms of the level of congruity between product and brand fits, would elicit more favorable attitudes and higher purchase intentions; (2) to evaluate whether this effect is contingent upon consumers' level of knowledge (high vs. low) of upcycled foods.

2. Literature Review

2.1. Upcycled food

Upcycled food production involves transforming ingredients that would otherwise not be consumed by humans, often by-products or co-streams from food processing, into new, safe, and edible products (Spratt et al., 2021; Bhatt et al., 2020). However, upcycled foods face several challenges due to their classified novel food category, which differs from conventional and organic (Bhatt et al., 2020). One of the major hurdles is public acceptance (Moshtaghian et al., 2021), as the concept of the use of upcycled food materials in food products is still relatively new to consumers (Grasso & Asioli, 2020).

2.2. Co-branding

Co-branding, also known as brand alliance, is a popular strategy that combines two or more well-established brand names on a particular product (Walchli, 2007). Research on co-branding has primarily focused on the synergistic effects in terms of attitudinal favorability, preference, financial performance, and profits (Lee, 2014). As an example, GoPro and Red Bull collaborated on the "Stratos" project, a high-altitude skydiving event that reinforced the adventurous and extreme image of both brands. This co-branded venture was highly publicized and improved consumer perceptions of both brands. Similarly, BMW and Louis Vuitton partnered to combine BMW's i8 luxury car with Louis Vuitton's high-end luggage series. This collaboration emphasizes the luxury and innovation of both brands, which has garnered significant consumer popularity. Increasingly, marketers are looking to collaborate with other brands to drive business success.

2.3. Perceived-fit

Co-branding success depends on the perceived fit of the two brands involved (Lee, 2014). Fit can be categorized as either brand-fit or product-fit, both of which are critical for co-branding success. Brand-fit refers to the consistency between the images of the two brands involved. A good brand fit positively correlates with favorable consumer attitudes toward the co-branded product (Baumgarth, 2004; Bouten et al., 2011). Product fit refers to the alignment of attributes between co-branding partners, where the brand associated with a particular attribute performs better on that attribute (Park et al., 1996). Past research presented varying results regarding the most effective co-branding strategy. As summarized by Turan (2020), some scholars believe brand compatibility is more influential, while others maintain that the importance of product compatibility is supreme. Bouten et al. (2011) additionally highlight that a match in both brand and product leads to more favorable assessments.

In the context of upcycled food, given its novelty to consumers as mentioned earlier, it seems reasonable to posit that a co-branding strategy emphasizing both brand and product fits would be preferable (for instance, partnering with a food-specific entity that shares robust sustainability and environmental values; e.g., Starbucks + Upcycled Food). The relative significance of brand-fit and product-fit may vary. Nonetheless, lacking empirical evidence to date, drawing such a conclusion might be premature.

H1: For the upcycled food brand promotion, co-branding with a high level of branding fit will have a positive impact on consumers' attitudes and purchase intentions toward upcycled food.

H2: For the upcycled food brand promotion, co-branding with a high level of product fit will have a positive impact on consumers' attitudes and purchase intentions toward upcycled food.

2.4. Knowledge level and relationship with perceived fit

The level of knowledge that one possesses has a significant impact on one's understanding of consumer attitudes and buying intention (Guo & Meng, 2008). Studies indicate that there are significant differences in the amount, content, and structure of knowledge between experts and inexperienced consumers, resulting in considerable differences in behavior on product-related challenges (Aurier and Ngobo, 1999). Enhanced knowledge about novel food products may lower consumers' risk perceptions, and influence behavior (McCarthy et al., 2007; Verdurme & Viaene, 2003). Therefore, consumers who are more knowledgeable about upcycled food may perceive less risk and have a better comprehension of the environmental benefits of these products. These consumers may not respond differently to low product fit as compared to high brand and product fit. However, their responses may be inferior to upcycled food with low brand fit. As for consumers who are less knowledgeable about upcycled food, they may perceive higher risk and lower understanding of the ecological benefits. The responses of these consumers may be inferior when it comes to upcycled food with low product fit, compared to those with high brand and product fit. However, they may not respond differently to products with low brand fit. Therefore, this paper proposes:

H3a: For consumers with higher knowledge of upcycled food, higher brand fit would elicit more favorable attitudes and higher intentions.

H3b: For consumers with lower knowledge of upcycled food, higher product fit would
elicit more favorable attitudes and higher intentions.

3. Methodology

3.1. Measurement

A four-group experimental design will be employed, featuring the following co-branding types: (1) High Product-fit, High Brand-fit; (2) High Product-fit, Low Brand-fit; (3) Low Product-fit, High Brand-fit; and (4) Control. This scenario-based online experiment will include pre-tests to select the ideal upcycled food product and identify suitable co-brands reflecting the four co-branding types based on product-fit and brand-fit. Before the scenario, participants will indicate their knowledge of upcycled food. In the scenario, participants will be asked to imagine they are in a local grocery shop, about to purchase snacks (such as chips, cookies, etc.). At the snack aisle, they will encounter an advertisement for upcycled food. Following the scenario, participants will be randomly assigned to one of four advertisements. After reviewing the advertisement, participants will be required to answer the following questions: (1) manipulation check, (2) attitude toward the product, (3) purchase intention, and (4) demographic information.

3.2. Data collection & Analytical methods
Data will be gathered via an online survey platform called Prolific, with sample sizes per condition determined based on effect size, power, and alpha. An analysis of variance (ANOVA) will be conducted to investigate the effects of co-branding type. Furthermore, the interaction effects between co-branding types and knowledge levels on attitude and purchase intention will be assessed by the moderated regression analysis using SPSS PROCESS.

4. Expected Implications

This study examines the influence of co-branding on consumer purchase behavior towards upcycled food products.

Research on upcycled food is growing (aschemann-witzel et al., 2022), and this study contributes to the existing knowledge on co-branding strategies and consumer behavior, particularly in the context of sustainable food such as upcycled food. The research analyzes the significance of product fit, and brand fit in co-branding partnerships. It expands the signaling theory by proposing the boundary effect of consumers' level of knowledge of the core promoted product. This is particularly relevant in the context of novel and innovative product categories, such as upcycled foods. The study's findings will offer practical strategies for enhancing consumer acceptance and marketability by emphasizing the importance of selecting co-branding partners that align with both the product and sustainability values. Additionally, this study will help develop more appropriate approaches to target audiences whose knowledge of upcycled foods varies from abundant to limited.

This study examines the influence of co-branded product and brand type on consumers' purchase intentions. However, further research is needed to consider other elements of co-branding that may also influence these intentions. Additionally, while food waste is a global issue, this study was conducted solely in the united states. Therefore, conducting further research across different geographical regions is necessary to comprehensively understand the underlying mechanisms.

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Sustainable luxury consumption values and their effect on consumer behaviour

Chiriko, Amare Yeokob
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

KIM, Seongseop (Sam)
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Abstract:

While empirical evidence on the sustainable practices of luxury industry has flourished in recent, there exists little evidence on consumers' value-based reaction to sustainable luxury brands. The aim of this study is to investigate the effect of sustainable consumption values on consumers' wellbeing and transformation. A conceptual framework has been developed to materialize this aim, with planned quantitative data collection and analysis from consumers with previous luxury experience.

Keywords: Sustainable luxury consumption values (SLCVs); outcomes of SLVs; Wellbeing; transformative experience

1. Introduction

In light of changing consumer demands inclined towards environmentally friendly and socially responsible products and services, the luxury industry has come under massive pressure to deliver sustainable commodities and experiences. Further, governments and international bodies such as the European Union called for a ban on "greenwashing", making luxury brands fundamentally rethink how they promote "going green" (Essiz & Senyuz, 2023). Hence, the sustainable luxury has become a growing area of research in marketing, fashion and hospitality literature. Initially, the perception of sustainability and luxury seemed contradictory, as luxury was often associated with excess and conspicuous consumption, with little or no regard for sustainability (Achabou & Dekhili, 2013; Jackson & Papathanasopoulou, 2008). Since then, the trajectory of research on the theme was underpinned by two conflicting school of thoughts: the old school, which insisted on the incongruence of sustainability and luxury; and the new school arguing for compatibility of the two concepts (Essiz & Senyuz, 2023).

The old school was led by proponents of sustainable consumption who expressed strong disapproval towards luxury and its associated practices, which are regarded as being driven by the values of materialism, personal gratification, and conspicuousness (Achabou & Dekhili, 2013; Kapferer & Michaut-Denizeau, 2014). These groups argued that these values of luxury consumption are never at par with the tenets of sustainability which center around ethics, altruism, restraint, and sobriety.

The newer and optimistic school of thought, whose influence has flourished in recent years, is founded on the notion that both sustainability and luxury champion the values of values of craftsmanship, rarity, and durability (Park et al., 2022). Further, according to Amatulli et al. (2021) luxury consumption in its utopia can foster upholding environmental and social values such as preservation of natural resources (Park et al., 2022). This is primarily due to growing awareness on environmental and social issues over time (Atkinson & Kang, 2022As a result, the nexus between sustainable consumption and luxury consumption has experienced a noteworthy shift as a concept (Atkinson & Kang, 2022).

While empirical evidence on the sustainable practices of luxury industry has flourished in recent, there exists little evidence on consumers' value-based reaction to sustainable luxury brands. Previous research on sustainable consumption has focused on examining the sustainable marketing and consumers' behavioral intentions, primarily in the context of corporate social responsibility (CSR). Further, there is paucity of empirical evidence consumer-brand relationships in the context of responsible luxury as existing research is largely centered on consumers' hedonic experiences of the traditional luxury. Consequently, value-based investigations on the antecedents and outcomes of sustainable luxury consumption are scant. To fill this gap, the current study will delve in to the determinants of sustainable luxury consumption values and their effects on hospitality consumer behavior.

2. Literature Review

2.1. Sustainable luxury consumption values and their outcomes

Existing research indicated that luxury consumption and sustainable consumption is essentially value-induced. Drawing on a thorough review of literature on sustainable consumption and luxury consumption, the current study identified three features of SLCVs: they exist at the intersection of both consumption patterns; they lead to consumers driving a different form of utilities from consuming same luxury products and services; and they result from intrinsic responsible motivations and identities of consumers (Henninger et al., 2017). Sustainable luxury consumption values involve a tradeoff between conventional luxury values such as materialism, personal gratification, and conspicuousness, and tenets of sustainability such as ethics, altruism, restraint, and sobriety (Bendell & Kleanthous, 2007). While these values appear contradictory and incompatible, customers seeking luxury experiences while still complementing them with the authentic, environmentally friendly and socially responsible (Essiz & Senyuz, 2023).

Thus, in addition to the traditional values identified in the TCV, Essiz and Senyuz (2023), in their investigation of sustainable consumption values in the luxury sector, have added green values. In exploring the dimensions of sustainable food experiences in the luxury gastronomic sector, Batat (2022) indicated that practitioners' perspective of sustainable luxury food experiences embraces both the functional facets such as sustainable and healthy food, eco-friendly practices, and the experiential components such as sensory, creativity, pleasure, aesthetics. In the luxury fashion sector, Henninger et al. (2017) demonstrated that consumption values are evolving dramatically, with the entry into market of several new market niches; and that wellbeing has emerged as a critical value consideration of consumers valuing sustainability. Similarly, an investigation by Cervellon and Shammas (2013) revealed that beyond the traditional facets, sustainable consumption values of mature shoppers constitute ego-centered values and eco-centered. Further consumer innovativeness has also constituted a vital role in purchasing sustainable luxury products (Park et al., 2022).

Regarding, the value-based consequences of sustainable luxury consumption, existing literature primarily highlights the impacts on consumers' wellbeing and the transformative influences. Particularly, the outcome of transformative luxury on the well-being of individuals and communities involved in the luxury field has been well documented (Batat, 2022). Particularly, the contributions of inconspicuous luxury experiences to own cognitive wellbeing, emotional self-defense, self-enhancement, and self-transformation is highlighted (Makkar & Yap, 2018).

3. Conceptual framework and Methodology

Drawing on extensive literature review, the current study suggests an effect of sustainable luxury consumption values on consumers attitude towards sustainable luxury consumption. Additionally, the study envisages the effect of such an attitude on their willingness to sacrifice, as responsible luxury involves a significant giving up of consumers' comfort and convenience (Batat, 2022). Drawing on this, the study puts forward the mediating effect of willingness to sacrifice on the sustainable luxury consumption outcomes which include cognitive wellbeing, emotional wellbeing, social wellbeing and consumer self-transformation (see Figure 1). After pilot testing and pre-testing of questionnaire items developed from existing literature on sustainable consumption, luxury consumption, wellbeing and transformative experiences, the study will seek to collect primary data from hospitality consumers from previous luxury experiences. After exploratory factor analysis and checking for reliability and validity of items. The proposed relationship between sustainable luxury consumption values and outcomes as well as the mediating effect of willingness to sacrifice will be analyzed using structural equations modelling.

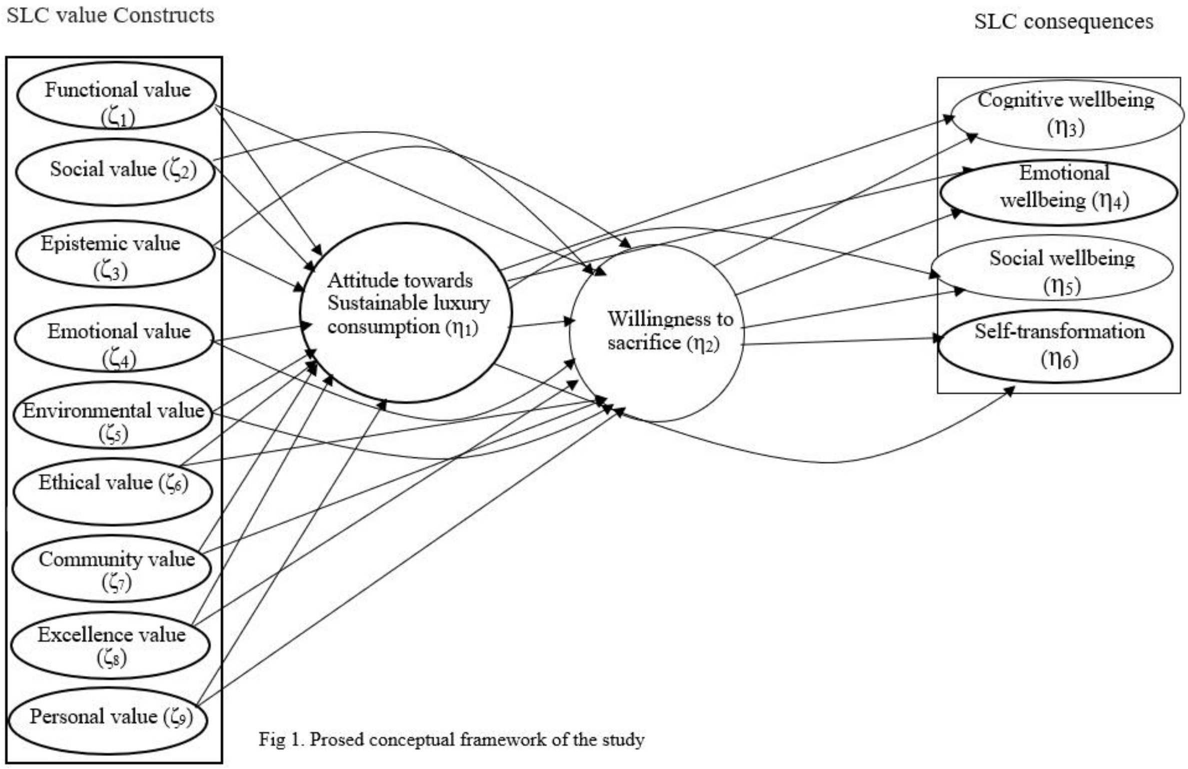

Fig 1. Prosed conceptual framework of the study

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Can wonder save the world: Cultivating heritage preservation through the leans of AWE

Kim, Sun-Hwa
Department of Marketing, Hospitality and Tourism Management
Coastal Carolina University

Kim, Seeun
Department of Fashion Design
Sunkyunkwan University

Abstract:

This research investigates awe's influence on consumers' donations in tourism. Employing construal-level theory, two experiments examine how positive and negative awe, paired with various construal levels, affect donations and self-concepts. Results reveal positive awe's desirability and negative awe's feasibility effects, shaping donation behavior. This study provides insights for tourism-related nonprofits and illuminates the interactive dynamics between awe and construal levels in shaping prosocial behaviors.

Keywords: Positive-awe and Negative-awe, Feasibility and Disability, Prosocial behavior

1. Introduction

Awe, common in travel, triggers profound emotional responses, yet its negative aspect and impact on tourism donations are underexplored. This study investigates how both positive and negative awe affect tourists' self-concepts and donations. Using construal-level theory, we analyze how awe-inducing stimuli interact with construal levels to influence donation behavior. This research aids tourism nonprofits by optimizing fundraising and contributes to understanding awe's role in tourism's prosocial behavior while exploring new avenues for research.

2. Literature Review

2.1. Awe

Awe, stemming from vastness, challenges accustomed cognitive schemas, leading to perceptions beyond the self (Keltner & Haidt, 2003; Shiota et al., 2007). Typically, triggered by natural beauty like panoramic views, it inspires prosocial behaviors. Research indicates a negative variant, evoking fear-centric emotions, albeit with lower positive valence.

2.2. Construal theory

Construal theory (CLT) posits that the psychological distance of an event shapes decision-making, with high-level construal emphasizing general features and low-level construal focusing on specific details (Liberman & Trope, 1988). This theory suggests that psychological distance influences how events are perceived, with distant events being construed more abstractly and proximate events more concretely.

Feasibility and desirability, reflecting "how" and "why" aspects of actions, respectively, are integral to decision-making. Desirability pertains to abstract, while feasibility relates to concrete aspects (Lu et al., 2013).

3. Methodology

We conducted two online experimental studies to investigate consumers' prosocial actions towards national parks after experiencing positive or negative awe, and exposure to a pro-environmental ad campaign framed using desirability and feasibility appeals. Study 1 demonstrated that desirability appeals, especially among participants experiencing positive awe, significantly enhanced donation intentions for national parks. Study 2 replicated these findings with modifications, including using an essay-writing priming task to induce awe, examining additional variables like "small self" and "expanded-self" as potential mediators, and controlling for dispositional awe as a confounding variable.

3.1. Measurement

Participants rated their emotional state for positive and negative awe using feelings like happiness, pride, and sadness, guilt, and fear, respectively, on a scale from 1 to 7. A specific measure for awe feelings was also rated on the same scale. Message appeal effectiveness was assessed using statements about protecting national parks from wildfires, rated on a seven-point Likert scale. Donation intention to the national park system was measured using three items on a seven-point Likert scale assessing willingness to donate and recommend donation to park organizations.

4. Results

4.1. Study 1

Participants and procedure. Two hundred fifty-two participants (50% male, Mage = 35.92) from the United States were randomly assigned to four experimental conditions. Videos inducing either positive (scenic beauty) or negative (wildfire) awe were shown, followed by campaigns framed as desirability (benefits) or feasibility (practical strategies) appeals. Participants then answered questions on manipulation check, donation intention, and demographics.

Manipulation checks. The manipulations for both awe emotion and message appeal were effectively validated. Participants in the positive awe condition reported significantly higher levels of positive emotions compared to negative ones ($M_{p\text{-}awe}$ = 5.52, $M_{n\text{-}awe}$= 4.36, $t = 6.16$, $p < .001$, whereas in the negative awe condition, negative emotions were more pronounced than positive emotions ($M_{p\text{-}awe}$ = 3.90, $M_{n\text{-}awe}$ = 4.94, $t = -4.84$, $p < .001$).

Donation behavior. The ANCOVA, with dispositional awe as a covariate, found no main effects of emotion ($p = .738$) or message appeal ($p = .665$) on donation intention. However, a significant interaction effect emerged ($p = .000$). Under positive awe, the desirability appeal led to higher donation intention than the feasibility appeal ($p = .005$), while under negative awe, the feasibility appeal resulted in higher donation intention than the desirability appeal ($p = .001$)

4.2. Study 2

Participants and procedure. We recruited 377 US participants (48.9% male, average age = 34.44) via Cloud research and randomly assigned them to one of four experimental conditions. Their dispositional awe was assessed before inducing positive or negative awe through an essay-writing task. Participants were then exposed to environmental ad campaigns framed as desirability or feasibility to prevent wildfires. Finally, they responded to inquiries on manipulation checks, donation intention, small self, mindfulness, and demographics.

Manipulation check. The verification of both awe emotion and message appeal manipulations was successful. Participants in the positive awe condition reported significantly higher positive feelings than negative ones (Mpositive awe = 5.12, Mnegative awe = 3.55, $t = 8.777$, $p < .001$). Conversely, those in the negative awe condition displayed more intense negative awe feelings compared to negative feelings (Mpositive awe = 1.79, Mnegative awe = 5.14, $t = -19.266$, $p < .001$).

Small-self. ANCOVA found a significant interaction between emotion and message appeal on small self. In positive awe, desirability appeal led to a stronger small self, unlike in negative awe ($p = .277$). Moderated mediation revealed in positive awe, message appeal positively influenced small self ($p = .000$), affecting donation intention. However, in negative awe, message appeal did not significantly influence small self ($p = .118$), yet it affected donation intention. Mediation was significant in positive awe but not in negative awe.

5. Discussion and Conclusion

5.1. Discussion

Study 1 found desirability appeals increased donation intentions during positive awe, highlighting the perceived value of protecting parks. Feasibility appeals were slightly more effective during negative awe, reflecting a preference for concrete actions. These findings support Construal Level Theory, suggesting messages should align with emotional contexts for effective communication of prosocial behaviors like donations.

Study 2 examined how awe emotions and message appeals impact pro-environmental behavior. It confirmed successful manipulation of both awe emotions and message appeals. The analysis highlighted the importance of aligning message appeals with the type of awe emotion for effective messaging. Positive awe expanded 'small self,' favoring desirability appeals, while negative awe heightened 'expanded-self,' favoring feasibility appeals.

5.2. Conclusion

Overall, this article investigated how desirability and feasibility regarding donation are formed based upon a variant of awe experience. Positive and negative awe influenced by desirability and feasibility, respectively. This study provides valuable insights for tourism nonprofits to enhance donation efforts. It contributes to tourism literature by revealing the interactive dynamics between awe and construal levels. Furthermore, it expands the understanding of awe by uncovering the mechanism behind negative awe's impact on pro-social behavior.

5.3. Limitations of this study and suggestions for future studies

This research has limitations that potentially provide avenues for future research. Negative awe is till in its very early stages in the literature (Septianto et al., 2022). Further research could explore different moderators beyond the role of desirability and feasibility. Expanded-self could be examined in underlying mechanism of other negative emotions. We use videos of a national park for positive and negative awe-inducing stimuli. There are other strong awe-inducing stimuli, especially negative awe, are possible.

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Social-spatial segregation through the lens of accessibility at the travel destination

Yuan, Yingqi
Global Hospitality & Tourism Management
Kyung Hee University

Park, Sangwon
Smart Tourism Education Platform
Kyung Hee University

Abstract:

This paper adopts the concept of segregation from urban studies to explore the dissimilarities in mobility patterns between residents and travelers at the destination. This research assesses the accessibility to travel services and products by different social groups and examines its relationship with segregation in tourist areas. The analysis of approximately 3 million mobility data points in this research revealed dynamic variations in accessibility across different travel activities for residents and travelers, and demonstrated the association between accessibility and spatial segregation. Therefore, these insights offer significant theoretical and practical implications for tourism planning and management.

Keywords: Segregation, Accessibility, Big Data, Travel Mobility, Navigation Data

1. Introduction

Destinations are characterized by the interweaving of living areas and travel places, which generates socio-spatial interactions between two groups: residents and travelers (Li, Zhou, & Wang, 2018). That is, residents and tourists are linked by shared spaces, facilities, and services in a destination. Considering the distinct features of these social groups, however, their visitation patterns and motivations related to the environment can be dissimilar. Previous scholars in tourism have attempted to understand different attitudes toward and behaviors in travel activities, respectively. Choi and Murray (2010) identified residents' attitude towards visitors in their local areas and its economic impact on their communities. Park, Xu, Jiang, Chen, and Huang (2020) explored the movement patterns of international travelers by identifying hot places at the destination. Importantly, however, the study to explore the extent to which the similarity (or dissimilarity) of the usage of places by considering both residents' and travelers' behaviors is largely limited. To address the research gap, this study suggests to adopt a concept of (social-spatial) 'segregation' derived from urban studies, denoting the uneven distribution of different social groups (e.g., the minorities and the majority in different ethnic groups) in a certain area (Massey & Denton, 1988).

Social-spatial segregation reveals different activity patterns of social groups across urban neighborhoods. This offers important insights into the social fabric of cities and how the social features of neighborhoods influence the daily lives of their residents

(Galster & Sharkey, 2017). The underlying idea is that individuals, affected by interactions within their residential neighborhoods, are also shaped by other socio-spatial contexts in their daily lives. This implication is closely linked to the tourism phenomenon, where personal interactions between social groups occur through travelers' visits to residential areas. The level of interactions at certain areas reflects social-spatial segregation.

Indeed, this study argues that the segregation can be affected by the accessibility reflecting the level of access to opportunities (i.e., travel services and products) by social groups. Past literature on geographic and tourism suggested travel cost including distance and time can be important indicators to measure accessibility as kinds of spatial and temporal constraints in tourism (Kang, 2016). That is, the high accessibility (or easy access) to travel facilities encourage individuals to participate in tourism activities (Talal & Santelmann, 2021) and differences in accessibility (e.g. between travelers and residents) substantially have an influence on the chance for encounters between the social groups (Milias & Psyllidis, 2022). Therefore, accessibility can be considered an important complementary indicator of social-spatial segregation in tourism, as travel behavior necessitates individual movement. The travel mobility consisting of spatial distance and temporal distance can be regarded as important constraints of travel, which forms the inequitable opportunities for people to access the services (Kang, 2016).

Thus, this study attempts to apply the concept of social-spatial segregation through accessibility to travel services for both visitors and residents. Therefore, this research aims (1) to explore the spatial usage of visitors and local residents at the destination, (2) to examine the extent to which destinations are spatially mixed for visitors and residents to reach tourism activities, respectively, and (3) to quantify the (un)fair distribution of accessibility to the travel activities by two social groups. Thanks to advances in information technology that facilitate the acquisition of fine-grained mobility data, tourism researchers can examine segregation with high spatiotemporal granularity. More specifically, this research analyzed over 12 million car navigation datasets from both residents and visitors at a destination. Multi-dimensional analytics were applied to explore global and local measures of segregation, informing not only whether the whole region is segregated or not, but also where and how much segregation individuals experienced.

2. Literature Review

2.1. Socio-spatial segregation

Segregation can be considered as a multi-dimensional concept containing social, spatial and temporal aspects (Zhang, Wang, Kwan, & Chai, 2019). Scholars in sociology suggest that segregation denotes a relative lack of interaction between different social groups. Researchers in geography state that segregation represents the uneven distribution of social groups in physical spaces (Järv, Müürisepp, Ahas, Derudder, & Witlox, 2015). The social and spatial dimensions of segregation are often integrated (Zhang, et al., 2019) and can be conceptualized as a two-way relationship (Morgan, 1984): human-human interaction (H-H interaction) and human-environment interaction (H-E interaction). More specifically, H-H interaction relates to social environment – whom people encounter/interact in a specific place;

H-E interaction refers to physical space – where people fulfil certain activities at the place. Hence, socio-spatial segregation can be defined as the extent to which individuals of different groups occupy or experience environments (and/or physical spaces) (Järv, Masso, Silm, & Ahas, 2021).

The segregation has been applied in various fields in understanding different usage of areas between different social groups in terms of age (Hagestad & Uhlenberg, 2005) and ethnic clusters (Ref). That is, areas (or places) are regarded as social group (e.g., age and/or ethnic) segregated in the case where individuals belonging to different social groups do not reside (or perform activities) in the same city, neighborhood, urban block or building unit (Winkler & Klaas, 2012). Relevant literature on segregation in social aspects demonstrated that societal effects of spatial segregation between socio-demographic groups generate a number of problems, such as ageism, weaker social ties among different ages and ultimately brings about a less generative community (i.e., a society that cares less for future generations) (Douglas & Barrett, 2020; Hagestad & Uhlenberg, 2006).

This study suggests the application of the segregation concept into tourism where two distinct groups – residents and travelers – interactively or separately share the destination for conducting activities. That is, the insights from tourism segregation allows researchers to understand the personal interactions between residents and travelers (H-H interaction) as well as the usage of spaces at the destination (H-E interactions). In particular, the advancement of information technology and transportation facilities leads to the improvement of the travel mobility, which enables individuals spend more time on traveling and staying outside their residential communities to achieve tourism (Xiang, 2018). This pattern highlights the importance of segregation to elucidate "the ways of using space in the constitution of personal and social identities, rather than the residential agglomeration of social groups in neutral and static space" (Schnell & Yoav, 2001, p. 622). This means that understanding how residents and travelers use the places (as an inhabited area for residents and a travel destination for travelers) in a homogenous or heterogenous manner. In this sense, most studies have focused on identifying the segregation structure based on the distributions of socio-demographic characteristics.

Importantly, however, this study emphasizes the segregation as the extent to which individuals easily access to travel services and activity locations. That is, the accessibility can be considered as an important complementary indicator of social-spatial segregation in tourism because travel behaviors require individual movement. The travel mobility consisting of spatial distance and temporal distance can be regarded as important constraints of travel, which forms the inequitable opportunities for people to access the services (Kang, 2016).

2.2. Measuring accessibility

Accessibility can be defined as the amount of efforts for a person to reach one or multiple locations, to get the opportunities for activity available in a certain spatial location, or the liberty of individuals to participate in an activity within the environment (Geurs, & Ritsema van Eck, 2001). The idea of accessibility reflects the ease with which a person can travel from an origin to a destination comprising various elements valued by individuals such as travel time, cost and effort. Indeed, travel time and cost are the elements mostly used by previous researchers (Yang, Goerge, & Mullner, 2006).

There are a number of methods to measure accessibility. These approaches can be classified in two types including place-based (or locational) and people-centered aspects (Horner, 2004; Vale, Saraiva, & Pereira, 2016). Place-based approaches to evaluating accessibility have a purpose to assess how accessible different destinations are (e.g. attractions, restaurants, shopping etc.) from a given set of origins (e.g. home or accommodation locations) (Hamstead et al., 2018). In contrast, people-centered approaches aim to evaluate how accessible different locations (or services) are to a given group of individuals (Logan, Anderson, Williams, & Conrow, 2021). The tourism accessibility this study explores is related to a latter approach advocating a method to measure how likely it is for a group of people to meet (or interact) in a given place according to their spatial and temporal environment (i.e., location and time schedule) (Neutens, Schwanen, Witlox, & De Maeyer, 2008). The argument of this paper is that people belong to each group – residents and travelers – try to visit a place to participate in leisure activities. The accessibility can play an important role to demonstrate the spatial and economic equity between two social groups.

3. Methodology

3.1. Data collection

3.1.1 Navigation data

This research utilizes a car navigation dataset collected on Jeju Island, South Korea (hereafter Jeju). The dataset is provided by one of South Korea's largest telecommunications companies, which offers navigation services to tourists. It consists of anonymized records of 2,994,024 road trips made by residents and visitors to Jeju for travel or leisure activities from June 1, 2020, to May 31, 2021. As detailed in Table 1, each record in the dataset includes the user type (with users whose home address is in Jeju classified as "Resident" and all others as "Visitor"), the origin and destination coordinates (to the nearest centroid locations within a 0.1 x 0.1 km grid cell), the departure time from the origin, the arrival time at the destination, the activities at the destination (noting the travel activities occurring at various Points of Interest (POIs)), and the number of trips, which represents the count of users traveling with identical origin and destination coordinates at the same departure and arrival times. To illustrate the spatial distribution of these travel or leisure activity locations, five categories of activities identified in the navigation data were mapped based on their coordinate information (see Figure 1).

Table 1. Examples of trip records in the car navigation dataset

User types	**Departure time**	**Arrival time**	Oyi	Oxi	Dyi	Dxi	**Destination activities (POI types)**	**Number of trips**
Visitor	2020-06-16 10:57:00	2020-06-16 11:19:00	33.385	126.267	33.283	126.274	Attractions	3
…	…	…	…	…	…	…	…	…

Resident	2021-05-27 11:22:00	2021-05-27 11:24:00	33.281	126.701	33.295	126.71	Leisure sports	2

Note: (Note: (Oxi, Oyi) and (Dxi, Dyi) refer to the coordinates (xi=longitude, yi=latitude) of the origin and destination locations of OD flow.)

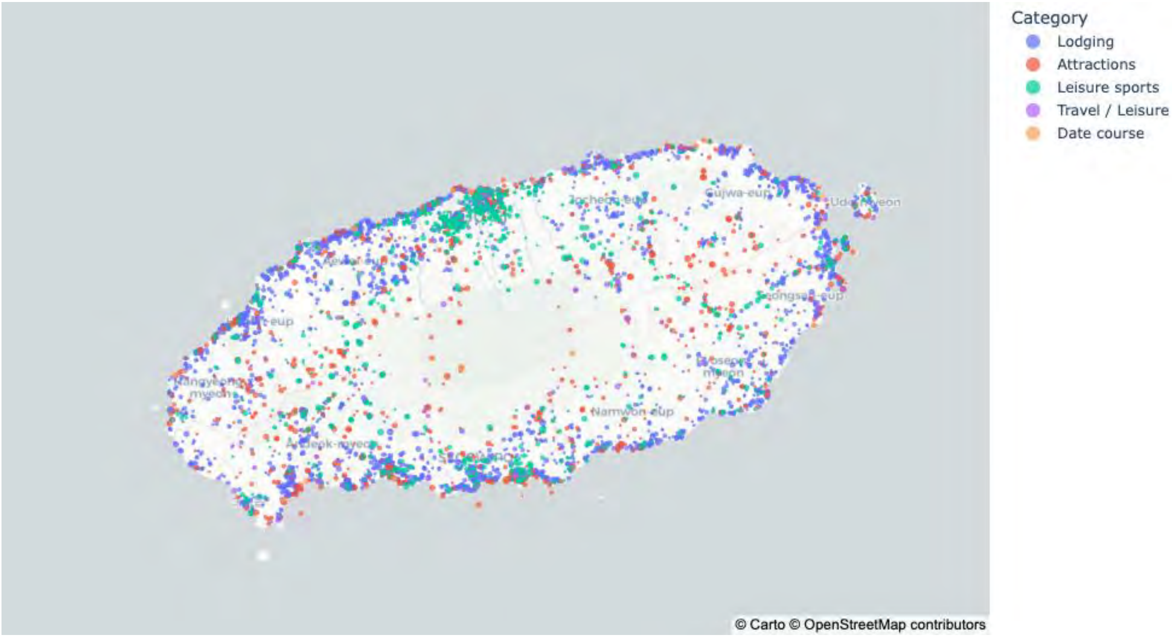


Figure. 1. Spatial distribution of location for travel or leisure activities.

3.1.2. Road network data

The drivable road network data for Jeju was derived from the OpenStreetMap (hereafter OSM) database (see Figure 2). This means that Jeju can be regarded as a weighted multidigraph: the edges (links) of the graph are street segments, and the vertices (nodes) are street intersections. All the edges are weighted by street distance.

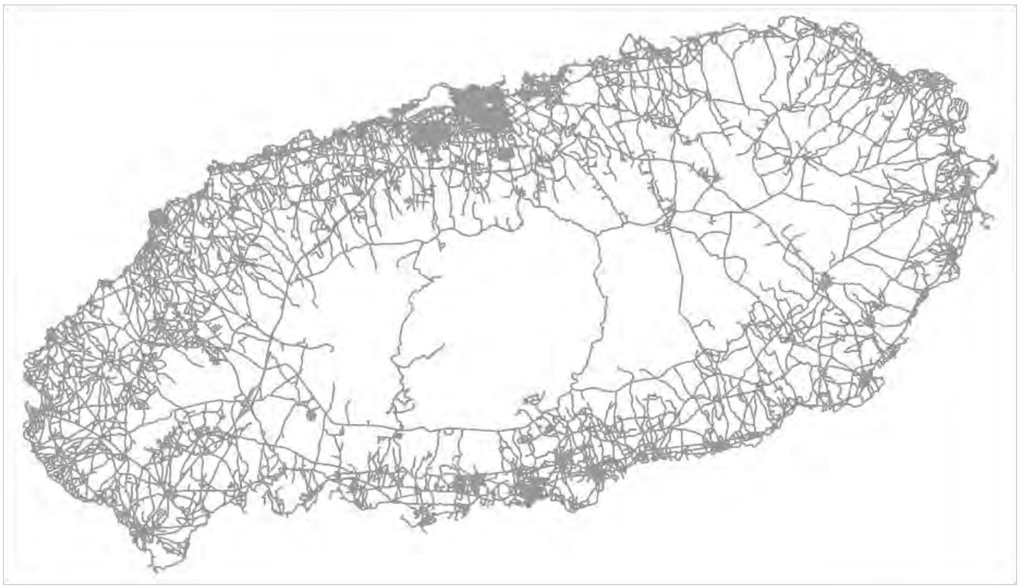


Figure. 2. The drivable road network data for Jeju.

3.2. Data analysis

This section outlines the analytical framework's sequential process, including (1) aggregating mobility patterns, (2) estimating accessibility statistics, and (3) estimating segregation statistics, with details illustrated in Figure 3. Initially, Jeju Island is divided into 184,924 grids, each 0.1 x 0.1km in size. Within these grids, individuals' mobility patterns—measured by the number of trips—are aggregated to assess place-based accessibility and segregation. Subsequently, for each grid, specific indicators of location-based accessibility and segregation are calculated separately.

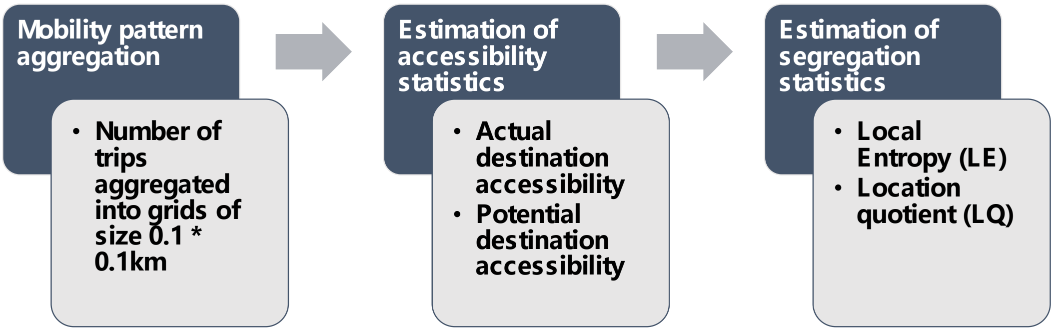


Figure. 3. The research framework of data analysis.

3.2.1 Location-based accessibility measurements

Actual accessibility measures the distances people travel in reality, while potential accessibility indicates how far people might, should, or reasonably could travel (Niedzielski & Eric Boschmann, 2014). Therefore, this research calculates both actual and potential accessibility. Considering trip destinations, accessibility A_{kj}^{p} can be defined as travel cost (i.e., travel time and distance) from an origin to destination, weighted by the actual trip count for that origin-destination (OD) flow (Geurs & van Wee, 2013). Actual accessibility is measured by the time interval between arrival time at destinations and departure time at origins. Potential destination accessibility considers the shortest street distance between origins and destinations. Thus, destination accessibility is formulated as (Páez, Scott, & Morency, 2012):

$$A_{kj}^{p} = \sum_{i} g(P_{ik}^{p}) f(c_{ij}^{p})$$

Where $g(P_{ik}^{p})$ refers to the function of the size P of segment p from origin i to destination j for activity opportunity k, and $f(c_{ij}^{p})$ refers to the travel cost between origin i and destination j experienced by members of segment p.

3.2.2 Location-based segregation measurements

To elaborate what extent two groups (i.e., residents and visitors) actually access the same travel or leisure activity space, this research computed two location-based segregation measures: Local Entropy (LE) and Location Quotient (LQ) for all spatial units of Jeju.

LE evaluates the evenness of group distribution across spatial units (Massey & Denton, 1988). LE values range from 0 (indicating complete segregation within a spatial unit) to 1 (signifying even distribution). Thus, an LE value of 1 reflects maximum diversity, with a 50-50 split between the two groups in a spatial unit, while a value of 0 means only one group has visited (Sharma, 2012). LE at spatial unit $\boldsymbol{i}$ is calculated as:

$$E_i = -\sum_{j=1}^{k} p_{ij}\, ln\,(p_{ij})$$

Where k is the number of groups, and p_{ij} is the proportion of number of j groups in spatial unit i.

LQ, a measure of concentration, is used to further evaluate how concentrated a particular group (e.g., visitors), is in each spatial unit compared to the average for the whole study area (van Ham, Tammaru, Ubarevičienė, & Janssen, 2021). More specifically, an LQ value of 1 indicates that the percentage of visitors in a spatial unit matches its percentage for the whole study area. Values above 1 (LQ > 1) signify a higher concentration of visitors in a spatial unit than average, indicating over-representation, while values below 1 (LQ < 1) suggest under-representation. The formula for calculating LQ for spatial unit i is:

$$LQ_i = \left(\frac{t_i}{p_i}\right) / \left(\frac{T}{P}\right)$$

Where t_i and p_i are the number of visitors and people (residents and visitors) in spatial unit i, T and P are the number of visitors and people in the whole study area.

4. Results

4.1. Distribution of travel demands across different travel or leisure activities

Figure 4 illustrates the differences in travel or leisure activities between residents and visitors at Jeju's destinations. Notably, visitors (2,481,931) outnumber residents (564,859) in terms of engaging in these activities. For both groups, the top three activities maintain the same rank order. Among residents, tourist attractions account for 42.13% of activities, followed by lodging at 33.89%, and leisure sports at 19.41%. For visitors, attractions make up 43.19%, with a higher preference for lodging at 42.80%, and leisure sports at 8.93%. Despite this ranking similarity, visitors significantly favor "date course" sites, which are comparatively less frequented by residents.

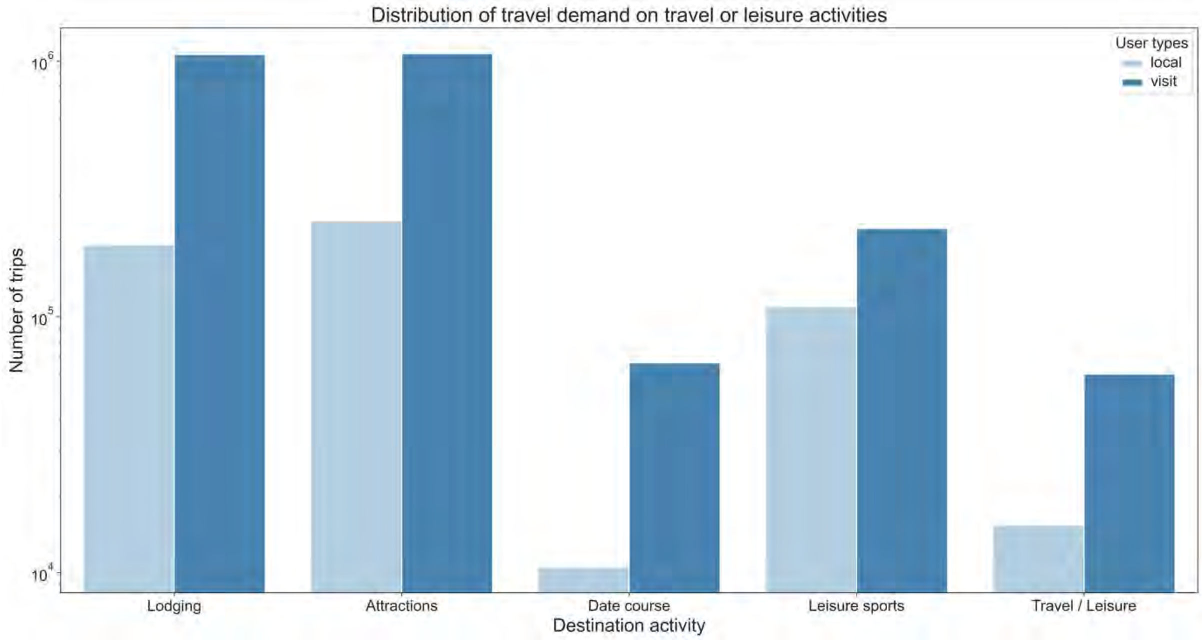


Figure. 4. Distribution of travel demand on travel or leisure activities.

4.2. Accessibility

4.2.1 Potential and actual Accessibility levels

Actual origin-destination (OD) flows with activity details reveal the real choices and behaviors of residents and visitors regarding activity locations. Therefore, this research employs both actual and potential accessibility measures, derived from real travel flows, to assess the accessibility of various travel activity spaces to these two groups. Figures 5 (actual accessibility) and 6 (potential accessibility) illustrate the destination accessibility for residents and visitors across Jeju's spatial units, with color gradients from yellow (high accessibility) to purple (low accessibility) indicating travel cost.

Figure 5 shows the spatial distribution of actual access to destinations for both groups. Despite the prevalence of lighter colors in both Figures 5A and 5B, indicating generally high accessibility, Figure 5B contains more areas in light green than Figure 5A. This suggests that, overall, residents have better access to activity destinations, spending less time in transit. This discrepancy may be attributed to visitors preferring less time-efficient routes to explore and discover the tourism destination, as suggested by Lew & McKercher (2006).

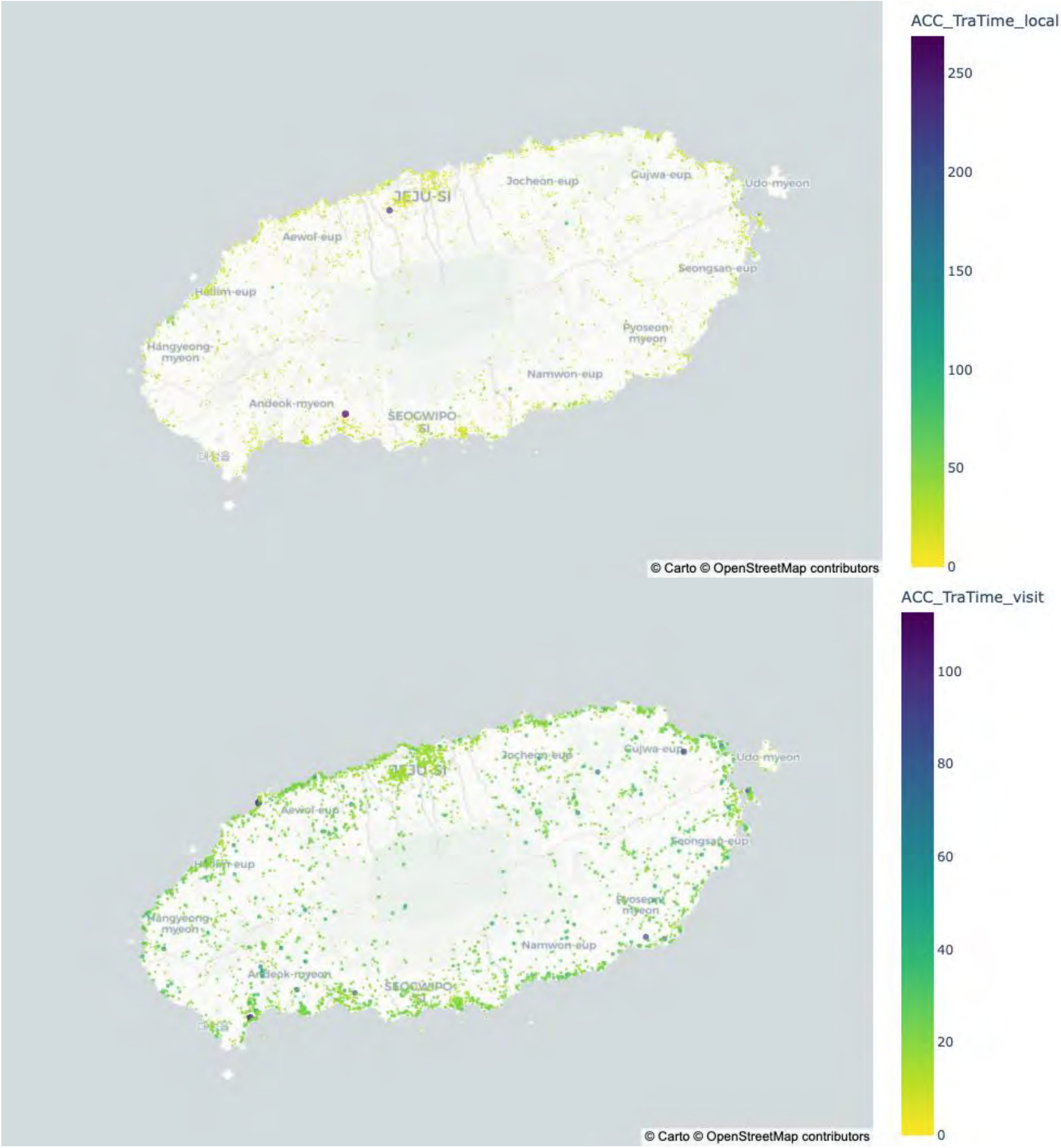


Figure. 5. Spatial distribution of positive destination accessibility between (A) residents and (B) visitors in Jeju.

The analysis of potential destination accessibility, focusing on the shortest travel distances for residents and visitors, is presented in Figure 6. Generally, higher accessibility levels are concentrated in Jeju-Si and Seogwipo-Si, where individuals travel less than 10 km for intra-city trips. This pattern is attributable to local knowledge: both cities boast a denser driving road network and a more diverse mix of land uses, facilitating easier access to various activities.

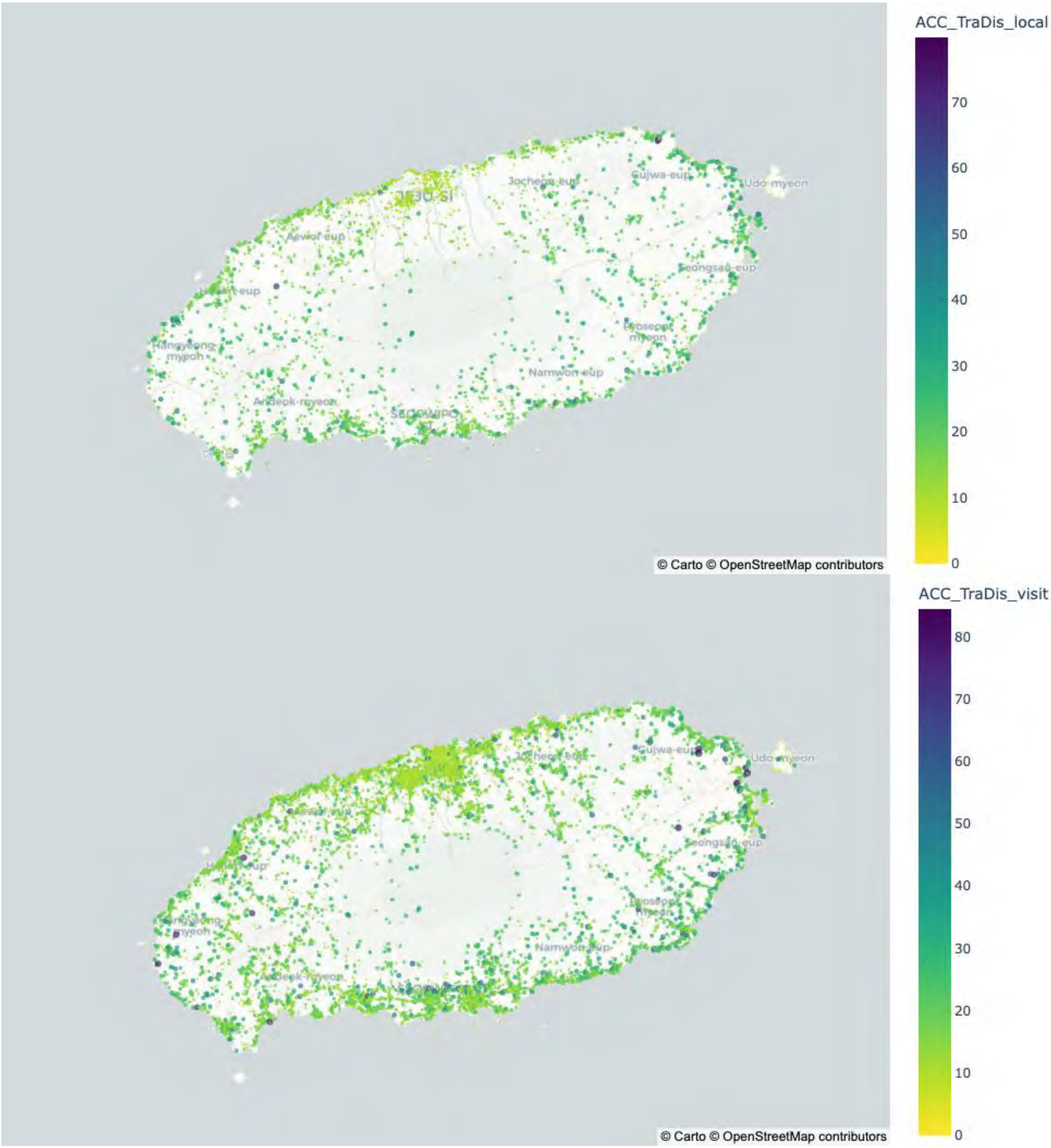


Figure. 6. Spatial distribution of normative destination accessibility between (A) residents and (B) visitors in Jeju.

4.3 Comparison of destination accessibility

The non-normal distribution of the data prompted the use of a Mann-Whitney U test to assess differences in destination accessibility for various travel or leisure activities between residents and visitors. Table 2 reveals that accessibility differences for four types of locations were statistically significant, with the exception of leisure sports destinations, where no significant disparity in actual access was found ($p < 0.001$). Generally, visitors tend to travel to farther destinations yet spend less time en route compared to residents, likely due to residents' greater familiarity with the local environment, enabling more efficient travel even over longer distances.

Specifically, visitors are more inclined to travel longer distances and spend more time in transit for attractions (e.g., National Parks, beaches), date courses, and (other) travel or leisure activities. In contrast, residents demonstrate a preference for, and actually undertake, longer trips in both distance and time for lodging (e.g., hotels, resorts). For leisure sports like water sports and horse riding, residents are more accepting of longer distances, though actual travel times do not significantly differ from visitors. This pattern suggests visitors are generally willing to incur higher costs in terms of both distance and time for travel or leisure activities, aligning with findings that visitors are inclined to explore destinations more extensively (e.g., Lew & McKercher, 2006).

Table. 2. Descriptive Statistics of destination accessibility (Mann-Whitney U test analysis)

Land-use	**Travel activities**	**Accessibility as Travel time in min**			**Accessibility as Travel distance in km**		
		Resident (18.54%)	**Visitor (81.46%)**	**Statistics**	**Resident (18.54%)**	**Visitor (81.46%)**	**Statistics**
Travel Leisure		22.03 (27.53)	22.25 (26.45)	562725.0***	15.74 (13.42)	15.68 (14.28)	571467.0***
Travel Leisure	**Lodging**	20.91 (28.02)	22.96 (29.40)	82763.0***	14.31 (13.77)	15.68 (15.12)	83549.0***
	Attractions	22.61 (26.93)	21.30 (26.93)	98522.0***	16.29 (13.39)	15.19 (13.65)	100170.0***
	Date course	24.59 (29.83)	23.19 (24.54)	283.5***	16.82 (12.61)	16.17 (12.70)	284.5***
	Leisure sports	22.23 (26.38)	22.76 (26.78)	10405.0	16.70 (12.62)	17.42 (13.39)	10153.0***
	Travel / Leisure	24.71 (35.69)	22.87 (22.81)	301.0***	18.36 (14.00)	17.26 (13.07)	298.0***

(Note: The values in statistic needs to consider the value times 10^6 when interpretating the results; (1) Standard deviations in parentheses. (2) The significance of the difference between the groups was assessed by Mann-Whitney U test. ∗∗∗ $p < 0.001$, ∗∗ $p < 0.01$, ∗ $p < 0.05$.)

4.4. Segregation levels as outcome co-accessibility

This section evaluates the segregation levels at travel or leisure destinations accessed by both residents and visitors in Jeju, using Local Entropy (LE) and Location Quotient (LQ) analyses.

4.4.1 Local entropy

LE measures the visitor-to-resident ratio across Jeju's spaces (Figure 7). Areas marked in purple (LE = 1) indicate equal representation of visitors and residents, showcasing perfect diversity. Conversely, areas in yellow (LE = 0) are frequented by only one group. With over 15% of 4871 analyzed spaces falling into this category, it's evident that a significant number of locations are visited exclusively by one group.

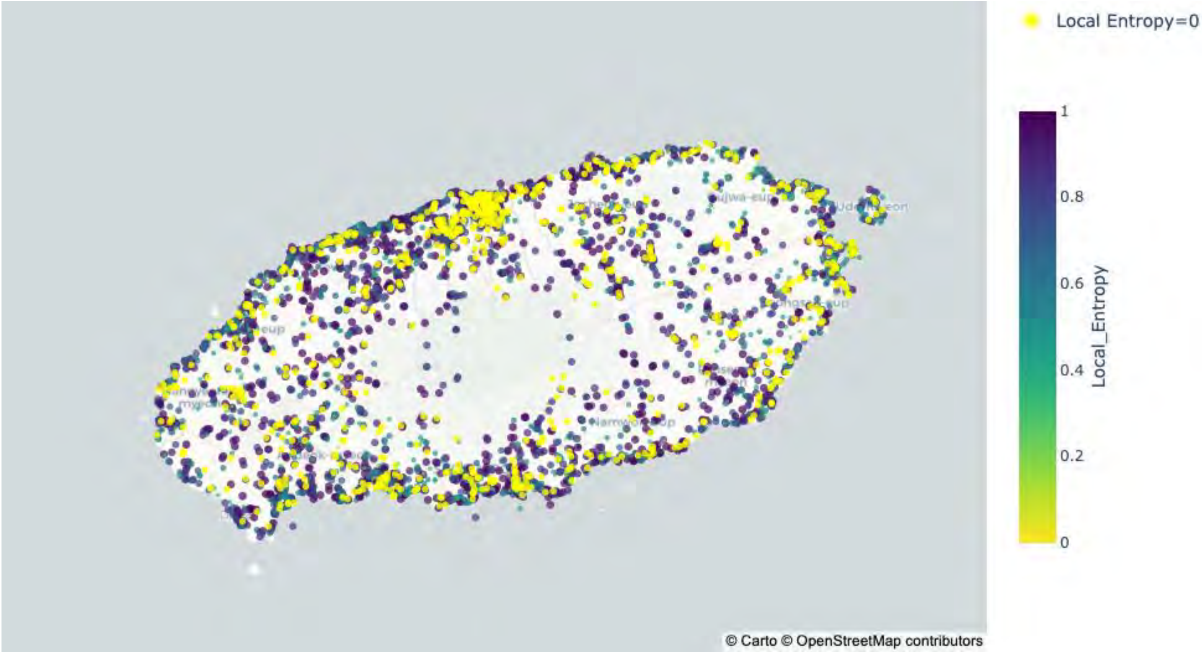
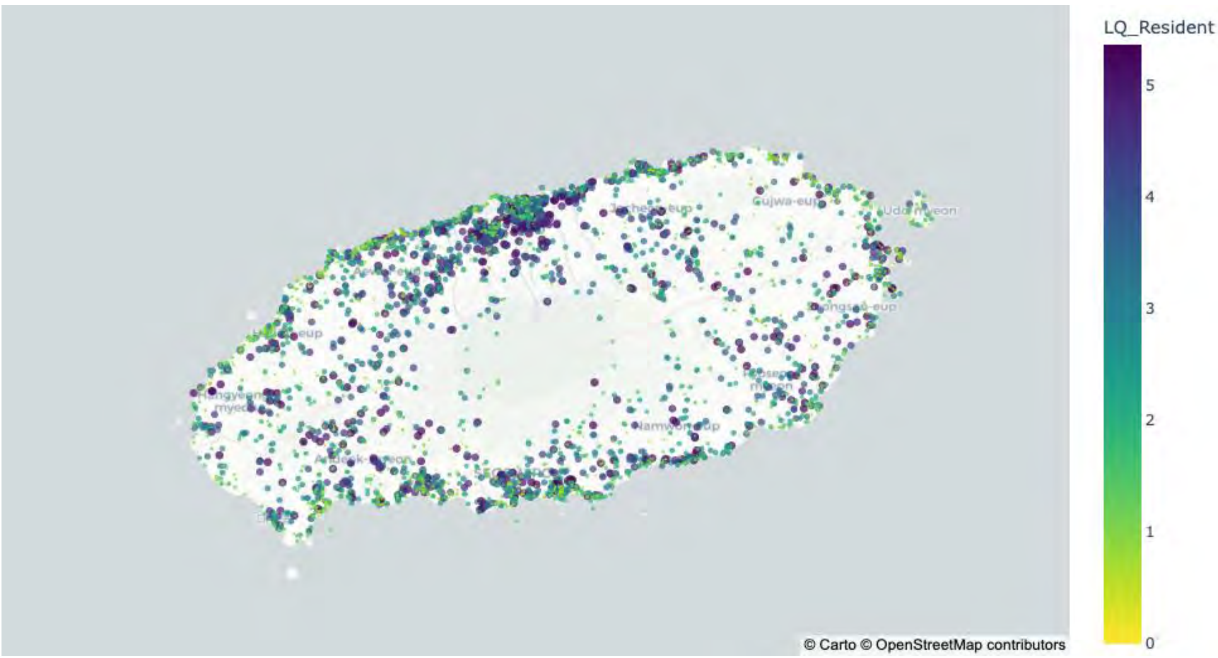


Figure. 7. Spatial distribution of Local Entropy in Jeju.

4.4.2. Location Quotient

The average LQ values for residents (1.92) and visitors (0.79) suggest residents are over-represented, whereas visitors are slightly under-represented. The LQ distribution indicates a disproportionate presence of residents in many areas, particularly leisure sports locations, highlighted in purple (Figure 8). Despite no significant access difference to these sites between the two groups, residents show a pronounced preference, potentially influenced by the desire for longer-distance driving and greater social distancing from visitors during COVID-19. This behavior, particularly evident in leisure sports, can be attributed to a behavioral shift during the COVID-19 outbreak mentioned in previous research (e.g., Ren et al., 2022).



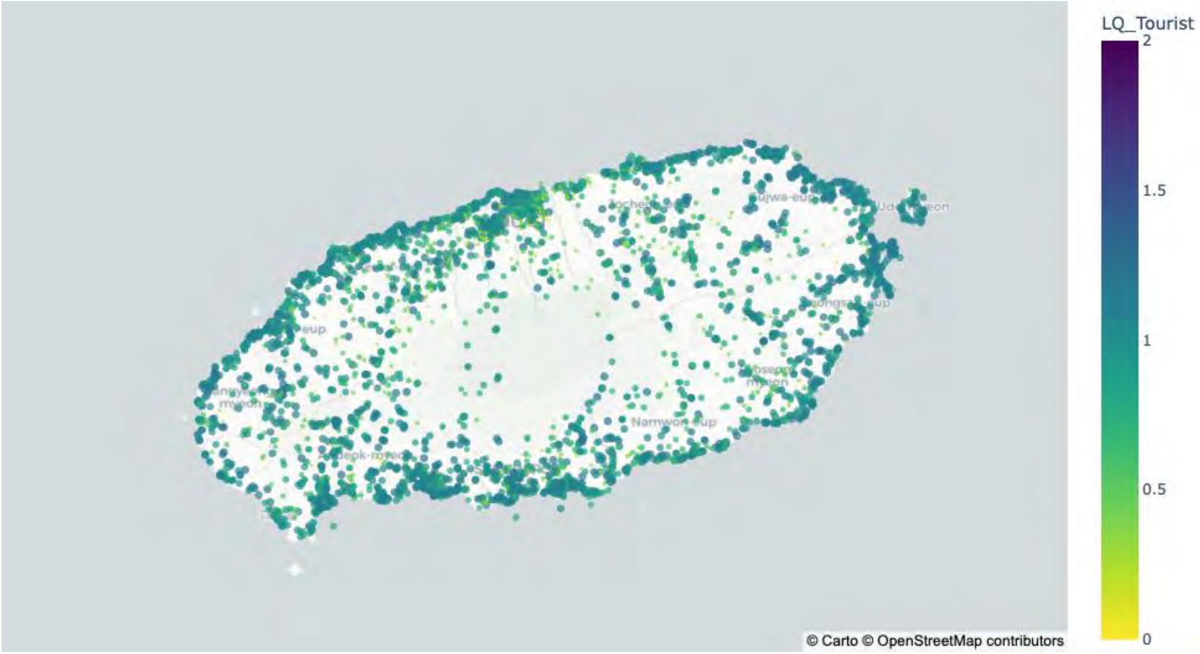


Figure. 8. Spatial distribution of Location Quotient for (A) residents and (B) visitors in Jeju.

5. Discussion and Conclusion

5.1. Discussion and implications

This research contributes academically by challenging the static spatial conceptualization of accessibility and segregation, traditionally focused on residential areas. Aligning with the "new mobilities paradigm," it underscores spatial mobility as essential for engaging in activities and socio-spatial interactions (Li et al., 2022). This study advances understanding of human mobility by assessing accessibility and segregation at travel and leisure destinations for both residents and visitors, highlighting the dynamics of co-accessibility and exposure to diverse groups.

The prevailing research often relies on potential (normative) accessibility due to a scarcity of high-resolution spatial and temporal data, leading to a blurred distinction between actual (positive) and potential accessibility in the literature (Shi, Blainey, Sun, & Jing, 2020). This study addresses this gap by juxtaposing potential and actual accessibility, using extensive origin-destination (OD) flow data to delineate their differences. Furthermore, it advances the methodology for examining interactions between visitors and residents in travel mobility by assessing the accessibility of Jeju's activity destinations to both groups.

Practically, this study's insights into accessibility and segregation inform urban planners and tourism policymakers, facilitating strategic development across different spatial units. This understanding is crucial for promoting harmonious interactions between visitors and residents, contributing to the sustainable and inclusive growth of tourism destinations. For instance, improving access to services in mixed-functional centers for both residents and visitors can enhance opportunities for meaningful encounters and interactions. Such enhancements are likely to foster positive social integration between tourists and the local community, enriching the tourism experience and supporting community cohesion.

5.2. Conclusion

This study proposes a framework to assess spatial segregation and interaction between residents and visitors through co-accessibility at activity destinations, utilizing actual OD flows. It highlights co-accessibility's role in understanding interactions based on travel behaviors. By employing specific accessibility and segregation measures, the study reveals 1) accessibility disparities to travel or leisure locations between residents and visitors in Jeju, and 2) notable segregation of residents at these destinations, especially in leisure sports, despite similar accessibility levels for both groups.

Despite its contributions, this study has limitations, including its focus on spatial rather than temporal variations in accessibility and segregation, and overlooking the impact of different travel modes on co-accessibility. Future research could incorporate temporal aspects and explore how accessibility and segregation vary with different modes of travel.

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Influencing repatronage intentions through self-Order kiosks in quick-service restaurants

Carlo Caesar Alas
College of Tourism, Hospitality and Transportation Management
Polytechnic University of the Philippines

Roselle Joy Dacio
College of Tourism, Hospitality and Transportation Management
Polytechnic University of the Philippines

Kyle Miguel Sy
College of Tourism, Hospitality and Transportation Management
Polytechnic University of the Philippines

Rock Bryan B. Matias
College of Tourism, Hospitality and Transportation Management
Polytechnic University of the Philippines

Daryl Ace V. Cornell
College of Tourism, Hospitality and Transportation Management
Polytechnic University of the Philippines

Abstract:

The study explores quick-service restaurant repeat patronage intention in Manila self-ordering kiosks. Regardless of age, effort anticipation boosts repeat business. Although performance expectancy may not directly promote repeat patronage, it is linked to positive experiences (Hedonic Motivation), especially for millennials. Self-service kiosks aren't always challenging or easy. The study says these kiosks have untapped potential beyond adornment. Accepting constraints, the research recommends positive performance expectancy, age-specific marketing, and self-ordering kiosk simplicity to improve consumer experiences. Despite no direct correlation, examine customer loyalty. Implementation involves feedback, targeted marketing, and consumer participation. Contrary to theories, hedonic motivation mediates food service industry Self-Service Technology (SST) adoption, suggesting a more comprehensive model.

Keywords: SST, QSR, Hedonic Motivation

1. Introduction

ICT has replaced personal services with technology-based self-service (TBSS) systems (Dabholkar & Bagozzi, 2002; H. J. Yang & Lee, 2008; Lee et al., 2021). Self-service kiosks, especially for food, minimize wait times and improve customer-employee relations (Han, 2020). Kiosks speed orders, boost income, and cut operator expenses (Kim, 2018).39. Technology concerns and user stress persist (Hilton, 2013; Han, 2020). QSRs use technology to adapt to consumer tastes and economic conditions (Nguyen et al., 2018). QSRs' speed, convenience, and low pricing make them crucial despite limited traditional services (Sahagun et al., 2014;

Gallarza-Granizo, 2020).

Repeat patronage intention (RPI), reflecting customer loyalty, is influenced by factors like effort expectancy (EE), performance expectancy (PE), hedonic motivation (HM), and age (Tan and Almatari, 2012; Badar & Waheed, 2022). However, there is a lack of research on how HM and age impact RPI, limiting our understanding of technology adoption (Chua et al., 2018)20. This study aims to explore these relationships and identify areas for improvement in self-ordering kiosk technology. The study's objectives include assessing the impact of HM on the relationship between PE and RPI, identifying areas for improvement in technology, and understanding how different generations perceive technology adoption (Illahi et al., 2019). By considering age as a moderating variable, the study seeks to understand its influence on customer perceptions and RPIs (Venkatesh et al., 2003). Additionally, this study also aims to investigate the relationships between PE, EE, and HM toward self-ordering kiosks (SOKs) in QSRs in Manila. Additionally, existing deficiencies in self-ordering technology, such as payment acceptance issues, will be addressed (Seo, 2020). This study aims to provide insights for QSRs to prioritize self-ordering kiosk development and utilization. Key questions driving the research include the impact of enjoyability, usefulness, and ease of use of SOKs on RPI, along with the moderation of these relationships by age. Thus, this study aims to contribute to customer's understanding of technology adoption in QSRs and provide actionable insights for improving self-ordering kiosk technology and enhancing customer satisfaction.

2. Literature Review

Self-Service Technology and Quick-Service Restaurant

In line with the widespread adoption of technology-based self-service (TBSS) in the QSR sector, Self-Ordering Kiosk (SOK) technology has emerged as a prominent form of technology implementation. SOKs, classified as Self-Service Technology (STT), enable individuals to perform tasks or transactions without interaction with service personnel (Akesson et al., 2018)3. Customers are attracted to SOKs due to their ability to order meals, receive customized service, and reduce waiting times, especially during peak hours when traditional waitstaff may be overwhelmed (Bitner et al., 2000; Baba, 2020) quickly and conveniently.

This technological innovation has been embraced by QSRs in the Philippines, such as Jollibee, McDonald's, and KFC, to modernize the customer experience and stay competitive in the market. Jollibee introduced its first self-ordering kiosk in 2018, followed by McDonald's launch of its NXTGEN program offering a digitized alternative for ordering and payment (Zinampan, 2019; Gonzales, 2018). KFC also joined the trend by introducing the KFC-Ken Robot Kiosk in 2023, aiming to provide a safer dining experience with minimal physical contact amidst the pandemic (Hilario, 2023).

The implementation of technology in fast food establishments aims to attract millennials, although the acceptance of technology as a form of customer service interaction among different generations, including millennials, remains unclear (Bitner et al., 2000; Baba, 2020)8. This highlights a gap in understanding the acceptance of SOKs among various customer demographics and its impact on patronizing QSRs.

Performance Expectancy
Technology has greatly impacted the fast-food industry, leading restaurants to use it to improve order processing, customer service, and operations (Bullock N., 2023). Tech can help with work, but Maglio et al., 2019 said it can also be pleasant and give people hedonic value (Ahmad et al., 2021). Positive emotions also increased customers' acceptance of technology and reduced their resistance to employing it during service interactions (Roy et al., 2020). Consumers may view onsite restaurant interactive self-service technology as a tool for entertainment and emotional value rather than task completion (Xu et al., 2020). In addition, Salimon et al. 2017 found that the interaction between PE and HM can encourage users to reuse M-taxi services by appealing to emotions and repeating the intention to book. (2019, Siyal et al.).

Nevertheless, Altamari et al. in 2013 and Wong et al. in 2015 found that PE affects use and strongly predicts behavioral intention. To clarify, worthless technologies reduce adaptation, regardless of their potential (Chua et al., 2018). According to Venkatesh et al. in 2003 and Falk et al. in 2007, age moderates PE, with men and younger users seeing a greater influence. Laukkanen et al. (2007) found that elderly customers are reluctant to change virtual services, which Arenas-Gaitan et al. (2015) attributed to their reluctance to adopt new technology like mobile banking (Merhi et al., 2021)50. Acheampong et al. (2018) found substantial differences in performance and EE among e-payment system development ages. The study investigated the following hypothesis:

H1a Performance expectancy has a positive effect on the hedonic motivation of customers in self-ordering kiosks.
H1b Performance expectancy has a positive effect on the repeat patronage intention of customers in self-ordering kiosks.
H1c Age moderates the relationship between performance expectancy and customers' repeat patronage intention on quick-service restaurants with self-ordering kiosks.

Effort Expectancy
Another dimension of customer attitude is effort expectancy, which is the perceived difficulty or ease of using information systems and technology to reduce energy and time spent on work. Easy usage promotes hedonic advantages, provokes emotional responses, and lets users focus on their experiences and feelings, which increases their intention to adopt new technology (Deng & Yu, 2023; Hu et al., 2022). EE also precedes HM (Tamilmani et al., 2019). Repeat patronage is a behavioral intention (Hu et al., 2019)33. EE is a behavioral intention antecedent because it has powerful positive consequences. (To & Trinh, 2021; Ahmad et al. 2021; Chua, 2018). Age moderates the EE-RPI relationship. The UTAUT2 model, which has been used in many contexts, found age and other variables to moderate seven dimensions, including EE. EE predicts persistence across ages (Lakhal & Khechine, 2021) and moderates the link between EE and usage intentions (Yang & Koenigstorfer, 2021). Based on the preceding discussions, the study will test the following hypotheses:

H2a Effort expectancy has a positive effect on the hedonic motivation of customers in quick-service restaurants with self-ordering kiosks.

H2b Effort expectancy has a positive effect on the repeat patronage intention of customers in quick-service restaurants with self-ordering kiosks.
H2c Age moderates the relationship between effort expectancy and customers' repeat patronage intention on quick-service restaurants with self-ordering kiosks.

Hedonic Motivation
HM is strongly linked to PE, EE, and enabling situations (Siyal et al., 2021). Research indicates that HM modulates the link between behavioral intention and perceived utility, particularly in mobile learning experiences like the COVID-19 epidemic (Sitar-Tăut et al., 2021). As a mediator, HM positively affects behavioral intention, as shown by Mainolfi et al., 2022. According to Vieira et al. (2018), RPI and customer happiness and loyalty are strongly correlated with HM. It is the second strongest predictor of behavioral intention, customer satisfaction, and repurchase intention (Park, 2020; Eksangkul & Nuangjamnong (2022)). Customer value perception affects customer satisfaction and RPI (Iyer et al., 2018). Consumers driven by HM often repurchase due to atmosphere or service satisfaction (Munaro et al., 2020).

These findings from the literature lead the researchers to incorporate HM as a mediator to examine its direct and significant impact on PE and RPI in SOKs. HM moderates PE and RPI, according to this literature review. Thus, the study hypothesizes:

H3 Hedonic motivation mediates the performance expectancy and customers' repeat patronage intention on quick-service restaurants with self-ordering kiosks.

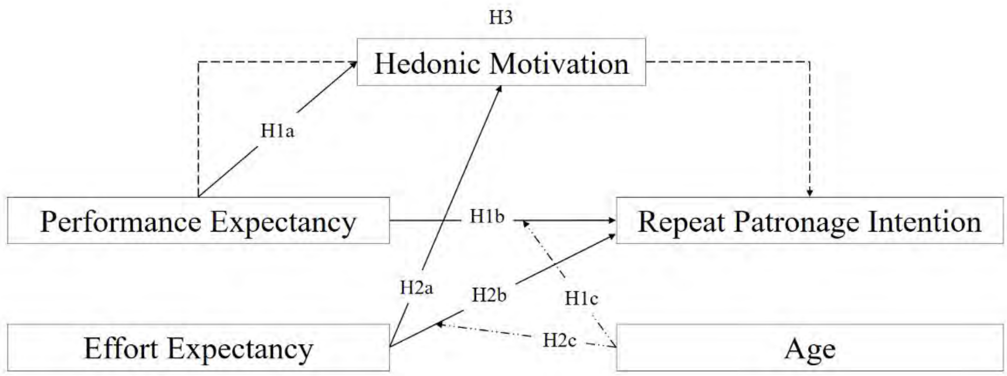

Figure 1: Research Paradigm

3. Methodology

Considering the objective of the study it is evident that the research is indeed quantitative. Subsequently, this will encompass a range of methods concerned with the systematic investigation of the behavioral intention of the customers towards the technology and how it affects their intention to patronize QRS more than once—using numerical data. Furthermore, considering the study's quantitative approach, it will also align with the positivist paradigm to generalize customer acceptance of the self-ordering kiosk by testing the predefined hypotheses within the specific sections of this study (Park et al., 2019). This, in turn, is expected to yield results that can be representative of the chosen target population. Similarly, based on the study's approach, it will adopt Partial Least Square-Structural Equation Modeling (SEM) due to its ability to assess mediation (Hayes, 2018). Hence, it suggests using PLS-SEM to be the most effective in estimating the mediating effects among latent variables (Hair, 2019).

The study's targeted population is customers of quick-service restaurants with the presence of SOKs in Manila who possess the following characteristics: 1) have experienced using a self-ordering kiosk in a QSR, and 2) have an age belonging to either the generation of Baby Boomers, Generation X, Millennials, or Generation Z. Due to these characteristics sought by the researchers, purposive sampling will be used to select the respondents of the study. This type of sampling moves away from any random form of sampling (Campbell et al., 2020) and is used to select respondents most likely to yield appropriate and useful information (Bourgeault et al., 2010).

Due to the nature of the research design, it is deemed by the researchers that survey questionnaires will be appropriate to utilize in obtaining the insights of participants. These questionnaires will be subdivided into two (2) parts. The first one concerned the demographic profile of the participants, and the latter part will mostly be composed of the measurement entries of the UTAUT model (Venkatesh et al., 2003), and "The Online Technology Acceptance Model of Generation-Z People in Thailand during Covid-19 Crisis" (Chayomchai, 2020). In addition, the study is inspired by the study of Gursoy et al., (2019), Puriwat & Tripopsakul (2021), and Bae & Lisa, (2018). Ultimately, each response to items will be measured through a 5-point Likert scale representing a score of one (1) as the "strongly disagree" and a score of five (5) as the "strongly agree". The questionnaire will be distributed to 385 respondents, representing the population around quick-service restaurants in Manila where SOKs are present. The population will be evenly segmented based on the four generations mentioned earlier. This segmentation approach will enable a focused analysis of each generation's behavior towards SOKs, providing insights into how different age groups may respond to the questionnaire and exhibit distinct behavioral patterns. By understanding these nuances, the study can conduct a more targeted analysis of the data and draw meaningful conclusions.

To ensure ethical standards, voluntary participation, and the right to withdraw at any time will be respected. Confidentiality and anonymity of data will be maintained, and responses will be handled professionally to protect participants' identities. Measures will be taken to prevent unauthorized access and use of personal information. Participants' consent will be obtained before using their data for the study, and the researcher will be responsible for safeguarding and appropriately using the collected data.

4. Discussion and Conclusion

Evaluation of the Measurement Model

The assessment of convergent validity and reliability of the latent constructs. In the internal consistency of items (reliability) of each construct, a composite reliability (CR) test was performed. Fornell and Larcker (1981)24 recommended that the value of CR must not be lower than 0.70. As seen in Table 1, all latent reflective constructs – performance expectancy (CR = 0.973), effort expectancy (CR = 0.981), hedonic motivation (CR = 0.987), and repeat patronage intention (CR = 0.987) are beyond the minimum requirement for internal consistency, hence, reliability is established. Convergent validity, on the other hand, evaluates the average variance extracted (AVE) and the factor loadings. Amora, (2021)7 states that the AVE of each latent construct and the item loadings must be at least 0.50, and each item loading must be significant, meaning the corresponding p-value must be $p < 0.05$. The findings in Table 1 suggest that performance expectancy (AVE = 0.903), effort expectancy (AVE = 0.855), hedonic motivation (AVE = 0.918), and repeat-patronage intention (AVE = 0.908) passed the requirements for convergent validity.

Table 1 – Assessment of the Constructs' Convergent Validity and Reliability

Construct/Item	**Standardized Loading**	**Average Variance Extracted (AVE)**	**Composite Reliability (CR)**
Performance Expectancy			
	0.961	**0.903**	**0.973**
PE1	0.961		
PE2	0.942		
PE3	0.944		
PE4	0.944		
PE5			
Effort Expectancy			
EE1	0.933		
EE2	0.931		
EE3	0.94	**0.855**	**0.981**
EE4	0.881		
EE5	0.931		
EE6	0.944		
EE7	0.92		
EE8	0.91		
EE9	0.923		
EE10	0.934		
Hedonic Motivation			
HM1	0.948		
HM2	0.958	**0.918**	**0.987**
HM3	0.959		
HM4	0.962		
HM5	0.959		
HM6	0.961		
HM7	0.96		
HM8	0.958		
Repeat-Patronage Intention			
	0.956		

RPI1	0.951		
RPI2	0.949	**0.908**	**0.987**
RPI3	0.953		
RPI4	0.958		
RPI5	0.951		
RPI6	0.955		
RPI7	0.952		
RPI8	0.953		
RPI9			

Evaluation of the Structural Model

The succeeding phase of PLS-SEM is the evaluation of the structural modeling. It involves testing the overall hypothesized relationships - direct, mediating, and moderating effects.

Analysis of the data showed that PE has a significant influence on HM (β = 0.326, p = 0.001). On the other hand, PE was found to have no significant effect on RPI (β = 0.028, p = 0.291). From these findings, it can be noted that PE has a moderate effect on HM (f2 = 0.299) implying that the customers deemed that the perceived usefulness of SOKs increases the entertainment or pleasure that they acquired after using the technology. Furthermore, the technology highlights that functionality is a key factor contributing to customer satisfaction in the context of their enjoyment (Roy et al.'s 2020). Positive emotions, as identified, enhance customers' willingness to embrace technology while reducing objections to its use during service interactions. On the other hand, the PE has a weak effect on repeat-patronage intention (f2 = 0.024) stating that the performance of SOK does not influence the intention of customers coming back to quick-service restaurants to dine again. This contradicts the studies of Alalwan et al. (2017), Siyal et al. (2019), and Jeyaraj et al. (2006), particularly Siyal (2019), which suggests that service usefulness encourages continuous patronage among customers. Therefore, H1a is supported, while H1b is not supported.

In addition, the result showcases that EE has a positive and small influence on HM (β = 0.640, p = 0.001, f2 = 0.193) noting that effort needed to exert in SOKs has an impact on the pleasure that the customers are getting from using the technology while did not influence it greatly, on the same note, it holds a significant and large effect on repeat-patronage intention (β = 0.211, p = 0.001, f2 = 0.681). Therefore, H2a and H2b are supported. This implies that as SOKs become easier to use, the experience of utilizing them will become more enjoyable and pleasurable. Similarly, customers' willingness to return to these quick-service restaurants will also increase. This agrees with the study of Deng & Yu (2023) and Wilson et al. (2021).

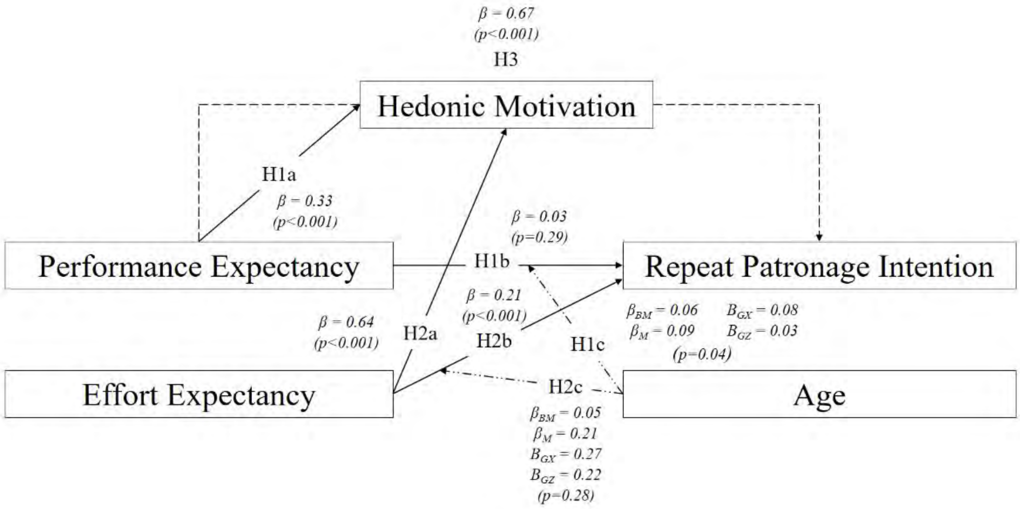

Figure 2: Structural Model with Parameter Estimates

Mediation analysis was used to gauge the intervening effects of HM on the link between PE and RPI. Table 2 indicates that HM significantly mediates the relationship between PE and RPI (β = 0.660, p < 0.001), with a large effect size (f2 = 0.589) of utilizing the SOKs in quick-service restaurants. For customers, the implication is that their likelihood of returning to quick-service restaurants with SOKs is influenced not only by the effectiveness of the technology but also by the enjoyment derived from using it. It underscores the importance for customers to perceive value not just in terms of functionality but also in the overall experience when interacting with kiosks in quick-service restaurants, Mainolfi et al., (2022), Park (2020), and Munaro et al. (2020). Therefore, H3 is supported.

Table 2 – Hypothesis Testing – Direct and Indirect Effects

Hypothesis	Path Coefficient	p-value	Standard Error	Effect Size	Decision
Direct Effect					
H1a. PE -> HM	0.326	<0.001	0.048	0.299	**Supported**
H1b. PE -> RPI	0.028	0.291	0.05	0.024	**Not Supported**
H2a. EE -> HM	0.640	<0.001	0.046	0.193	**Supported**
H2b. EE -> RPI	0.211	<0.001	0.049	0.681	**Supported**
Indirect Effect					
H3 PE -> HM -> RPI	0.660	<0.001	0.033	0.589	**Supported**

Moderating Effect of Age - Baby Boomers, Millennials, Generation X, and

Generation Z

The present study also examines the moderating effects of age (Baby Boomers, Millennials, Generation X, and Generation Z) on the relationship between PE and RPI (H1c), and between effort expectancy and RPI (H2c) in SOKs in quick-service restaurants. Since the moderator (age) is a categorical variable, a multigroup analysis (MGA) was performed.

The first phase in performing the MGA is the robustness test using measurement invariance. This stage evaluates the structural model to establish that the same construct is being gauged across some specified groups, in this case, among respondents identified in any of selected age groups. Memon et al., (2019) noted that the measurement variance is a prerequisite of MGA. Using the constrained latent growth with loadings using WarpPLS 8.0 (Kock, 2014 Kock, 2022), the results reveal that no measurement invariance was detected in the model (Kock, 2022).

Table 3 – Measurement Invariance

Item	Generation: 4 Generational Group	
	ALGC for Loading	**P-value**
PE1	0.016	0.825
PE2	0.018	0.805
PE3	0.011	0.886
PE4	0.003	0.97
PE5	0.011	0.88
EE1	0.042	0.564
EE2	0.021	0.781
EE3	0.008	0.909
EE4	0.023	0.76
EE5	0.028	0.708
EE6	0.025	0.738
EE7	0.016	0.833
EE8	0.022	0.763
EE9	0.052	0.479
EE10	0.092	0.207
HM1	0.026	0.725
HM2	0.034	0.645

HM3	0.03	0.684
HM4	0.049	0.506
HM5	0.05	0.493
HM6	0.036	0.624
HM7	0.004	0.96
HM8	0.053	0.473
RPI1	0.074	0.309
RPI2	0.012	0.873
RPI3	0.01	0.894
RPI4	0.021	0.776
RPI5	0.02	0.785
RPI6	0.023	0.757
RPI7	0.014	0.855
RPI8	0.037	0.611
RPI9	0.046	0.532

Following the measurement invariance test, MGA via constrained latent growth method using WarpPLS 8.0 was conducted (Kock, 2022). Table 4 demonstrates a notable impact on the relationship between PE and repeat-patronage intention (ALGC = 0.125, p = 0.042) in AI-enabled quick-service restaurants among respondents of various age groups. Notably, the path coefficient values reveal that PE has the most substantial effect on millennials (βM = 0.092), followed by Generation X (βGX = 0.083), Baby Boomers (βBM = 0.059), and Generation Z (βGZ = 0.026). These findings underscore a significant connection between PE and patrons' intentions to revisit quick-service restaurants in Manila. The results suggest that age significantly influences the relationship between the usefulness of SOKs and customers' intentions to dine again in such quick-service restaurants. Additionally, the findings imply that this association is not uniformly perceived or does not exert the same impact across all age groups (Merhi et al. 2021). Therefore, H1c is supported.

The study found no significant difference in the relationship between EE and RPI among respondents of different age groups (ALGC = 0.043, p = 0.280), leading to the rejection of H2c. Specifically, Baby Boomers showed the lowest path coefficient (βBM = 0.045), while subsequent generations did not exhibit significant differences. These results indicate that age does not moderate the connection between EE and RPI across age groups in quick-service restaurants. Regardless of age, customers seem to assess the ease of use similarly when considering returning to quick-service restaurants with SOKs. This uniform evaluation underscores the importance of user-friendly interfaces and minimizing perceived effort to accommodate a diverse customer base in quick-service restaurant environments.

Table 4 – Moderating Effects via Multigroup Analysis (MGA)

Hypothesis	**Path Coefficient**							
Generation	**Baby Boomers**	**Millennials**	**Generation X**	**Generation Z**	**ALGC**	**p-value**	**t-ratio**	**Decision**
H1c. PE -> RPI	0.059	0.092	0.083	0.026	0.125	0.042	1.725	**Supported**
H2c. EE -> RPI	0.045	0.211	0.272	0.217	0.043	0.280	0.584	**Not Supported**

5. Conclusion

The study emphasizes key factors influencing customers' perceptions of SOKs in quick-service restaurants, particularly how the enjoyment of using these kiosks impacts RPI. Age is recognized as a factor shaping these perceptions, suggesting the need for inclusive design in the kiosk user interface. Identified limitations, such as a narrow focus on SOKs and the need for broader data collection, highlight the importance of future research examining different restaurant technologies and gathering insights from a more diverse audience. Addressing these gaps will provide a deeper understanding of customer preferences regarding technology in quick-service restaurants. The study findings indicate that while the usefulness of SOKs alone does not significantly impact RPI, coupling it with an enjoyable experience does.

This underscores the importance of enhancing kiosk features to make the experience not only practical but also enjoyable. Although age influences younger customers' emphasis on practicality, other strategies are needed to foster loyalty. Despite the modest impact of kiosk ease of use on RPI, ensuring a user-friendly interface remains crucial. Designing interfaces accessible to all ages is essential for successful adoption. Improving accessibility features, such as language options and adjustable fonts, can enhance user satisfaction and adoption rates, particularly among diverse demographics. Exploring innovative features can further improve usability and inclusivity, ultimately enhancing the overall customer experience.

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Digital battlegrounds: Exploring the Asia Pacific travel and tourism Cyber Threatscape

Paraskevas, Alexandros
London Geller College of Hospitality and Tourism
University of West London

Abstract:

This study examines the cyber threatscape targeting the Asia-Pacific (APAC) travel and tourism sector. Analysing 16 documented 2023 attacks through the Diamond Model reveals state-sponsored actors, ransomware groups, and hacktivists as primary threats. Prevalent attack types include ransomware, data breaches, and DDoS. Attackers often exploit technical vulnerabilities and social engineering. The findings highlight an urgent need for the APAC travel and tourism sector to strengthen cybersecurity and collaborate with external stakeholders to counter these escalating threats.

Keywords: APAC, travel and tourism, cybersecurity, diamond model, threat actors, ransomware

1. Introduction

In the rapidly evolving digital era, the Asia Pacific (APAC) region stands at the forefront of the unwelcome trend of becoming the epicentre of cybercrime activities. The confluence of the democratisation of malicious software, the sophisticated organisation of cybercriminal groups, geopolitical strife, and economic volatility has made the region the new 'ground-zero' for cybercrime (WEF, 2023). This evolving landscape sees APAC experiencing particularly severe consequences, with Check Point Research (CPR, 2023) reporting the highest year-on-year increase in weekly cyberattacks during the first quarter of 2023. This trend continues from 2022 when APAC was the most attacked region accounting for 31% of attacks globally (IBM, 2023). On average, organisations in APAC faced 1,835 attacks per week – significantly exceeding the global average of 1,248 attacks per week. Although this is alarming for industries across APAC, of particular concern is that the travel and tourism sector, with its reliance on sensitive customer data, interconnected global networks, and increasing adoption of digital technologies, presents a particularly attractive target for cybercriminals within the APAC region. One out of every 17 organisations in APAC was impacted by ransomware attacks, with one out of every 50 being in the travel and tourism sector (CPR, 2023). These alarming trends expose another concerning gap which is that the travel and tourism industry lags behind in awareness, preparedness, and proactive cybersecurity risk planning. The gap persists despite calls for a strategic, risk-based approach (Fragnière & Yagci, 2021; Paraskevas, 2022) and highlights a huge vulnerability, with the industry now ranking third globally in incidents (GlobalData, 2024).

To narrow this gap, a deeper understanding of the specific threats lurking in the digital landscape is necessary. This paper uses the Diamond Model of intrusion as a theoretical framework to investigate the APAC travel and tourism sector's cyber threatscape to answer three key research questions:

- RQ1: Who are the primary threat actors targeting the APAC travel and tourism sector?
- RQ2: What specific cyber threats are most prevalent for APAC travel and tourism organisations?
- RQ3: How do threat actors typically launch these attacks on APAC travel and tourism organisations?

2. Literature Review

There are several models for the analysis of cyberattacks depending on what the analyst is looking for, the most prominent being the Kill Chain (Ahmed et al., 2021), the MITRE ATT&CK (Rajesh et al., 2022) and the Diamond Model (Caltagirone et al., 2013). To group attacks and understand broader trends and to attribute attacks to specific perpetrators, highlighting the relationships between different elements of an attack, the Diamond Model (Fig. 1) is deemed more appropriate as it provides a detailed analysis of cyberattacks by focusing on the attackers' identity, their motives, and the tools they use. It allows for a closer examination of the cybercriminal background and the infrastructure employed in attacks and centres around four core elements:

- **Adversary:** the threat actor, whose analysis entails understanding their origins, motivations, potential sponsorships, skill levels, and operational timelines. This understanding is important for predicting and mitigating potential attacks.
- **Capability:** refers to the tools, techniques, and expertise the adversary uses to conduct the attack, such as malware, exploits, and social engineering tactics. Evaluating these capabilities offers insights into the adversary's attack methods and vectors.
- **Infrastructure:** denotes the technical resources employed in the attack, including compromised systems and command and control servers. Identifying these elements can reveal vulnerabilities and aid in disrupting adversary activities.
- **Victim:** the target of the attack, characterised by their location, industry, profile, and the data or assets sought by the adversary. Knowledge of the victim assists in understanding the attack's intended impact and crafting defensive strategies.

Fig 1. The Diamond Model of Intrusion

Source: Caltagirone, S., Pendergast, A., & Betz, C. (2013).

3. Methodology

A qualitative research design was adopted to investigate the cyber threatscape targeting the Asia-Pacific (APAC) travel and tourism sector. The Diamond Model of Intrusion Analysis served as the theoretical framework, guiding the analysis of 16 documented cyberattacks against APAC travel and tourism organisations in 2023. Data for these attacks was obtained from open-source intelligence (OSINT) sources, including established threat intelligence feeds, industry-specific news aggregators and publicly available incident reports. To enrich the context and identify broader trends, supplementary information was gathered from cybersecurity research blogs and insights from the wider cybersecurity landscape within the APAC region. This additional data was obtained from the same OSINT sources listed above.

The analysis aimed at identifying the different Diamond Model components for these attacks. With a cross-analysis of this data, the study sought to identify recurring patterns within the APAC travel and tourism threatscape. This cross-referencing aimed to validate the findings and provide a more comprehensive understanding of the cyber threats faced by organisations within the sector.

To increase the study's credibility and minimise potential researcher bias, two independent cybersecurity professionals with expertise in the APAC region reviewed the data and participated in the Diamond Model profiling process. Any discrepancies arising during the analysis were addressed through collaborative discussion, ensuring a robust and well-calibrated final analysis.

4. Results

Table 1. Analysed cyberattacks against APAC travel and tourism organisations in 2023

	Date	Victim	Type of Attack	Perpetrator
1	February 28	Nok Air	Ransomware	LockBit
2	March 17	Biman Bangladesh Airlines	Ransomware	Unspecified
3	March 29	Meriton	Data Hack	Unspecified
4	April 2	Asian Airline (Unspecified)	Ransomware	Money Message
5	April 4	Pakistan International Airlines	DDoS	Team UCC
6	April 5	Crown Resorts	Data Breach / Ransom demanded	Gold Tahoe
7	April 8	Indian Airports (Delhi, Mumbai, etc.)	DDoS	Anonymous Sudan
8	May 3	Cambodia Angkor Air	Cyber Attack	Host Kill Crew
9	May 26	SpiceJet	Ransomware	Unspecified
10	June 23	Jakarta Airport	DDoS	Cyber Skeleton
11	June 28	Pan Pacific Hotels Group	Data Breach	Karakurt Group
12	June 30	Airports of Thailand Public Co. Ltd	DDoS	K0LzSec
13	October 19-20	Marina Bay Sands	Data Breach	Unspecified
14	November 23	Taj Hotels	Data Breach	Dnacookies
15	November 26	Gusti Ngurah Rai International Airport	DDoS	Team NWH Security
16	December 25	Indonesia Bali Airport	DDoS	Team NWH Security

RQ1: The primary threat actors targeting the APAC travel and tourism sector include:
1. State-sponsored groups, particularly those affiliated with China, Russia, and North Korea. These actors are motivated by economic espionage, geopolitical interests, and financial gain.
2. Financially motivated cybercriminals, such as ransomware groups like LockBit and Money Message, who seek to extort money from their victims by encrypting data and demanding ransom payments.
3. Hacktivist collectives, such as the Host Kill Crew (HKC), who launch attacks to further their ideological agendas or to create chaos and disruption.

RQ2: The most prevalent cyber threats for APAC travel and tourism organisations include:
1. Ransomware attacks, which encrypt an organisation's data and demand a ransom payment for its release, causing significant operational disruptions and financial losses.
2. Data breaches, where sensitive customer information, such as names, email addresses, phone numbers, and loyalty programme details, are compromised, damaging brand reputation and customer trust.
3. Distributed Denial-of-Service (DDoS) attacks, which overwhelm systems with traffic, rendering websites and services inaccessible and disrupting normal operations.
4. Phishing campaigns, where threat actors impersonate legitimate brands or use social engineering techniques to trick employees into revealing sensitive information or installing malware.

RQ3: Threat actors typically launch attacks on APAC travel and tourism organisations by:
1. Conducting reconnaissance to identify potential targets and vulnerabilities using tools like vulnerability scanners, social media monitoring, and open-source intelligence gathering.
2. Exploiting vulnerabilities in the organisation's digital infrastructure, such as unpatched software, weak passwords, or poorly configured systems.
3. Employing social engineering tactics, such as spear-phishing emails or malware-laden websites, to trick employees into revealing sensitive information or installing malicious software.
4. Leveraging insider threats or compromising third-party vendors to gain access to their ultimate target.
5. Using advanced techniques, such as supply chain attacks or zero-day exploits, to breach the organisation's defences.

5. Discussion and Conclusion

The cyber threat landscape in the Asia-Pacific (APAC) region has become increasingly complex and challenging for the travel and tourism sector. With a diverse range of threat actors, including state-sponsored groups, financially motivated cybercriminals, and hacktivist collectives, organisations face a multitude of threats, such as ransomware attacks, data breaches, DDoS attacks, and phishing campaigns.

To launch these attacks, threat actors employ sophisticated techniques, exploiting vulnerabilities in digital infrastructure, using social engineering tactics, and leveraging insider threats or compromised third-party vendors. The high-profile cyberattacks on organisations like Nok Air, Cambodia Angkor Air, Pan Pacific Hotels Group, and Marina Bay Sands in 2023 underscore the urgent need for robust cybersecurity measures and increased collaboration among industry stakeholders, government agencies, and cybersecurity experts to strengthen the sector's resilience against evolving cyber threats.

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Exploring the effect of immersive extended reality vs. 2D virtual tour on potential museum visitors' memorability and intention to visit

Sobhaeerooy, Reihane
Faculty of Management
Dalhousie University

Lee, Kyung Young
Faculty of Management
Dalhousie University

Deng, Qi
Sprott School of Business,
Carleton University

Sheehan, Lorn
Faculty of Management
Dalhousie University

Lee, Minwoo
Conrad N. Hilton College of Global Hospitality Leadership
University of Houston

Abstract:

This research investigates the transformative potential of Extended Reality (XR) technologies in enhancing potential museum visitors' experiences and shaping their intentions to visit physical museums. Using a field experiment, data were collected from 327 participants, who were exposed to a museum artifact through either XR or 2-dimension (2D) presentation mode. Findings highlight the significant influence of the manipulated presentation mode on narrative transportation and potential visitors' experiences, which in turn influence their memorability and intentions to visit the physical museum. This research emphasizes the significance of XR technologies in the tourism industry, specifically highlighting their potential for virtual museum offerings.

Keywords: museum artifact, visitor's experience, narrative transportation, memorability, extended reality, and intention to visit

1. Introduction

Cultural heritage encompasses a rich array of tangible and intangible elements societies preserve to protect their historical legacy. Museums, in this context, play pivotal roles. According to the International Council of Museums, museums hold a profound mission to acquire, preserve, research, communicate, and exhibit both tangible artifacts and intangible aspects of human heritage (ICOM, 2007). With approximately 104,000 museums worldwide, as Statista (2023) reported, these institutions serve as vital custodians and communicators of historical knowledge, reaching diverse populations and fostering a deeper appreciation of our shared cultural heritage. However, in recent years, museums have encountered increasing pressure due to the competitive and diversifying leisure marketplace (Han and Hyun, 2017). These institutions deal with the task of maintaining their relevance and attractiveness to visitors, amid changing societal dynamics (Germak et al., 2021).

To enhance visitors' experience, museums are reshaping their mission by combining historical knowledge about their artifacts with technology-driven innovation (Trunfio et al., 2022). Interactive kiosks, digitally linked audio guides, interactive games, extended reality (XR), and imaging technologies are among some of these technologies (Styliani et al., 2009). XR, the focus of this study, is a technological frontier that has gained prominence in recent years. XR serves as an umbrella term encompassing various immersive technologies, including Virtual Reality (VR), Augmented Reality (AR), Augmented Virtuality (AV), Mixed Realities (MR), and even potential future realities (Guo et al., 2022). The tourism sector has readily embraced XR, with applications spanning diverse areas (Guo et al., 2022).

While XR has made significant inroads in the tourism sector, its application in museums has only recently gained traction. While museums strive to enhance visitor experiences using XR, most previous studies have focused on on-site experiences, exploring the effects of on-site XR applications (e.g., augmented reality technology used in museum artifacts) on visitors' cognitive and behavioral responses within the physical museum environment. However, there remains a gap in the literature on the utilization of XR for "*potential*" visitors' off-site experience. To address this research gap, this research aims to investigate whether XR, applied to a museum artifact off-site, can significantly enhance potential museum visitors' narrative transportation (i.e., storytelling) about the museum artifact and their overall experiences in a manner that the technological innovation with XR can influence their intention to physically visit the museum, via enhanced memorability of the artifact. This purpose leads us to the following two research questions: *1) how does the impact of Immersive XR technologies when used off-site on potential museum visitors' narrative transportation and experience differ from the impact of a 2D-virtual museum tour on a museum's website? 2) how does their experience with XR or 2D-virtual museum tours affect their memorability and intention to visit the museum in person?*

To answer these questions, a field experiment with a manipulated presentation mode – XR (treatment) vs. 2D-virtual museum tour through the museum's website (i.e., 2D-tour, hereinafter) (control) – followed by survey data collection, was conducted to investigate the impact of the manipulated presentation mode of the artifact on the narrative transportation, experience, memorability, and intention to visit of the potential visitors to 'Van Gogh Museum'. A total of 327 data were tested using Partial Least Squares (PLS) technique. The findings reveal the significant impact of the presentation mode on potential museum visitors' narrative transportation and two aspects of pre-visit experience (entertainment and escapism). Additionally, potential museum visitors' experience has strong connections with memorability, and memorability plays a critical role as a mediator, bridging experience to future behavioral intentions. Our results highlight not only XR's important role in enhancing the potential visitor's experience over simple 2D-tours but also the role of the memorability formed by technological innovation in forming visitors' physical museum visit intention.

2. Literature Review

2.1. Extended Reality in the Tourism Industry
XR technology has been effectively deployed in cultural and heritage tourism (e.g., Jung et al., 2018), enhancing the exploration of historical sites and artifacts. It also plays a pivotal role in nature and ecotourism (Karadimitriou, 2019), offering immersive encounters with natural environments and wildlife. For amusement parks, XR enhances various park features to create unforgettable experiences (Santoso et al., 2022). As such, the broad spectrum of XR applications highlights its ability to meet various tourist preferences, ultimately enhancing the overall travel experience. A supplementary material to this manuscript provides a summary of recent studies conducted between 2015 and 2023 in different tourism areas. This literature review suggests that little empirical effort has been made to examine how XR technology used for a cultural artifact off-site can attract tourists to physically visit the tourist attraction in the museum context, which highlights the contribution of this study.

2.2. The impact of artifact presentation modes on narrative transportation and experiences
This study compares the effects of two different presentation modes enabled by information technologies (XR vs. 2D-tour) for virtually introducing a museum artifact (a drawing in a fine art museum) on potential visitors' *narrative transportation* and tourists' *pre-visit experience*.

First, *Narrative transportation* refers to the immersive state in which individuals become mentally engaged and absorbed in a narrative, leading to heightened emotional and cognitive involvement (Green & Brock, 2000). In the museum context, it can be understood as the degree to which visitors become immersed in a story, making their narrative experience feel akin to a genuine, lived experience with three dimensions: *mental imagery, loss of reality and time, and projection in the narrative universe* (Green & Brock, 2000; Jarrier et al., 2017).

As XR offers potential museum visitors' opportunities for deep immersion in virtual or augmented environments, enabling them to perceive themselves as present within these constructed worlds (Cipresso et al., 2018), it can excel in creating sensory-rich and interactive experiences that effectively blur the boundaries between physical and virtual realms. For instance, Van Laer et al. (2019) confirmed that digital stories, particularly those leveraging XR technologies, have the potential to heighten the narrative transportation effect. In contrast, the 2D-tour, while informative, may lack the immersive qualities necessary to induce the same level of narrative transportation, given its inherent limitations in sensory engagement. Therefore,

H1: Those visitors who are virtually exposed to the artifact through XR will have higher narrative transportation than those who are virtually exposed to it through 2D-tour.

The concept of the experience economy has relevance in the tourism industry, which inherently focuses on creating memorable experiences for visitors (Radder and Han, 2015). In the context of tourism, this shift towards experiential tourism aims to offer visitors unique and personalized experiences that leave a lasting impact (Oh et al., 2007). Among Pine and Gilmore's (1998) four aspects of experience: educational, entertainment, esthetic, and escapism, this study focuses on two aspects of experience – *entertainment* and *escapism* – in the context of the potential visitors who are exposed to a museum artifact not in-person but via either XR or 2D-tour technology. The *entertainment* experience involves activities or performances designed to provide amusement and pleasure to visitors, while the *escapism* experience represents the desire of visitors to break away from the routines of daily life and immerse themselves in something extraordinary.

Potential visitors can engage in *entertainment* activities within the destination, adding pleasure and enjoyment to their overall experience via XR, as XR technologies are known for their ability to create sensory-rich and interactive experiences, making them an ideal platform for entertainment (Jung et al., 2016). Besides, XR technologies excel in providing immersive experiences, enabling potential visitors to *escape* into the virtual or augmented environments they offer. Therefore, we argue that the immersive qualities of XR, its sensory richness, and its capacity to blur the boundaries between physical and virtual realms position it as a powerful tool for elevating the potential visitor experience in entertainment and escapism, much stronger than those of webpage-based 2D-tour. Therefore,

H2a~b: Potential visitors' level of entertainment (a) and escapism (b) experience will be higher in the XR environment than in the 2D environment.

Narrative transportation, the immersive state of mental engagement in a narrative, is a vital concept in the study of narratives (Cao et al., 2021). This sense of immersion significantly influences visitors' experience within a museum setting. First, it has the potential to enhance the entertainment experience, even for potential museum visitors engaging with artifacts virtually. When individuals are deeply transported into a narrative, whether through physical presence or virtual technology, they are likely to find the experience enjoyable, akin to engaging storytelling or entertainment (Green and Brock, 2000). Second, Narrative transportation allows potential museum visitors to momentarily detach from their everyday lives and become immersed in a different world (Chuah, 2018). This concept, closely linked to the idea of transportation, involves individuals feeling detached from their routines and fully immersed in a narrative (Green and Brock, 2000). In sum, when individuals engage with a narrative through narrative transportation, they experience a sense of escape from their regular routines. Therefore,

H3a~b: Narrative transportation positively affects the entertainment (a) and escapism (b) experience.

2.3. The relationship among potential tourists' experience, memorability and intention to visit

In tourism, tourists' memory is crucial for people to remember their personally significant travel experiences. Memorable tourist experience, or memorability, is defined as a tourism experience remembered and recalled after travel events occurred (Kim et al., 2012). Based on the literature on memorability (Hosany et al., 2022; Kim et al., 2012), this study adopts five memorability dimensions – *hedonism, novelty,* *refreshment, meaningfulness, and exciting-ness*, which reflectively measure the 2nd order measure of overall memorability.

Engaging and enjoyable (entertaining) experiences have been consistently shown to be more memorable (Kastenholz et al., 2018). Manthiou et al. (2014) have indicated that entertainment experiences can contribute to the vividness of memory, which is one of the primary components of memory (Tung and Ritchie, 2011). Kim et al. (2012) suggested that certain experiential dimensions, including refreshment and involvement (i.e.m entertaining experiences) significantly influence the ability to recollect past travel experiences. In addition, escapism, characterized by emotional involvement and immersion, has been identified as a significant contributor to memorability (Kastenholz et al., 2018). These experiences enable potential museum visitors to temporarily escape from their routine lives. Thus, we argue that entertaining and escaping experiences by getting exposure to a museum artifact via virtual means such as XR or 2D-tours will influence the memorability of potential museum visitors.

H4a~b: Entertainment (a) and escapism (b) experience has a positive impact on potential visitors' memorability.

Beyond its influence on memorability, visitors' experiences can also yield various behavioral responses, such as their intention to visit/revisit the museum. The existing literature links visitors' experiences with their intentions to revisit museums and cultural heritage sites, primarily focusing on on-site exposure, where visitors are physically present at the museum (Keng et al., 2007). These studies emphasize the significant role of well-staged experiences in driving visitor satisfaction and their likelihood to return, particularly vital in the intangible tourism industry (Hosany and Witham, 2010). In the museum context, Jung et al. (2016) found that favorable technology-driven escapism and entertainment experiences during on-site museum visits were associated with an increased intention to revisit.

However, while the extant literature predominantly measures intentions to revisit based on on-site exposure, this study breaks new ground by investigating the impact of exposing potential visitors to museum artifacts through XR or 2D-tour technology, thereby conducting off-site exposure assessments. The unique nature of this approach is aligned with the work of Lee et al. (2020) and Jung et al. (2016), as these studies also inquire about visitors' opinions regarding their off-site museum experiences. In light of this unique approach, we now examine how virtual and indirect exposure to a cultural artifact directly influences potential visitors' intentions to physically visit the museum.

H5a~b: Entertainment (a) and escapism (b) experience has a positive impact on potential visitors' intention to visit.

Memorability, as a crucial aspect of visitors' experiences, plays a pivotal role in shaping visitors' intentions to visit/revisit a destination. This connection between memorability and intention to visit is well-supported by previous research. Tourism literature has consistently demonstrated the significance of memorable experiences in predicting an individual's desire to revisit a particular destination in the future (Yang and Zhang, 2022). Individuals often rely on their recalled past experiences when making decisions related to travel and destination selection (Kim et al., 2012). Positive memories associated with a destination can lead to nostalgia-driven return visits, highlighting the profound impact of memory on destination choices (Sthapit et al., 2017). Furthermore, it is worth noting that memories are important in forming intentions to visit, whether these memories are derived from a physical visit, or a virtual visit facilitated by technology.

Moreover, Scholars have highlighted that memorability serves as a mediating factor in the relationship between visitor experiences and behavioral intentions (Kim et al., 2012). It not only directly influences visitors' intentions to visit but can also serve as a mediating factor between each realm of experience and visitors' intention to physically visit the museum. These memorable experiences breed future intentions and have a lasting impact on potential visitors' decisions (Sthapit et al., 2019). Therefore,

H6: Memorability has a positive impact on potential visitors' intention to visit the museum.

H7a~b: Memorability mediates the relationship between entertainment (a) and escapism (b) experience and potential visitors' intention to physically visit the museum.

(Please insert Figure 1)

3. Methodology

3.1. Measurement

The items for all constructs were adopted from existing literature and were assessed through a reflective measurement using multiple items. Narrative transportation and memorability, both of which entailed multiple conceptual dimensions, were treated as 2^{nd}-order variables reflectively measured by the first-order dimensional variables. The detailed definitions of these constructs and survey items are provided in Tables 1 and 2. Additionally, the survey collected age, gender, education, income, continent (a binary measure of Europe or non-Europe), and tourism destination preference (a binary measure of having museums in the first 5 destination preferences or not) which were treated as control variables.

(Please insert Table 1)
(Please insert Table 2)

3.2. Field experiment administration and participant demographics

Participant recruitment was conducted using the Prolific platform (Palan and Schitter, 2018). With a screening question, this research collected experiment and survey data from individuals who had not physically visited Van Gogh's Bedroom painting at the Van Gogh Museum. The participants were randomly assigned to one of two presentation modes as the experimental manipulation (Appendix A) involving Van Gogh's Bedroom painting. In the XR scenario, participants viewed a brief video presenting the painting from an XR perspective. The video featured an individual exploring the painting using a mobile XR application, providing participants with an observational XR experience. Conversely, in the 2D-tour scenario, participants watched a short video showcasing the painting on the Van Gogh Museum's website. This video depicted someone exploring the painting online using a laptop or computer, offering participants an observational 2D-tour experience. Subsequently, participants were required to answer questions in the survey, but only if they had successfully watched the video in its entirety. The manipulation check is done with a 3-item variable called "virtual presence" (Viglia and Dolnicar, 2020) in the survey, where we found strong evidence that the manipulation (XR vs. 2D-tour mode) significantly induced the variance in virtual presence (beta=0.866, t-value=10.464). The study eventually used a total of 327 completed experiments and survey responses. The participants' demographics are presented in Table 3.

(Please insert Table 3)

4. Results

4.1. Empirical findings

Using SmartPLS, all necessary measurement properties (i.e., internal reliability, convergent and discriminant validity, and model-fits for PLS analysis) with the latent first-order variables were checked and there were no issues with the measurement property in our variables against the criteria suggested by literature (e.g., Hair et al., 2010), which are illustrated in Tables 4~7. The details of measurement properties including the results of model fit and common method bias test will be presented at the conference.

(Please insert Table 4)
(Please insert Table 5)
(Please insert Table 6)
(Please insert Table 7)

For the structural model test, a path analysis was performed using SmartPLS 4.0 using the explained variance (R^2), path coefficients (β), and their corresponding levels of significance as determined by t-values with a bootstrapping method with 5000 resampling iterations. Figure 2 and Table 8 show a comprehensive view of the results with βs on their respective arrows and their levels of significance. The analysis supports all hypotheses, except for H5a~b. None of the control variables demonstrated a significant relationship with intention to visit, except for Gender.

(Please insert Table 8)
(Please insert Figure 2)

4.2. Hypothesis testing results

The analysis reveals a significant causal impact of presentation modes (XR vs. 2D-tour) on narrative transportation, supporting H1. This finding indicates that individuals who engaged with museum artifacts through XR experienced substantially higher levels of narrative transportation compared to their counterparts who utilized the 2D-tour. In addition, the type of presentation significantly influenced both entertainment and escapism experiences, providing support for H2a and marginal support for H2b. This suggests that individuals who engaged with museum artifacts virtually through XR reported significantly higher levels of entertainment and escaping appreciation compared to their counterparts who experienced the 2D-tour.

Narrative transportation exhibited a highly significant and positive association with both entertainment and escapism, supporting H3a~b. It implies that when potential visitors are immersed in the narratives formed by virtual visit to a museum artifact, their overall entertainment and escapism experiences are substantially enriched. The analysis of the relationships between the two visitor experience dimensions and memorability yields significant findings, supporting H4a~b.

The relationships between both experience dimensions and intention to visit were not significant, not supporting H5a~b. These results may be attributed to a specific visitor behavior pattern. It is plausible that when potential visitors perceive their virtual exhibition/artifact viewing experience through technology as rich, entertaining, and immersive, they may be inclined to continue seeking entertainment and escapism through the same virtual technology rather than making a physical visit to the museum.

The association between memorability and intention to visit the museum is indeed significant, supporting H6. It suggests that if potential visitors have a memorable and enriching experience during their virtual exhibition/artifact viewing, they are significantly more inclined to express an intention to visit the museum in the future. Furthermore, we found significant mediating effects of memorability on the relationship between experience (entertainment and escapism) and potential visitors' intention to physically visit the museum, supporting H7a~b. It indicates that memorability fully mediates the relationship between these experiential dimensions and potential visitors' intentions to visit.

5. Discussion and Conclusion

5.1. Conclusion

The primary objective of this study is to investigate the impact of technologies on potential museum visitors' experiences, the level of narrative transportation they undergo when viewing an exhibition/artifact virtually through XR or 2D-tour technologies, and the subsequent effects on memorability and their intentions to physically visit the museum. Based on field experience with manipulated video clips with XR vs. 2D-tour followed by survey, this study revealed several insights. The manipulated presentation mode exhibited a significant association with narrative transportation, as well as with entertainment and escapism experiences. Moreover, this study illuminated the mediating role of memorability in shaping the relationship between potential visitors' experiences and their intentions to visit the museum. Memorability emerged as a critical intermediary factor, facilitating the influence of potential visitor experiences on their future intentions. This research contributes substantially to the literature surrounding the application of XR technologies in smart tourism, with a particular focus on cultural heritage sites, notably museums.

5.2. Theoretical contributions and practical implications

First, this study significantly enriches the emerging field of XR applications in cultural tourism by investigating how XR technology enhances potential visitors' experiences within cultural heritage settings. It offers profound insights into the theoretical foundations of technology-mediated museum experiences, illuminating the complex interplay between XR technology and the cultural heritage domain. Furthermore, its implications resonate with the smart tourism field (Gretzel et al., 2015), because this study explores XR's capacity to create captivating and interactive museum experiences.

Second, this study extends the theoretical framework of narrative transportation theory by examining its impact in the context of XR and 2D-tour. Notably, it pioneers the application of narrative transportation in a museum context where XR technologies are employed, highlighting that narrative transportation can thrive even when potential visitors explore museum artifacts through technology without physical presence.

Third, this study delves into the relationship among different dimensions of visitor experiences, memorability, and their intentions to physically visit the museum. In doing so, it not only contributes to the theoretical framework of visitor motivations and decision-making processes and the literature on tourists' memorability formation, but also bridges a significant gap in the existing literature. The prevailing research predominantly focuses on measuring visitors' behavioral and cognitive responses based on their physical exposure to artifacts, overlooking the potential impact of exposing potential visitors to artifacts through extended reality technology (virtually). This study pioneers an exploration into whether such virtual exposure can indeed yield meaningful experiences.

5.3. Practical implications

First, this study's findings offer valuable practical implications focused on the transformative power of XR technology in enhancing potential visitors' experiences. This insight holds great potential for real-world applications, in museums and cultural heritage settings. The use of immersive technologies in museums' virtual offerings not only enhances potential visitors' experiences but also provides a strategic advantage for marketing professionals aiming to attract museum visitors to make physical visits.

Second, the study's findings emphasize the crucial role of narrative transportation in enriching museum experiences, highlighting the need for museums to prioritize NT cultivation. By curating exhibitions designed to immerse visitors in compelling narratives, triggering key NT variables such as the loss of time and reality, mental imagery development, and narrative universe projection, museums can create captivating experiences. Integrating these elements strategically can lead to engaging experiences that resonate emotionally and mentally with visitors, fostering positive word-of-mouth promotion and attracting more patrons.

Third, the study's findings revealed the vital role of memorability in shaping potential visitors' intentions to physically visit the museum, extending the visitor experience beyond the moment of the visit itself to encompass the lasting memories it generates. The visitor experience transcends the visit itself, extending to the lasting memories it creates. Pre-formed memories of exhibitions/artifacts, facilitated by virtual technologies like XR or 2D-tours, influence visitors before their real-world visit. Museums must curate exhibits and experiences that captivate the senses and leave enduring impressions.

5.4. Limitations of this study and suggestions for future studies

First, this study is limited by the method of exposing participants to XR/2D-tour technologies. While videos were used to simulate XR/2D-tour experiences, the authenticity of responses may have been compromised. Ideally, providing actual XR/2D-tour exposure, like using head-mounted displays or interactive online tours, would offer more genuine insights. However, resource constraints prevented real XR exposure in this study. Future research could address this by facilitating real-world technology experiences, allowing participants to interact with cultural artifacts firsthand. This approach promises more accurate data, enhancing the validity of subsequent findings.

Second, another significant limitation of this study pertains to its potential lack of generalizability. The research focused exclusively on a single painting in a specific museum, which may restrict the applicability of the findings to broader contexts within the cultural heritage sector. Various factors, such as the quality of the XR experience and the nature of the cultural artifacts or museums, could introduce variations in (potential) visitor experiences. Future studies should aim to address this limitation by conducting experiments that encompass a more diverse range of XR technologies, cultural artifacts, and museum types.

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Figures

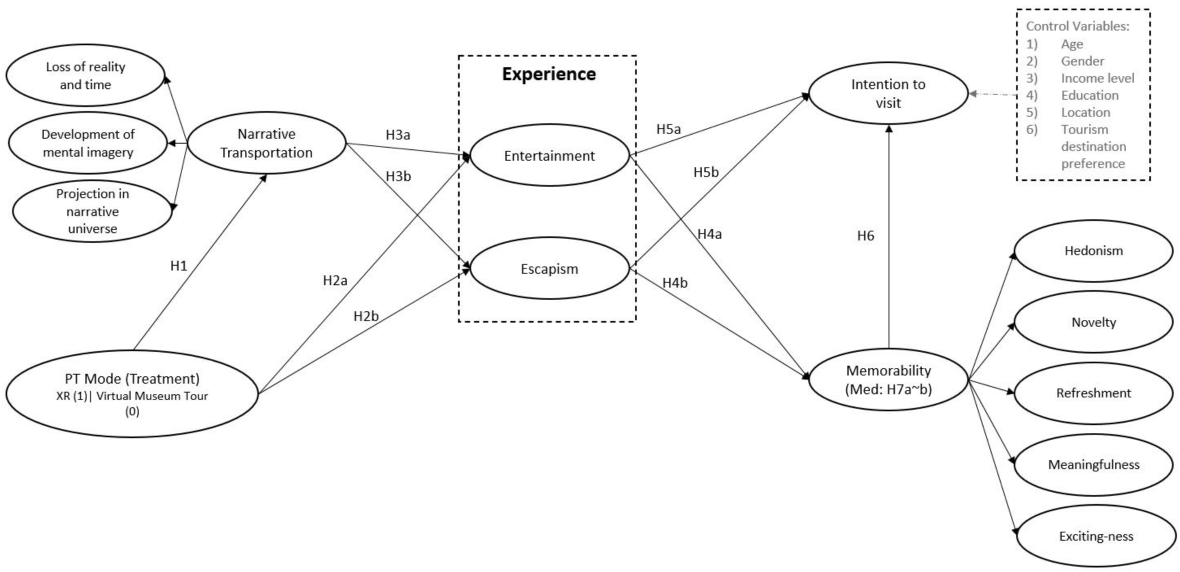


Figure 1. Research Model

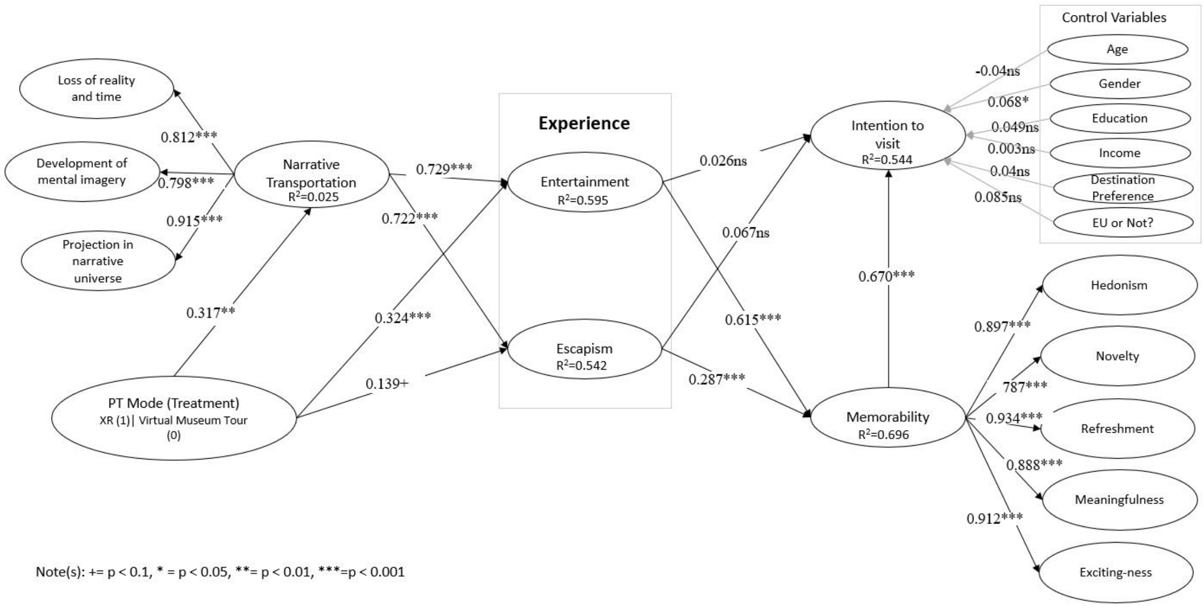


Figure 2. Structural Model Test Results

Tables

Table 1 Conceptual Definition of Constructs

Construct	Definition	Reference
XR vs. 2D-tour (Experimental treatment)	XR: "An umbrella term for a variety of distinct concepts – most prominently AR and VR." (P.4) vs. 2D-tour: An online platform that extends the traditional museum experience, by enabling users to engage autonomously with museum collections and spaces using a phone or computer interface.	Li et al. (2022); Rauschnabel et al. (2022)
Narrative Transportation (NT)	The state of being fully absorbed and mentally engaged in a story, characterized by intense focus on the narrative's events, which can influence real-world beliefs and emotions.	Green and Brock (2000)
Loss of Reality and Time (2nd-Order for NT)	The phenomenon wherein an individual's immersion in a recreational environment causes them to lose their sense of reality and time, often resulting in observable physiological reactions.	Jarrier et al. (2017)
Development of Mental Imagery (2nd-Order for NT)	The phenomenon is where individuals create clear and detailed mental images depicting the events and elements within the narrative.	Jarrier et al. (2017)
Projection in Narrative Universe (2nd-Order for NT)	The process by which individuals effortlessly immerse themselves in the narrative universe, experiencing a sense of attraction or even becoming absorbed within it.	Jarrier et al. (2017)
Entertainment experience	An entertainment experience refers to a situation in which individuals engage in activities or observe performances conducted by others for the purpose of enjoyment, amusement, or leisure, often characterized by a sense of passive involvement and entertainment value.	Radder and Han (2015)
Escapism Experience	Visitors' motivation to escape their everyday lives and immerse themselves in an alternate time or place offered by the museum's resources and interpretive elements. It involves engaging the senses and altering perspectives for a temporary sense of detachment from daily routines.	Radder and Han (2015)
Memorability (Mem)	In this study, the term "memorability" is used interchangeably with "memorable tourism experience", which is defined as "A tourism experience positively remembered and recalled after the event has occurred." (P.13)	Kim et al. (2012)
Hedonism (2nd-Order for Mem)	The experience of enjoyable sensations or pleasurable feelings that elicit excitement within an individual.	Kim et al. (2012)
Novelty (2nd-Order for Mem)	A psychological sensation of freshness and newness that arises from engaging in a previously unexperienced activity or experience.	Kim et al. (2012)
Refreshment (2nd-Order for Mem)	The state of feeling revitalized and invigorated.	Kim et al. (2012)
Meaningfulness (2nd-Order for Mem)	A profound sense of importance or significance.	Kim et al. (2012)
Exciting-ness (2nd-Order for Mem)	A feeling of exhilaration and enthusiasm resulting from the anticipation or experience of a new and thrilling encounter.	Jiang et al. (2023)
Intention to visit	The intention to physically visit the museum following a virtual visit experienced through technology.	Lee et al. (2020)

Table 2 Survey items

Construct	Measurement Items	Source
Virtual Presence (Manipulation check)	• The environment the painting described became a place, rather than just images. • I felt "being there" in the environment the painting described. • The environment the painting described seemed realistic.	He et al., (2018)
NT (Narrative Transportation), Loss of the notion of reality and time	• I lost track of time while watching the video clip. • I didn't realize how much time was passing while watching the video clip. • For a moment I didn't know where I was while watching the video clip. • For a moment I was not myself anymore while watching the video clip.	Jarrier et al. (2017)
NT, Development of mental imagery	• I could easily imagine the elements and details portrayed in the painting. • I am able to maintain a vivid mental image of the depicted scene and elements in the painting. • I found myself speculating and trying to interpret the intended message or meaning conveyed by the painting. • The images and elements depicted in the painting stayed clear and memorable in my mind.	Jarrier et al. (2017)
NT Projection in the narrative universe	• I went easily into the Painting narrative while watching the video clip. • I projected myself into another universe while watching the video clip. • I was captivated by the painting in the video clip. • I felt sucked into another world while watching the video clip.	Jarrier et al. (2017)
Experience, Entertainment	• The experience of seeing Van Gogh's painting in the video clip emotionally stimulated me. • The experience of seeing Van Gogh's painting in the video clip provided an unusual experience. • I felt physically relaxed when I was watching the video clip.	Vesci et al. (2020)
Experience, Escapism	• I felt like someone else while watching the video clip. • I imagined being in a different time and place while watching the video clip. • The experience of watching the video clip helped me escape from reality. • It allowed me to get away from a stressful social environment while watching the video clip.	Vesci et al. (2020)
Memorability, Hedonism	• I am thrilled about having a new experience after I saw the video. • I was indulged in the activity depicted in the video clip. • I really enjoyed the video clip and its content. • The video clip and its content were exciting for me.	Kim et al. (2012)
Memorability, Novelty	• It was a once-in-a-lifetime video and I have not seen such an experience before. • The video was unique. • It was different from other experiences I have previously seen. • I watched something new in the video.	Kim et al. (2012)

Construct	Measurement Items	Source
Memorability, Refreshment	• Engaging with the Painting in the video provided me with a sense of liberation. • I enjoyed a sense of freedom while somebody was exploring the painting in the video. • The experience was refreshing for me. • Seeing the video and realizing how a person engages with the painting revitalized my energy and enthusiasm.	Kim et al. (2012)
Memorability, Meaningfulness	• Engaging with the Painting was a meaningful experience for me. • This experience allowed me to do something important. • This experience helped me gain a deeper understanding or appreciation of the artwork. • The Painting made me think about bigger ideas or themes in life or art.	Jiang et al. (2023)
Memorability, Exciting-ness	• I felt a thrill from watching the video. • I felt a rush of excitement while engaging with the video. • The video content sparked a feeling of enthusiasm and anticipation in me.	Jiang et al. (2023)
Intention to Visit	• I would consider visiting the Van Gogh Museum after experiencing the painting in the video clip. • After experiencing the painting in the video clip, I would have a greater inclination to visit the Van Gogh Museum in Amsterdam in the future. • I would prioritize visiting the Van Gogh Museum in Amsterdam after seeing it in the video clip if given the opportunity. • After seeing Van Gogh's Bedroom painting in the video clip, I would be more likely to recommend visiting the Van Gogh Museum in Amsterdam to others.	Huang et al. (2023)

Table 3 Descriptive statistics: participant characteristics (N=327)

Variable	Category	Frequency	Ratio (%)
Gender	Male	152	46.48%
	Female	162	49.54%
	Non-binary	9	2.75%
Age	18-29	184	56.27%
	30-39	81	24.77%
	40-49	34	10.40%
	50-59	13	3.98%
	>60	15	4.59%
Education	No formal education	6	1.83%
	High school diploma	87	26.61%
	College degree	31	9.48%
	Vocational training	27	8.26%
	Bachelor's degree	128	39.14%
	Master's degree	43	13.15%
	Professional degree	4	1.22%
	PhD	1	0.31%
Household income level	Under 20,000 USD	126	38.53%
	20,001 USD– 40,000 USD	119	36.39%
	40,001 USD– 60,000 USD	40	12.23%
	60,001 USD– 80,000 USD	18	5.50%
	80,001 USD– 100,000 USD	14	4.28%
	100,001 USD– 100,500 USD	8	2.45%
	100,501 USD or over	2	0.61%
Continent	Africa	98	29.97%
	Asia	3	0.92%
	Europe	209	63.91%
	North America (including the Caribbean)	6	1.83%
	Pacific Islands (Oceania)	6	1.83%
	South America	1	0.31%
	Central America	2	0.61%
	Middle East	2	0.61%
Tourism Destination Preference	The choice of "Museum and exhibition" is among their top five preferences	163	49.85%
	The choice of "Museum and exhibition" is not among their top five preferences	164	50.15%

Table 4 Internal reliability and convergent validity measurement

Construct	Loadings	Cronbach's α	Composite Reliability (Rho_c)	Average Variance Extracted
Loss of Reality and Time (NTLos)	0.851	0.860	0.904	0.703
	0.876			
	0.829			
	0.797			
Development of Mental Imagery (NTDev)	0.815	0.824	0.884	0.657
	0.834			
	0.734			
	0.854			
Projection in Narrative Universe (NTProj)	0.795	0.867	0.909	0.715
	0.855			
	0.88			
	0.849			
Entertainment (ExEnt)	0.873	0.769	0.866	0.683
	0.799			
	0.805			
Escapism (ExEsc)	0.688	0.840	0.893	0.678
	0.826			
	0.897			
	0.866			
	0.688			
Hedonism (MemHedo)	0.875	0.918	0.942	0.804
	0.861			
	0.916			
	0.933			
Novelty (MemNov)	0.865	0.901	0.931	0.773
	0.908			
	0.92			
	0.82			
Refreshment (MemRef)	0.904	0.925	0.947	0.817
	0.907			
	0.896			
	0.907			
Meaningfulness (MemMea)	0.854	0.851	0.899	0.691
	0.787			
	0.864			
	0.818			
Exciting-ness (MemExc)	0.952	0.945	0.965	0.901
	0.96			
	0.936			
Intention to Visit (IntV)	0.917	0.927	0.948	0.820
	0.921			
	0.884			
	0.899			

Table 5 Heterotrait-monotrait ratio (HTMT)

	PT Mode	NT Los	NT Dev	NT Proj	Ex Ent	Ex Esc	Mem Hedo	Mem Nov	Mem Ref	Mem Mea	Mem Exc	IntV
PTMode												
NTLos	0.080											
NTDev	0.044	0.487										
NTProj	0.291	0.714	0.779									
ExEnt	0.321	0.771	0.670	0.871								
ExEsc	0.200	0.775	0.568	0.810	0.819							
MemHedo	0.323	0.643	0.722	0.859	0.871	0.706						
MemNov	0.313	0.561	0.426	0.621	0.745	0.608	0.644					
MemRef	0.282	0.741	0.573	0.813	0.871	0.757	0.868	0.739				
MemMea	0.156	0.712	0.664	0.839	0.861	0.719	0.853	0.705	0.881			
MemExc	0.301	0.702	0.579	0.801	0.874	0.720	0.837	0.696	0.889	0.866		
IntV	0.196	0.573	0.685	0.763	0.707	0.608	0.842	0.472	0.702	0.753	0.698	

Table 6 Fornell-Larcker Criterion with intercorrelations of variables

	PT Mode	NT Los	NT Dev	NT Proj	Ex Ent	Ex Esc	Mem Hedo	Mem Nov	Mem Ref	Mem Mea	Mem Exc	IntV
PT Mode	1.000											
NTLos	0.077	0.839										
NTDev	0.018	0.424	0.810									
NTProj	0.272	0.621	0.662	0.845								
ExEnt	0.276	0.639	0.540	0.722	0.826							
ExEsc	0.181	0.652	0.484	0.692	0.667	0.823						
MemHedo	0.310	0.580	0.631	0.771	0.740	0.626	0.896					
MemNov	0.296	0.496	0.370	0.551	0.613	0.518	0.586	0.879				
MemRef	0.273	0.664	0.505	0.731	0.746	0.671	0.803	0.678	0.904			
MemMea	0.146	0.609	0.563	0.727	0.708	0.612	0.757	0.613	0.782	0.831		
MemExc	0.292	0.634	0.514	0.728	0.755	0.640	0.782	0.642	0.834	0.774	0.949	
IntV	0.189	0.518	0.602	0.689	0.605	0.545	0.779	0.433	0.654	0.675	0.655	0.905

Table 7 Common Method Bias Test using the latent method factor (LMF)

Construct	Indicator	Substantive Factor Loading (R1)	$R1^2$	Method Factor Loading (R2)	$R2^2$
NTLos	NTLoss01	0.819***	0.671	0.014	0.000
	NTLoss02	0.753***	0.567	0.132**	0.017
	NTLoss03	0.889***	0.790	-0.051	0.003
	NTLoss04	0.899***	0.808	-0.098*	0.010
NTDev	NTDev01	0.771***	0.594	0.053	0.003
	NTDev02	0.959***	0.920	-0.154***	0.024
	NTDev03	0.613***	0.376	0.144*	0.021
	NTDev04	0.874***	0.764	-0.015	0.000
NTProj	NTProj01	0.859***	0.738	-0.078	0.006
	NTProj02	0.980***	0.960	-0.129*	0.017
	NTProj03	0.919***	0.845	-0.035	0.001
	NTProj04	0.619***	0.383	0.246**	0.061
ExEnt	ExpEnt01	0.646***	0.417	0.246***	0.061
	ExpEnt02	1.022***	1.044	-0.234***	0.055
	ExpEnt03	0.821***	0.674	-0.021	0.000
ExEsc	ExpEsc01	0.770***	0.593	-0.072	0.005
	ExpEsc02	0.765***	0.585	0.078	0.006
	ExpEsc03	0.882***	0.778	0.005	0.000
	ExpEsc04	0.875***	0.766	-0.020	0.000
MemHedo	MemHedo01	0.808***	0.653	0.070	0.005
	MemHedo02	0.942***	0.887	-0.085	0.007
	MemHedo03	0.973***	0.947	-0.063	0.004
	MemHedo04	0.863***	0.745	0.075	0.006
MemNov	MemNov01	0.882***	0.778	-0.016	0.000
	MemNov02	0.905***	0.819	0.011	0.000
	MemNov03	0.925***	0.856	-0.004	0.000
	MemNov04	0.801***	0.642	0.009	0.000
MemRef	MemRef01	1.022***	1.044	-0.127*	0.016
	MemRef02	1.181***	1.395	-0.296***	0.088
	MemRef03	0.687***	0.472	0.225***	0.051
	MemRef04	0.718***	0.516	0.206***	0.042
MemMea	MemMea01	0.729***	0.531	0.134+	0.018
	MemMea02	0.794***	0.630	0.007	0.000
	MemMea03	0.937***	0.878	-0.081	0.007
	MemMea04	0.864***	0.746	-0.060	0.004
MemExc	MemExc01	1.029***	1.059	-0.086+	0.007
	MemExc02	1.026***	1.053	-0.074*	0.005
	MemExc03	0.789***	0.623	0.163**	0.027
IntV	IntV01	1.022***	1.044	-0.128**	0.016
	IntV02	0.941***	0.885	-0.025	0.001
	IntV03	0.920***	0.846	-0.043	0.002
	IntV04	0.735***	0.540	0.200***	0.040
Average Sq. Loadings			0.759		0.015

Note(s): + = $p < 0.1$, * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$

Table 8 Results of Hypotheses Testing

	Path Coefficients	T-value	P-value	Supported?
H1: XR/2D-tour →NT2ndO	0.317	2.933	0.003	Yes
H2a: XR/2D-tour → ExpEnt	0.324	4.512	0.000	Yes
H2b: XR/2D-tour → ExpEsc	0.139	1.867	0.062	Yes (marginal)
H3a: NT2ndO → ExpEnt	0.729	24.820	0.000	Yes
H3b: NT2ndO → ExpEsc	0.722	25.618	0.000	Yes
H4a: ExpEnt → Mem2ndO	0.026	0.350	0.726	Yes
H4b: ExpEsc → Mem2ndO	0.067	1.344	0.179	Yes
H5a: ExpEnt → IntV	0.615	14.320	0.000	No
H5b: ExpEsc → IntV	0.287	5.929	0.000	No
H6: Mem2ndO → IntV	0.670	9.483	0.000	Yes
Mediating effect of memorability (indirect effect)				
H7a: ExpEnt → Mem2ndO → IntV		7.977	0	Yes
H7b: ExpEsc → Mem2ndO → IntV		5.096	0	Yes
Control Variables:				
Gender → IntV	-0.04	1.090	0.276	Yes
Age → IntV	0.068	1.823	0.068	No
TourismDesPref → IntV	0.049	1.173	0.241	No
Income → IntV	0.003	0.090	0.928	No
Edu → IntV	0.04	0.511	0.609	No
Continent → IntV	0.085	1.050	0.294	No

Note(s): += $p < 0.1$, * = $p < 0.05$, **= $p < 0.01$, ***=$p < 0.001$

APPENDIX A. Video Screenshots for experimental manipulations

URL to 2D-tour: https://youtu.be/xcTiTWeFrQY

URL to XR: https://www.youtube.com/watch?v=FlAO_p4kEm8

Exploring the adaptation of Novice Nutrition teachers into the profession; A study utilizing Text mining and Focus Group Interview

Kim, Yunsil
Department of Food and Nutrition
Yonsei University

Ham, Sunny
Department of Food and Nutrition
Yonsei University

Abstract:

This study aims to analyze the occupational adaptation characteristics and influencing factors of novice nutrition teachers experiencing difficulties due to changes in school meal policies through text mining and qualitative research. Utilizing Python for text mining, insights will be extracted, and the factors influencing vocational adaptation will be analyzed through FGI. As this study is the first study about novice nutrition teachers, it is expected to provide useful information for policy development supporting the adaptation of novice nutrition teachers.

Keywords: novice nutrition teachers, adaptation to profession, Text mining, Focus Group Interview, influencing factors, policy development

1. Introduction

School meals have evolved over a 70-year history since the initiation of relief meals in 1953, with the aim of improving the quality of school meals and contributing to the healthy development of students and the improvement of national dietary habits. On January 29, 1981, the School Meals Act was enacted to establish the current form of the meal system (Ministry of Education, 2020).

In conjunction with the quantitative "expansion policy" for school meals, the qualitative "internalization policy" of school meal operations was implemented, along with the statutory placement of nutrition teachers in 2003 (Ministry of Education, 2020). Existing nutritionists in schools primarily focused on meal management, while nutrition teachers, as educators, managed and provided education on healthy eating habits alongside meal operations (Jung, 2007).

The legal duties of nutrition teachers include menu planning, ingredient selection and inspection, hygiene, safety, and operation management, meal guidance, information provision and nutritional counseling, supervision of kitchen staff, and other matters related to school meals (Ministry of Education, 2021). Since the full-scale expansion of school meals to elementary, middle, and high schools in 2003, modernization efforts and the provision of free lunches for all students have been ongoing.

Despite these policy changes, expectations and demands regarding school meals from students and parents continue to increase. Recent reports indicate growing parental interest and complaints regarding school meals, with students showing a preference for fast food, creating challenges for nutrition teachers. Particularly, novice nutrition teachers with limited experience face more difficulties in handling complaints independently.

At the national level, efforts to evaluate and improve school meals are underway. However, challenges related to the adaptation of novice nutrition teachers, such as workload management and stress-related incidents, highlight the need for further research, monitoring, and policy interventions to support their adaptation process.(Lee & Kim et al., 2022).

Therefore, it is essential to conduct research and develop policies aimed at supporting novice nutrition teachers' adaptation to their profession, given the current circumstances where monitoring, in-depth qualitative research, and big data analysis are insufficient (Kang, 2021; YTN, 2023).

This study aims to analyze the characteristics and influencing factors of novice nutrition teachers' adaptation and propose support strategies. First, the study will analyze the characteristics of novice nutrition teachers using text mining techniques. Second, it will examine the factors affecting the job adaptation of these teachers.

2. Literature Review

2.1. Novice Nutrition Teacher

Nutrition teachers, who are required to have a dietitian's license and a teaching credential, are appointed to schools through a national examination. Their legal duties include menu planning, selection and inspection of food materials, hygiene, safety, work management, dietary guidance, providing information and nutrition counseling, supervision of kitchen staff, and other school meal-related matters (Ministry of Education, 2021).

Based on teacher development theory and the Primary and Secondary Education Act, novice teachers are generally defined as those with 3 to 5 years of career experience, a definition that also applies to novice nutrition teachers (Kim & Jung, 2022).

2.2. Novice Nutrition Teacher's Adaptation into the profession

In research related to the adaptation of novice teachers, personal factors such as teaching motivation, sense of belonging, temporary employment experience, and school principals' leadership significantly influence teaching adaptation (Jeong et al., 2023).

According to an analysis of data collected from the Teaching and Learning International Survey (TALIS) by the OECD, the patterns of professional adaptation among elementary school teachers exhibit significant individual differences, suggesting the need for tailored policy support for each individual (Lee et al., 2022).

Professional adaptation is a crucial stage in the process of becoming a teacher, involving the formation of a teacher's identity and the performance of educational activities. To support this process, it is necessary to provide resources for teacher training institutions and to address problems and difficulties that arise in educational settings (Han et al., 2022; Oh et al., 2022; Lee, 2021).

2.3. Social ecological model

Theoretical approach developed to understand the complex interaction among individual, social, physical, political, economic circumstances, beliefs, and attitudes is Bronfenbrenner's ecological systems theory (Bronfenbrenner, Urie. 1998).

2.4.Conceptualization

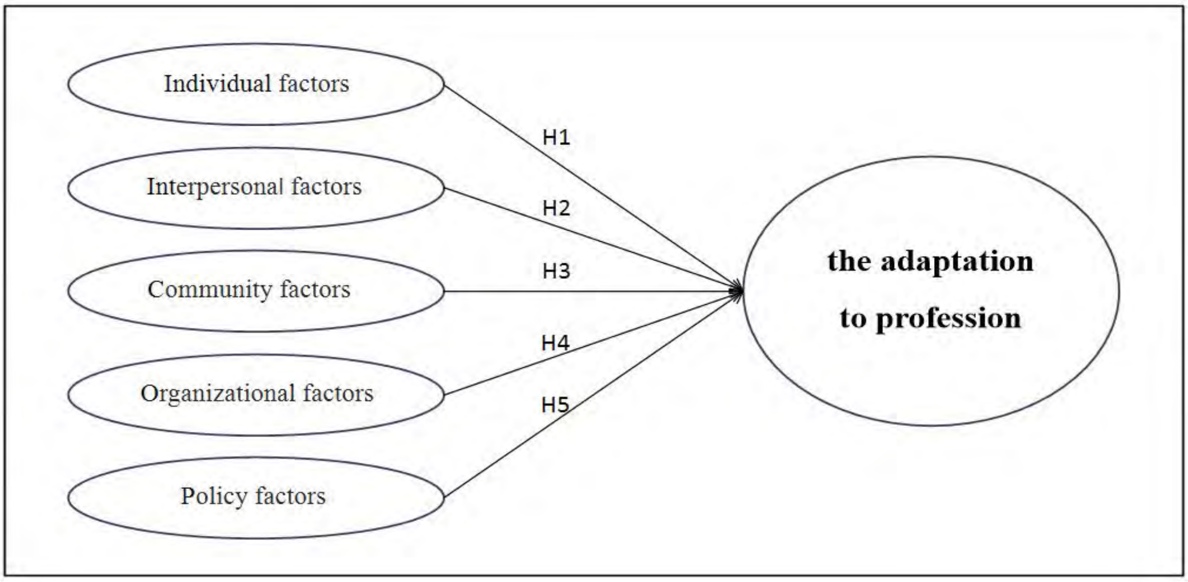


Figure 13. Conceptual Framework

Research Hypotheses

1. Individual factors will have a significant effect on the adaptation to profession.

2. Interpersonal factors will have a significant effect on the adaptation to profession.

3. Community factors will have a significant effect on the adaptation to profession.

4. Organizational factors will have a significant effect on the adaptation to profession.

5. Policy factors will have a significant effect on the adaptation to profession.

3. Methodology

3.1 Sampling and data collection

The study participants for this study are novice nutrition teachers. The big data collection period spans from January 1, 2016, to March 31, 2024, a period during which more than 2,000 new nutrition teachers were appointed. The analysis targets keywords such as "novice nutrition teacher," "new nutrition teacher," "beginner nutrition teacher," and "nutrition teacher." Using the BigKinds internet search portal operated by the Korea Press Foundation, 3,467 news articles were gathered, excluding redundant content and advertisements with low relevance. FGI will be conducted with groups of six novice nutrition teachers from the Seoul, Gyeonggi, and Incheon metropolitan areas. Each FGI group will meet once for approximately 1 hour and 30 minutes, and the process will be repeated three times.

3.2 Data analysis

The analysis will be performed using an Explanatory Sequential Design. Data will be reprocessed using Tokenization and Noun Extraction in Python, followed by frequency analysis using Python's scikit-learn package's CountVectorizer module and network analysis with Python's networkx module. FGI will analyze data through content analysis to identify influencing factors in individual, interpersonal, community, organizational, and policy environment domains, and devise solutions. The trustworthiness and validity of the study will be assured using triangulation.

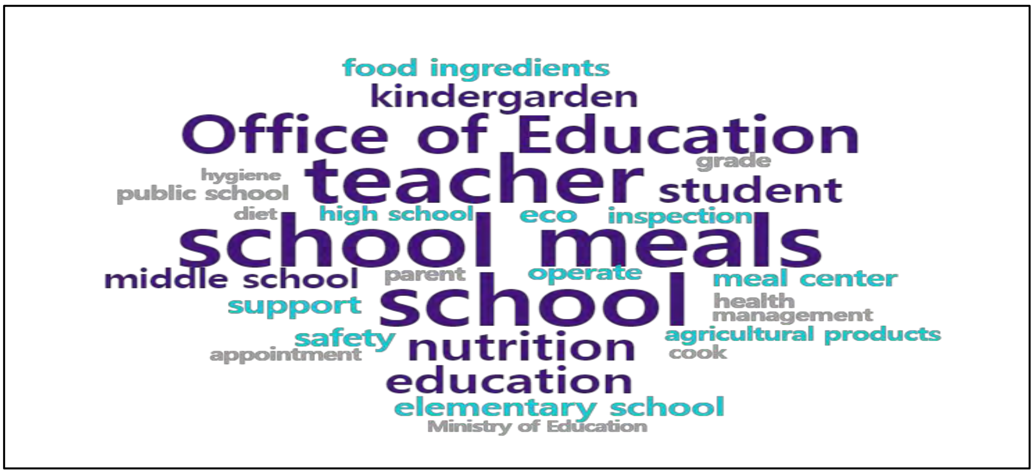
4. Results

4.1 Frequency Analysis of Keywords

The keywords associated with novice nutrition teachers were analyzed and visualized in a word cloud ([Table 1], [Figure 2]). Keywords such as "school meal" (6,270), "school" (6,006), "teacher" (5,419), "education office" (3,242), "nutrition" (1,912), "education" (1,743), "student" (1,638), appeared in descending order. Frequency analysis revealed that issues and perceptions related to novice nutrition teachers are represented by socio-ecological words associated with individual, interpersonal, community, organizational, and policy domains.

[Table 1] Ranking of Keywords on Novice Nutrition Teachers (Top 30)

Ranking	*Key Keywords*	*Frequency*	*Ranking*	*Key Keywords*	*Frequency*
1	school meals	6,270	16	operate	676
2	school	6,006	17	inspection	623
3	teacher	5,419	18	high school	568
4	Office of Education	3,242	19	agricultural products	558
5	nutrition	1,912	20	health	546
6	education	1,743	21	public school	546
7	student	1,638	22	grade	541
8	kindergarden	1,168	23	diet	524
9	middle school	971	24	parent	501
10	elementary school	946	25	management	477
11	support	851	26	cook	466
12	safety	847	27	appointment	449
13	eco	830	28	diet	424
14	food ingredients	774	29	Ministry of Education	362
15	meal center	749	30	hygiene	358



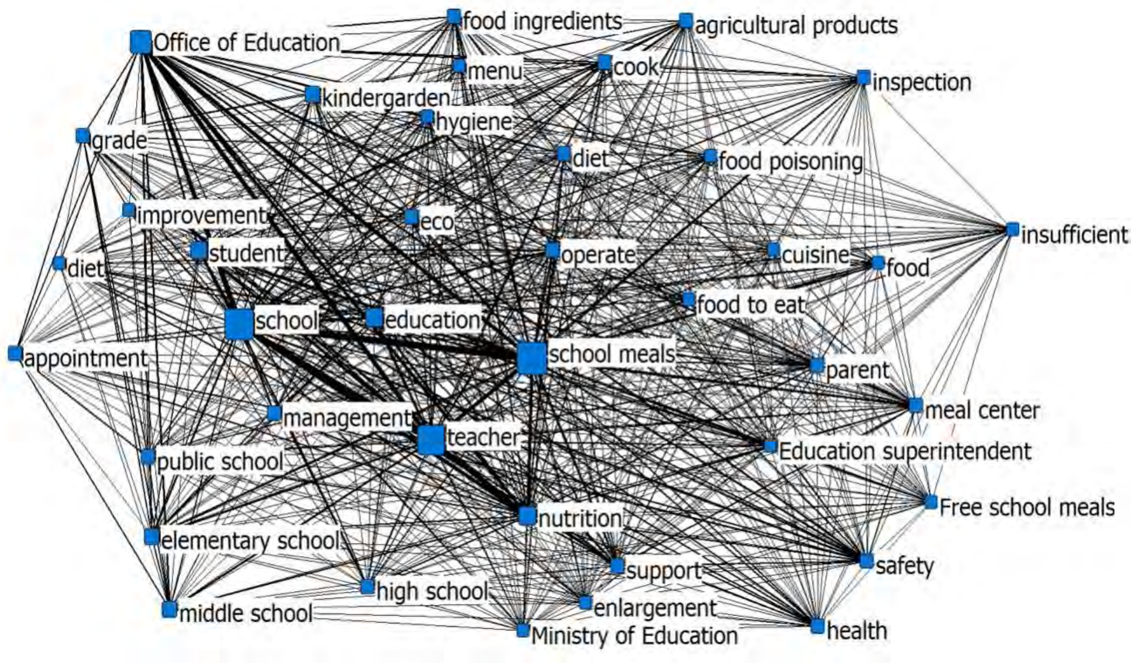
[Figure 2]   Results of Keyword Analysis on Novice Nutrition Teachers

4.2 Network Analysis of Keywords

The network surrounding novice nutrition teachers was analyzed and visualized using word clouds ([Table 2], [Figure 3]). Upon examining the data, the strongest link was between the words 'school' and 'school meals,' with a link strength of 1749. Following this, the link between 'school' and 'teacher' had a strength of 1319, and the link between 'nutrition' and 'teacher' was at 1205. Centered around schools and school meals, various issues were connected to novice nutrition teachers, including education offices, nutrition, students, general education, safety, elementary schools, ingredients, secondary schools, meal support, operations, meal centers, grade-specific meals, inspections, and kindergarten meals.

[Table 2] Co-occurrence Link Strength in the Network Analysis Results

Ranking	*Keywords A*	*Keywords B*	*Frequency*
1	school	school meals	1749
2	school	teacher	1319
3	nutrition	teacher	1205
4	Office of Education	school	1191
5	Office of Education	teacher	1090
6	school meals	teacher	1015
7	nutrition	school	991
8	Office of Education	school meals	939
9	nutrition	school meals	822
10	Office of Education	nutrition	818
11	school	student	699
12	school meals	student	673
13	education	school	576
14	education	teacher	503
15	Office of Education	education	475
16	education	school meals	462
17	student	teacher	460
18	safety	school meals	448
19	safety	school	448
20	elementary school	teacher	435
21	food ingredients	school meals	428
22	education	nutrition	412
23	food ingredients	school	396
24	elementary school	school	394
25	middle and high school	teacher	367
26	school meals	support	367
27	school	support	361
28	Office of Education	student	359
29	operate	school	354
30	operate	school meals	338



[Figure 3]   Results of Netwok Analysis on Novice Nutrition Teachers

4.3 Expected Outcomes of the Focus Group Interview
The results derived from the pilot tests are as follows.

Main Topic	Sub Topic	Key Points
Adaptation Problems of Novice Nutrition Teachers	Personal Factors	Experience, Age, Motivation, Sense of Belonging
	Interpersonal Factors	Teacher Relationships, School Community Relationships
	Community Factors	Parent Community, Student Community, Research Groups
	Organizational actors	School Size, School Level, District Education Office Organization, Meal Center, Principal Leadership
	Policy Factors	Mentoring, Content Programs, Ministry of Education, Guidelines, Regulations
Strategy for Adaptation Support	Support for Assistance	Mentoring System, Customized Training, Content Provision, Educational Programs, Guidelines

5. Discussion and Conclusion

5.1. Discussion and implications

This study sought to explore the factors affecting the professional adaptation of novice nutrition teachers amidst changing school meal policies and the increasing demands of stakeholders. Through text mining and focus group interviews, complex interactions across individual, interpersonal, community, organizational, and policy domains were revealed. The findings suggest the need for systematic support that covers both the technical aspects of school meal management and the programs required for effective teaching methods.

5.2. Conclusion

The adaptation of novice nutrition teachers is concluded to be a complex, interactive process influenced by a range of socio-ecological factors from individuals to policies, as identified through text mining analysis and verified by focus group discussions. The study emphasizes the importance of a comprehensive support system to facilitate successful adaptation and suggests institutional interventions to bridge the gap between policy expectations and reality.

5.3. Limitations of this study and suggestions for future studies

The study analyzed the adaptation process of novice nutrition teachers through text mining and regionally limited focus group interviews, acknowledging the limitations imposed by digital data and specific regional access. Future expanded research, including quantitative methods and longitudinal studies, is necessary.

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The effects of fresh food e-commerce service quality attributes on hedonic value, utilitarian value, and impulsive buying intention

Jee-Won Kang
Smart Tourism Research Center
Kyung Hee University

Young Namkung
College of Hotel & Tourism Management
Kyung Hee University

Abstract:

This study aims to explore the service quality attributes influencing utilitarian value, hedonic value, and impulsive buying behavior. To achieve the research goal, a survey was conducted with 263 participants who have experienced in purchasing fresh food via online. The findings revealed a significant influence of information quality, ease of use, and problem resolution on utilitarian value. Additionally, ease of use, problem resolution, and trendiness were found to impact hedonic value. Hedonic value was also found to significantly affect impulsive buying behavior; however, utilitarian value did not exhibit a significant impact on impulsive buying behavior.

Keywords: Fresh food e-commerce, Service quality, Utilitarian value, Hedonic value,

Impulsive buying behavior

1. Introduction

With the remarkable development in mobile technology, e-commerce has become a commonplace experience. People can buy anything through e-commerce using a smartphone anytime and anywhere. Moreover, advances in ubiquitous technology allows consumers to receive quick responses to their needs (Yang et al., 2021). According to Liu, Li, & Hu (2013), Wu et al. (2016) argued that most of the online purchase are impulsive and unplanned. Marketers strategically design the shopping environment using packaging, store layout, and promotions to make consumers feel a sudden urge to purchase items without thorough consideration (Chen et al., 2021).

Impulsive buying commonly occurs in fresh food shopping as well. In contemporary society, the act of consuming food transcends mere sustenance; it has evolved into a reflection of lifestyle, encompassing a broader purpose beyond basic survival (Chaudhuri et al., 2021). Moreover, as online food purchases continue to grow and outpace offline transactions, it becomes crucial to explore impulsive buying behavior specifically in the context of online fresh food shopping.

Values of the consumers not only create shopping motivation, successful shopping experience (Babin, Darden, & Griffin, 1994), it also plays a significant role in shaping the decision-making process (Huang et al., 2019). Therefore, in understanding consumer behavior, including unplanned and impulsive behavior, it is important to consider the role of consumer value. However, little is known of the impulsive buying behavior in online fresh food shopping. Thus, this study focuses on fresh food e-commerce service quality attributes affecting impulsive buying intention. The aims of this study are (1) to identify the fresh food e-commerce service quality attributes influencing consumer's utilitarian and hedonic value and (2) to find the relationships between utilitarian/hedonic value and impulsive buying intention.

2. Literature Review

2.1. Fresh food e-commerce service quality attributes

The majority of research has concentrated on figuring out the fresh food e-commerce service quality attributes to meet consumer's expectation and needs. In the research of Lee, Kwak, and Cha (2020), they considered system quality, service quality, product quality, economic efficiency, and brand characteristics as the key attributes of fresh food online shopping and explored how these factors influence customer satisfaction. Kang and Namkung (2022)'s study developing the service quality scale, information quality, price, product assortment, problem resolution, delivery quality, ease of use, and trendiness were revealed as the important dimensions for satisfying consumers' needs. Singh and Söderlund (2020) examined how system quality, service quality, brand experience, product quality, and delivery quality affect repurchase intention. Ma et al. (2021) regarded consumer support, product quality, and return/exchange, and delivery quality as the factors consisting of service quality of fresh food online shopping and examined the effectiveness to increase repurchase intention. Wang and Hong (2021) investigated the influence of information quality, system quality, service quality, and product quality toward consumer satisfaction. This study has adopted information quality, ease of use, problem resolution, and trendiness as the service quality attributes from previous research.

2.2. Utilitarian value and hedonic value

In the words of Holbrook (1999), "consumer value is the foundation for all marketing" and "the fundamental basis for successful marketing (Holbrook, 1999)." Consumer value can be viewed as an outcome shaped significantly by the personal perceptions of consumers, which are influenced by their experiences (Batat, 2019). Consumer value plays a crucial role as a predictor to consumer behaviors such as trust, satisfaction, repurchase, and loyalty, e-WOM (Chae et al., 2020; Widagdo & Roz, 2021; Yang & Peterson, 2004). Consumer values can be categorized into two dimensions: utilitarian and hedonic. Utilitarian value pertains to the practical, task-oriented aspects of shopping, emphasizing the efficient acquisition of products (Hashmi et al., 2019). On the other hand, hedonic value is created by emotional benefits, pleasure, and enjoyment derived from shopping experience and is related with psychological aspects rather than task completion (Holbrook & Hirschman, 1982). Utilitarian and hedonic values are regarded as the fundamental values to comprehend consumer's evaluation of the consumption experience and consistently underpin the phenomenon of consumption (Muskat, et al., 2019; Bea & Jeon, 2022). Thus, we focused on the utilitarian and hedonic value in this research for understanding impulsive buying behavior.

2.3. Impulsive buying behavior

An impulsive buying is a behavior that is unconsciously planned for but arises immediately upon exposure to a stimulus (Chen et al., 2021). When consumers feel impulse to buy, they tend to make a decision without deliberate and thorough search about products and alternatives (Halpern, 2013). Since the rise of e-commerce, researchers have been exploring whether impulsivity is manifested in this new shopping environment. Impulsive buying behavior is usually explained by drawing on the S-O-R framework. Many studies have revealed the various stimuli that cause impulsivity. Online environment including information quality, and service interaction quality are important factor to indulge impulsiveness (Gulfraz et al., 2022; Mollen & Wilson, 2010; Widagdo & Roz, 2021). Chen, Lu, Wang, & Pan (2019) suggested that contents of information, traits of informant affect impulse buying behavior. Besides text-based information, image-based content such as photos and virtual materials can induce consumer impulsiveness (Ampadu et al., 2022; Halim et al., 2020). Given that e-commerce relies on technology, system characteristics are also considered significant factors influencing impulse purchase. An easy payment system, intuitive interface design, and seamless navigation and search capabilities (Halim et al., 2020; Mollen & Wilson, 2010; Gulfraz et al., 2022) enable consumers to make purchases effortlessly and encourage impulsive buying. Interactivity and social influence are additional external drivers of impulsive buying (Chen et al., 2021; Gulfraz et al., 2022). In research on food product commerce, Deokule and Katole (2022) found that product descriptions, such as brand, product delivery information, and virtual product presentation, lead to impulsive online purchases of food ingredients.

3. Conceptual model and hypothesis development

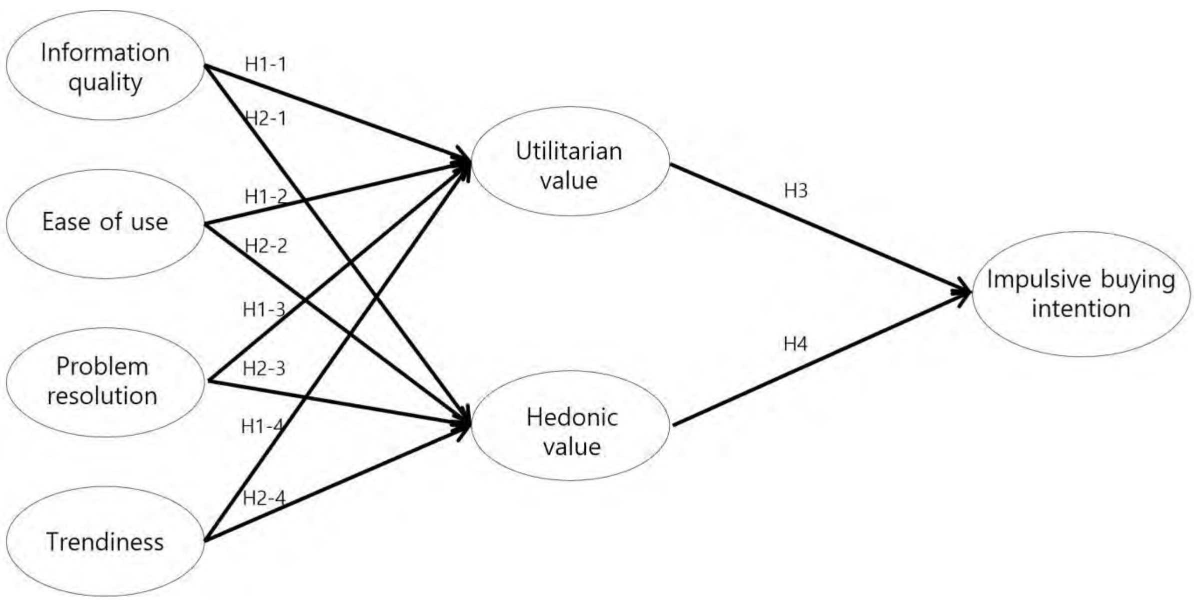

Figure 1. Research Model

3.1. Fresh food e-commerce service quality attributes and perceived values

According to the previous studies, quality is a key driver of value perception. Bae and Jeon (2022) confirmed that perceived product quality is the factor to increase hedonic and utilitarian value. Chen and Chen (2010) found that experience quality increase perceived value in the field of tourism industry. Putri and Pujani (2019) verified the positive influence of e-service quality, system quality, and information quality on perceived value. Seo and Lee (2021) suggested the service quality dimensions of street food as determinants of utilitarian and hedonic values. In their research, food quality, employee service, physical environment, price, and rapidity enhance functional benefits and consumer' emotional pleasure derived from consumption. Olsen and Skallerud (2011) found grocery store attributes' differential effects on utilitarian and hedonic value. Among the realm of retail attributes, product variety, store environment, and customer interaction are found to be significantly associated with utilitarian values, while physical aspects and personal interaction are linked to hedonic value. Chen and Hu (2009) tested the relationships between service attributes of foodservice and values. Based on these previous studies, we hypothesized:

H1-1. Information quality has a positive effect on utilitarian value.

H1-2. Ease of use has a positive effect on utilitarian value.

H1-3. Problem resolution has a positive effect on utilitarian value.

H1-4. Trendiness has a positive effect on utilitarian value.

H2-1. Information quality has a positive effect on hedonic value.

H2-2. Ease of use has a positive effect on hedonic value.

H2-3. Problem resolution has a positive effect on hedonic value.

H2-4. Trendiness has a positive effect on hedonic value.

3.2. Consumer values and impulsive buying behavior

Consumer value is a critical factor influencing consumers' purchasing behavior (Chiu et al., 2014). As in the Stimuli-Organism-Response (S-O-R) frameworks, consumers' perceived value is not only closely related to the shopping environment, but also affects shopping behavior (Yang et al., 2021). In the context of impulsive buying behavior, consumer values are expected to play a significant role. Hayu et al. (2023) and Paramitha, Sulhaini, & Saufi (2022) found that utilitarian value negatively affects impulsive buying intention. Eriksson and Stenius (2024) argued that consumers seeking economical value are less impulsive, whereas those pursuing novelty tend to be more impulsive in their shopping experiences. Impulsive purchases satisfy consumers' emotional needs (Hashmi et al., 2019). Yang et al. (2021), Chung et al. (2017), and Zheng et al. (2019) demonstrated the influence of hedonic values on impulsive buying behavior. Thus, we hypothesized:

H3. Utilitarian value has a negative effect on impulsive buying intention.

H4. Hedonic value has a positive effect on impulsive buying intention.

4. Methodology

4.1. Sampling and data collection

The data were gathered from December 2nd of 2023 to 9th of 2023 via online survey platform, Survey Monkey. The survey targeted U.S. consumers who had an experience in purchasing fresh food (e.g., vegetables, fruits, dairy, meats, and etc.) through e-commerce, such as Amazon Fresh and Fresh direct, within past month. By using screening items to select respondents with experience purchasing fresh food via e-commerce, a total of 263 responses were analyzed for testing hypotheses.

4.2. Measurement items

All the items were measured using a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). ‘Information quality’ refers to consumer's overall perceived value of information and contents, assessed by the degree of accuracy, usefulness, reliability, and comprehensibility of information provided by the online fresh food platform (Kim & Niehm, 2009). ‘Ease of use’ is the extent to which a consumer believes that purchasing fresh food through e-commerce will be free of effort in order and pay (Davis, 1989). ’Problem resolution’ is defined as the degree to which a fresh food platform solves consumer problem immediately and quickly and willingly handles returns and exchanges (Kang & Namkung, 2022; Wolfinbarger & Gilly, 2003). ‘Trendiness’ is the consumers’ perception about the extent to which e-commerce offers trendy products or food ingredients (Yadav & Rahman, 2017; Kang & Namkung, 2022). ‘Utilitarian value’ refers to the practical or functional benefits that a fresh food e-commerce service or experience provides (Hashmi et al., 2019). 'Hedonic value' refers to the aesthetic, experiential, and enjoyment outcomes of emotional experiences, encompassing qualities that impact overall satisfaction (Hashmi et al., 2019). ‘Impulsive buying intention’ is defined as the extent to which one is likely to make unplanned, instantaneous, and unreflective purchases (Gulfraz et al., 2022).

5. Results

5.1. Profile of the respondents

Among the 263 available respondents, 34.2% of respondents were male and 65.8% were female. Majority respondents were in age of 30’s (40.3%) and followed by 40’s (28.9%), 20’s (19.8%), and over 50’s (11.0%). Most of the respondents use Amazon Fresh (90.9%), and 9.1% usually use Fresh Direct. For the frequency of online fresh food buying, 46.4% of the respondents purchase fresh food online 2-3 times a week, followed by 4-5 times a week (29.7%), less than once a week (13.3%), and more than 6 times a week (10.6%).

5.2. Assessment of reliability and validity

The SPSS and AMOS was used for data analysis. As presented in Table 1, Cronbach’s coefficient α is used as the measurement of reliability. For the nine variables of the measurement scale, Cronbach’s α ranged from 0.756 to 0.895, above the 0.7 recommended threshold (Nunnally, 1978). The measurement items were subjected to a confirmatory factor analysis (CFA) to evaluate internal reliability and validity. Overall measurement model achieved good fit (CMIN/DF=1.313, CFI=0.975, GFI=0.891, IFI=0.976, NFI= 0.905, RMSEA=0.035). The composite reliability of the research constructs, indicating the internal consistency of multiple indicators for each construct, ranged from 0.776 to 0.881, exceed the recommended threshold of 0.6. The factor loadings of all items were greater than 0.50 and Average Variance Extracted (AVE) for values ranged from 0.516 to 0.650; hence, convergent validity was confirmed (Fornell & Larcker, 1981). The discriminant validity of items was inspected by comparing the square root of the AVE and the correlations among the variables. (Fornell & Larcker, 1981). If the square roots of the AVE for each construct are greater than the correlations between that construct and other constructs, discriminant validity is considered to be achieved. However, the correlations between hedonic value and problem resolution; hedonic value and trendiness were higher than the lowest AVE value. Therefore, two standard-error interval estimates were additionally used to clarify the discriminant validity (Bagozzi & Heatherton, 1994). the correlation plus or minus two standard errors include the value one, discriminant validity is not supported. The associated confidence interval was 0.643 to 0.852 (hedonic value- problem resolution) and 0.603 to 0.859 (hedonic value-trendiness). Hence discriminant validity was supported for all pairs of dimensions.

Table 1. The results of confirmatory factor analysis

Variables (Cronbach's alpha)	**Standardized estimate**	**C.R.**	**AVE**	**Mean**	**Standard deviation**
Information quality (0.833)		0.850	0.587	5.9249	0.771
The product information at this online store is easy to understand.	0.697			5.992	0.891
This online store offers accurate product information.	0.739			5.8403	1.010
This online store offers useful product information.	0.783			5.9506	0.954
This online store offers reliable product information.	0.766			5.9163	0.921
Ease of use (0.857)		0.881	0.650	5.8555	0.756
This online store layouts are easy to use.	0.784			5.8365	0.865
It is easy to purchase fresh food on this online store.	0.761			5.7985	0.917
Consumers can search the items quickly on this online store.	0.805			5.9354	0.929
It is easy to order items on this online store.	0.752			5.8517	0.902
Problem resolution (0.859)		0.810	0.516	5.812	0.804
This online store willingly handles returns and exchanges.	0.760			5.833	0.909
This online store returns and exchanges product immediately.	0.746			5.761	0.988
The online store solves customer's	0.812			5.818	1.010

problem quickly.					
This online store operates reasonable return policy.	0.791			5.837	0.925
Trendiness (0.863)		0.875	0.636	5.788	0.803
There are a variety of fresh food reflecting hot trends.	0.801			5.837	0.945
There are a variety of new food ingredients.	0.748			5.692	0.977
There are a variety of trending fresh food.	0.782			5.764	0.960
I can get the information of new food products and brands.	0.802			5.869	0.932
Utilitarian value (0.827)		0.850	0.588	5.923	0.754
Online fresh food shopping is useful.	0.762			5.867	0.933
Online fresh food shopping has advantages.	0.660			5.913	0.938
Online fresh food shopping is efficient.	0.709			5.913	0.939
Online fresh food shopping is more convenient than other ways.	0.830			6.015	0.908
Hedonic value (0.756)		0.776	0.537	5.809	0.793
Online fresh food shopping is always exciting for me.	0.795			5.860	0.949
Compared to other things, the time spent on this online fresh food shopping is truly enjoyable.	0.653			5.810	0.989
I have fun when I shopping fresh food on this online store.	0.705			5.802	0.949
Impulsive buying intention (0.895)		0.828	0.546	5.383	1.169
While browsing on this online store, I buy what I like without thinking about the consequences.	0.773			5.376	1.376
While browsing on this online store, I buy fresh food according to how I feel at that moment.	0.812			5.331	1.281
If I see something new on the online store, I want to buy it.	0.859			5.437	1.352
I find it difficult to pass up a bargain on the online store.	0.860			5.388	1.351

5.2. Structural model results

Table 2. shows the structural results of the proposed model with standardized path coefficients for significant relationships. The structural model indicated an acceptable fit to the data (CMIN/DF=1.343, CFI=0.972, GFI=0.895, IFI=0.973, NFI= 0.901, RMSEA=0.036). Information quality ($\beta = 0.270$; $t = 3.367$; $p < 0.000$), ease of use ($\beta = 0.208$; $t = 2.444$; $p < .05$), problem resolution ($\beta = 0.372$; $t = 3.808$; $p < 0.000$) had significant effects on utilitarian value, supporting H1-1, H1-2, and H1-3. However, trendiness (β=0.062; t =0.644; n.s.) had not significant effects on utilitarian value, not supporting H1-4. With regard to hedonic value, ease of use ($\beta = 0.259$; $t = 3.134$; p

< .01), problem resolution (β = 0.366; t = 3.908; $p < 0.000$), and trendiness (β = 0.327; t = 3.418; $p < 0.000$) had significant effects to hedonic value, supporting H2-2, H2-3, and H2-4, whereas information quality (β = 0.005; t = 0.071; n.s.) did not significantly affect hedonic value. Hedonic value significantly affected impulsive buying intention (β = 0.683; t = 6.583; $p < .000$), supporting H4. On the other hand, utilitarian was not significantly related to impulsive buying intention (β = -0.040; t = -0.460; n.s.), not supporting H3.

Table 4. Standardized parameter estimates

Hypothesized path		β	t	p-value	Results
H1-1	Information quality → Utilitarian value	0.270	3.367	0.000***	Supported
H1-2	Ease of use → Utilitarian value	0.208	2.444	0.015*	Supported
H1-3	Problem resolution → Utilitarian value	0.372	3.808	0.000***	Supported
H1-4	Trendiness → Utilitarian value	0.062	0.644	0.519	Rejected
H2-1	Information quality → Hedonic value	0.005	0.071	0.943	Rejected
H2-2	Ease of use → Hedonic value	0.259	3.134	0.002**	Supported
H2-3	Problem resolution → Hedonic value	0.366	3.908	0.000***	Supported
H2-4	Trendiness → Hedonic value	0.327	3.418	0.000***	Supported
H3	Utilitarian value → Impulsive buying intention	-0.040	-0.460	0.645	Rejected
H4	Hedonic value → Impulsive buying intention	0.683	6.583	0.000***	Supported

6. Discussion

6.1. Conclusion

Our results show that the different influence of service quality attributes to utilitarian and hedonic values. First, the accurate, easily understandable, and readable information is closely associated with goal-oriented value as it enhances product comprehension and facilitates consumption. Second, ease of use is a key influence on both utilitarian and hedonic value. This finding aligns with the study conducted by Akdim et al. (2022). Consumers will experience enjoyment and efficiency in using the fresh food e-commerce when they find it easy to access, convenient to navigate and order, and well-structured. Third, the problem solution, involving refund and return policies with guarantees, enhances both utilitarian and hedonic value. As it can alleviate perceived risks and minimize financial losses. Return and exchange services enhance the utility value for consumers by mitigating the emotional risk associated with unsuccessful shopping experiences. It is assumed that the provision of easy return and exchange services may serve as a stimulus for impulse purchases, acting as a mechanism to alleviate 'regret' (cognitive dissonance) that often arises post-impulse purchases. Fourth, trendiness is related to hedonic value. This finding is consistent with that of Kristian & Napitupulu (2022)'s research which found the significant relationship between trendiness and hedonic value. It indicates that the search for contents or products reflecting current trends is a dominant factor in satisfying consumers' emotional needs. Lastly, impulsive purchase intention highly depends on emotional value rather than utilitarian value. Since utilitarian value is derived from rational thinking, it can be observed that it does not significantly influence impulsive buying intention.

6.2. Implications

There are several theoretical implications. First, despite the increasing number of research on impulsive buying behavior, only a limited number of studies have endeavored to explore impulsiveness within the specific context of fresh food e-commerce. Therefore, this research contributes to understanding impulsive buying behavior in fresh food e-commerce and lays the foundation for future research. Second, this research considered both cognitive perception and emotional perception in the impulsive decision-making process. Thus, the relative influence of utilitarian value and hedonic value on impulsive buying intention could be compared.

The current research also provides managerial implications. First, from a business perspective, inducing impulse purchases is another way to increase sales. Therefore, examining the factors that stimulate consumer's pleasure or desire for consumption, leading to impulse purchases, provides practical implications. Second, ease of use and problem resolution are important factors to generate utilitarian and hedonic value. Hence, designing authentic user-friendly interface and establishing a prompt and efficient refund and exchange procedure are crucial as well as clear communication channels for customers to inquire about or initiate refund and exchange requests. Third, this study revealed that hedonic value exerts a more significant influence on impulse buying intention compared to utility value supported by rational judgment. Hence, managing elements on fresh food e-commerce that can evoke consumer enjoyment and interest become imperative. This involves curating a product assortment reflective of trends, which, in turn, contributes to enhance the overall online experience and encourage prolonged engagement.

6.3. Limitations of this study and suggestions for future studies

This study has some limitations. First, this study specifically focuses on online-based fresh food commerce (e.g., Amazon Fresh and Fresh Direct). The fresh food e-commerce industry encompasses various business models, including online-based firms, offline-based stores operating online malls, and third-party intermediaries. Consequently, further research will investigate service quality attributes and consumer behavior of other types of business models. Second, this study examined four service quality attributes toward consumer behavior. While these factors play a crucial role, it is important to acknowledge the possibility of additional variables influencing consumption value and impulse purchases. Therefore, future research should explore other potential factors that could contribute to a better understanding of consumption value and impulse purchases. Third, this research examines impulsive buying behavior as the dependent variable. If researchers investigate rational buying behavior and impulsive buying behavior simultaneously, they can compare the differences between the two-decision making process and gain deeper insights into the fresh food e-commerce context.

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Dining with dietary restrictions: Examining customer experiences through DEI Lens

Park, Soyoung
Marketing
Florida Atlantic University

Slevitch, Lisa
Hospitality and Tourism Management
Oklahoma State University

Norris, Cortney
Hospitality and Tourism Management
Oklahoma State University

Bauman, Matthew
Hospitality and Tourism Management
Purdue University Northwest

Gamor, Emmanuel
Hospitality and Tourism Management
Koforidua Technical University

Lee, Seung Hyun (Jenna)
Hospitality Leadership
East Carolina University

Abstract:

Diversity, equity, and inclusion (DEI) are pivotal for fostering a foodservice industry where every customer feels welcomed and respected. Through in-depth interviews and text mining, this study explored the dining experiences of individuals with dietary restrictions, assessing their current experiences and identifying areas for improvement. The exploratory findings indicated that there is a growing demand for more diverse menu choices that were considerate of individuals' dietary restrictions and offered different flavors and pricing; and such choices were critical in evaluating their dining experiences.

Keywords: Dietary restriction, DEI, Inclusive menu, Menu design, Dining experience,

1. Introduction

In the ever-evolving tapestry of our society, the dialogue on diversity, equity, and inclusion (DEI) has gained momentum, emphasizing the critical need to cultivate a community where every individual is not only welcomed but also respected (Chandy et al., 2021; Johnson & Chichirau, 2020). A growing body of research has demonstrated that organizations benefit from applying the principles of DEI in their policies, practices, and culture (Arsel et al., 2022).

Diversity in employee composition and fair and inclusive policies have been linked to more innovation, greater trust, higher financial returns, better talent retention, and increased market share (Arsel et al., 2022; Hunt et al., 2018; Nishii, 2013). At the same time, a lack of diversity, equity, and inclusion in the working and business environment can reduce employee morale and negatively impact organizational performance (Fisk et al., 2018; Yadav & Lenka, 2020).

Previous studies have focused on the impact of marketplace structure, procedural and distributive justice, and stigma on certain customer groups (e.g., Arsel et al., 2022; Bennett et al., 2013; Bone et al., 2014; Crockett et al., 2003; Crockett, 2017; Crockett, 2021). However, there remains a significant gap in understanding equitable and inclusive experiences from the customers' perspective (Fisk et al., 2018; Patrick & Hollenbeck, 2021); studies also have rarely investigated customer DEI as an outcome (Arsel et al., 2022; Park et al., 2022). This oversight is particularly salient in the hospitality and tourism industry, which serves an inherently diverse clientele (Mohammadi et al., 2022; Mohammadi et al., 2023; Russen et al., 2021).

Applying DEI principles involves identifying and removing barriers that impede access or desired outcomes for underrecognized groups (Lewis & Neville, 2015), mitigating bias, and meeting the needs of diverse customers to create a sense of belonging (Shore et al., 2018). Regrettably, prevalent exclusionary practices and marketplace discrimination persist, wherein customers from the majority or primary market in-groups are often afforded preferential treatment compared to the out-group comprising underrecognized customers (Arsel et al., 2022; Fisk et al., 2016; Crocket et al., 2003).

In the specific context of the foodservice industry, an often-overlooked out-group consists of customers with dietary restrictions, stemming from the following main sources: limitations due to allergies, food intolerances, and medical directives; restrictions tied to religious beliefs or personal values; and personal choices aligned with focused diets. Customers with dietary restrictions constitute a substantial market segment and face unique challenges in pursuing equitable and inclusive dining experiences.

With an estimated 26 million American adults having at least one food allergy, and 5.6 million children suffering from one or more food allergies, those with allergy restrictions represent a substantial demographic (Gupta et al., 2018; Gupta et al., 2019). In addition, approximately 11.6 million Americans follow non-Christian faiths like Judaism, Islam, Buddhism, and Hinduism which often involve dietary restrictions (PRRI Staff, 2021). However, restaurant menus often lack Kosher, Halal, and other faith-based dietary needs except in regions where those populations are concentrated (Oktadiana et al., 2020). Furthermore, with the market for plant-based foods surging to $4 billion in sales, vegetarian and vegan diners represent a growing segment (Plant-Based Foods Association, 2021). However, these customers still face stigma and a lack of accommodating menu options at many establishments (Buttny & Kinefuchi, 2020).

To address the gap, this study examines the dining experiences of individuals with dietary restrictions due to food allergies, religious, or lifestyle choices through a DEI lens. A mixed-methods approach combining in-depth interviews and text mining is used for a comprehensive analysis. With a multifaceted methodology, the study assesses the current state of their dining experiences, delineates what truly equitable and inclusive experiences entail for them, and pinpoints the discernible areas that demand immediate attention and how foodservice operators can proactively address these limitations.

The study's significance is three-fold. First, we shine a light on a specific underrecognized, but integral customer base for the foodservice industry. Understanding the dining experiences of individuals with dietary restrictions from a DEI perspective will help foster a fair and inclusive environment within the industry and beyond. Second, from a practical perspective, the study's findings can provide crucial insights into the unique needs of individuals with dietary restrictions, allowing operators to tailor their offerings and services to create a more equitable and inclusive dining environment. Third, from a health and well-being standpoint, the study emphasized the need for access to safe and suitable food options for individuals with dietary restrictions is paramount.

2. Literature Review

Brimhall et al. (2017) delineate diversity as differences between individuals, equity as fairness in access and treatment, and inclusion as the creation of a welcoming environment where all individuals feel valued and can participate fully. DEI has become a critical priority for organizations across sectors. A growing body of research demonstrates that organizations stand to gain substantially from focusing on DEI in their policies, practices, and culture (Arsel et al., 2022).

Companies with greater racial/ethnic and gender diversity are associated with more innovation, higher financial returns, better talent retention, and increased market share (Hunt et al., 2018). However, research shows that diversity initiatives alone are insufficient for generating positive organizational outcomes (Herring, 2009; Kochan et al., 2003; Kulik & Roberson, 2008). Businesses and organizations must also cultivate equity and inclusion to realize the full benefits. As Shore et al. (2011) state organizations and businesses must actively cultivate inclusion and equity in tandem with diversity.

Inclusion involves creating a sense of belonging, welcoming diverse perspectives, and ensuring all employees and customers feel valued and able to fully participate (Mor Barak, 2014). Equity theory (Adams, 1963) further emphasizes the importance of fairness. For example, employees who perceive inequitable treatment in areas like pay, opportunities, or job security feel distressed and demotivated, negatively impacting performance (Yadav & Lenka, 2020). Similarly, customers who experience inequity or exclusion feel marginalized, decreasing satisfaction and loyalty (Fisk et al., 2018).

On the other hand, when fair and inclusive policies address biases that disadvantage minority groups, they foster trust, innovation, and productivity gains among employees (Nishii, 2013), as well as stronger community relationships and expanded market share among diverse customer segments (Arsel et al., 2022). By coupling diversity efforts with a commitment to equitable practices and an inclusive culture, organizations can fully capitalize on diversity's benefits, including improved decision-making, morale, market responsiveness, and customer satisfaction and retention. Fostering inclusion requires mitigating bias and meeting the needs of diverse customers to create a sense of belonging (Shore et al., 2018).

While organizational research has made significant progress in integrating DEI principles, there remains a significant gap in understanding equitable and inclusive experiences from the customer perspective (Fisk et al., 2018; Park et al., 2022; Patrick & Hollenbeck, 2021). This oversight is particularly salient in the hospitality and tourism industry, which serves an inherently diverse clientele yet largely overlooks customer-focused DEI in scholarship (Mohammadi et al., 2022; Russen et al., 2021).

Several recent reviews reveal major gaps in hospitality and tourism research on disability, religion, gender identity, race, and ethnicity - all fundamental aspects of customer diversity (Manoharan & Singal, 2017). Where DEI is studied, the focus rests heavily on internal organizational factors like workforce and revenues, not on equitable and inclusive customer experiences (Garzón-Jiménez & Zorio-Grima, 2022; Gursoy & Maier, 2023; Kalargyrou & Costen, 2017). While general consumer research examines DEI and marginalized consumers, it rarely investigates customer DEI as an outcome (Arsel et al., 2022; Park et al., 2022). This oversight is troubling given the ethical and social justice imperatives of equitable and inclusive services (Fisk et al., 2018). There are also strong business incentives, as an estimated $5 trillion market opportunity exists in equitably serving marginalized customers (Patrick & Hollenbeck, 2021).

Hospitality and tourism, in particular, stand to benefit from better understanding and catering to diverse guests' needs through DEI lens (Manoharan et al., 2017). When applied to hospitality and tourism customer experience, equity and inclusion are vital for several reasons. As customers face discrimination and exclusion in marketplace interactions based on ethnicity, gender, age, disability, and other characteristics (Crockett et al., 2003), it limits their ability to realize full value from services (Anderson et al., 2013). At the same time, equity and inclusion are fundamental elements of satisfactory customer experience, which recognizes that different customers have different starting places and barriers, so achieving equity and inclusion may require providing greater support or resources to those who need it most (Fisk et al., 2018). Inclusion in such cases involves actively welcoming customer diversity while ensuring all groups and individuals feel valued, respected, and that they belong (Mor Barak, 2014). Equity and inclusion were also shown to positively impact trust, engagement, and loyalty across diverse customer groups (Park et al., 2023).

The paucity of attention given to customers with dietary restrictions in the current hospitality and tourism literature stands out as a crucial gap that beckons urgent exploration. This diverse group, encompassing individuals with allergies, religious beliefs, or specific lifestyle choices, navigates a distinct set of challenges in their quest for equitable and inclusive dining experiences (Oktadiana et al., 2020). Customers with dietary restrictions constitute a substantial market segment, representing a growing number of individuals grappling with constraints and discrimination when dining out. This diverse group faces unique challenges in pursuing equitable and inclusive dining experiences. However, the hospitality and tourism literature has shown little interest in understanding and enhancing equity and inclusion for these individuals. The limited existing research has focused narrowly on preferences, risk management, and restaurant offerings, without examining inclusiveness and fairness in food service for this group from a robust diversity, equity and inclusion perspective (Arsel et al., 2022; Gursoy & Maier, 2023; Oktadiana et al., 2020).

Despite their size and significance, research has yet to comprehensively explore the dining experiences of people with dietary restrictions through an equity and inclusion lens. Yet, given the escalating numbers and distinct needs of this diverse and deserving group, gaining understanding and solutions for equitable and inclusive food service is crucial. Consequently, there is an urgent need to examine what makes dining experiences equitable and inclusive for customers with dietary restrictions and to identify how academics and foodservice professionals can build more inclusive and equitable dining environments that meet the needs of this significant demographic.

2. Methodology

The study employed a mixed-methods approach that included two phases: (1) in-depth interviews and (2) online review text analysis.

3.1. Phase 1: In-depth Interviews

3.1.1. Sampling and Procedures

The snowball approach was used to select interview participants within the continental US with dietary restrictions due to food allergies, religious, or lifestyle choices. Data saturation point was used to determine the sample size (Braun & Clarke, 2021). 32 interviews were conducted, and participants included 7 vegetarians, 8 gluten-intolerant, 5 vegan, 2 nut-allergic, 1 lactose intolerant individuals; 4 individuals adhering to halal diet and 3 to kosher diet; and 2 individuals with other allergies.

The semi-structured format was used to interview the recruited participants. Interviews were conducted in person, over Zoom, or by phone and lasted approximately 30 minutes. The questions included:

- Tell us about yourself. What kind of dietary restrictions do you have? How long have you been vegan/vegetarian/etc.?
- How often do you dine out? How do you usually select a restaurant? Cuisine of preference? What is the style or type of restaurant you typically choose?
- How would you describe your dining experiences? Tell us about a time when a restaurant wasn't able /did not understand the dietary accommodations you needed. How did it make you feel? Would you go back?
- How would you describe inclusiveness, what goes into it when applied to dining?
- How would you describe fairness/equity, what goes into it when applied to dining?
- Tell us about a time when a restaurant did good and what made it a good experience. How did it make you feel? Would you go back?
- What would make your dining out experiences more inclusive and equitable?

3.1.2. Data Analysis

All interviews were recorded and transcribed by the research team member who conducted the interview. The coding is in progress and its procedures adheres to the guidelines put forth by Strauss and Corbin (1997), encompassing three consecutive steps:

1. *Line-by-line open-coding*: In this initial phase, concepts exhibiting specific characteristics (such as words pertaining to actions, feelings, beliefs, similarities, differences, and relevant properties for the research) will be identified and categorized. This process involves transforming the descriptive level of these concepts into an abstract level.
2. *Axial coding*: Similar to the first step, axial coding entails the grouping of similar labels into core categories. The research team then will scrutinize the relationships between these categories, seeking to understand their interconnections. Whenever feasible, these connections will be expanded into a hierarchical structure, organizing the categories in a manner consistent with the overall structure.

3. *Selective coding*: In this phase, the structure established in the second step will undergo a review and refinement. Any categories or structures deemed irrelevant to the research objectives will be eliminated.

The data coding process will include both inductive and deductive approaches, following the framework outlined by Corbin and Strauss (2008). A comprehensive codebook will be developed to facilitate further textual analysis. Inter-coder reliability, reflecting the agreement between coders, will be assessed, with a threshold of reliability set at 0.80 (Kasner et al., 1999). To ensure trustworthiness, researchers will independently conduct coding and hold multiple meetings to discuss codes, explore potential mergers, and finalize categories based on their internal relationships. All researchers possess substantial experience in qualitative analysis, including work in the food service industry.

Upon identification of the main themes and summarization of statements on dining experiences by the coding team, a panel of experts, consisting of five professors specializing in Hospitality and Tourism, will evaluate these findings. The evaluation will aim to eliminate any redundancies or ambiguities and establish the face and content validity of the statements, aligning with the criteria outlined by Netemeyer et al. (2003).

3.2. Phase 2: Online Review Text Mining

To position and validate findings obtained during Phase 1, the study conducts topic modeling and sentiment analysis on the restaurant reviews relevant to dietary restrictions using Yelp Open Dataset (Yelp, n.d.). The dataset contains a subset of Yelp reviews made publicly available for academic research. It contains 6,990,280 reviews posted between 2005 and 2020. The study utilizes a list of keywords to identify reviews related to dietary restrictions examined in the qualitative stage (e.g., allergy, celiac, gluten, halal, kosher, lactose, vegan, and vegetarian).

The review text is pre-processed to remove non-ASCII characters (Yergeau, 2003), hyperlinks, punctuations, and stopwords (Manning & Schütze, 1999). Then, the texts are tokenized, and a list of words that may bias the results is eliminated (e.g., keywords used), including any words less than two characters. The Term Frequency

Inverse Document Frequency (TF-IDF) is also created for each word for sentiment analysis. With the cleaned text data, anchored topic modeling using Latent Dirichlet Allocation (LDA), which utilizes the correlation between the words and their distributions in documents to identify latent semantic themes (Blei & Lafferty, 2007). The themes identified are compared to those from Phase 1 to validate and possibly expand the study's implications.

Furthermore, the study will conduct sentiment analysis on the reviews to understand the significance of addressing customers' dietary restrictions. Rather than a simple semantic matching approach, the study selects to incorporate supervised machine learning using Random Forest and Neural Networks to achieve the highest accuracy. The relationship between dietary restriction, sentiment, and restaurant rating is examined to understand the necessity of addressing dietary restrictions in successful restaurant operations.

4. Results

4.1. Qualitative findings

The central phenomenon that emerged was that individuals with dietary restrictions wanted equitable food choices that provided clear ingredient information. Six major themes that emerged regarding the menu cues were choices, dish information, food labels, menu layout, separate menu, and staff expertise. The first major theme was choice, where the participants asked for a variety of options to choose from, whether it be with or without ingredient substitutions. Some of them mentioned that they do their due diligence before visiting new restaurants to ensure that there are dishes that they can eat; they also stated they repeatedly patronize businesses they are familiar with and know are safe.

"I mean to the point where, you know, many times we'll go online to check the menu, look at a place if we're not familiar with it, and many times we'll be choosing a new place based on the menu options." - S23

"A lot of times when I go to a restaurant, I know what I'm getting before I even get there, like half the time. They don't have to give me the menu, because I've researched what I can and can't have." - S27

To identify dishes that are safe to eat, our participants sought after detailed ingredient information in plain and easily recognizable language, especially if they are trying out a new dish. The level of detail was not simply the list of main ingredients, but to the extent what was in the sauce and what oil was used for cooking. The list of ingredients allowed the participants to also modify the dishes. Participants felt more comfortable requesting to modify to dish when there was a statement on the menu indicating the modification possibility.

One individual shared their best experience with ingredient information where "…someone came out with a whole chart with their whole menu and it had all the different allergies and ingredients, and they could look down that chart and tell me whether there was coco in there, or whether things had any artificial cheese." - S25
Some suggested that such extensive information could be shared via a QR code to make it accessible.

In addition to the ingredient information, many looked for food labels (e.g., monikers) that made it easy for them to identify certain types of dishes, like gluten-free options. The food labels helped the participants to save time and effort by not having to investigate the list of ingredients on each dish. They wanted such labels to be clearly visible and understandable.
“I love how they're doing a lot of the Vegan options like that where they'll have like a little star next to it, and says “vegan”, or something like that, and then and that's really nice cause, then I know it is kosher, it doesn't have any meat or dairy or anything like that.” - S7

Another way that facilitated the choosing process was having separate sections or menus, where the menu was divided according to certain criteria, such as type of meat (e.g., chicken, pork, beef, non-meat). Participants mentioned that such dissection helped them browse the menu faster and feel assured in choosing a dish that is safe to consume. One participant also touched on how, for them, the menu layout was an indicator of the kitchen operation.
“I usually look at how the menus are laid out, like if they have different sections or if it's all like, thrown together kind of tells me what it is like in the kitchen, it's all going to be thrown together.“ - S4
Final theme that emerged was staff expertise, which often requires trainings that occur without the customers present. However, the participants acknowledged staff expertise or knowledge through statements, such as “if you have any special dietary concerns or requests, speak to a chef.” -S23 or “We care about all of our customers. If you have a food allergy, please let our please let your server know, so we can accommodate you in the best manner.”-S27 Such statements indicated that the restaurant was mindful of the food allergens and dietary restrictions.

4.2. Online review anchored topic modeling
The exploratory anchored topic modeling highlighted a prevalent discussion surrounding dietary restrictions yielded growing demand for more diverse menu choices that were considerate of individuals’ dietary restrictions and offered different flavors and pricing. The findings also indicated that the customers considered a variety of factors beyond menu options when evaluating their experiences.

In vegan and vegetarian-related Yelp reviews, Customers seeking vegan and vegetarian options valued establishments that offered a diverse array of choices beyond traditional meat-based dishes. Terms such as "cream," "chocolate," "dessert," and "cake" suggested a focus on dairy-free and egg-free alternatives in desserts, ensuring inclusivity for patrons with dietary restrictions. Overall, the analysis underscored the growing demand for vegan and vegetarian options in the restaurant industry, reflecting a shift towards more sustainable and plant-centric dining choices.

Reviews that included “allergy” related comments expressed appreciation for establishments that take allergies seriously and offer allergen-free options or clear labeling to help customers make informed choices. Terms like "think," "different," and "fine" were central in these reviews and suggested that patrons considered a variety of factors when evaluating how well an establishment addressed allergies. This may include the availability of alternative ingredients, the attentiveness of staff to allergy concerns, and the overall quality and pricing of allergen-free options. Furthermore, "high end" and "price" were mentioned, indicating that allergy-conscious dining experiences are not limited to specific types of establishments but are valued across a range of dining experiences, including both high-end and more affordable options.

For Yelp reviews highlighting halal and kosher dining options, patrons often discussed the availability and quality of halal and kosher menu items. Terms such as "menu," "bar," "nice," "pretty," and "seating" indicated that reviewers consider a variety of factors beyond just the religious dietary options when assessing their dining experiences. Elements such as the overall menu offerings, ambiance, and seating arrangements play a role in shaping their perceptions and preferences. Moreover, mentions of "beer" suggested that reviewers also considered beverage options, indicating a desire for a comprehensive dining experience that includes suitable drink selections alongside halal and kosher meals.

The last group of Yelp reviews focused on dietary restrictions such as lactose intolerance, celiac disease, and gluten sensitivity. Terms such as "gluten," "menu," "bar," "little," and "seating" suggested that reviewers consider both suitable menu options and a pleasant atmosphere when evaluating the suitability of a restaurant for individuals with lactose intolerance or celiac disease. Additionally, mentions of "cream," "coffee," and "drink" indicate that reviewers also consider beverage options when assessing the suitability of a restaurant for individuals with lactose intolerance. Having lactose-free alternatives for coffee drinks and other beverages is appreciated by patrons with specific dietary restrictions.

5. Discussion and Conclusion

The study holds three primary significances. Firstly, it contributes theoretically by exploring the dining experiences of individuals with dietary restrictions through a DEI lens. This examination is pivotal for fostering fairness and inclusivity within the food service industry, given the contemporary diverse customer base. Analyzing these experiences ensures equitable treatment for all, promoting the principle of equity and enhancing social awareness by challenging stereotypes and fostering empathy.

Secondly, it offers practical insights for food service operators aiming to adopt inclusive practices. Understanding the unique needs of individuals with dietary restrictions allows operators to tailor offerings and services, demonstrating a commitment to diversity and inclusivity while tapping into a broader market segment, thus enhancing customer satisfaction, loyalty, and financial success.

Thirdly, from a health and well-being perspective, ensuring access to safe and suitable food options for individuals with dietary restrictions is crucial. For them, dietary considerations are vital for health and overall well-being. Creating more inclusive and safe dining experiences promotes health equity and advances DEI principles within the industry, mitigating legal risks and reputational damage.

In summary, the study's anticipated findings offer actionable strategies for practitioners while catalyzing positive transformations in industry practices, policies, and regulations. By fostering awareness and understanding of DEI issues in the dining sphere, it aims to create a more inclusive and equitable landscape for customers with dietary restrictions.

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Nutritional challenges and food safety practices: Street food vendors in Ugbo Tondo, Manila, Philippines

Abellana, Ephraimuel Jose L.
School of Tourism and Hospitality Management
Philippine Women's University

Abellana, Janice Al
College of Computer Studies and Multimedia Arts
FEU Institute of Technology

Alejo, Heidi N.
Business Consultant
Sarjen Medical Supplies and Equipment

Abstract:

This research explores methods to address nutritional challenges and improve food safety practices among street food vendors (Nkosi, N. V., & Tabit, F. T., 2021) in Ugbo Tondo, Manila. It focuses on the unique dynamics of urban street food, using qualitative inquiry to gain insights into vendors' perspectives and practices (Tacardon ER, Ong AKS, Gumasing MJJ, 2023). The findings reveal a complex interplay of socioeconomic factors that shape food choices and safety measures. Promising solutions, including community-driven training initiatives and technology integration, emerge as viable approaches to promoting healthier street food options and raising food safety standards (Hill J, Mchiza Z, Puoane T, Steyn NP, 2019). This study emphasizes the importance of collaborative efforts involving vendors, local authorities, and public health agencies in tackling nutritional challenges in urban street food settings.

Keywords: Food Safety Practices, Innovation, Nutritional Challenges, Street Food Vendors

1. Introduction

Street food vending is an integral part of urban landscapes worldwide, providing a wide range of culinary delights to cater to different tastes and budgets. In cities like Manila, street food vendors are essential to daily life, offering convenient, affordable, and culturally rich food options. However, there are concerns about the nutritional quality and safety of street food (Khairuzzaman, Chowdhury, Zaman, Al Mamun, & Bari, 2014). These concerns are particularly relevant in neighborhoods like Ugbo Tondo, Manila, where a combination of socioeconomic factors and dietary habits highlights the need for solutions to address nutritional challenges and enhance food safety practices.

Ugbo Tondo represents the complexity of urban life, with busy streets, densely populated neighborhoods, and a vibrant street food culture. Street food vendors play a crucial role in meeting the dietary needs of residents, offering a variety of dishes that reflect the rich culinary heritage of the Philippines. However, issues such as food contamination, inadequate hygiene practices, and nutritional imbalances persist, posing significant risks to public health (Gizaw, Z., 2019).

Given this situation, there are a growing recognition of the need for approaches to tackle the nutritional challenges and food safety concerns among street food vendors in Ugbo Tondo (Khairuzzaman, Chowdhury, Zaman, Al Mamun, & Bari, 2014). These approaches must consider the unique dynamics of urban street food vending and the socioeconomic realities of the community.

Understanding the perspectives and practices of street food vendors themselves is a key aspect of addressing these challenges. Their insights provide valuable context for developing effective interventions that resonate with their daily lives and livelihoods Mayo, R. (2023). Moreover, empowering vendors with knowledge and resources to adopt safer food handling practices and offer more nutritious options can have a transformative impact on the overall food landscape of Ugbo Tondo (Fernandez & Weiler, 2019).

This context involves a range of strategies, including community-based education and training programs, as well as the integration of technology for food safety monitoring and traceability (Stella Nordhagen, et.al,2022). By fostering collaboration between vendors, local authorities, public health agencies, and community stakeholders, sustainable solutions can be created that not only address immediate concerns but also promote a culture of food safety and nutrition consciousness among vendors and consumers alike.

This research aims to explore and evaluate these approaches, focusing on their effectiveness, feasibility, and scalability within the unique context of Ugbo Tondo, Manila. By shedding light on promising practices and lessons learned, this study seeks to contribute to the ongoing dialogue on urban food security, nutrition, and public health in the Philippines and beyond (Candelario CMC., 2023.

1.1. Research Objectives:

The objective of the study is to explore the underlying role of approaches in addressing nutritional challenges and food safety practices in the street food vendor of Ugbo Tondo, Manila. The study aims to achieve these objectives through the following:

1. Examine individual-level factors that influence street food vendors' adoption of approaches to address nutritional challenges and enhance food safety practices.

2. Investigate the interpersonal relationships and social networks within the street food vendor community in Ugbo Tondo, Manila.

3. Analyze the organizational dynamics and structures that either facilitate or impede the adoption of approaches among street food vendors.

4. Explore the community-level factors that shape the food environment in Ugbo Tondo, Manila.

5. Evaluate the broader societal influences, such as cultural norms, economic disparities, and government policies, on the adoption and sustainability of approaches among street food vendors.

1.2. Scope and Limitations of the Study

The scope and limitations of the study on approaches to addressing nutritional challenges and food safety practices in the street food vendor of Ugbo Tondo, Manila are as follows:

1.3 Scope of the study:

1. The study will focus specifically on the street food vending practices and consumption patterns within the Ugbo Tondo district of Manila, Philippines.

2. A significant component of the study will be the evaluation of food safety practices among street food vendors, including aspects such as food handling, sanitation, and compliance with regulatory standards.

3. The study will explore approaches and interventions to address identified nutritional deficiencies and food safety risks. The focus will be on practical solutions that can be implemented within the local context.

1.4. Limitation of the study:

1. The findings of the study may be limited by the sample size of street food vendors and consumers included in the research. This sample may not fully represent the diversity within the Ugbo Tondo community.

2. Limited access to information, such as vendor practices or consumer behaviors, may constrain the study's ability to fully understand and address all relevant factors influencing street food safety and nutrition in Ugbo Tondo.

3. The findings of the study may be limited by the sample size of street food vendors and consumers included in the research. This sample may not fully represent the diversity within the Ugbo Tondo community.

1.5. Significance of the study

The significance of the study lies in its potential to address pressing public health and urban development challenges within the context of street food vending in Ugbo Tondo, Manila. Several key aspects contribute to the significance of this research:

1. Public Health Impact: The study plays a crucial role in identifying and addressing nutritional deficiencies and food safety risks, which can significantly reduce the prevalence of diet-related illnesses and foodborne diseases in the community.

2. Urban Resilience: By promoting healthier and safer street food options, the study contributes to strengthening local food economies, improving access to nutritious

foods, and reducing the vulnerability of urban populations to food insecurity and environmental hazards.

3. Policy and Planning Implications: The study's findings have the potential to inform the development of evidence-based policies, regulations, and interventions aimed at enhancing street food safety and nutrition in Ugbo Tondo and similar urban settings.

4. Research and Innovation: This study adds to the growing body of research on street food safety and nutrition, particularly in low- and middle-income urban areas.

Conceptual Model of the study

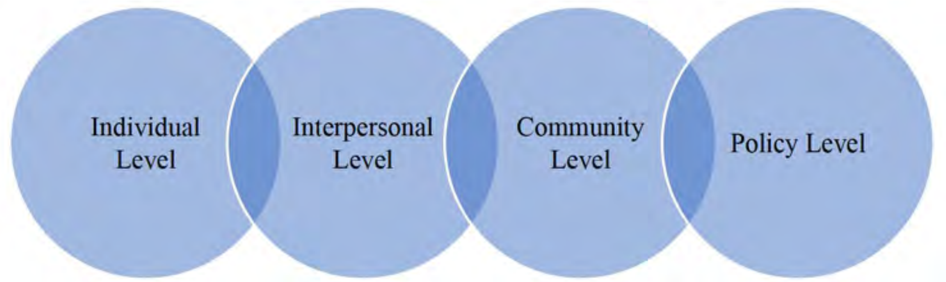

Figure 1. The Social-Ecological Model

This Model for the study on approaches to addressing nutritional challenges and food safety practices in the street food vendors of Ugbo Tondo, Manila, could be adapted from the Social-Ecological Model (SEM). The SEM is commonly used in public health research to understand the complex interplay of factors influencing health behaviors and outcomes.

2. Literature Review

The literature review on food safety and its implications for global food security opens with an exploration of the critical role played by food scientists and various stakeholders in ensuring the availability of safe and affordable food to meet the needs of a growing community population. It delves into the challenges posed by food safety concerns and emphasizes the necessity of science-based tools and strategies to mitigate risks effectively.

2.1 Food Safety

The study according to Leib, E. M. B., & Pollans, M. J. (2019) advocates for a broader perspective on food safety, termed "Food System Safety," which encompasses not only acute ingestion-related risks, but also cumulative risks associated with diet and the entire food production and disposal process. It argues that the current narrow focus neglects crucial aspects such as nutrition, environmental protection, and workplace safety. This comprehensive approach could lead to better resource allocation and improved health outcomes. The authors propose structural and institutional changes to integrate this perspective into federal agency actions, aiming for a safer and healthier food system for all.

To prevent, detect, and manage foodborne risks, bolstering food security, human health, and sustainable development. The theme, "Safe food today for a healthy tomorrow," underscores the immediate and long-term benefits of safe food production and consumption for individuals, the environment, and the economy. Recognizing the global impact of foodborne diseases, particularly on vulnerable populations, the United Nations designated June 7 as World Food Safety Day in 2018. Through joint efforts with the FAO, WHO advocates for shared responsibility in ensuring safe and healthy food for all Wu, D., Elliott, C., & Wu, Y. (2021).

Ensuring safe and affordable food for the global population is paramount, with dire consequences for failure. Food scientists play a pivotal role, utilizing science-based tools to mitigate risks and offer best-practice guidance to food handlers and manufacturers. Collaboration among various stakeholders is essential to implement effective, science-based strategies in food safety. Future priorities in food safety may shift amid the imperative to meet growing food demands. This report, led by food safety experts, addresses economic, social, and policy dimensions, production technologies, and communication strategies for food safety and nutrition.

3. Methodology

To effectively study, Approaches to Addressing Nutritional Challenges and Food Safety Practices: Street Food Vendors in Ugbo Tondo, Manila within the Socio-Ecological Model framework, the researchers use a mixed-methods research approach. This approach combines qualitative and quantitative methods for 135 respondents to thoroughly examine the various factors that influence street food vendors' practices in their social and environmental contexts.

3.1. Qualitative Interviews:
Researchers conduct in-depth interviews with street food vendors to explore in order to gain a better understanding of the perceptions, attitudes, and behaviors of street food vendors in relation to food safety and nutrition, researchers could conduct in-depth interviews.

3.2. Focus Group Discussions (FGDs):
FGDs was organized with groups of street food vendors to facilitate discussions on shared experiences, social norms, and community-level factors that affect their practices.

3.3. Participant Observation:
Researchers immerse themselves in the daily routines of street food vendors to observe how they prepare food, interact with customers, and the physical environments they work in.

3.4. Conducting the Interview:
The researchers begin the interview by introducing ourselves and reiterating the purpose of the study. Researchers follow the interview guide but remain flexible to explore relevant topics in depth. Encourage open communication by actively listening, asking probing questions, and respecting participants' perspectives. The researchers use culturally sensitive language and consider employing interpreters if needed.

3.5. Surveys/Questionnaires:

Quantitative surveys were used to collect data on demographic characteristics, food safety knowledge, hygiene practices, and dietary habits from a larger sample of street food vendors. researchers utilized quantitative surveys to gather data from a representative sample of street food vendors. These surveys were designed to capture information on several key aspects, including:

3.5.1. Demographic Characteristics:

Researchers collected data on the vendors' age, gender, educational background, and years of experience in the street food industry.

3.5.2. In Food Safety Knowledge:

Questions were tailored to assess the vendors' understanding of food safety practices, including handling, storage, and hygiene.

3.5.3. Hygiene Practices:

Researchers inquired about the vendors' daily hygiene routines, such as handwashing frequency and use of protective gear.

3.6. Sampling Strategy:

The sampling strategy aimed to ensure the representation of different demographic groups among street food vendors in Ugbo Tondo. We employed random sampling techniques to select participants within the area.

3.7. Data Collection Process:

The researchers conducted face-to-face surveys with street food vendors to gather the necessary information. Prior to collecting data, the researchers explained the purpose of the study and obtained informed consent from each participant. The data collection process involved several stages. Firstly, the researchers defined the objectives of the study, which included understanding the practices of street food vendors, identifying nutritional challenges, and assessing food safety measures. Next, appropriate methods such as surveys, interviews, and observations were selected to collect data from street food vendors in Ugbo Tondo. A survey questionnaire was developed and tested through a pilot study to ensure clarity and relevance. Subsequently, the researchers conducted surveys, interviews, and possibly observed the vendors directly to gather information on their practices and challenges. The collected data was then processed, analyzed, and interpreted, with the findings reported in a research paper. Throughout the process, ethical considerations were of utmost importance, ensuring participant confidentiality and informed consent.

3.8. Triangulation:

Researchers can enhance the validity and reliability of their results by employing multiple data collection methods, such as interviews, surveys, and observation. This allows them to triangulate their findings.

3.9. Statistical Treatment of the study:

Statistical treatment can be applied at various stages of the research process in a study focusing on street food vendors in Ugbo Tondo, Manila such as descriptive, inferential statistics and comparative analysis.

3.10. Ethical Considerations:
Researchers adhered to ethical guidelines throughout the data collection process, ensuring the confidentiality and anonymity of the participants' responses. Any personal identifiers were removed from the collected data to maintain privacy.

4. Results

The results of data analyses from the study presented with table summarizing all the questions with 135 respondents:

4.1. Summary of Results
Table 9 Summary of Results

Survey Section	Question	Response
Demographic Characteristics	What is your age?	Various ages ranging from 18 to 65+
	What is your gender? (Male/Female/Other)	Male: 70, Female: 60, Other: 5
	What is the highest level of education you have completed?	High School: 45, Some College: 50, Bachelor's Degree: 30
	How many years have you been operating as a street food vendor?	Range: 1-20 years, average: 7 years
Food Safety Knowledge	True or False: Washing fruits and vegetables with water is sufficient to remove all bacteria.	True: 95, False: 40
	Which of the following temperatures is considered safe for cooking meat?	a) 120°F (49°C): 120, b) 165°F (74°C):5, c) 200°F (93°C): 10
Hygiene Practices	How often do you wash your hands during food preparation?	Always: 90, Sometimes: 40, Rarely: 5
	Do you use gloves while handling food?	Yes: 50, No: 85

This table presents the results of a survey conducted among street food vendors in Ugbo Tondo, Manila, focusing on their demographic characteristics, food safety knowledge, and hygiene practices. Below are the explanations:

4.2. Demographic Characteristics
Age: The age range of respondents spans from 18 to 65+. This indicates a diverse age group participating in the survey.
Gender: The majority of respondents are male (70), followed by females (60), with a small number identifying as "Other" (5).

Education: The educational background of respondents varies, with a significant portion having completed some college (50) or high school (45), and fewer having attained a bachelor's degree (30).
Years as a street food vendor: Respondents have been operating as street food vendors for an average of 7 years, with a range from 1 to 20 years. This suggests a relatively experienced group of vendors.

4.3. Food Safety Knowledge
Washing fruits and vegetables: A majority of respondents (95) correctly identified that washing fruits and vegetables with water alone is sufficient to remove all bacteria.
Safe cooking temperature for meat: The majority of respondents (120) correctly identified 165°F (74°C) as the safe temperature for cooking meat.

4.4. Hygiene Practices
Handwashing frequency: Most respondents (90) reported always washing their hands during food preparation, indicating good hygiene practices.
Use of gloves: A majority of respondents (50) reported using gloves while handling food, which is a positive practice for food safety, while (85) reported not using gloves while handling food.

5. Discussion and Conclusion

In the context of the study Nutritional Challenges and Food Safety Practices: Street Food Vendors in Ugbo Tondo, Manila, applying the Social-Ecological Model (SEM) to the results can provide valuable insights into the multifaceted factors influencing food safety practices among street food vendors. The discussion based on the SEM framework from Figure 1:

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Individual Level:

Age, gender, education level, and years of experience as a street food vendor are individual-level factors that influence food safety practices. For instance, older vendors with more experience might have developed better hygiene practices over time.

Understanding the demographics of street food vendors, as revealed in the survey results, can help tailor interventions to address specific needs. For example, targeting educational programs towards vendors with lower levels of education may be particularly beneficial.

Interpersonal Level:

Interactions with peers, family, and customers play a crucial role in shaping food safety practices. Peer influence, in particular, can encourage or discourage certain behaviors.

Discussing the survey findings related to handwashing frequency and the use of gloves can highlight the importance of social support and peer networks in promoting food safety. Strengthening social networks within the street food vendor community can facilitate the adoption of best practices.

Barangay Level:

The community environment, including access to resources, infrastructure, and cultural norms, significantly impacts food safety practices. Community-level interventions can address these factors.

The survey results can inform discussions about the specific challenges faced by street food vendors in Ugbo Tondo, Manila, such as access to clean water for handwashing or culturally embedded food handling practices. Collaborating with local authorities and community organizations can help address these challenges effectively.

Societal Level:

Societal factors, including government regulations, economic conditions, and public awareness campaigns, shape the broader context in which street food vendors operate.

Highlighting the survey findings related to food safety knowledge can underscore the importance of policy initiatives and public health campaigns aimed at improving food safety practices among street food vendors. Advocating for supportive policies and regulations, such as regular inspections or training programs, can contribute to safer food handling practices

Using the Social-Ecological Model to the survey results of street food vendors in Ugbo Tondo, Manila, offers a holistic understanding of the factors influencing food safety practices at multiple levels. By addressing individual, interpersonal, community, and societal factors, interventions can be designed to promote safer food handling practices and mitigate foodborne illness risks within the street food vendor community

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5.2. Conclusion

The study highlights the multifaceted nature of factors influencing food safety practices among street food vendors in Ugbo Tondo, Manila, as illuminated by the Social-Ecological Model (SEM). At the individual level, demographic factors such as age, gender, education level, and experience contribute to variations in hygiene practices, emphasizing the need for tailored interventions that consider these differences. Interpersonal relationships and social networks within the vendor community play a significant role in shaping behavior, underscoring the importance of positive peer influence and social support mechanisms in promoting best practices.

At the barangay level, addressing challenges related to access to resources, such as clean water for handwashing, is crucial for enhancing food safety practices. Collaborative efforts with local authorities and organizations are essential in improving infrastructure and addressing cultural norms surrounding food handling practices. Engaging community leaders and involving them in interventions can enhance their effectiveness and promote cultural sensitivity.

At the societal level, advocacy for supportive government regulations and policies, such as regular inspections and training programs, is imperative to ensure compliance with food safety standards. Public awareness campaigns are essential for increasing awareness about food safety among vendors and consumers alike, with targeted messaging across various media channels being crucial for effective dissemination of information.

5.3. Limitations of this study and suggestions for future studies

Future studies should aim to address the limitations of the current research by using longitudinal methodologies to track changes in nutritional challenges and food safety practices among street food vendors in different districts of Manila over time. Conducting comparative studies within various districts of Manila or between Manila and other urban centers in the Philippines would provide valuable insights into the range of street food vending practices. Employing mixed methods approaches that combine quantitative surveys with qualitative interviews can offer a more comprehensive understanding of the socio-cultural factors that influence street food vending behaviors in Manila. Intervention studies that target the enhancement of nutritional quality and safety standards for street food, in collaboration with local stakeholders, are crucial for generating evidence-based recommendations that can guide policy development and implementation in the city.

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Strengthening restaurant resilience to pandemic shocks: The multifaceted role of digital transformation

Lee, Woojin
White Lodging-J.W. Marriott
Jr. School of Hospitality and Tourism Management
Purdue University

Jang, SooCheong (Shawn)
White Lodging-J.W. Marriott
Jr. School of Hospitality and Tourism Management
Purdue University

Kim, Hong Soon
Hospitality and Sports Business Management
University of Delaware

Abstract:

This study explores digital transformation's (DT) impact on the U.S. restaurant industry during COVID-19, particularly on resilience regarding revenue, stock prices, and inventory. Facing challenges like reduced dine-in demand and supply chain disruptions, DT proves crucial for survival and recovery. Our findings show that DT alleviates the drop in revenue and profit, highlighting DT's role beyond technological enhancements. DT enabled better customer interaction, inventory management, and operational continuity, offering restaurants a strategy to cope with pandemic-induced disruptions. This research aims to provide insights into DT's comprehensive effects on the restaurant sector's resilience amidst and post-pandemic.

Keywords: Digital Transformation (DT), COVID-19 Pandemic, Organizational Resilience, Restaurant Industry

Exploring the influence of attributes on customer acceptance of AR menus in the restaurant industry

Hsu, Hsuan
Department of Restaurant, Hotel and Institutional Management
Fu Jen Catholic University

Chin, Tzu-Wei
Department of Restaurant, Hotel and Institutional Management
Fu Jen Catholic University

Abstract:

This study examines factors influencing customer acceptance of AR menus in restaurants based on a high explanatory power framework- UTAUT2. 239 participants were recruited to complete a questionnaire after watching a researcher-developed AR menu demonstration video. The finding uncovers crucial factors influencing customer intentions to adopt AR menus, enhancing our comprehension of AR technology acceptance in the hospitality sector and offering significant insights for both researchers and industry practitioners.

Keywords: Augmented reality, AR menus, Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), technology adoption, restaurants

1. Introduction

The widespread use of mobile devices has spurred new business models that improve consumer experiences through collaborative value creation, highlighted by the use of augmented reality (AR) in companies like IKEA Place and L'Oréal Paris (El-Shamandi Ahmed et al., 2023; Wang et al., 2022; Zarantonello & Schmitt, 2022). The AR-driven shift has transformed market dynamics, enhancing consumer engagement and creating new business opportunities (Yim & Park, 2019). However, AR's use in the hospitality sector, particularly for restaurant menus, is rarly researched (Batat, 2021).

Beyond listing offerings, menus in restaurants play a crucial role in marketing and customer interaction, with a growing demand for personalized and more informative dining experiences (Jones & Mifll, 2001; Amin et al., 2023) highlights the importance of incorporating AR into menus. However, challenges in consumer acceptance and practical application, along with the restaurant industry's limited experience with AR, pose significant obstacles to its widespread adoption (Batat, 2021; Yawised et al., 2023). Addressing these challenges starts with understanding customer acceptance of AR menus.

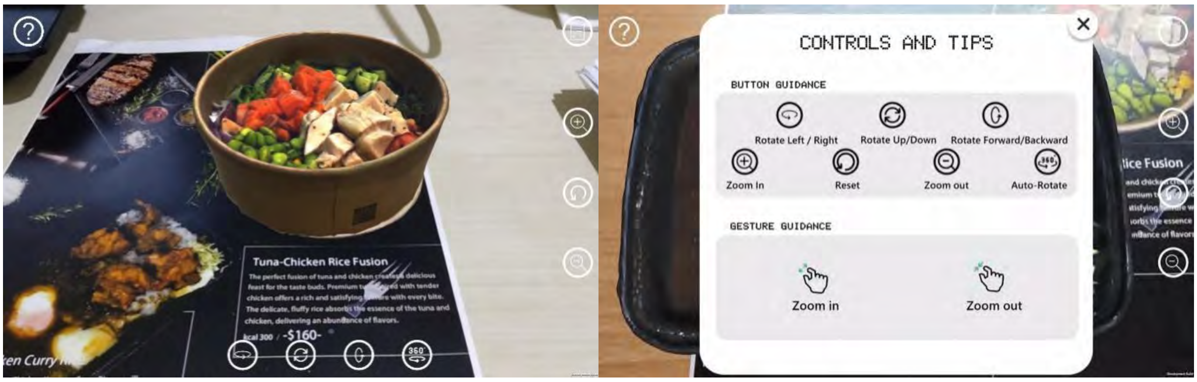
The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), featuring constructs like Performance Expectancy(PE), Effort Expectancy(EE), Social Influence(SI), Facilitating Conditions(FC), Hedonic Motivation(HM), and Price Value(PV), explains 74% of the variance in consumers' Behavioral Intention towards technology adoption (Venkatesh et al., 2012). Given its predictive capabilities in AR

research (Faqih & Jaradat, 2021; Khashan et al., 2023) and noting consumers' minimal habitual use of AR menus, this study utilizes the UTAUT2 framework, omitting the habit component, in line with recent literature (Hassan et al., 2023; Khashan et al., 2023; Tamilmani et al., 2019). Consequently, the following hypotheses are proposed to explore key determinants influencing consumer acceptance of AR menus:
H1: PE positively influences consumers' BI to use AR menus in a restaurant.
H2: EE positively influences consumers' BI to use AR menus in a restaurant.
H3: SI positively influences consumers' BI to use AR menus in a restaurant.
H4: FC positively influence consumers' BI to use AR menus in a restaurant.
H5: HM positively influence consumers' BI to use AR menus in a restaurant.
H6: PV positively influence consumers' BI to use AR menus in a restaurant.

2. Methodology

2.1. Measurement

Researchers developed an AR menu that projects food items in a 3D model format (as shown in Figure 1). Data collection was conducted online, resulting in 239 valid responses. The research participants watched a demo video showcasing the AR menu's functionality before filling out the questionnaire. The questionnaire, designed based on UTAUT2, included seven dimensions comprising 24 items to comprehensively assess the adoption of the AR menu. A 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) was adopted. Demographic data were collected, and the questionnaire was validated by experts. Data analysis was



performed using SPSS.

Figure 1 Screenshots of the AR menu developed by the researchers

3. Results

3.1. Profile of the respondents

The study showed most participants were aged 25-34 with undergraduate degrees. Cronbach's alpha for all scales was above 0.7, indicating strong internal consistency, and Pearson correlations ranged from 0.7 to 0.9, exceeding reliability standards (Nunnally, 1978). This confirms the scales' reliability for further analysis.

3.2. The UTAUT2 Result

Further analysis disclosed that all examined variables exert a significant and positive influence on behavioral intentions. Specifically, the PE (β=0.684, p<0.001, R^2=.466), EE (β = 0.793, p<0.001, R^2=.627), SI (β = 0.810, p<0.001, R^2=.654), FC (β = 0.808,

p<0.001, R^2=.651), HM (β = 0.809, p<0.001, R^2=.653), and PV (β = 0.794, p<0.001, R^2=.628) constructs significantly positively affected consumers' behavioral intentions towards accepting AR menus. All constructs demonstrated large explanatory powers regarding customers' behavioral intentions (Cohen, 1988). Additionally, the findings confirm that all hypotheses posited in the study are supported.

4. Discussion and Conclusion

4.1. Discussion and implications

This study represents a significant advancement in the comprehension of consumer acceptance of AR menus within restaurant settings, grounded in the UTAUT2 framework. The empirical findings reveal that PE, EE, SI, FC, HM, and PV exert a substantial and positive impact on consumers' behavioral intentions towards adopting AR menus and the results resonate with prior research in AR-related fields (Faqih & Jaradat, 2021; Khashan et al., 2023). This research constitutes a foundational contribution to the hospitality literature, offering novel insights into customer adoption of AR menus (Batat, 2021). Furthermore, it presents practical implications for industry practitioners, providing a foundational understanding that should be considered prior to integrating AR menu technologies within hospitality operations.

4.2. Suggestions for future studies

Given its exploratory nature, this study proposes that future research efforts could benefit from expanding the sample size and employing Structural Equation Modeling (SEM). Such approaches would enable a more comprehensive evaluation of the model's fit and the intricate relationships among the constructs under investigation. Additionally, it is crucial for future studies to delve into the holistic dining experience enabled by AR menus, aiming to capture and analyze more authentic consumer experiences.

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Investigation of restaurant robot service consumption values and their application in assessing customers' perceptions

Hailu, Tadesse Bekele
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Kim, Sam
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Abstract:

This study seeks to investigate the relationship between robot service consumption values, and the outcomes of robotic services in the restaurant industry. A mixed approach of research methods has been utilized to accomplish the study. Data was collected from customers of robotic restaurants in Korea. Exploratory and confirmatory factor analyses and structural equation modeling have been used to analyze the survey data. The findings revealed that some consumption values of robot services have positively and significantly influenced outcome variables proposed in this study. The study has provided insighful theoretical and practical implications based on the findings.

Keywords: Consumption value, service robot, restaurant, attitude, satisfaction

Exploring the impact of experiential value of restaurant food delivery robots on consumers' attitudes and revisit intentions based on SOR theory

Pan, Pei-Shan
Graduate Institute of Sport, Leisure and Hospitality Management
College of Sports and Recreation
National Taiwan Normal University

Lui, Tsz-Wai
Graduate Institute of Sport, Leisure and Hospitality Management
College of Sports and Recreation
National Taiwan Normal University

Abstract:

This study explores the increasing integration of service robots in the restaurant sector is propelled by technological advancements, labor shortages, and the pandemic. Utilizing the SOR framework explores how robot attributes affect the experiential value. The study surveyed those who interacted with service robots in restaurants. The findings highlight the significant role of robot attributes in shaping consumer experience and attitudes towards service robots, ultimately affecting the intention to revisit the restaurants. This study enriches the understanding of consumer-robot interaction dynamics and offers practical insights for enhancing service robot design and deployment in the restaurant industry.

Keywords: Food Delivery Robot, Stimulus-Organism-Response Theory, Experiential Value, Revisit Intention

1. Introduction

The rapid evolution of digital technology, coupled with demographic shifts characterized by declining birth rates and an aging population, has precipitated a surge in demand for service robots (Jung et al., 2023). The COVID-19 pandemic further catalyzed this shift, fundamentally altering the operational landscape of the restaurant industry. As Chuah et al. (2022) observed, the pandemic necessitated a pivot toward contactless dining solutions, compelling restaurants to embrace automation and robotics. This transition was not merely a response to immediate health concerns but a strategic adaptation to evolving consumer expectations for safer, more hygienic dining environments. In the post-pandemic era, the integration of service robots into the restaurant sector has accelerated, signifying a profound transformation. This shift reflects a broader recognition of the potential of robotics to streamline service delivery, reduce human-to-human contact, and enhance customer satisfaction.

Researchers have noted the growing incorporation of robots, indicating a shift toward a technologically advanced service delivery model (Wan et al., 2021). Today, robots are ubiquitous at the frontline of service (Wirtz et al., 2018). Consequently, the advent of service robots has not only altered the operational dynamics of restaurants but also reshaped the service experience for consumers (Choi & Wan, 2021). The nuances of service delivery robots, particularly their design and functionality, play a crucial role in shaping human-robot interactions. Past studies have explored the attributes of delivery robots, asserting that these characteristics significantly affect the nature and quality of these interactions (Gupta & Pande, 2023; Hlee et al., 2023). Given this backdrop, the current study aims to investigate how consumers perceive the attributes of delivery robots and the experiential value derived from their use.

The introduction of robots in service delivery has led to the emergence of a collaborative human-robot service model, a departure from the traditional approach that solely relied on human employees. This new mode of collaboration raises questions about the efficacy and consumer reception of a hybrid service team comprising both humans and robots. Therefore, the second objective of this study is to evaluate the impact of human-robot team service on the experiential value perceived by consumers. (Paluch et al., 2022). Lastly, the experiential value obtained by consumers can significantly influence their attitudes and subsequent behaviors, including their willingness to revisit or recommend the service. Tjokrosaputro (2023) has emphasized the importance of understanding the linkage between experiential value and consumer attitudes, particularly in the context of the food service industry. Accordingly, the third objective of this study will investigate how experiential value affects consumers' attitudes towards delivery robots and their intentions to reuse such services, providing insights into the broader implications of robotic integration in the hospitality sector.

2. Literature Review

2.1. Delivery robots

Service robots are autonomous and adaptable interfaces integrated into systems that interact, communicate, and provide services to an organization's customers (Wirtz et al., 2018). This study focuses on delivery robots within restaurants. Currently, in Taiwan, the most common styles of delivery robots in restaurants include the following models (Figure 1).

Figure 1
Delivery robots

Note[a]. From Product Introduction, by Herdar Tech, 2024, https://www.herdartech.com/article.php?lang=tw&tb=6
Note[b]. From Product Introduction, by DE Tools, 2024,https://www.de-tools.com.tw/collections/%E6%99%BA%E8%83%BD%E9%80%81%E9%A4%90%E6%A9%9F%E5%99%A8%E4%BA%BA%E5%85%A8%E7%B3%BB%E5%88%97

2.2. Stimuli-organism-response (SOR) Theory

The SOR model comprises three fundamental dimensions: Stimuli (S), Organism (O), and Response, wherein Stimuli represent external inputs, Organism denotes the receiving entity, and Response signifies the resultant outputs. Upon exposure to external stimuli, the Organism elicits corresponding behavioral responses (Mehrabian & Russell, 1974). Research using the Stimulus-Organism-Response (SOR) model in service robot studies has provided varied insights. Chen and VG (2023) focused on airport service robots, identifying their functional value and coolness as key stimuli affecting user satisfaction, which in turn influences perceptions of airport smartness and word-of-mouth promotion. However, they noted that the functional value of robots didn’t significantly impact satisfaction, possibly due to users’ limited understanding and experience with these robots. Lin et al. (2023) applied the SOR framework to study tourists' interactions with tourism service robots, finding that economic incentives and robot anthropomorphism indirectly influenced participation and citizenship behaviors through perceived experiential value, encompassing functional, emotional, and social aspects. Hlee et al. (2023) explored how service robots’ emotional and functional elements affect users' attitudes and experiences. They concluded that elements like perceived human likeness and the feasibility of human-robot service teams had no significant effect on user attitudes, a finding explained through the Uncanny Valley Theory, which suggests that overly human-like robots can be off-putting. Lastly, Gupta and Pande (2023) expanded the SOR model to include relational elements in their study on service robot use. They discovered that emotional, functional, and relational stimuli influenced attitudes toward service robots and their experiential outcomes. This series of studies reveals the complex interplay between robot attributes and human perceptions, emphasizing the need for a deeper understanding of how service robots integrate into various service environments. In this study, Stimuli (S) include perceived friendliness, perceived coolness, robot competence, and the viability of the human-robot team service. The construct of experience value (aesthetics, playfulness, customer’s return on investment, and service excellence) is attributed to the Organism (O), while Response (R) includes customers’ attitudes toward the robot’ usage and their intention to revisit the restaurant.

2.3 Experiential Value

This study defines experiential value as "the overall perception that restaurant consumers experience during the dining process, either directly through interaction with delivery robots or indirectly through observation." The Experience Value Scale proposed by Mathwick et al. (2001) is employed in this study, comprising four dimensions: (1) Consumer Return on Investment (CROI), (2) Service Excellence (SE), (3) Playfulness (PL), and (4) Aesthetic (AT). This study extends the definitions of the dimensions provided by Mathwick et al. (2001). Consumer Return on Investment is defined as "the perception of consumers that the money, time, and emotional effort invested while being served by robots in restaurants yields a corresponding return, such as experiencing more efficient service." Service Excellence is defined as "the positive evaluation consumers develop towards service robots due to their professional performance." Aesthetics refers to "the visual appeal of the service robot’s design to the restaurant’s customers." Playfulness is defined as "the fun experienced by consumers during their interaction with service robots, evoking a sense of escape from daily life stress and facilitating a mood shift."

2.4 Perceived Friendliness, Aesthetic, and Playfulness
We define perceived friendliness (PF) as “the consumer's perception the delivery robot is warm and kind during interaction” (Hlee et al., 2023). This concept highlights the emotional dimension of service robots.

Rousi et al. (2021) introduced the Social Robot Aesthetic Framework (SoRAes), providing a lens through which to view human-robot social interactions from an aesthetic vantage point. Their research suggests that various elements, such as a robot's color, materials, body language, and proxemics, play pivotal roles in stimulating human visual perception, thus influencing interaction quality. Further, Salvini et al. (2010) have established aesthetic guidelines for robots, focusing on affordance, friendliness, beauty, and perceived safety. These principles are instrumental in guiding the aesthetic design of robots, with the goal of bolstering their social acceptance. Essentially, these criteria serve as benchmarks for evaluating a robot's aesthetic appeal, where higher perceptions of these elements correlate with an enhanced aesthetic experience. Moreover, Huang et al. (2023) revealed that the degree of courtesy perceived by consumers during interactions with service robots positively influences consumers' positive affective responses (enjoyment, novelty, and satisfaction). Therefore, we propose:
H1a: Individuals' perceived friendliness of food delivery robots affects their aesthetic experience.
H1b: Individuals' perceived friendliness of food delivery robots affects their playfulness experience.

2.5 Perceived Coolness, Aesthetic, and Playfulness
“Cool” is often associated with uniqueness, high-tech, and impressive (Warren & Campbell, 2014). It can also be interpreted as individuals' reactions to certain surprising or exciting things with a "wow" response, with the feeling of “cool” stemming from the new and unique product (Im et al., 2015). Sundar et al. (2014) suggest that the concept of coolness for digital devices can be categorized into several concepts: uniqueness, attractiveness, subculture/counter-culture, genuineness, and preliminary conceptualization. Levy (2006) indicates that the attractiveness of technological products to consumers is, to some extent, related to the aesthetic design of the product itself; in other words, consumers' perception of the coolness of technological products is related to aesthetic design. Furthermore, research in human-computer interaction suggests that the aesthetics of products are important factors influencing human perception (Tractinsky, 1997). Therefore, there is a mutual influence between the aesthetic design of technological products and human perception of coolness. Previous research also found that individuals' perception of the coolness of service robots can affect their hedonic value perception (Wu et al., 2023). Therefore, we propose:
H2a: The perceived coolness of delivery robots positively affects customers’ aesthetic experience with the robot.
H2b: The perceived coolness of delivery robots positively affects customers’ playfulness experience value.

2.6 Robot competence, Customers' return on investment, and Service Excellence

Service robot competence comprises two dimensions: first, their ability to communicate with humans, and second, their capability to navigate easily in narrow spaces (Hlee et al., 2023). This study defines robot competence as "the perception of restaurant consumers regarding the ability of delivery robots to interact and communicate with humans, execute tasks, and move within the restaurant." Belanche et al. (2021) found that the performance of service robots' capabilities influences consumers' utilitarian expectations (i.e., functional and monetary value). Additionally, prior research indicates that the stronger the professional competence of frontline service personnel, the better the service perceived by consumers (Wu et al., 2015). With service robots now providing frontline service to consumers and being assigned similar tasks as frontline employees, requiring direct interaction and contact with guests (Paluch et al., 2022), we propose:

H3a: The competence of the robot positively affects consumers' return on investment

H3b: The competence of the robot positively affects consumers' perceptions of service excellence.

2.7 Viability of the human-robot team service, Customers' return on investment, and Service Excellence

Hlee et al. (2023) outline the Viability of the Human-Robot Team Service (VHR) as follows: (1) robots can collaborate with human employees, (2) robots have the potential for growth or development within the human-robot service team, and (3) robots have opportunities for success or sustainable development in frontline service environments. Therefore, we define the viability of human-robot service teams as "teams composed of employees and service robots that can develop and collaborate in the long term and can achieve sustained success in the future." When employees demonstrate a higher willingness to collaborate with robots, the collective service quality of the team significantly improves (Tuzovic & Paluch, 2023). This enhancement in service level, in turn, leads to an increase in the perceived value among consumers (Liao, 2014). Previous research also indicates that suggests that consumers are prepared to pay a premium for efficient service. This willingness to pay more is attributed to the time and effort saved, which facilitates the achievement of their desired outcomes more effectively (Homburg et al., 2005). Therefore, we propose:

H4a: The viability of human-robot service teams positively affects consumers' experience of return on investment.

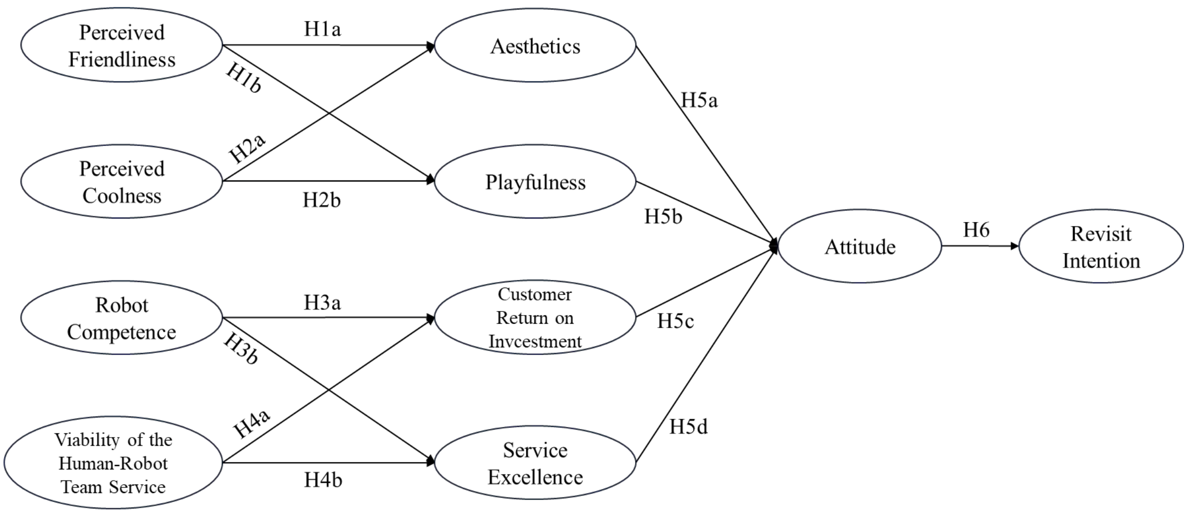
H4b: The viability of human-robot service teams positively affects consumers' experience of service excellence.

2.8 Attitude and Revisit Intention

The Theory of Planned Behavior (TPB) defines "attitude" as an individual's perception of the outcome of a particular behavior, expressing their feelings of favorable or unfavorable (Ajzen, 1991). The formation of attitudes influences an individual's behaviors (Ajzen & Fishbein, 2000). Experiential value, introduced by Mathwick et al. (2001), is a concept aimed at elucidating consumers' evaluations of products or services. In other words, experiential value pertains to the perceived value generated by consumers during the process of experiencing a product or service. Tjokrosaputro (2023) investigated the impact of consumer experiential value on attitude and behavioral intention. The findings revealed that experiential value

positively influences both consumer attitude and behavioral intention. Consequently, we propose:
H5a: Aesthetic perception towards delivery robots positively affects attitudes towards the robots' usage.
H5b: Playfulness towards delivery robots positively affects attitudes towards the robots' usage.
H5c: Consumers' return on investment towards delivery robots positively affects attitudes towards the robots' usage.
H5d: Service excellence towards delivery robots positively affects attitudes towards the robots' usage. H6: Attitudes towards the usage of service robots positively affect revisit intention.

Figure 2
Theoretical framework



3. Methodology

3.1. Measurement
In this research, a survey methodology was employed, leveraging Google Forms for online distribution. The selection of participants was conducted through purposive sampling, targeting only individuals with firsthand experience with restaurant service robots within the past three months. The questionnaire covers all the constructs in the research framework (Table 1). Data collection occurred between February 22nd and March 7th, 2024, yielding a total of 74 responses. Out of these, 61 responses were considered valid and suitable for analysis.

Table 1
Survey measures

Constructs	Measurements	Reference
Perceived friendliness	I think the service robots seem to be friendly.	Hlee et al. (2023)
	I think the service robots seem to be kind.	
	I think the service robots seem likable.	

Perceived coolness	When I first experienced the restaurant with service robots, I was thinking that it would be cool to visit.	
	When I visit the restaurant with service robots, I feel I look cool.	
	The restaurant with service robots is cool.	
	The restaurant with service robots has some cool features.	
Robot competence	I think that it is easy for a service robot to communicate with people.	El Said and Al Hajri (2022); Gupta and Pande (2023)
	I think that it is easy for a service robot in general to perform its tasks.	
	I think that it is easy for a service robot to control its movement in the restaurant environment.	
	I think that it is easy for a service robot to interact with people.	
Viability of the human-robot team service	Human-robot team service should continue to function as a unit.	
	Human-robot team service would work well together in the future.	
	Human-robot team service is able to adjust to changes in their work environment.	
	Human-robot team service could work for a long time together.	
Aesthetic	The service robot's appearance is very impressive.	Kim et al. (2021)
	The service robot is aesthetically appealing.	
	Using the service robot makes me feel good.	
Playfulness	Using the service robot makes me feel like being in another world.	
	The using experience at the service robot was truly a joy.	
	Compared with other things, the experience at the service robot was truly enjoyable.	
Customers' return on investment	Using the service robot has a good economic value.	
	Using the service robot is convenient.	
	Using the service robot is a more efficient way to receive service than using a waiter/waitress.	
Service excellence	Service robots have professional service skills.	
	The service at the service robot makes	

	me feel more special and valued than a waiter/waitress.	
	When I think of service robot, I think of excellence.	
Attitude toward using service robot	Using the service robot at the restaurant is a good idea.	Hlee et al. (2023)
	The service robot makes the dining experience more interesting.	
	Dining with the service robot is fun at the restaurant.	
	I like being served by the service robot at the restaurant.	
Revisit intention	I am planning to revisit this restaurant in the near future.	Gupta and Pande (2023); Meng and Choi (2018)
	I will make an effort to revisit this restaurant in the near future.	
	I am willing to revisit this restaurant in the near future.	

4. Results

4.1. Respondents' profile

The demographic breakdown of the respondents revealed that females were the predominant gender, accounting for 66.57%, with males making up 34.43%. In terms of marital status, a significant majority, 77.05%, were unmarried, while married respondents constituted 22.95%. Age distribution showed that individuals aged 30 and below formed the largest group at 52.46%, succeeded by those in the age brackets of 31 to 40 years (22.95%), 41 to 50 years (13.11%), and those aged 51 and above (11.48%). Regarding educational qualifications, a substantial majority of respondents (73.77%) possessed graduate degrees or higher, with undergraduate degree holders comprising 26.23%. The majority encountered service robots in chain restaurants, representing 83.61% of the experiences, while encounters in self-operated establishments were noted by 11.48% of respondents.

4.2 Measurement Model

We employed partial least squares structural equation modeling to conduct the data analysis, utilizing SmartPLS 4.0. The resultant factor loadings are all above 0.7. Cronbach's alpha, composite reliability and average variance extracted (AVE) demonstrated that all the constructs fulfilled the criterion for reliability and convergent validity (Table 2). The heterotrait–monotrait ratios are all below 0.9 (Table 3), demonstrating satisfactory discriminant validity (Henseler et al., 2015).

Table 2

Convergent validity

Construct	Cronbach's alpha	rho_A	CR	AVE
PF	0.905	0.920	0.940	0.840
PC	0.900	0.913	0.937	0.832
RC	0.743	0.745	0.853	0.660

VHR	0.859	0.861	0.914	0.781
AT	0.837	0.852	0.902	0.754
PL	0.813	0.821	0.889	0.728
CROI	0.815	0.837	0.890	0.731
SE	0.897	0.914	0.935	0.828
ATT	0.922	0.924	0.945	0.811
RI	0.904	0.916	0.940	0.838

4.3 Structural Model

The assessment of path coefficients' significance was conducted using bootstrapping techniques (Figure 3). The findings indicate that perceived friendliness and coolness exert significant impacts on aesthetics and playfulness, confirming hypotheses H1a, H1b, H2a, and H2b. Furthermore, robot competence was found to significantly influence customers' return on investment and service excellence, thereby supporting H3a and H3b. The efficacy of human-robot team service significantly impacts customers' return on investment, affirming H4a, though it shows no significant effect on service excellence, leading to the non-confirmation of H4b. The constructs of playfulness, customers' return on investment, and service excellence were observed to significantly affect attitudes towards using service robots, substantiating H5b, H5c, and H5d. However, the relationship between aesthetics and attitude toward using service robots was not significant, resulting in the rejection of H5a. Lastly, a significant positive relationship was established between attitude and the intention to revisit, which validates H6 (Table 4).

Table 3

Discriminant validity

	AT	ATT	CROI	PC	PF	PL	RC	RI	SE	VHR
AT										
ATT	0.741									
CROI	0.559	0.855								
PC	0.792	0.696	0.604							
PF	0.847	0.688	0.552	0.668						
PL	0.875	0.899	0.785	0.857	0.685					
RC	0.601	0.816	0.800	0.576	0.474	0.646				
RI	0.549	0.611	0.392	0.334	0.434	0.476	0.423			
SE	0.638	0.600	0.823	0.683	0.458	0.799	0.674	0.334		
VHR	0.602	0.725	0.691	0.662	0.540	0.729	0.821	0.481	0.606	

Figure 3

Structure model

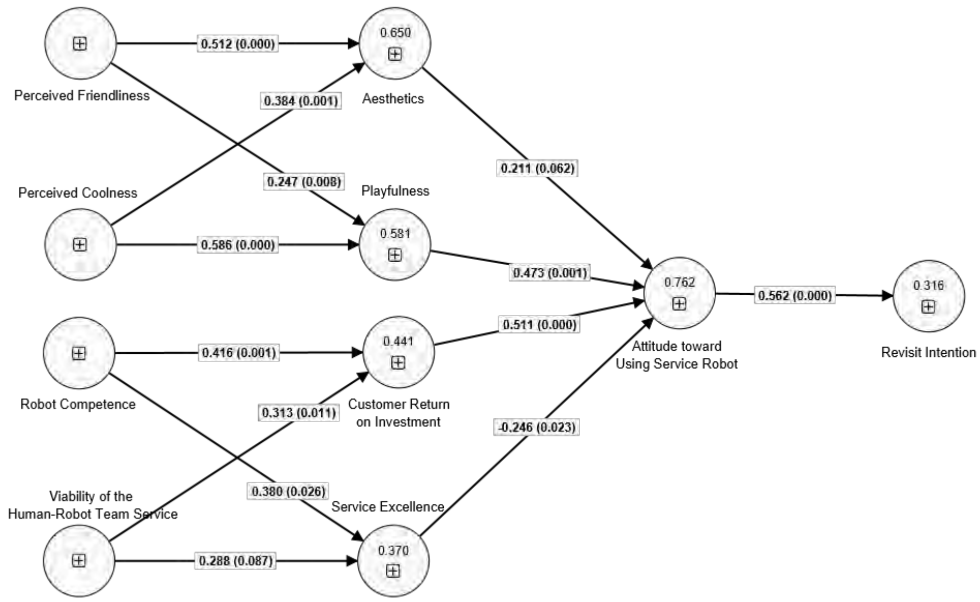


Table 4
Bootstrapping results

Path	Path	Sample mean (M)	SD	T statistics	P values	Decision
PF -> AT	0.512	0.516	0.115	4.441	0.000	supported
PF -> PL	0.247	0.254	0.093	2.647	0.008	supported
PC -> AT	0.384	0.385	0.112	3.423	0.001	supported
PC -> PL	0.586	0.582	0.098	5.992	0.000	supported
RC -> CROI	0.416	0.423	0.125	3.323	0.001	supported
RC -> SE	0.380	0.392	0.170	2.229	0.026	supported
VHR -> CROI	0.313	0.315	0.123	2.548	0.011	supported
VHR -> SE	0.288	0.283	0.168	1.714	0.087	rejected
AT -> ATT	0.211	0.223	0.113	1.869	0.062	rejected
PL -> ATT	0.473	0.460	0.140	3.373	0.001	supported
CROI -> ATT	0.511	0.524	0.111	4.600	0.000	supported
SE -> ATT	-0.246	-0.256	0.109	2.267	0.023	supported
ATT -> RI	0.562	0.567	0.091	6.146	0.000	supported

5. Discussion and Conclusion

5.1. Discussion and implications

In this research, two of the hypotheses, H4b and H5a, were not supported, while the other hypotheses showed significant effects. Notably, a significant negative impact was found for H5d. The findings for H4b revealed that the Viability of the Human-Robot Team Service (VHR) does not significantly impact Service Excellence (SE). This suggests that while consumers may recognize the effectiveness of a combined human-robot service team, they do not necessarily regard the service executed by delivery robots as exceptional. This perception could be due to the current limitations in the service capabilities of delivery robots, which are primarily restricted to tasks like meal delivery and tray collection. Such services might not meet consumers' expectations, which are often based on comparisons with human waitstaff, leading to the conclusion that, despite the functional integration of human-robot teams, the service quality of robots remains inferior to that of human servers (Moriuchi & Murdy, 2024).

Regarding H5a, the study found that the aesthetic value of delivery robots does not significantly influence consumer attitudes towards their usage. Two primary reasons are hypothesized for this finding. Firstly, consumers may give more importance to the functionality of the robots rather than their aesthetic design. Secondly, given that delivery robots have been operational in restaurants for a while, consumers might have become accustomed to their presence and appearance. Consequently, the aesthetic design of these robots may no longer play a pivotal role in shaping consumer attitudes, resulting in the unmet hypothesis of this research.

5.2. Conclusion

The adoption of food delivery robots in the restaurant sector is increasingly prevalent, reshaping the customer dining experience to some extent. Drawing on this study's analytical outcomes, actionable insights are offered for entities involved in the creation of food delivery robots as well as for restaurateurs. The research indicates that the perceived friendliness, coolness, and competence of food delivery robots play a crucial role in enhancing the experiential value for restaurant patrons. Consequently, manufacturers of these robots are advised to prioritize these attributes in the design process, aiming to boost the overall experiential value for consumers.

For restaurateurs, the study's findings suggest that although consumers recognize the effectiveness of human-robot service collaborations, this recognition does not translate into a heightened perception of service excellence by food delivery robots. Moreover, the presence of efficient robot services has not necessarily led to a more positive consumer attitude toward robot usage; in fact, it has shown a tendency to decrease. This indicates a persistent preference among restaurant customers for human-provided service. Hence, restaurant owners and managers should strategize on refining the synergy between human staff and robots to maximize service outcomes, ensuring that the integration of robots complements rather than replaces human interactions, thereby aligning with consumer preferences and enhancing the dining experience.

5.3. Limitations of this study and suggestions for future studies

This study, while offering valuable insights, has certain limitations. The sample size comprised only 61 valid responses, predominantly from individuals below 30 years of age, primarily students. Consequently, the applicability of these findings to broader age demographics remains uncertain. To overcome this, future research should aim to include a wider age range, particularly targeting those 30 years and older, to enrich the understanding of diverse experiences with food delivery robots and broaden the study's generalizability. Additionally, the research focused on five prevalent robot styles in Taiwanese restaurants without an in-depth examination of any specific type. Future studies could benefit from a more focused approach, exploring individual styles of food delivery robots. This could yield more nuanced insights and facilitate the development of bespoke design recommendations that cater to the unique characteristics of different robot types. Moreover, the study concentrated on three robot design attributes: friendliness, coolness, and competence. Given the evolving variety in service robot designs, subsequent research should consider a broader spectrum of design elements. Attributes such as cuteness, interactivity, and courtesy could be explored to provide a more comprehensive view of what influences consumer interactions and perceptions of service robots.

Despite these limitations, this study lays a foundational stone for future explorations in the realm of food delivery robots, opening avenues for more detailed and expansive research. By addressing these gaps, we can look forward to a future where the integration of robots in restaurants not only enhances service efficiency but also aligns with the diverse expectations and preferences of consumers across various demographics.

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Are the barista robot services accepted by customers?: Application of extended technology acceptance model (ETAM)

Kim, TaeSoo
Dept. of Restaurant & Institutional Management
Yonsei University

Moon, Hye-young
Institute of Symbiotic Life-TECH
Yonsei University

Ham, Sunny
Dept. of Food & Nutrition
Yonsei University

Abstract:

As we enter the era of the Fourth Industrial Revolution, driven by advancements in artificial intelligence and semiconductor technology, service robots are rapidly evolving (Baraka & Veloso, 2018). These AI-based service robots are enhancing productivity, efficiency, and performance in various industries (Wirtz et al., 2018). Recently, due to the ongoing spread of Covid-19, leading to sustained contactless services across all industries, there is a trend towards rapid adoption of service robots (Ko, 2020).

While much research is underway regarding the introduction of barista robot technology, there is a lack of studies focusing on identifying various factors related to the Extended Technology Acceptance Model (ETAM). Particularly crucial is the evaluation of barista robots from a customer perspective.

This study aims to elucidate the relationships among individual innovativeness, technological anxiety, and continuance intention to use within the context of an extended technology acceptance model. Furthermore, it seeks to identify factors influencing continuance intention within the extended technology acceptance model.
The findings of this study are expected to provide valuable insights into the adoption and proliferation of robot baristas in the foodservice industry. Using a survey approach, data will be collected from 300 customers who have experienced using barista robots.

Keywords: Barista Robot, ETAM(Extended Technology Acceptance Model), Technology Anxiety, Personal Innovativeness, Continuance Intention to Use.

1. Introduction

Despite the market saturation in the domestic café industry, various types of cafes are emerging alongside continuous growth (Kim & Lee, 2020). For instance, despite the economic downturn due to COVID-19, the café industry is projected to develop, reaching approximately 9 trillion won by 2023 (Seo, 2020). The consumer market preferring contactless services accounted for 35% before COVID-19, but it increased to 57% afterward. Moreover, the sales volume of unmanned cafes, expanding primarily in China, surged to 1.81 trillion yuan after COVID-19 (Kim & Kang, 2021). The domestic coffee specialty market, which was worth $300 million in 2007, increased to $4.3 billion in 2018, making it the third-largest globally in terms of revenue, following the United States ($26.1 billion) and China ($5.1 billion) (Hwang, 2021). This transformation in the coffee market is evolving into a quality competition regime driven by consumers actively seeking out coffee according to their preferences (Kim, 2020).

While there is ongoing research on the introduction of robot barista technology, there is a lack of studies investigating various factors related to the Extended Technology Acceptance Model (ETAM). Particularly, evaluating robot baristas from a customer perspective is crucial.

This study aims to clarify the relationship between individual innovativeness, technological anxiety, and continuance intention and to understand continuance intention within the framework of technology acceptance.

2. Literature Review

*2.1. ETAM(*Extended Technology Acceptance Model)

Davis et al.(1992)introduced the technology acceptance model to help understand how individuals use and accept a specific technology. The model argues that an individual's attitudes and intentions toward trying to learn to use new technology are determined by his/her considerations of the perceived related advantages of the technology. Because the nature of the model is to examine people's psychological mechanisms to new technologies, it has been widely adopted to study human-robot interaction, especially in restaurant/hotel settings (Abou-Shouk et al., 2021; Omar Parvez et al., 2022). According to this theory, the most critical determinant of an individual's behavioral intention is his/her attitude toward a technology, which is a function of perceived usefulness and ease of use of the technology toward the W.-K. Kao and Y.-S.(S. Huang Journal of Hospitality and Tourism Management 54 (2023) 10–21 12 behavior (Davis, 1989; Bagozzi et al., 1992). According to this model, a key antecedent of individuals' attitudes toward adopting technology is their perceived usefulness of the technology, which refers to a person's evaluation of using a particular system that would enhance his or her outcome of the experience (Davis et al., 1992).

People tend to hold a positive attitude toward adopting a technology when they believe it is useful. On the other hand, when they consider that the technology provides only limited advantages, they will likely form negative attitudes toward the technology. Another important antecedent is perceived ease of use, which is defined as users' perceptions of the level of complexity associated with using a specific technology (Lund, 2001). In other words, perceived ease of use is determined by an individual's beliefs on how easy and straightforward they can learn to use the subject (Davis et al., 1992). People tend to show a positive attitude toward the adoption of technology when they feel they can learn how to use it quickly and easily. When the opposite is true, people are more likely to view the technology adoption negatively. Drawing on the technology acceptance model (Davis et al., 1992)), we propose that customers' perceived usefulness and ease of use toward service robotics are key to determining their attitude toward interacting with the service robotic assistant and therefore to influence their adoption intention. Based on recent hospitality literature that applies the technology acceptance model to study robotic services, we define perceived usefulness as an individuals' evaluation of the related usefulness of the service robotic assistant, and perceived ease of use as an individual's consideration to the degree of complexity of using the service robot (Abou-Shouk et al., 2021; Hwang et al., 2020; Omar Parvez et al., 2022; Sun et al., 2020). Our research expands upon the literature in two ways. First, it studies the technology acceptance model in different service contexts. Second, we contribute to this body of literature by further suggesting the need to take interaction quality and rapport with the service robotic assistant into consideration.

2.2. Barista Robot

Despite the saturation of the domestic café market, various types of cafés are emerging alongside sustained growth (Kim & Lee, 2020). For example, despite the economic downturn caused by COVID-19, the café industry is forecasted to develop, reaching approximately 9 trillion won by 2023 (Seo, 2020). The consumer market preferring contactless services increased from 35% before COVID-19 to 57% afterward, and the sales volume of unmanned cafes, expanding primarily in China, surged to 1.81 trillion yuan after COVID-19 (Kim & Kang, 2021). The domestic coffee specialty market, which was worth $300 million in 2007, increased to $4.3 billion in 2018, making it the third-largest globally in terms of revenue, following the United States ($26.1 billion) and China ($5.1 billion) (Hwang, 2021). This transformation in the coffee market is evolving into a quality competition regime driven by consumers actively seeking out coffee according to their preferences (Kim, 2020). Furthermore, significant changes have occurred in the coffee market due to COVID-19 and the Fourth Industrial Revolution. As people shy away from enclosed spaces or multi-use facilities due to COVID-19, the economy is experiencing overall downturns (Song, 2021). According to the Korea National Statistical Office's 64th Business Conditions Survey, labor costs accounted for a high proportion of 77.6% as a managerial obstacle (Statistics Korea, 2021). Consequently, in the franchise café industry, while fiercely competing, alternative approaches such as robot services, drive-thrus expansion, delivery services, and sales promotion through online marketing are being pursued to cope with rising labor costs. Additionally, kiosk systems, allowing orders without human contact, are being increasingly distributed (Kim & Kang, 2021; Song, 2021). Moreover, with the Fourth Industrial Revolution, the convergence of digital technologies such as artificial intelligence and big data has created robot baristas capable of providing better services to customers through maintaining coffee quality and offering emotional services through intelligent CCTV and image recognition. For instance, using robots, customers can input the desired taste state as coffee beans oxidize and deteriorate differently each day. By analyzing big data and profiling order patterns, high-quality coffee recommendations can be made, reproducing a more consistent taste (Kim & Kang, 2021). Stored big data can reproduce a more consistent taste. Ki (2020) stated that robot technology will expand the specialty coffee market by widening the spectrum of coffee tastes, faithfully reflecting extraction variables in terms of quality, consistency, individuality of quality, and reproducibility of extraction. Café robots are rapidly growing, focusing on 'vending machine-type (kiosk) robots' and 'store-type robot baristas.' The vending machine-type (kiosk) robot, first introduced at the 2018 Seoul Café Show, is being introduced in various locations such as airports, shopping malls, highway rest areas, and universities (Ministry of Trade, Industry and Energy, 2021).

2.3. Personal innovation

Personal innovation refers to the desire to pursue new stimuli or external changes within the framework of the social system, indicating an individual's willingness to adopt new technologies or objects more quickly than others (Hirschman, 1980; Rogers, 2003). The degree of personal innovativeness determines the timing of acceptance of certain products and services, and it also significantly influences attitudes towards adoption, thereby affecting behavior (Goldsmith & Hofacker, 1991). Agarwal and Prasad (1997) defined personal innovativeness as an individual's willingness to adopt, plan, and act upon new information technology (IT). Their validation results indicated that personal innovativeness plays a moderating role in the relationship between compatibility and intention, while its role in relative advantage and convenience cannot be conclusively determined.

Lee Soo-mi, Park Hak-soon, Lee Jong-song, and Kim Ki-woong (2018) suggested that individuals who easily learn to use new devices, are familiar with operating technological functions, recommend new technologies to others, and demonstrate high efficiency in work and personal innovativeness within social organizations, can lead intention to use self-service technology (SST) devices by focusing on factors such as facilitation conditions, outcome expectations, and effort expectations while maintaining and improving them.

Kim Je-bum and Jung Yeon-seung (2020) verified that consumers' personal innovativeness plays a moderating role in the relationship between environmental characteristics, such as payment convenience, technological ease of use, functionality, and spatial arrangement within unmanned convenience stores, and the experiential quality of unmanned convenience stores.

2.4. Technology Anxiety

Meuter et al. (2005) mentioned technology anxiety as a key factor influencing customers' initial acceptance and decision-making regarding self-service technology (SST), acting as a precursor to technology adoption. Technology anxiety refers to the apprehension induced by the use and interaction with a particular technology (Guo et al., 2013). It encompasses worries, fears, discomfort, and perceived threats individuals experience when facing the possibility of using or interacting with technology (Guo et al., 2013; Rho, 2015). Technology anxiety can lead to confusion about tasks (role ambiguity), reduced motivation, and diminished perceptions of capability (Meuter, Bitner, 1997; Parasuraman, 2000; Parasuraman, Colby, 2001). General anxiety about computer use negatively impacts perceptions of usefulness and ease of use in information systems (IS) contexts (Igbaria, Iivari, 1995; Hackbarth, Grover, Yi, 2003). Similarly, individual technology anxiety factors can influence evaluations of information, system, and service (enjoyment, design, etc.) quality and usability in SST situations (Gelbrick, Sattler, 2014; Lian, 2021). Moreover, when SST installations are located in public places, individual technology anxiety can decrease usage intentions, and when perceived alongside time pressure and crowding, intention to use SST can be completely inhibited (Gelbrich, Sattler, 2014). Liu's (2012) study also indicates that personal technology anxiety affects perceived satisfaction with SST and serves as a determinant of technology adoption intention. Based on this previous research, the following research hypotheses are established in this study.

2.5. Continuance Intention to Use

Intent refers to the willingness for anticipated or planned future actions, indicating the likelihood of one's beliefs and attitudes being translated into behavior. Therefore, intention to use is considered as the starting point for actual usage and serves as a direct determinant of information technology adoption. Intent to use is influenced by attitudes, as stated by Nam & Jin (2017). Thus, the Technology Acceptance Model (TAM) is a theory that explains the change in attitudes and intentions to use according to the perceived ease of use and perceived usefulness, which in turn determine users' attitudes and ultimately affect actual usage (Choi & Choi, 2010). It describes the level of change in attitudes and intentions to use new systems based on their acceptance (Cha & Lee, 2015).

3. Methodology

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

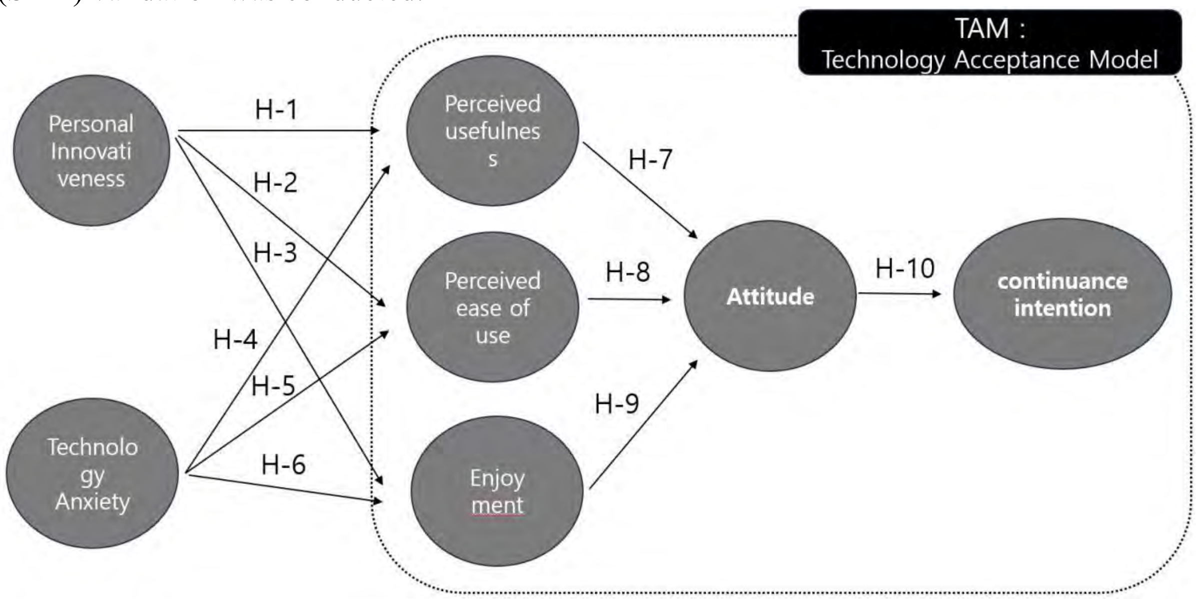
3.1. Measurement

This study aims to provide an Extended Technology Acceptance Model (ETAM) including individual innovativeness and technological anxiety, as well as continuance intention in the context of robot barista usage behavior.

The survey for this study is scheduled to conduct a pilot test for 10 days in April 2024 with customers who have experience using robot baristas. After identifying any issues during the pilot tests, the questionnaire was finalized after modifications and improvements.

This survey will target various customer groups who have recently used robot baristas in the foodservice industry, using a self-selection convenience sampling method. A total of 400 questionnaires will be distributed, and data from the distributed questionnaires, excluding those with non-responses or missing values, will be utilized for analysis.

To achieve the objectives of this study, data collection and analysis were conducted using the social science statistical packages SPSS 18.0 and AMOS 18.0. Firstly, frequency analysis was conducted for respondents' general characteristics (gender, age group, frequency of usage, education, occupation). Secondly, before proceeding with causal relationship analysis, the validity of measurement items was assessed using AMOS 18.0, examining Confirmatory Factor Analysis (CFA), Composite Construct Reliability (CCR), and Average Variance Extracted (AVE). Finally, based on the hypotheses and model proposed by this study, Structural Equation Model (SEM) validation was conducted.



Hypothesis formulation
H1. Customer's individual innovativeness will positively influence perceived usefulness.
H2. Customer's individual innovativeness will positively influence perceived ease of use.
H3. Customer's individual innovativeness will positively influence enjoyment.
H4. Customer's technological anxiety will negatively influence perceived usefulness.
H5. Customer's technological anxiety will negatively influence perceived ease of use.
H6. Customer's technological anxiety will negatively influence enjoyment.
H7. Perceived usefulness will positively influence attitude.
H8. Perceived ease of use will positively influence attitude.
H9. Enjoyment will positively influence attitude.
H10. Attitude will positively influence continuance intention.

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Customers' Emotional Experiences at Micro-celebrity Restaurants – An Exploratory Study

Chan, Irene Cheng Chu
School of Hospitality Management, School of Tourism Management
Macao University of Tourism

Chen, Zhaoyu
School of Tourism Management
Macao University of Tourism

Abstract:

This study seeks to identify emotions arising from the dining experiences at micro-celebrity restaurants. A total of 19 in-depth interviews with customers were conducted. The results imply that consumers experience a wide range of emotions at micro-celebrity restaurants, which are different than that at ordinary ones. In terms of basic emotions, two positive emotions (joy and anticipation) and three negative emotions (disgust, anger, and distrust) are identified. Secondary and integrated emotions, including interest, vigilance, annoyance, submission, and disapproval are also revealed. Micro-celebrity restaurants should understand consumers' emotions in order to sustain their competitive advantages.

Keywords: Wanghong restaurant, micro-celebrity restaurant, emotions, experience

1. Introduction

Micro-celebrities, also known as social media influencers or key opinion leaders (KOLs), have gained increasing attention in the food service industry, due to their significant influence on consumers' decision related to restaurant selection (Gao, Zeng, Zhang, & Porananond, 2022; Huang, Liu, & Wong, 2021). These micro-celebrities often share their dining experiences on platforms, such as Instagram, Xiaohongshu, and TikTok, to showcase their favorite dishes and highlight the ambience of a restaurant. Their posts may arouse their followers' interests and create buzz around a particular restaurant, turning it into a micro-celebrity restaurant (a.k.a. Wanghong restaurant and internet-famous restaurant). According to Huang et al. (2021), a micro-celebrity restaurant refers to a dining venue that are highly popular among Internet users. They are known for their unique décor and ambience, innovative menu items, and exquisite presentation of food products (Gao et al., 2022). The "instagrammable" appeal of the dishes and environment of these restaurants drives customer patronage, which has led to the success of micro-celebrity restaurants. Despite their initial popularity, industry reports showed that a significant portion of micro-celebrity restaurants were not able to sustain their businesses due to low food quality and strong competitions (Xu, 2018). It is therefore important to learn more about customers' experiences with this novel form of dining venture.

According to Westbrook and Oliver (1991), consumption emotion refers to "the set of emotional responses elicited specifically during product usage or consumption experiences, as described either by the distinctive categories of emotional experience and expressions (e.g., joy, fear, and anger), or by the structural dimensions underlying emotional categories, such as pleasantness/unpleasantness, relaxation/action, or calmness/excitement" (p. 85). Consumers' emotional experience is the outcome of their affective evaluation of their dining experiences at the micro-celebrity restaurant based on some appraisal dimensions (Oh & Kim, 2022). Although some studies have identified the different emotions in restaurant dining experiences, a few research gaps are noted. First and foremost, one stream of research predominantly focused on positive emotions (Kim & Moon, 2009; Meng & Choi, 2017; Tsaur & Lo, 2020), overlooking the potential negative emotions arising from dining experiences. Second, the measurements of emotions used in most studies were mainly adapted from the Pleasure-Arousal-Dominance (PAD) model, and Richins (1997)'s Consumption Emotion Set (CES) scales (Laros & Steenkamp, 2005; Ryu & Jang, 2007; Tantanatewin & Inkarojrit, 2018), which were previously developed in consumption contexts other than restaurant experience. Thus, some emotions such as afraid, scared, and panicky, are not likely to be experienced in restaurant consumption context (Han, Back, & Barrett, 2010). Likewise, emotions that are important to restaurant consumption behavior, such as anticipation and interest, are not represented in the PAD and CES scales (Oh & Kim, 2022). Finally, existing studies on restaurant emotional experiences tend to focus either on general dining experiences (Tsaur & Lo, 2020), or a particular type of restaurant establishments, such as luxury restaurants (Chen, Peng, & Hung, 2015; Han & Jeong, 2013; Ryu & Jang, 2007) and ethnic restaurants (Ribeiro & Prayag, 2019). Research exploring the emotional experiences at micro-celebrity restaurants is lacking.

To fill in the above-mentioned gap, this study seeks to identify the different emotions arising from consumers' dining experiences at micro-celebrity restaurants. According to the emotion theory proposed by Plutchik (2001), there are eight basic (or primary) emotions, namely joy, trust, fear, surprise, sadness, disgust, anger, and anticipation. The changes in the intensity of these basic emotions will form into secondary emotions (refer to Figure 1). For example, interest is the weaker form of anticipation, while vigilance is the stronger form of anticipation. Also, different forms of emotions may be combined to become other emotions. For example, the emotion of love arises when one feels both joy and trust. The emotion model of Plutchik (2001) is used as the guiding framework to explore the emotional experiences of consumers at micro-celebrity restaurants.

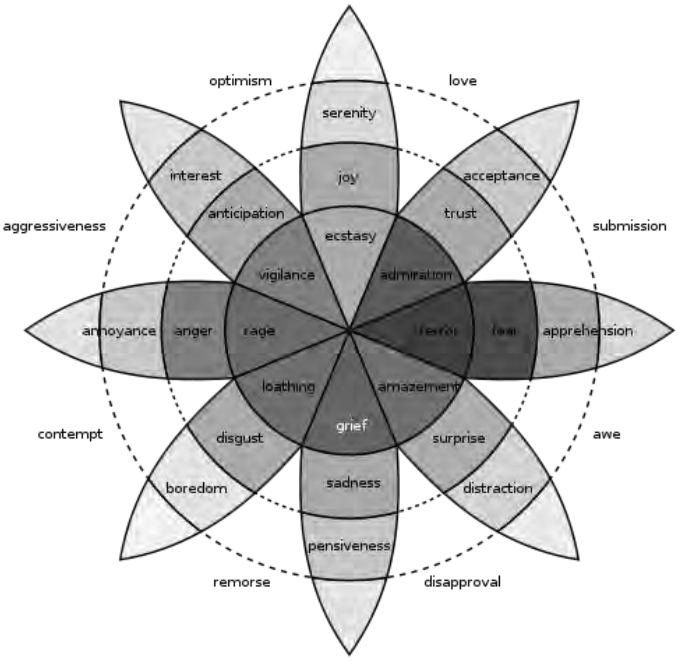

Figure 1. The emotion wheel (Plutchik, 2001)
Source: https://www.scienceofpeople.com/emotion-wheel/

3. Methodology

The current study involves identifying the different emotional responses that consumers experience before, during, and after dining at micro-celebrity restaurants. It is exploratory in nature and thus qualitative approach is adopted. A total of 27 semi-structured interviews were conducted in August and September 2022. Purposive and snowball sampling were used to recruit informants with prior experiences dining at micro-celebrity restaurants. Each interview lasted from 20 to 40 minutes and was conducted in either Cantonese or Mandarin guided by an interview protocol. Informants were mainly asked about their perception of a micro-celebrity restaurant and reflections on their most memorable dining experiences at the restaurant. They are encouraged to share both positive and negative experiences as to ensure that both positive and negative emotions could be identified. The interviews were recorded with the consents of the informants and were then transcribed. Thematic analysis was used to discover the key emotions emerged from customers' experiences at micro-celebrity restaurants following the emotion model of Plutchik (2001).

4. Results

The results of the analysis show that consumers experience rich emotions before they decide to visit a micro-celebrity restaurant, when they are dining at the restaurant, and afterwards. In regard to primary emotions, two positive emotions, namely joy and anticipation are identified, while three negative emotions, including disgust, anger, and distrust are revealed. On the other hand, secondary and integrated emotions, such as interest, vigilance, annoyance, submission (trust and fear), and disapproval (surprise and sadness), are discovered in the interviews. In the following, the findings are grouped and discussed based on the eight cones of emotions, starting from the least to the highest level of intensity. Figure 2 summarizes the findings of the current study.

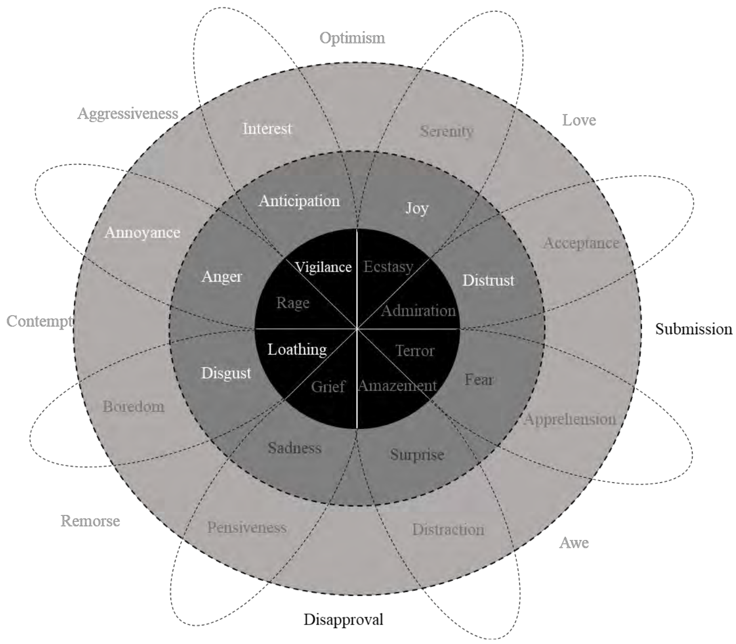

Figure 2. Emotional experiences at micro-celebrity restaurants
Note: Emotions identified are in black or white colors, while emotions not revealed are in grey color.

Joy
Joy is an elevated state of pleasantness (Oh & Kim, 2022). This study showed that food taste, comfortable environment and ambience of the micro-celebrity restaurant, and social engagement with friends will generate an immersive and joyous experience for consumers.
I think it [the restaurant] gave me a good experience, because when we ate at the restaurant, I felt that the restaurant was special, like a small restaurant operated by Thai people, the very down-to-earth kind. Then we ordered food after we went in, and we kept eating after the dishes arrived, we chatted and enjoyed a lot, even forgot to take pictures. (Informant 1)
There is a German restaurant, in wealthy suburb of Guangzhou. I ordered some dishes like the German pork knuckle, bread, etc. I feel that the environment is very comfortable, because there are not many people. I think a comfortable ambience is very important for me to enjoy and immerse in the experience. Of course, the taste of the dishes is also very good, so I had a good time eating there and stayed for a long time. (Informant 12)

Interest-Anticipation-Vigilance
This group of emotions emerge in the pre-dining stage of consumers' experience. Interest is the weak form of anticipation, and is usually created by the visual appeal of the restaurant and the long queue outside the restaurant.
I'm quite appearance-driven. If the decoration style of the restaurant is eye-catchy with gimmicks on the dishes, then I am interested to try. Just like visiting some scenic

spots or a new exhibition or attraction. Hey this is new, so I want to try. It is probably fun. (Informant 13).
I often pass by this food store with my mum by bus, and then there were often a group of people queuing u, a very long queue. So we were curious whether the food is really so delicious. (Informant 1)
Meanwhile, the visual appeal and popularity of the restaurant may form into high expectations in the consumers, and thus create the emotion of anticipation. Consumers tend to expect that micro-celebrity restaurants will offer a higher level of food quality compared to ordinary restaurants.
The expectation is that his place is beautiful and special, and his products are also delicious, which is worth the money. This is why I think its products and services and its environment should be very special, which is very satisfying to me. (Informant 1)
For example, I expect that the milk teas or the signature dishes of a teahouse should be better than other peers or other similar restaurants. (Informant 19)
To become a micro-celebrity restaurant, in fact, it has more or less created an expectation.... So I hope that the restaurant is genuine and give me this experience. (Informant 12)
After consuming at the micro-celebrity restaurant, consumers tend to compare their experience with their expectation, to determine whether they are satisfied. Unsatisfied customers may not make any direct confrontation to the restaurant, but they will experience vigilance in the future, which is the strong form of anticipation. Consumers with a negative experience will tend to be more alert and careful in future decision related to micro-celebrity restaurant, strongly affecting their revisit intention.
Next time I will much more alert. That is, I will go to the Internet to read more reviews. The more reviews a [micro-celebrity] restaurant has, the more misleading it could be. I will try to filter out those unreal ones to identify restaurants that really worth my visit. (Informant 1)
For most of the recommended micro-celebrity restaurants I come across online, I will be more cautious of those restaurants, and I will not easily visit new restaurants. Because from my past experience, I think we are mostly affected by the restaurant's traffic. For those restaurants that were not yet recommended by my friends, I will be more careful. (Informant 19)

Annoyance-Anger
Though popularity of a micro-celebrity restaurant may drive traffic because of the bandwagon effect, it may indeed create negative emotional experiences for consumers. Annoyance, the mild form of anger, is frequently experienced by consumers of micro-celebrity restaurants. It is mostly caused by the crowdedness of the restaurant.
The restaurants I have been to were all in Guangzhou. They were very traditional brands serving Cantonese cuisines. I waited for more than an hour to get inside, it was very crowded, and the dishes just tasted ordinary. The surroundings were messy, and the tables and chairs were densely arranged, so I hurriedly finished eating and left, I just think that experience was very bad. (Informant 12)
My experience was bad. Since it was a micro-celebrity restaurant, there are a lot of people. I had to queue up when I got there, so I felt annoyed. (Informant 20)
A more intensive form of negative emotion related to hatred, i.e., anger, may be experienced when the crowdedness of the restaurant is paired with negative service experience. Consumers therefore perceive that the restaurant is of low value for money and have no intention to revisit.

It is a weird way of marketing, such as being very difficult to book. So the restaurant set itself at a high status, or some bosses are very arrogant, as if we are so lucky for being able to dine at their restaurant. After trying the restaurant, I found that the restaurant does not worth it. Why should I spend my money suffering this? So every time when I come across this again, I do not want to go. (Informant 14)

Disgust-Loathing

Disgust or disappointment is frequently revealed among consumers visiting micro-celebrity restaurants. This emotion is strongly connected to anticipation. Consumers feel disgust when their actual experience is not up to what they expected or described in the Internet. This feeling of disgust affects their experience on-site and even leave intention.

"If the restaurant disappoints me, I will not enjoy the experience. I may even just take a picture and leave immediately…One day, we visited the [micro-celebrity] restaurant, and then we also queued up for more than an hour. It turned out that the food was unpalatable, because the food was just very ordinary, and felt as if the food was not freshly made, just reheated. The presentation is very nice though. If you take a photo with a filter, the environment and its decorations are okay. But it really was not delicious, so I wonder if it worth the long queue. If it is only for the sake of taking pictures, that is very disappointing." (Informant 1)

Stronger sense of disgust, i.e., loathing, may also be experienced when consumers feel that they are being deceived by information posted online. Restaurants should also pay attention to its capacity in both space and service to cater the upsurge of patrons driven by the influencer marketing effects. Consumers may even become aversive toward micro-celebrity restaurants if their experiences turn out to be dissatisfactory.

I have quite some negative experiences with micro-celebrity restaurants. For example, I went to a [micro-celebrity] restaurant, only to find that the environment was so much different than what is posted online. Also, there were too many customers, not enough tables, and services were also bad. It is a new store. But without proper training or preparation, it became too popular all of a suddenly, exceeding its capacity. Guests came with various purposes, but their needs could not be fulfilled, which was very chaotic. Food took a long time to arrive and the taste was not satisfactory. I feel anxious and a waste of time and energy. (Informant 10)

In fact, if you ask me about how frequently I visit a micro-celebrity restaurant, I would say I almost never visit. Whenever I see a [micro-celebrity] restaurant like that, I will exclude it from my selection because it probably does not worth to try. (Informant 14)

(Dis)trust

While consumers' emotions arising from their dining experience will affect their evaluation of micro-celebrity restaurants in general, and the restaurant they visit in particular, consumers' satisfaction will also affect their trust or distrust toward the micro-celebrity (or influencer) promoting the restaurant.

The service level of the staff there made me feel no wonder why I have to wait in line for such a long time. It is not just a gimmick; it is popular for a good reason. (Informant 10)

Maybe I was previously attracted by the beautiful filters in the food photos, but when I actually went there, I found that the food was really as shown. So next time when I see *this influencer recommending another restaurant, I would not feel so interested in it. (Informant 14)*

Submission

More advanced emotion of submission, which consists of both distrust and fear, is also observed among consumers. They tend to normalize the negative experience of micro-celebrity restaurants by lower their expectations before their visit. Because of this, their level of tolerance is higher. This emotion frequently arises when consumers were passively involved in the decision making process related to restaurant selection.
The more I prepare myself psychologically in advance, the higher my tolerance will be. Just because I know that it is a micro-celebrity restaurant, the food ought to be served a little slower, or it takes a longer time in line. (Informant 10)
Sometimes I may not like the dishes at the restaurant, but if I go with friends, I will cater to my friends' preferences, but I do not genuinely like this place from the bottom of my heart. (Informant 8)

Disapproval

When asking the respondents about whether they will visit the micro-celebrity restaurants again, a strong sense of disapproval, as a result of sadness and surprise, is revealed. They have an overall negative opinion about the micro-celebrity restaurants.
If it's the same restaurant, I think I seldom go there for a second time. (Informant 1)
Probably after the first time, I will not consider it again. I'd rather go back to the restaurants I had been to. (Informant 12)

I probably wouldn't go a second time. Well, because it is a micro-celebrity restaurant, it is meant to be not good value for money. (Informant 13)

5. Discussion and Conclusion

Consumers' emotional experiences dining at a restaurant significantly affect their revisit intention and word-of-mouth (Han, Back, & Barrett, 2009; Meng & Choi, 2017). The current study seeks to gain a deeper understanding of the emotions experienced by consumers when dining at micro-celebrity restaurants, based on Plutchik's (2001) theory of emotions. The results showed that food quality and environment are the two major factors driving both positive (e.g., joy) and negative (e.g., annoyance and disgust) emotions. The popularity of micro-celebrity restaurants on the Internet has created high expectations among consumers, setting them apart from ordinary restaurants. To ensure success, restaurants positioning themselves as micro-celebrities must pay close attention to the expectations their customers have developed online. If customers have high expectations but experience negative disconfirmation, they are more likely to feel dissatisfied (Siu, Zhang, & Kwan, 2014).

On the other hand, "crowdedness" and "long queue" is frequently associated with negative emotions, such as annoyance and anger. Drawing traffics may be beneficial to the restaurant's image, but it can be negatively perceived if not properly managed. To enhance customer experience, micro-celebrity restaurants should explore the use of smart technologies for queue management and help customers track the status of queuing time or place orders in advance, thus mitigating the long waiting time and enhance crowd environment. By doing so, customers can enjoy a pleasant dining experience without feeling overwhelmed.

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The Impact of Status on Service Recovery Evaluations in High Power Distance Cultures

Kim, Ellen Eun Kyoo
Department of Management
California State University, Fullerton

Lee, Jenna Seung Hyun
School of Hospitality Leadership
East Carolina University

Seo, Kwanglim
School of Travel Industry Management
University of Hawaii, Manoa

Abstract:

This research explores a situation where the focal customer's status is higher or lower than other customers and examines how the relative status compared to others can influence service recovery evaluations in high Power Distance (PD) cultures. The results suggest that when the customers' status is superior, offering higher compensation amount positively affects their satisfaction and fairness perceptions. On the other hand, when the customer status is inferior, offering lower compensation amount does not significantly affect their fairness perceptions. Our findings shed light on how consumer reactions to service recovery vary by status in high PD cultures.

Keywords: Status, Power Distance, Service Failure, Service Recovery, Fairness Perceptions

A temporal and spatial correlation analysis between cultural resources and tourism economy

Zhong, Lina
Institute for Big Data Research in Tourism, School of Tourism Sciences
Beijing International Studies University

Qi, Xiangchi
Institute for Big Data Research in Tourism, School of Tourism Sciences
Beijing International Studies University

Sun, Sunny
College of Sustainability and Tourism
Ritsumeikan Asia Pacific University

Law, Rob
Asia-Pacific Academy of Economics and Management, Department of Integrated Resort and Tourism Management, Faculty of Business Administration
University of Macau

Wang, Siqi
Institute for Big Data Research in Tourism, School of Tourism Sciences
Beijing International Studies University

Abstract:

Cultural resources and the development of tourism economy are inseparable. Nevertheless, a comprehensive index to evaluate cultural resources and tourism economy received limited attention from previous studies. Thus, this paper constructed two evaluation index systems of cultural resources and tourism economy through an annual list of Chinese cultural resources. Through coupling coordination analysis, this study mainly analyzed the temporal and spatial differentiation characteristics of the coordinated development of cultural tourism. The main result showed that the transformation of the coupling coordination degree type was affected by neighboring cities. Implications are further discussed.

Keywords: Cultural resources, Tourism economy, Spatial correlation analysis

1. Introduction

The Yellow River Basin (YRB) is considered the primary source of Chinese civilization (Macklin & Lewin, 2015). Chinese consider the Yellow River (YB) as "the Mother River", because the river's culture is one of the cores and a solid foundation of Chinese culture, which shows the irreplaceable role of YB in China. Thus, the special importance of YRB in Chinese culture's development deserves our attention (Liu & Xu, 2007). The development of the YRB is very important for the revival of Chinese civilization and the sustainable development of Chinese culture

(Feng, Wu, & Qin, 2019). At present, the Chinese government is paying increasing attention to the basin's high-quality sustainable development.

After the development of the modern economy, the relationship between man and land in YRB strained (Shi & Wang, 2021). The ecology became extremely fragile (Li, Sun, Li, & Meng, 2021). Ecological problems in YRB, such as soil erosion and water pollution, have always been the focus of research (Chen et al., 2007; Wang et al., 2015). Ecological conservation and high-quality development of YRB were promoted as national strategies since September 2019. This policy adjustment is of great importance given that the economic development of YR should no longer be at the expense of ecology but should be developed with high quality (Jiang et al., 2021).

In the future development of YRB, Chinese government stresses the importance of relaying the "Yellow River Story" well and recommends exploring the cultural value of YR. The adjustment of tourism economic structure is in favor of the sustainable development of regional economy (Yang, Zhao, Xu, Liu, & Zha, 2021). In addition, culture and tourism are closely related with each other (Canavan, 2016), given that cultural landscape and activities provide a significant driving force for tourism, and the development of tourism influences cultural communication and inheritance (Richards, 2018). Considering cultural resources and the development of tourism economy are inseparable, and analyzing the aforementioned relationship can improve the future development of tourism economy, this study takes YRB as an example to explore the current situation of cultural and tourism integration in YRB and discover its laws of development, so as to improve the high-quality development of tourism economy.

2. Literature Review

2.1. Culture and tourism

Culture and tourism have always been closely related. Culture is one of the important factors for tourists to consider when choosing a destination to travel (Correia, Kozak, & Ferradeira, 2013). Tourism development also significantly impacts regional culture (Abuamoud, Libbin, Green, & Alrousan, 2014). Recently, an increasing number of academic researchers have focused on culture and tourism (Richards, 2018), including different topics, such as the motivation of cultural tourism, the economy of culture and tourism, the development of creative cultural tourism, and the links between heritage and tourism (González Santa-Cruz & López-Guzmán, 2017; Mostafanezhad & Promburom, 2018). Studies on culture and tourism focused on the influence of specific cultural formats on tourism (Kole, 2010), including cultural creative tourism, film tourism, cultural theme park, and cultural festival tourism (Tan & Huang, 2020). A majority of academic researchers agreed that tourism and culture can promote and improve each other and enhance each other's competitiveness. Through transnational sample studies, Huang & Crotts (2019) has proved that cultural elements play an significant role in improving tourist satisfaction, the relationship of them is close.

Cultural resources play an important role in sustainable development (Nocca, 2017). Given the intensifying competition among tourist destinations, the promotion and inheritance of national culture are conducive to the promotion of local tourism competitiveness (Kumar & Dhir, 2020). Tourist destinations must pay attention to the importance of understanding their own culture in attracting tourists (Fernández, Azevedo, Martín, & Martín, 2020). UNESCO publishes the list of World Heritage and Intangible Cultural Heritage each year, and to promote the protection of listings, some destinations prioritize tourism development (Su & Wall, 2011). The World Heritage list has also become a reason for thousands of tourists to visit these places (Yan & Morrison, 2008). Nowadays, the relationship of tourism and World Heritage sites has attracted more and more attention, there has been a lot of academic research on it (Al-Ansi, Lee, King, & Han, 2021).

Most tourism studies have focused on the UNESCO world list, but there is still limited attention has been paid to the lists of cultural resources, which are applicable to a certain region (González Santa-Cruz & López-Guzmán, 2017). According to Chen, Ren, and Zhang (2021), cultural resources can be seen as an advantage for economic revitalization and improved governance, which can effectively promote the development of local industrial economies. However, how can cultural resources and tourism economy achieve coordinative development remains unknown. Therefore, scientific research on the relationship between the list of domestic cultural resources and tourism development must be strengthened. On the basis of the list of cultural resources published in China, this paper thoroughly investigates whether cultural resources and tourism economy in a given region have achieved coordinative development.

2.2. High-quality development

For the last few years, China's economy has developed rapidly, but it has also brought some problems of over-rapid development, such as environmental damage (Tang, Qiu, & Davis, 2021). To achieve sustainable economic development, China's tourism is now making great efforts to a new stage of high-quality development. As the country’s economy is changing into a new developmental stage, Chinese economy has faced the demand of transformation and upgrade (Jiang, Lyu, Ye, & Zhou, 2020).

Similar to many other regions of China, YRB faces some development issues (Chen et al., 2020). In September 2019, “Ecological conservation and high-quality development of YRB” is promoted as one of China’s national strategies. Many academic researchers have begun to pay more attention to the high-quality development in YRB. For example, Zhang et al. (2019) showed that economic disparity exists in YRB, which is because there are geographical income differences in the basin, especially between east and West. Jiang, Zuo, Ma, & Zhang (2021) constructed a model to evaluate the development of YRB, which covers society, economy, resources, ecology environment, and culture.

To achieve the research objectives, the present study retrieved the secondary data of Chinese annual list of cultural resources to construct two evaluation index systems of cultural resources and tourism economy. In order to objectively evaluate its cultural and tourism integration, the present study investigated the spatial-temporal differentiation, spatial evolution, and spatial aggregation of the coordinated development of culture and tourism in YRB through coupling coordination degree analysis, spatial correlation analysis, and spatial Markov chain. As a result, findings of the present study can provide some valuable implications for the high-quality development of tourism.

3. Methodology

3.1. Coupling degree and coupling coordination degree

① Standardize indicators:

First, the indicator data were standardized. The indicators here are all positive indicators, hence the positive indicator calculation formula was used for standardization:

$$Z_{\alpha ij} = \frac{X_{\alpha ij} - X_{min}}{X_{max} - X_{min}} + 0.01 \quad (1)$$

X_{max} and X_{min} indicate the maximum and minimum values of the j-th index, respectively; whereas $X_{\alpha ij}$ and $Z_{\alpha ij}$ represent the value of the j-th index before and after standardization processing, respectively. To avoid negative or zero values after the standardization, 0.01 was added after the entire formula.

② Calculate indicator weight:

$$P_{\alpha ij} = \frac{Z_{\alpha ij}}{\sum_{\alpha=1}^{m} \sum_{i=1}^{k} Z_{\alpha ij}} \quad (2)$$

$$E_j = -\frac{1}{ln(m \times k)} \sum_{\alpha=1}^{m} \sum_{i=1}^{k} P_{\alpha ij} ln P_{\alpha ij} \quad (3)$$

$$D_j = 1 - E_j \quad (4)$$

$$W_j = \frac{D_j}{\sum_{j=1}^{n} D_j} \quad (5)$$

The above formulas are the calculation steps to determine the index weight. $P_{\alpha ij}$ is proportion of j-th index in i-th year of the α-th city, E_j is the entropy value of j-th index, D_j is the difference coefficient of j-th index, and the W_j is the weight of the j-th index.

③ Establish a comprehensive evaluation function of cultural resources:

$$A_{\alpha i} = \sum_{j=1}^{n} W_j M_{\alpha ij} \quad (6)$$

In the formula, j is number of cultural resource indicators (j=1,2,...,n); W_j is index weight of the j-th index; $M_{\alpha ij}$ is the standardized value of j-th index in the i-th year of α-th city; $A_{\alpha i}$ is the comprehensive evaluation index of cultural resources in i-th year of α-th city.

④ Establish a comprehensive evaluation function of tourism economy:

$$B_{\alpha i} = \sum_{j=1}^{n} W_j N_{\alpha ij} \quad (7)$$

In this formula, j is number of tourism economy indicators (j=1,2,...,n); W_j is index weight of j-th index; $N_{\alpha ij}$ is the standardized value of the j-th index in i-th year of α-th city; $B_{\alpha i}$ is the comprehensive evaluation index of tourism economy in i-th year of α-th city.

⑤ Calculate the coupling degree:

$$C_{\alpha i} = 2\sqrt{\frac{A_{\alpha i} \times B_{\alpha i}}{[A_{\alpha i} + B_{\alpha i}]^2}} \quad (8)$$

$C_{\alpha i}$ is the coupling degree of α-th city in i-th year, and the range is [0,1].

⑥ Calculate the degree of coupling and coordination:

$$D_{\alpha i} = \sqrt{C_{\alpha i} \times T_{\alpha i}} \quad (9)$$

$$T_{\alpha i} = \beta A_{\alpha i} + \gamma B_{\alpha i} \quad (10)$$

$T_{\alpha i}$ is the comprehensive coordination index in i-th year of the α-th city; β and γ are the importance degree of cultural resources and tourism economic systems, with the values of 0.5.

3.2. Global spatial autocorrelation analysis

Global spatial autocorrelation analysis was used to measure and investigate the spatial distribution of indexes in the whole region and analyze whether they have aggregation characteristics. Global Moran's I index was used to analyze spatial autocorrelation, with calculation formula indicated in the following:

$$I = \frac{n \times \sum_{i=1}^{n} \sum_{j \neq i}^{n} W_{ij}(x_i - \bar{x})(x_j - \bar{x})}{\left(\sum_{i=1}^{n} \sum_{j=1}^{n} W_{ij}\right) \times \sum_{i=1}^{n} (x_i - \bar{x})^2} \qquad (11)$$

n is the number of prefecture-level cities, x_i and x_j represent the value of the coupling coordination degree of cultural resources and tourism economy in city i and j, respectively, $\bar{x}$ represents the average value cities in the entire YRB, W_{ij} is the spatial weight matrix of prefecture-level city i and j.

3.3. Local spatial autocorrelation analysis

In this study, Moran's I scatter plot was selected to further explore the local spatial instability and spatial associations. Local LISA index was selected to evaluate the local spatial agglomeration and its significance.

(1) Moran's I scatter diagram. The correlation between index x and its space lag vector W_x was described in the form of scatter diagram. The scatter diagram can be divided into four quadrants, representing four different types of local spatial agglomeration.

(2) Local LISA index. LISA index is a decomposed form of the global Moran's I index, and a local Moran index was proposed by Anselin (1995). This index is mainly used to test whether a significant agglomeration exists in a certain local area, which is suitable for further local spatial analysis.

3.4. Spatial Markov chain

Spatial Markov chain is a combination of the traditional Markov chain method and the concept of "Spatial lag." The original transformation matrix is converted into k conditional transfer matrices (k × k) (given that no extreme-degree coupling coordination type exists in the coupling coordination degree between cultural resources and tourism economy in YRB in this study, k is 3), which can be used to effectively analyze the impact caused by spatial relations Rey & Montouri (1999).

3.5. Data collection

The integration and development of cultural tourism in various cities in YRB were analyzed from 2009 to 2019, excluding Sichuan Province and East of Inner Mongolia. The area was determined to be Qinghai, Gansu, Ningxia region, Inner Mongolia (excluding east Inner Mongolia), Shanxi, Shaanxi, Henan, and Shandong. There exists a total of 89 cities (including states and leagues).

The secondary data used in this study were mainly derived from China Statistical Yearbook, China City Statistical Yearbook, China Tourism Statistical Yearbook, national Economic and Social Development Statistical Bulletin of each city, and the data in government reports from 2009 to 2019. The data related to cultural heritage were retrieved from the regional intangible cultural heritage network. The data related to cultural relics protection units were retrieved from the lists published by the local cultural heritage administrations. For the occasionally missing data, interpolation method was used to calculate and fill in.

In this study, two major indexes systems of cultural resources and tourism economy were constructed, and a total of 15 criteria were selected, as tourism economy is mainly relied on tangible cultural resources; and a large number of cultural resources were selected.

4. Results

4.1. Temporal differentiation

In YRB, the two indexes show an upward trend from 2009 to 2019 (Table 1). Comparative analysis of the two indexes reflects that the average value of the cultural resources index is generally higher than the average value of the tourism economy index, showing that the development of tourism lags for a long time. In the future development of YRB, the driving effect of cultural resources on the tourism economy must be paid more attention to.

Table 1. Two indexes, coupling degree, and coupling coordination degree score table

Time	Cultural resources index	Tourism economy index	Coupling degree	Coupling coordination degree
2009	0.1365	0.0780	0.8922	0.2913
2010	0.1378	0.0830	0.8972	0.2965
2011	0.1452	0.0886	0.9000	0.3061
2012	0.1527	0.0958	0.9044	0.3166
2013	0.1626	0.0987	0.9096	0.3256
2014	0.1692	0.1016	0.9094	0.3316
2015	0.1709	0.1080	0.9175	0.3381
2016	0.1730	0.1135	0.9214	0.3435
2017	0.1741	0.1212	0.9256	0.3498
2018	0.1878	0.1303	0.9279	0.3638
2019	0.1972	0.1406	0.9277	0.3742

The coupling degree and coupling coordination degree show an increasing trend year by year (Figure 1). The coupling degree type has remained in a benign level. The coupling coordination degree type changed from low coupling coordination in the previous two years to moderate coupling coordination and has remained moderate coupling state since then. The integrated development of culture tourism still has a large space for improvement.

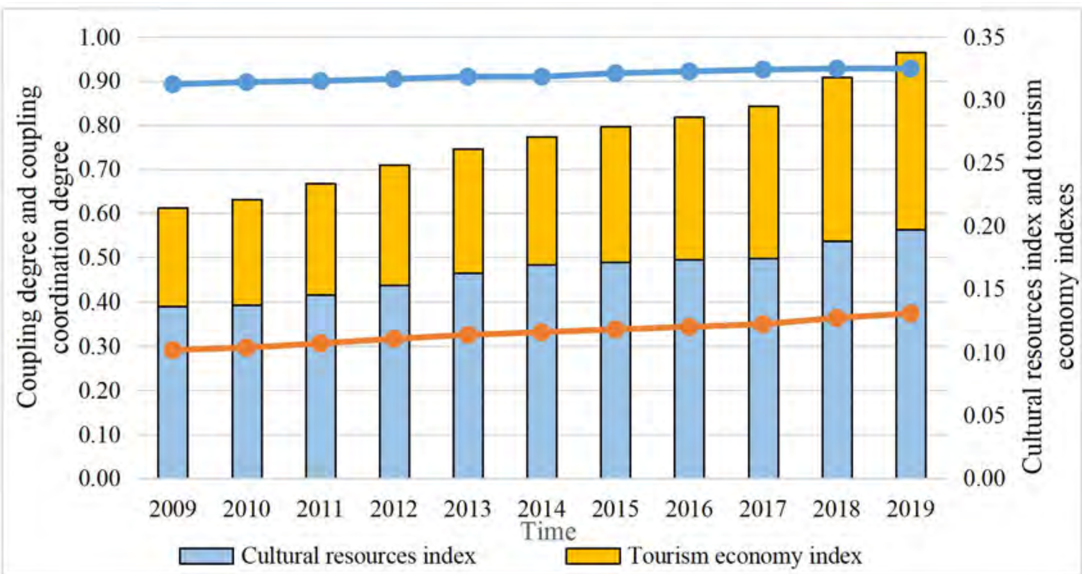

Figure 1. Change trend of two indexes

4.2. Spatial differentiation

Results also show that the culture and tourism in eastern provinces of YRB is better than that in the western provinces. And in terms of cultural resources index, Shanxi and Shaanxi provinces have always been the first and second position in the development of cultural resources. In terms of tourism economic index, Shandong and Shaanxi provinces stay at the forefront. In 2009, Shandong Province ranked first, and Shaanxi Province has greatly improved in the past 11 years and finally caught up with Shandong Province in 2018. The two indexes assisted Shaanxi Province in keeping the top position in YRB, indicating that its cultural resources and tourism economy have developed exceptionally in the past 11 years (Table 2).

Table 2. Scores of the two major indexes in the provinces of the Yellow River Basin

Province	**Cultural resources index**		**Tourism economy index**	
	2009	**2019**	**2009**	**2019**
Qinghai	0.0953	0.1230	0.0507	0.0702
Gansu	0.1024	0.1337	0.0219	0.0501
Ningxia	0.0635	0.0859	0.0252	0.0563
Inner Mongolia	0.0695	0.1108	0.0532	0.1222
Shanxi	0.2108	0.3413	0.0560	0.1387
Shaanxi	0.1872	0.2450	0.1038	0.2326
Henan	0.1536	0.2058	0.0970	0.1502
Shandong	0.1424	0.2297	0.1485	0.2239

Considering the spatial differentiation of cultural resource evaluation index, the cultural resource indexes of Shanxi and Shaanxi provinces in 2009 and 2019 are higher compared with that in other provinces. Among them, Shanxi Province has not only ranked first in the cultural resources index, but also developed the fastest. In addition, the indexes of cultural resources in Ningxia, Inner Mongolia, Qinghai, Gansu, and other provinces are low, which should be further improved (Figure 2).

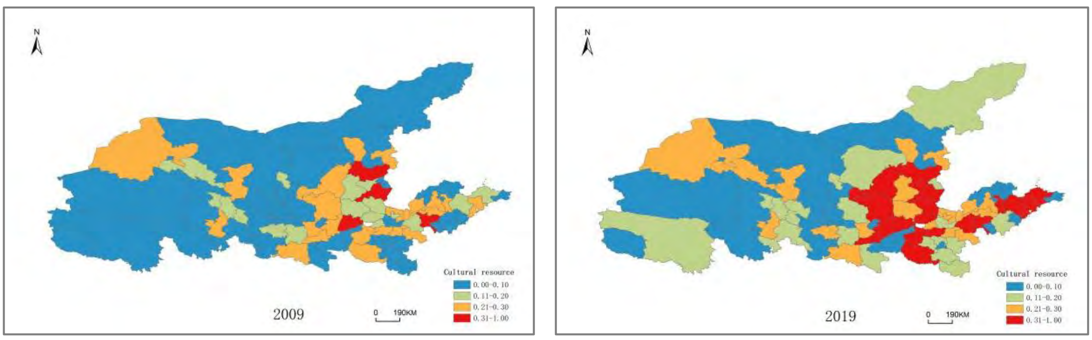

Figure 2. Comprehensive evaluation index of cultural resources in the Yellow River Basin

In the aspect of spatial differentiation of tourism economic index, the eastern provinces of YRB are better than the western provinces. In 2009, the tourism economic indexes of all cities in YRB were low, and only some cities in Shandong, Henan, and Shaanxi had some development. In 2019, the development of tourism economy in YRB has been greatly improved, but the tourism economy development in Gansu Province, Qinghai Province, and Ningxia region remained behind (Figure 3).

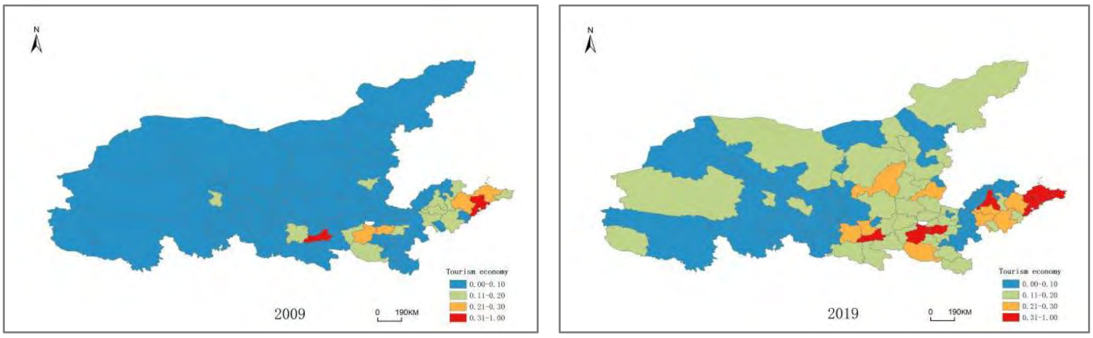

Figure 3. Comprehensive evaluation index of tourism economy in the Yellow River Basin

From 2009 to 2019, the coupling and coordination of cultural resources and tourism economy in YRB showed obvious spatial differentiation between the eastern and the western parts of China. No city has an extreme-level coupling coordination in the whole region. Cities with high-degree coupling coordination are mainly distributed in the eastern provinces, such as Shaanxi, Shanxi, Henan, and Shandong, whereas cities with low-degree coupling coordination are mainly distributed in western provinces. Also, from 2009 to 2019, the number of cities in the low-degree coupling coordination type decreased from 53 to 28, whereas the number of cities in the medium-degree and high-degree coupling coordination type increased. A total of 24 cities have made great strides from low-degree coupling coordination type to high-degree coupling coordination type. Generally, the degree of coupling coordination reflects an obvious upward trend of development (Figure 4).

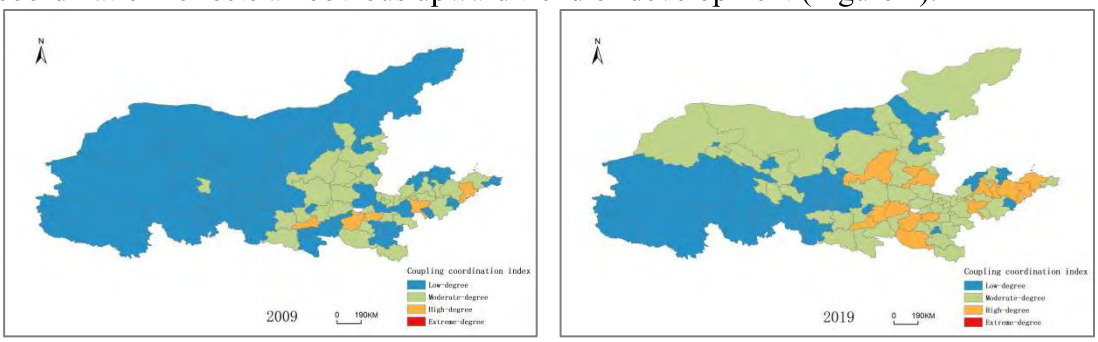

Figure 4. Spatial differentiation of coupling coordination index in the Yellow River Basin

Through the Markov chain analysis, the spatial transfer matrix of the coupling coordination degree from 2009 to 2019 was obtained (Table 3). The larger value mainly appears on the main diagonal, which indicates that YRB has a high stability during the coordinated development of cultural resources and tourism economy. Based on the diagonal value, the probability of maintaining the original type of coupling coordination degree is as high as 84.85%. The transfer probability of coupling coordination degree among different levels is minimal, and the maximum possibility of the transfer between different types is from high degree to moderate degree, and the transfer probability is 13.13%. The probability of the transition from low-degree coupling coordination to high-degree coupling coordination is 0, but the probability of the transition from high-degree coupling coordination to low-degree coupling coordination is 2.02%, indicating that there exists a repeated process of the transition of coupling coordination degree, and upgrading the leap-over transition is difficult.

Table 3. Markov transition probability matrix（k=3）

t_i/t_i+1	n	Low degree	Moderate degree	High degree
Low degree	445	0.9326	0.0674	0.0000
Moderate degree	434	0.0645	0.9009	0.0346
High degree	99	0.0202	0.1313	0.8485

4.3. Spatial evolution

The transfer of coupling coordination degree may be affected by neighboring cities. Thus, the spatial Markov chain is used to construct spatial transfer matrix and to examine the transfer probability of coupling coordination degree under the influence of neighborhood cities. When the spatial lag is 1, that is, when the surrounding area is low coupling coordination, the probability of transition from moderate to low is 17.52%, which is higher than the original 6.45%. The probability of changing from low to moderate is 5.62%, which is lower than the original 6.74%. When the spatial lag is 2, that is, the surrounding area is moderately coupled coordination, the probability of changing from high to medium is 29.55%, which is higher than the original 13.13%. Results show that the transfer of coupling coordination degree is affected by neighbouring cities (Table 4).

Table 4. Space Markov transition probability matrix（k=3）

Spatial lag type	n	t_i/t_i+1	1	2	3
1	445	1	0.9438	0.0562	0.0000
	137	2	0.1752	0.8248	0.0000
	0	3	0.0000	0.0000	0.0000
2	0	1	0.0000	0.0000	0.0000
	296	2	0.0000	0.9561	0.0439
	44	3	0.0000	0.2955	0.7045
3	0	1	0.0000	0.0000	0.0000
	0	2	0.0000	0.0000	0.0000
	54	3	0.0000	0.0000	1.0000

4.4. LISA cluster maps

Given that the local Moran' I scatter diagram cannot determine whether the local aggregation is statistically significant, this paper further adopted the LISA index for significance test, along with the GeoDa software to reflect the local autocorrelation analysis, that is, LISA cluster maps of YRB in 2009 and 2019 (Figure 5). After 11 years of development, the spatial pattern of the coordinated development of culture and tourism in YRB has undergone significant changes from 2009 to 2019 as shown below:

First, in eastern cities, such as Yuncheng and Weihai, the spatial agglomeration type has changed from not significant to “H-H” type, which shows that the coordinated development of culture and tourism is noticeable. Second, Yinchuan changed from “L-L” to “H-L” spatial agglomeration type, and a significant transformation transpired in the spatial agglomeration type. Findings reveal that the degree of coordinated development of cultural resources and tourism economy in Yinchuan has been significantly improved compared with surrounding areas.

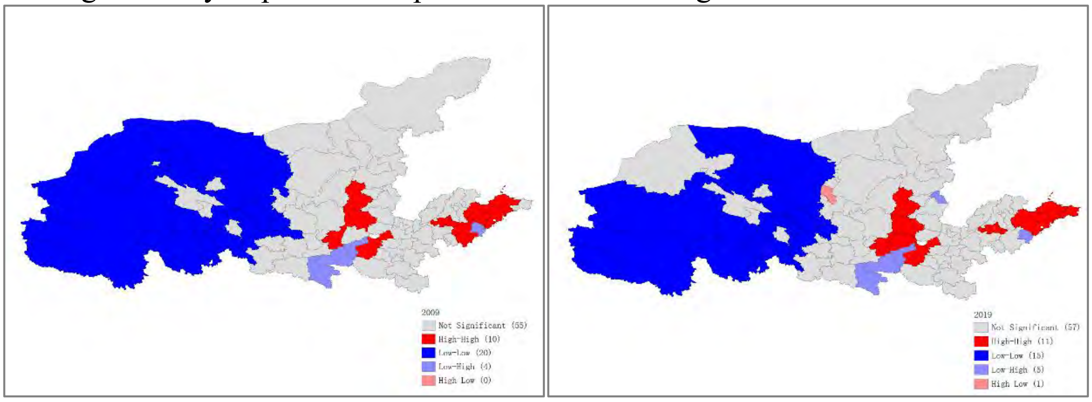

Figure 5. LISA cluster map of the local autocorrelation analysis

5. Discussion and Conclusion

5.1. Discussion and implications

Theoretically, under the background of cultural and tourism integration, this paper further investigated the coordinated development of cultural resources and tourism economy in YRB. In this paper, two index systems were established to effectively evaluate the development coordination degree of local tourism and cultural resources by collecting data from multiple channels and sources for 11 consecutive years. In addition, most previous studies focused on the integration of the two industries or only focused on the world list of culture, but few studies studied the tourism utilization of the list of domestic cultural resources. Thus, this paper bridges the gap of previous studies and provides theoretical support for fully exploiting and utilizing the cultural resources of YRB and cultivating the advantages of cultural tourism of YRB, which is conducive to further promoting the high-quality development of culture and tourism in YRB.

Practically, to address some issues of the integrated development of culture and tourism in YRB, some practical implications for tourism development are provided for other countries and regions with similar geographical characteristics. Specifically, although the cultural resources in YRB are rich, the development level of tourism economy is not as high as expected. Hence, for developing tourism, the administrative department can consider utilizing the advantages of cultural resources to promote the common development of tourism and culture. In addition, the coordinated development of culture and tourism in YRB has a spatial agglomeration phenomenon of “high in the east and low in the west.” Thus, how to alleviate the regional imbalance and promote the coordinated development of culture and tourism in YRB should be considered. Findings also show that the type shift of coupling coordination degree is influenced by neighbouring cities, which means that establishing a strategic cooperation among regions could be considered a good choice for the role of well-developed cities to promote all-round development.

5.2. Conclusion

By studying YRB, this paper analyzes the spatial-temporal differentiation, spatial evolution, and spatial aggregation of the coordinated development of culture and tourism in YRB. The main conclusions are as follows. First, the cultural resources and tourism economy of YRB have experienced a rapid development in the past 11 years. However, the development of tourism has been lagging for a long time. Second, the coupling degree and coupling coordination degree of cultural resources and tourism economy in YRB show a rising trend, but maintained at a medium level, and the degree of coordinated development must be improved. The probability of maintaining the original type of coupling coordination degree is high, and the leapfrog transformation tends to be difficult. Third, the transformation of coupling coordination degree type will be affected by neighbouring cities, but some provincial capitals have not played a leading role in the development of surrounding cities. Fourth, the coupling coordination degree shows a significant positive spatial correlation, and a spatial agglomeration phenomenon of "high in the east and low in the west" exists, which has become obvious.

5.3. Limitations of this study and suggestions for future studies

This study has some limitations. Firstly, despite the availability of panel data, the establishment of the research indexes system has some shortcomings, which may not fully reflect the uniqueness of the culture of YRB. Secondly, implications may be limited to the context, which shares similar characteristics of YRB. In addition, the data sources rely on the list published by the government, which may lead to the weak dynamic and a certain lag of cultural resources. Future studies can consider improving the system of the indexes and establish a detailed and rich index through big data mining technology. Thirdly, the coordinated development level of cultural resources and tourism economy is also dependent upon the regional economic development level, government policies, and other factors. Hence, future studies can take the aforementioned factors into consideration.

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Taste and Play: Unveiling How Experience Factors Shape Customer Behavior in Kids' Cafés

Kyung, MinSook
Department of Food and Nutrition
Yonsei University

Moon, Hye Young
Institute of Symbiotic Life-TECH (Technology, Ecology, Culture, Human) College of Human Ecology
Yonsei University

Choi, Jin kyung
Department of Food Science and Nutrition
Pukyong National University

Kim, Eojina
Howard Feiertag Department of Hospitality & Tourism Management
Virginia Tech

Ham, Sunny
Department of Food and Nutrition
Yonsei University

Abstract:

This study examines the evolution of kids' cafés from indoor playgrounds, presenting a range of amusement facilities catering to both children and parents. It explores how various factors of the kids' café experience (including entertainment, education, escapism, and aesthetics) influence customer arousal, pleasure, place attachment, satisfaction, and behavioral intentions. Employing the SOR model, it validates the variables impacting the connection between these factors and customer behavioral intentions. As a pioneering investigation, this study offers valuable insights for the development of novel segments within the hospitality industry.

Keywords: kids café, experience economy, experience, emotion, customer behavior, SOR (Stimulus-Organism-Response) model

1. Introduction

A new segment of foodservice industry is inviting children as their main target of customers, reflecting the trend in the society to value children’s education and play environment. The phenomenon varies from one country to another, with numerous enterprises strategically integrating child-oriented practices or developing kid-friendly facilities to attract parents with children as their target customers. These facilities operate as restaurants equipped with child-friendly amenities, indoor playgrounds, children's museums, trampoline parks, and kids' restaurants. The present study focuses on one particular manifestation: the emergence of kids' cafes. These establishments have evolved from indoor playgrounds, but now offer a comprehensive amusement facility where both children and their parents can participate in play, relaxation, learning, and even dining (Ministry of Public Administration and Security, 2021). This study examined the convergence of tourism and the restaurant industry in kids' play cafes, incorporating entertainment and food service elements. Our primary aim is to investigate the impact of experiential factors on customer behavioral intentions within these kids cafes, employing the experience economy framework.

In South Korea, the "Kids café" industry blends indoor playgrounds with dining, appealing to both children and parents. Originally focused on play, these cafes now offer a unique fusion of entertainment and food service. While children remain the primary clientele, the concept has broadened its appeal, attracting diverse patrons seeking a combined play and dining experience. Since its inception, the kids café has evolved into comprehensive destinations, integrating indoor play areas with dining options, offering children a holistic experience. Countries like the U.S.A., United Kingdom, Spain, and Germany showcase indoor playgrounds or restaurants with designated kids' play areas. It's essential to note that the food options within these indoor playgrounds are typically confined to snacks, while the availability of kids' play stations is restricted in these restaurants. Consequently, these concepts may not entirely meet the combined expectations of both dining and kids' play set by parents. Kids' friendly dining establishments featuring indoor playgrounds or indoor playgrounds with snack offerings share similarities with kids' play cafes, providing a dual experience of play and dining. However, in reality, the primary focus tends to be either on food and beverages or kids’ entertainments, with other activities taking a secondary role. Consequently, kids' play cafes can take the form of theme parks offering interactive games and experiences or restaurants providing a diverse range of high-quality food and beverages.

As a result, the incorporation of indoor playground facilities within restaurants, giving rise to the concept of a kids' cafe, holds the potential to significantly reshape the landscape of the foodservice industry. Especially noteworthy is the fact that, even though the main clientele comprises children, certain aspects hold significance for parents as well. To enhance the profitability of the kids' cafe, it becomes imperative to delve into the experiential factors influencing parents. This study regards the kids' café as a niche within the food service industry, focusing on the concept of entertainment and restaurant facilities where families can simultaneously dine, play, relax, and rest in a themed environment. Pine and Gilmore (1998) assert that experiences are now central to the service economy, surpassing traditional goods and services. This idea has gained traction, leading to widespread adoption across various sectors. The case of the kids play café is similar to the context of the experience economy; they should sell various experiences to customers and receive an admission fee according to the time of the experience. However, there are no cases of application of experience economy to the kids cafés. The kids café becomes a space for “direction” for customers, such as play/education/rest/dining, events, and shows, so that both kids and parents, can have a variety of experiences. Essentially, it represents a business domain that embodies the intricate qualities of both a theme park and a restaurant. This aligns with the premise that the experience economy theory finds relevance in industries centered around experiential offerings, like kids' play cafes.

The primary objective of this study was to investigate the influence of experiential factors within kids’ cafés on customer behavioral intentions, using the experience economy framework. Specifically, the study sought to analyze the intricate interrelationships among different elements that contribute to the overall experience within the kids' café setting. Through a comprehensive analysis of these objectives, the study aims to provide valuable insights into the dynamic connection between kids play café experiences and subsequent customer behavior.

This study addresses a significant gap in foodservice literature by providing novel insights into the unique dynamics of kids’ cafés and dining establishments. It makes substantial theoretical contributions by applying the experience economy framework (Pine & Gilmore, 1998) to this specialized industry, identifying four distinct experiential factors that shape customer behavioral intentions. Utilizing the Stimulus-Organism-Response (SOR) model (Mehrabian & Russell, 1974) as a theoretical lens, the research elucidates the intricate interplay between these factors, customer satisfaction, and behavioral intentions. By highlighting the role of various mediators in enhancing customer satisfaction and fostering place attachment in kids' cafés, the study underscores the importance of strategic efforts in optimizing customer engagement and loyalty. This research not only fills a crucial gap in our understanding of customer experiences within kids’ cafés but also offers actionable insights for operators and marketers, enriching the academic landscape and providing practical guidance for enhancing customer experiences in this unique setting.

Nevertheless, there remains a scarcity of studies focusing on customer behavioral intentions within kids' play cafés. Consequently, the utmost priority within kids' play café research pertains to understanding customer behavioral intentions. Through this study, experiential factors that augment customer satisfaction and foster behavioral intentions within kids' play cafés are unveiled, along with an exploration of the underlying mechanisms. In essence, this research has the potential to provide valuable insights for policy recommendations concerning kids' play cafés and the formulation of future industry strategies.

2. Literature Review

2.1. Emergence and development of Kids Café in Korea

“Kids café” industry, starting its first operation by Little Prince in 2008 (Korea Kids Theme Park Research Institute, 2007; Ministry of Public Administration and Security, 2021) offered a new type of indoor playground establishment to the target customers of Kids and parents. While kids are excited about the sports and entertainment facilities, the accompanying parents enjoy the dining and the resting facilities in the Kids café. Therefore, this study intends to view the kids café as “entertainment and restaurant facilities where you can have a fun experience” as a field of the food service industry (Figure 1).

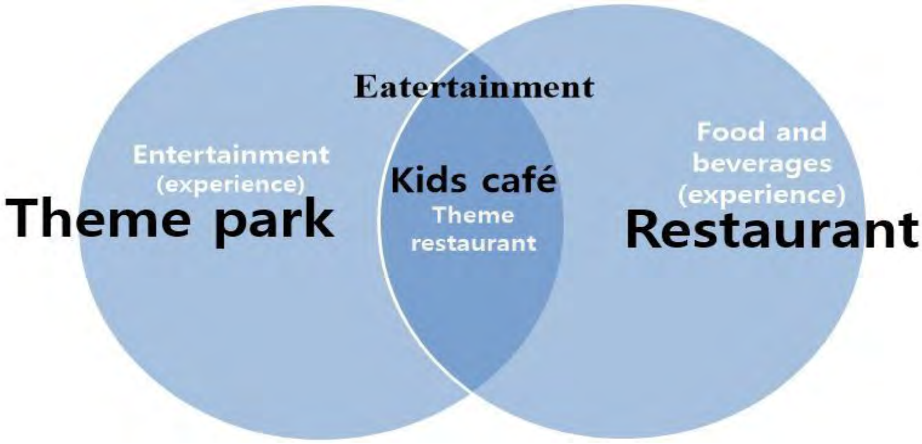


Figure 14: ***Kids café industry classification***

2.2. Experience economy

Based on the theory of the experienced utility of behavioral economics (Simon, 1955), Pine & Gilmore (1998) proposed the experience economy theory in "Welcome to the experience economy" at the Harvard Business Review. By providing customers with experiences in a memorable way, firms will be the key to promoting economic gains (Pine & Gilmore, 2014).

Experience occurs in four broad categories according to where they fall along the spectra of the two dimensions of the customer's active/passive participation and absorption/immersion in the experience (Pine & Gilmore, 1998). The four experience factors of Pine & Gilmore are Educational experiences, Escapist experiences, Entertainment experiences, and Esthetics experiences (Pine & Gilmore, 1998) (Figure 2).

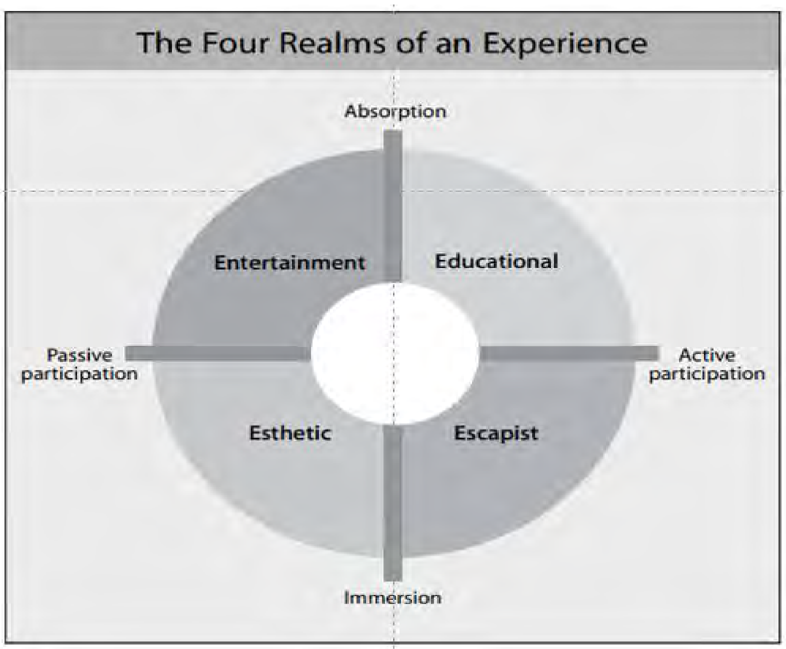


Figure 2: ***The four realms of an experience***

This study examines experiences perceived by the kids and parents who use the kids café. Kids café is an experiential industry, and therefore, this study empirically analyzes the kids café by applying the experience economy and intends to expand the industrial fields applicable to the experience economy. The kids café serves as a “directing” space for customers, such as play/education/rest/meal, events, and shows to satisfy the needs of both kids and parents. There will be differences in the experiences that kids and parents perceive. Some experiences require active participation (educational experiences, escapist experiences), but others can be felt without direct participation (entertainment experiences, esthetics experiences).

2.3. SOR (Stimulus-Organism-Response) model

The SOR (Stimulus-Organism-Response) model can be characterized as a framework that identifies and evaluates pertinent variables (e.g., color, heat, light, and sound) in the context of environmental psychology, systematically integrating them as proposed by Mehrabian & Russell (1974). In line with the definition of the SOR model, the environment or stimulus (S) triggers consumer behavior, while the response (R) is expressed by an organism (O) in the form of positive or negative emotions, as outlined by Mehrabian & Russell (1974). Consequently, individuals' emotions and subsequent behavioral reactions are shaped by environmental stimuli. In particular, the stimulus in the SOR model can have various internal and external stimuli; thus, this is a flexible model applicable to various environments (Jacoby, 2002).

As the mediating component in the SOR (Stimulus-Organism-Response) model, “organism” refers to the internal processes and structures that intervene between external stimulus and an individual’s subsequent actions and responses (Mehrabian & Russell, 1974).

In terms of response, as the consequence component, it has been conceptualized as consumers’ final outcomes or decisions, initially referred to as consumers’ “approach or avoidance behaviors” (Mehrabian & Russell, 1974). Hospitality and tourism scholars have often adopted (re)purchase intention (Kim & Moon, 2009) and WOM intention (Durna et al., 2015) as response constructs.

Accordingly, this study applies the SOR to understand arousal, pleasure, satisfaction, place attachment, and customer behavioral intentions toward kids café’s experiences. Therefore, this SOR model is intended to be used as a model to verify the path that kids café’s experience factors affect customer behavioral intentions.

2.4. Delight

Customer delight was first conceptualized by Oliver (1997) and he claimed that customer delight was a combined result of pleasure and arousal. Delight was expressed as pleasant response which is a combination of arousal and pleasure based on feelings about the service or product being provided. Arousal was explained as a mental activity illustrating the state of feeling (Bakker et al., 2014) and was claimed as a blended state of mental alertness and physical activity (Mehrabian, 1996). Pleasure was explained purly as positive or negative feelings (Mehrabian & Russell,1974) and later it was interpreted as ‘positive versus negative affective state’ such as excitement, relaxation, love, and tranquility.

Customer delight is an emotional state similar to satisfaction but distinctly different. Several studies have found that customer delight induces not only satisfaction but also loyalty, and behavioral intention (Torres & Kline, 2006; Finn, 2012). Consequently, in this study, customer delight is defined as a combination of high levels of pleasure and arousal. In addition, pleasure and arousal were considered and verified as parameters affecting experience factors and customer behavioral intentions.

2.5. Place attachment

Place attachment was known as the emotional bond between an individual and a particular spatial setting (Williams et al., 1992). Place attachment is explained by both place identity and place dependence. Place identity is an affective factor more closely related to emotional connections (Suntikul & Jachna, 2016) whereas place dependence is affected by customers' functional needs (Kyle et al., 2004).
Previous research found that place attachment was caused by the satisfactory experiences of visitors, in particular, place dependence and place identity were said to be stronger when they had a satisfactory experience (Changuklee & Allen, 1999).

In this study, place attachment is defined as the relationship between an individual and the kids café that occurred after the kids café experience. Place dependence is the feeling that this kids café is a place that satisfies the motive and purpose of visiting (functional attachment), and place identity is defined as an emotion (emotional attachment) that is a place that makes you feel special and precious emotions.

2.6. Satisfaction

Satisfaction is an evaluation after the experience (Hunt, 1977), a post-choice evaluative judgment concerning a specific purchase selection (Day, 1984). Customers are satisfied with the purchase situation when their expectations are met (Oliver, 1997).

Based on several previous studies, this study defines satisfaction as 'customer's emotional response after using the kids café' and intends to view it as a variable of the response in the SOR (Stimulus-Organism-Response) model. In addition, in this study, satisfaction is regarded as an antecedent variable of behavioral intention.

2.7. Behavioral intentions

Behavioral intentions mean 'intention as a person's subjective probability dimension involving a relation between himself and some action' (Ajzen & Fishbein, 1975). Behavior can be predicted according to intention and realized into actual behavior according to behavioral intention (Ajzen & Fishbein, 1980; Ajzen, 1991). Behavioral intention is significantly affected by satisfaction (Cronin & Taylor, 1992) and is influenced by service quality, and the behavioral intention generated by service quality is used as a clue to determine whether a customer leaves or continues to use the service (Zeithaml, et al., 1996).

This study aims to investigate the relationship between satisfaction and the three elements of behavioral intention such as word of mouth, purchase intention and willingness to pay and the relationship between the elements of organism such as delight (arousal, pleasure) and place attachment (place dependence and place identity) and three elements of behavioral intention.

2.8. Hypothesis development

The experience economy is a theory that is widely applied in research related to tourism and food service. However, there are no studies applied to kids café. Studies applying the experience economy in tourism and food service are as follows: accommodation (Oh et al., 2007), cruises (Hosany & Witham, 2010), music festivals and museums (Mehmetoglu & Engen, 2011), rural tourism (Loureiro, 2014), theme parks (Lee et al., 2020), theme restaurants (Mkono, 2012). Kids café has the complex characteristics of a theme park and a restaurant, which will affect customer behavioral intentions based on various experience factors such as entertainment and food service (Kyung, 2022). Accordingly, it can be seen that the kids café is an industry suitable for the application of the experience economy.

According to the definition of the SOR (Stimulus-organism-response) model, the environment or stimulus (S) induces consumer behavior, and the response (R) is given by an organism (O) in the form of positive or negative emotion (Mehrabian & Russell, 1974). People's emotions and corresponding behavioral reactions occur according to environmental stimuli. In other words, the physical environment influences people's emotions and reflects their behavioral responses. In this study, through the SOR (Stimulus-Organism-Response) model, the kids café's experience factors were viewed as the stimulus and the response through the organism was tested through mediating effects.

The purpose of this study was to investigate the structural relationship between the effect of kids café's experience factors on customer arousal, pleasure, satisfaction, place attachment and behavioral intentions. This study applied the experience economy and SOR (Stimulus-Organism-Response) model to investigate kids café customer behavioral intentions.

Based on the literature, the conceptual model of this study was developed (Figure 3).

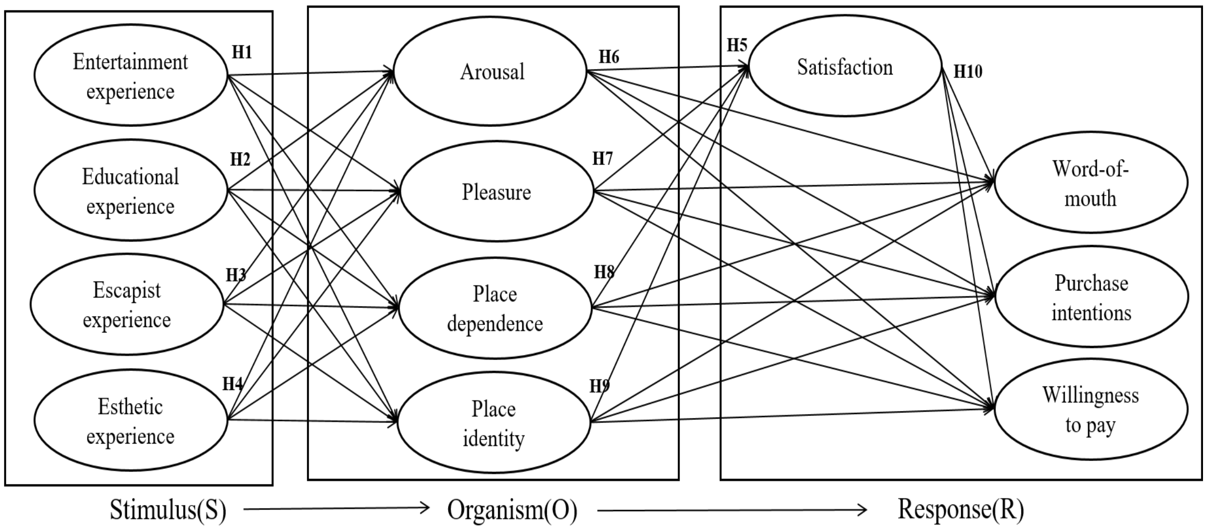


Figure 3: ***Conceptual framework of the study***

The conceptual model of the study proposes the following hypotheses.
Hypothesis 1: Entertainment experience of kids café will effect arousal, pleasure, place dependence and place identity.
Hypothesis 2: Educational experience of kids café will effect arousal, pleasure, place dependence and place identity.
Hypothesis 3: Escapist experience of kids café will effect arousal, pleasure, place dependence and place identity.

Hypothesis 4: Esthetic experience of kids café will effect arousal, pleasure, place dependence and place identity.
Hypothesis 5: Arousal, pleasure, place attachment (place dependence and place identity) of kids café will effect satisfaction.
Hypothesis 6: Arousal of kids café will effect word-of-mouth, purchase intentions and willingness to pay.
Hypothesis 7: Pleasure of kids café will effect word-of-mouth, purchase intentions and willingness to pay.
Hypothesis 8: Place dependence of kids café will effect word-of-mouth, purchase intentions and willingness to pay.
Hypothesis 9: Place identity of kids café will effect word-of-mouth, purchase intentions and willingness to pay.
Hypothesis 10: Satisfaction of kids café will effect word-of-mouth, purchase intentions and willingness to pay.

3. Methodology

3.1. Sample and data collection

Kids are the main customers of kids café, but since parents are the customers, it is necessary to view both kids and parents as target customers (Kyung, 2022). In particular, after 2015, an increasing number of franchisees are providing various characteristics such as entertainment and dining to provide a special experience for both kids and parents (Kyung, 2022). The purpose of this study is to examine purchase intention to use kids café. Accordingly, the subjects of this study are parents who influence purchasing. The study sampled parents who visited kids café in Korea. The main survey reached 350 parents who used these cafés in the past year, distributed through an online survey company's panel. Participants were selected after confirming if they had actually visited a kids café as a customer. After that, the research was explained to the participants through explanatory texts. The data collection for the study was conducted from June 4 to June 8, 2022. A total of 345 responses were collected from customers (parents). Then, after excluding incomplete surveys, 322 responses were used for the data analysis.

3.2. Research instrument

The Research instrument of this study was developed using parameters setting and draft questionnaires through literature review and field visits. The main literature referenced in the Research instrument of this study are as follows: Mehrabian & Russell (1974), Oliver (1980), Zeithaml et al. (1996), Williams et al. (2003), Finn (2012), Oh et al. (2007)

The research instrument of the study was a survey, which was composed of five parts. Part I consisted of 16 questions about kids café's experience factor (S). Part II consisted of 29 questions about emotions (O). Part III consisted of 8 questions about customer behavior (R). The questions from Part I to III were measured with a 7-point scale. Part IV consisted of 8 questions about demographic and socio-economic characteristics. Part V consisted of 9 questions about customers' kids café visit experiences. The questions from Part IV and V were categorical variables and the respondents were asked to select one of the multiple choices.

3.3. Data analysis

Data analysis was performed using SPSS 26.0 and AMOS 24.0. The study involved frequency analysis, confirmatory factor analysis (CFA), and structural equation modeling (SEM). Frequency analysis examined respondent demographics. CFA ensured internal validity and removed items inhibiting one-dimensionality. SEM measured causal relationships and model fit, testing interrelationships between constructs and variables. A two-step approach was used for CFA and SEM, allowing for significance testing of all path coefficients.

4. Results

4.1. Demographics of Respondents

Of the total 322, 33.2% were male and 66.8% were female. In terms of age distribution, the majority were in their 30s (54.7%), followed by those in their 40s and 20s. Regarding educational background, 78.6% had a college degree or higher. The most prevalent occupational group was white-collar workers (37.3%), followed by housewives (29.2%) and professional workers (15.2%). Family size varied, with 47.5% having two children, 46.0% having one child, and 5.9% having three children. Children's ages ranged, with 33.5% having children aged 3–4 years, 33.5% having children aged 7 years or older, 20.8% having children aged 5–6 years, and 12.1% having children aged 1–2 years.

4.2. Measurement model

Table 1 shows the results of CFA. The fit of the measurement model was $\chi2$=1887.650, df=1208, $p<.001$, $\chi2/df$=1.950; RMSEA=.054; CFI=.939; IFI=.939; and shown TLI = .931. Therefore, the validity of the research tool used in the study was judged to be acceptable. The range of standardized factor loadings was .701-.956. The range of CR was .809-.960. Lastly, the range of AVE was found to be .586-.888. The main variables of this study were found to be above .5, the standardized factor loadings standard, over .7 for CR, and over .5 for AVE (Hair et al., 2010), and convergent validity was secured (Table 1). Also, Cronbach's alpha ranged from .807 to .959, exceeding the recommended value of .7 and ensuring the reliability of each construct (Nunnally, 1978).

Discriminant validity was confirmed by applying the Fornell-Larcker criterion (Fornell & Larcker, 1981). As a result of comparing the squared value (r2) of the correlation coefficient between the constructs and the AVE value, the factor correlation matrix showed that the AVE value (.586-.888) was larger than the squared value of the correlation coefficient between each construct except for the two constructs themselves, indicating that validity was secured.

4.3. Structural Equation Modeling Results

In this study, the effects of kids cafe experience factors on customer arousal, pleasure, place attachment (place dependence and place identity), satisfaction and behavioral intentions were investigated. The results of the hypothesis testing for the research model of this study are shown in table 2, and the structural equation analysis results showed that the model fit was appropriate ($\chi 2$=2124.752, df=993, p<.000, $\chi 2$/df=2.140, RMSEA=.060, CFI=.924, TLI=.918, IFI=.925). In addition, the direction and magnitude of the path coefficients were estimated through the standardized path coefficient and t-value results (Table 2, Figure

Table 1: ***Reliability and convergent validity properties of variables***

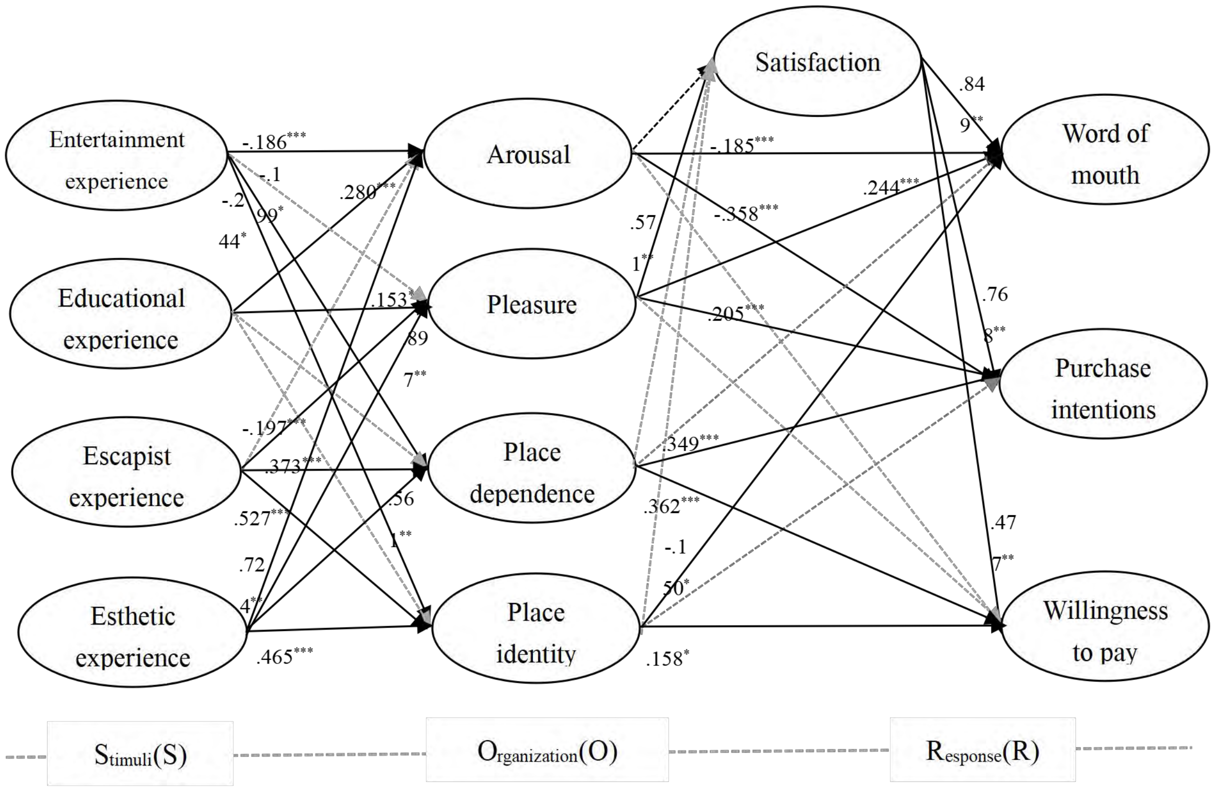
Construct	Items	Standardized Factor Loadings	Composite Reliabilities	Average Variance Extracted	Cronbach's Alpha
Entertainment experience	EN1	.894	.952	.832	.952
	EN2	.886			
	EN3	.925			
	EN4	.943			
Educational experience	ED1	.793	.920	.743	.919
	ED2	.906			
	ED3	.867			
	ED4	.878			
Escapist experience	ES1	.777	.894	.680	.890
	ES2	.861			
	ES3	.909			
	ES4	.742			
Esthetic experience	ET1	.759	.809	.586	.807.
	ET2	.803			
	ET4	.733			
Arousal	AR1	.790	.929	.687	.928
	AR2	.856			
	AR3	.894			
	AR4	.886			
	AR5	.744			
	AR6	.791			
Pleasure	PL1	.861	.931	.792	.927
	PL2	.902			
	PL3	.854			
	PL4	.934			
	PL5	.709			
Place dependence	PPD1	.701	.902	.650	.899
	PPD2	.836			
	PPD3	.867			
	PPD4	.856			
	PPD5	.760			
Place identity	PPI1	.862	.960	.800	.959
	PPI2	.856			
	PPI3	.935			
	PPI4	.905			
	PPI5	.905			
	PPI6	.901			
Satisfaction	SA1	.850	.897	.745	.895
	SA3	.906			
	SA5	.831			
Word-of-mouth	WOM1	.926	.960	.888	.959
	WOM2	.956			
	WOM3	.945			
Purchase intentions	PI1	.911	.891	.803	.890
	PI2	.881			
Willingness to pay	WTP1	.909	.864	.761	.862
	WTP2	.834			

Table 2: ***Standardized parameter estimates of the structural equation***

Hypothesized Paths				Standardized Path Coefficient	t-value
H_{1-1}	Entertainment experience	→	Arousal	-.186	-3.523***
H_{1-2}		→	Pleasure	-.018	-.351
H_{1-3}		→	Place dependence	-.199	-3.308***
H_{1-4}		→	Place identity	-.244	-4.306***
H_{2-1}	Educational experience	→	Arousal	.280	4.241***
H_{2-2}		→	Pleasure	.153	2.371*
H_{2-3}		→	Place dependence	.003	.046
H_{2-4}		→	Place identity	-.078	-1.119
H_{3-1}	Escapist experience	→	Arousal	.032	.563
H_{3-2}		→	Pleasure	-.197	-3.359***
H_{3-3}		→	Place dependence	.373	5.335***
H_{3-4}		→	Place identity	.527	7.771***
H_{4-1}	Esthetic experience	→	Arousal	.724	8.865***
H_{4-2}		→	Pleasure	.897	10.185***
H_{4-3}		→	Place dependence	.561	6.482***
H_{4-4}		→	Place identity	.465	6.069***
H_{5-1}	Arousal	→	Satisfaction	.102	1.350
H_{5-2}	Pleasure	→		.571	7.766***
H_{5-3}	Place dependence	→		.103	1.641
H_{5-4}	Place identity	→		.080	1.437
H_{6-1}	Arousal	→	Word of mouth	-.185	-3.362***
H_{6-2}		→	Purchase intentions	-.358	-5.612***
H_{6-3}		→	Willingness to pay	-.157	-1.925
H_{7-1}	Pleasure	→	Word of mouth	.244	4.015***
H_{7-2}		→	Purchase intentions	.205	3.036**
H_{7-3}		→	Willingness to pay	-.007	-.083
H_{8-1}	Place dependence	→	Word of mouth	.086	1.874
H_{8-2}		→	Purchase intentions	.349	6.307***
H_{8-3}		→	Willingness to pay	.362	5.052***
H_{9-1}	Place identity	→	Word of mouth	-.150	-3.673***
H_{9-2}		→	Purchase intentions	-.042	-.915
H_{9-3}		→	Willingness to pay	.158	2.593*
H_{10-1}	Satisfaction	→	Word of mouth	.849	13.063***
H_{10-2}		→	Purchase intentions	.768	11.351***
H_{10-3}		→	Willingness to pay	.477	5.885***

χ^2=2124.752, df=993, p<.000 , χ^2/df=2.140, RMSEA=.060, CFI=.924, TLI=.918, IFI=.925

*p<.05, ** p<.01, *** p<.001



$^{*}p<.05$, $^{**}p<.01$, $^{***}p<.001$

Note: Solid lines indicate significant paths(β), while dotted line indicates non-significant path

Figure 4: ***Results of the structural model and path coefficients***

5. Discussion and Conclusion

5.1. Discussion and implications

Kids café is a place that sells experiences; therefore, it was possible to derive experiential factors by grafting the experiential economy. Further, various mediators were verified by applying the SOR (Stimulus-Organism-Response) model to mediators for which experience factors influence customer behavioral intentions. Kids cafés are similar to theme parks and restaurants in that both parents and children are customers; however, there are no studies that define kids cafés academically. In this study, the kids café was defined as a themed restaurant. In other words, the kids café can be seen as a theme park and an industry with the complex characteristics of a restaurant.

This study carries several theoretical implications, which are outlined as follows.

First, one of the primary academic contributions of this study lies in its pioneering application of the experience economy framework to an industry marked by intricate features, specifically, kids' cafés and dining establishments within theme parks.

Second, the kids café was perceived as a space where patrons could acquire diverse experiences, leading to the identification of four distinct experiential factors within the kids' café environment.

Third, this research represents a pioneering exploration into consumers' reactions to diverse experiences in a kids' café, employing the Stimulus-Organism-Response (SOR) model as the theoretical framework. Specifically, the study delineates consumer emotions arising from factors encountered at the kids' café, categorizing them into delight (arousal and pleasure) and place attachment. This study contributes to the academic landscape by offering insights into the nuanced dynamics of consumer experiences within kids' cafés, shedding light on the intricate interplay between stimuli, individual perceptions, and subsequent responses.

Fourth, when considering the perspective of both purchasing decision-makers and parents who financially support kids' café customers, we have identified several mediators that have the potential to enhance the behavioral intentions of patrons at kids' cafés. One such mediator of significance is the dual dimension of functional and emotional attachment to the physical environment or place. This finding holds particular academic importance as it stems from a comprehensive examination of diverse viewpoints and their collective influence on customer behavioral intentions.

Fifth, the kids' café serves as a dynamic gathering place accommodating customers with diverse characteristics, including parents, children, and friends. As a result, we conducted a moderation analysis to ascertain the primary customer segments with distinct behavioral patterns. Notably, our investigation, categorized by both the attributes of the kids' café itself and the characteristics of customers (new or returning), revealed discernible variations in behavioral intentions based on the customer characteristics of the kids café.

Lastly, this study empirically validates the factors capable of positively influencing customer behavioral intentions by integrating various elements into the customer experience of kids café.

Furthermore, this study holds several practical implications. First, kid café should be positioned as a multifaceted space offering not only entertainment experiences but also encompassing educational, escapist, and aesthetic experiences. To improve patrons' pleasure and behavioral intentions, it's essential to introduce educational programs for children, potentially incorporating parental involvement, as parents prioritize engaging and educational experiences over pure entertainment, and cafe operators should also understand that parents visit for escape and aesthetic experiences, rather than solely for entertainment, necessitating careful consideration.

Second, this study suggests that the customer base of a kid café can vary depending on its focus. For instance, a kids' café emphasizing entertainment may primarily attract children as its main customers, while a café prioritizing food service might target parents as the main clientele. To appeal to a diverse customer base, including both children and parents, a kids' café should incorporate elements that cater to both entertainment and food service. Consequently, the study offers valuable insights into the products or services that should be featured at kids' cafés, with parents as the primary target audience, while also underscoring the significance of ensuring children's happiness and satisfaction through thoughtful planning.

Third, foodservice and kids café industry should comprehend the ideal offerings for a kids' café. Established patrons often visit a kids' café with the intention of acquiring a specific experience, while new customers come with preconceived expectations regarding the desired experience. Understanding and meeting the expectations of both established and new customers is crucial in shaping a kids' café's offerings to ensure a positive and fulfilling experience for all patrons. In conclusion, reinforcing entertainment characteristics should prioritize place dependence, whereas enhancing food service characteristics should emphasize pleasure and place identity.

Given that kids' cafés are frequented by parents and children a dual-track strategy is essential. In entertainment-focused cafés, children are the primary customers, whereas in food service-focused cafés, parents take center stage. To attract more customers, it's crucial to diversify the kids' café experience, introducing brunch cafés, coffee shops with a focus on taste and quality, and child-friendly menus for parents to enjoy with their children.

5.2. Conclusion

Kids cafés represent a new type of complex industry, developed from indoor playgrounds, where children and their parents can enjoy one place together, including play, rest, learning, and dining. Kids cafés are not classified as a separate business but as other amusement facility businesses (like theme parks) or food service businesses (like restaurants), depending on the types of facility. As such, kids cafés are a place that provides entertainment and food services, and have the complex characteristics of both a theme park and a restaurant.

In conclusion, this study delved into the multifaceted dynamics of kids cafe experiences and their impact on customer perceptions and behaviors. The results of the study affirmed the appropriateness of the research model, revealing insightful findings.

5.3. Limitations of this study and suggestions for future studies

Based on the study results, it is important to acknowledge certain limitations and outline future research directions. First, kids cafés are not typically classified as distinct industries akin to restaurants or theme parks. Due to the café industry's unfamiliarity, literature review explored theme parks and theme restaurants. Second this study affirmed the relevance of the experience economy in kids' cafés, where experiences are both sold and purchased. However, differences might exist between parents' and children's experience. Hence, future research must devise an assessment tool capable of capturing both children's and parents' experience in kids' cafés settings. Lastly, the term kids café is not universally adopted, especially since the industry is still emerging. Future research should explore similar industries locally and globally, analyzing customer behavioral intentions to develop findings applicable across comparable sectors, thus fostering the growth of the kids café industry.

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A theoretical framework of customers' delightful experiences in the post-pandemic

Le, Dung (Jenny)
College of Business and Management
Vin University

Le, Truc H
Department of Tourism, Hospitality and Event Management
Griffith University

Nimri, Rawan
Department of Tourism, Hospitality and Event Management
Griffith University

Thaichon, Sara
Department of Tourism, Hospitality and Event Management
Griffith University

Abstract:

The tourism and hospitality sector has gone through many disruptive events, including the recent COVID-19 pandemic. To deal with this challenging environment, designing, delivering and managing customers' delightful experiences become crucial for business success. This study provides a critical review of the current literature and suggests a theoretical framework of customers' delightful experiences in the post-pandemic. Conceptual gaps are identified, and an agenda of future research directions is proposed.

Keywords: customer delight, customer experience management, critical review, pandemic (3 to 6 keywords)

1. Introduction

Compared to satisfaction, customer delight is going "the extra mile" by exceeding customer expectation to a significantly surprising degree and delivering a personalized experience. Delight is more powerful than satisfaction in driving customer commitment to a brand/company (Barnes & Krallman, 2019; Torres & Kline, 2013), generate positive emotions that are contagious to employee and thus spread the positivity towards their colleagues and upcoming customers (Barnes et al., 2021).

Despite significant amount of research on creating and managing customer delightful experiences, the Covid-19 pandemic has disrupted traditional ways of business (Rivera, 2020) and "new normal" conditions are forcing tourism and hospitality operators to seek more meaningful approaches to delight customers (Hao & Chon, 2021; Valenzuela-Ortiz et al., 2024).

Against this background, this study aims to extend the current literature on customer delight by (1) providing a comprehensive and critical review of relevant studies; (2)

structuring previous research findings before and during the pandemic and (3) proposing a theoretical framework of customer delightful experiences management. Hence, it contributes to the evolving discourse on customer delight and offers valuable practical implications.

2. Systemic and critical literature Review

Using systematic literature review methodology (Pickering & Byrne, 2014), a rigorous search procedure was conducted on three electronic databases, namely Science Direct, SCOPUS, and Sage using a combination of three key words: customer delight (i.e., “customer”, “delight*”, and “experience”) with three keywords for the hospitality and service-based context (i.e., “hospitality”, “hotel”, “restaurant”, “dining”, and “service”). 178 English academic articles were identified. After screening, 62 articles were excluded due irrelevant research focus, and 6 additional papers were added based on references cross-checked. Finally, 116 articles were included for synthesis. Key content and findings of these studies were then evaluated and coded according to important columns in an Excel spreadsheet: year, author, journal, context (pre-, during, post-pandemic), theory, methodology, key outcomes.

3. Findings & discussion

The systematic review process reveals a significant volume of academic papers on customer delight over the last 30 years, with a peak in 2013 (12 articles). The top three publication outlets are Journal of Business Research (11 articles), the International Journal of Hospitality Management (7 articles), and the Journal of Retailing & Consumer Services (6 articles). Table 1 shows that the dominant research methodology was quantitative (57%).

Table 1. Research methods.

	Frequency	1993-2002	2003-2012	2013-2022
Quantitative approach	66	5	20	41
• Questionnaires/ Surveys	54			
• Experiments	11			
• Quantitative content analysis	2			
Qualitative approach	22	4	9	9
• Interviews and focus groups	11			
• Qualitative content analysis	5			
• Case studies	4			
• Travel blog reviews	2			
• Participant observation	2			
Mixed-methods approach	15	2	8	5

An overview of thematic analysis outcomes demonstrates key antecedents and consequences of customer delight in three key periods (pre-, during and post-pandemic) as well as research gaps (see Table 2).

Table 2. The progression of antecedents and consequences of customer delight over two scenarios.

Scenario	Antecedents	Consequences
Non-crisis and pre-pandemic	• Surprise • Positive emotions/valence • Exceeding expectations (e.g., extra service) • Services attributes (e.g., physical facilities, unrelated supporting services, sensory elements, and human resource factors) • Fulfilling self-esteem needs • Effective service recovery efforts • Communication of organisational attributes between employees	• Customer loyalty • Repeated purchases • Positive word-of-mouth • Employee delight
Research gaps for non-crisis and pre-pandemic	*(1) Using the appraisal process as an emotional pathway to achieve delightful experiences* *(2) Using brand attachment as a long-term behavioural consequence of delightful experiences*	
Times of crisis and during the pandemic	• Focusing on fulfilling eudaimonic needs over hedonic needs • Organisation's actions on safety and hygiene measures	• Customer loyalty • Repeated purchases • Positive word-of-mouth • Employee delight
Research gaps for post-crisis and post-pandemic	*(3) Fulfilling well-being needs that are salient in crisis and non-crisis situations to achieve delightful experiences* *(4) Projecting authenticity of the service provider to drive delightful experiences** *(5) Using pre- and post-service consumption communication attributes to promote delightful experiences* *(6) Using peer-to-peer communications to promote delightful experiences*	

First, in a non-crisis and pre-pandemic world, there were three key approaches to customer delight: affective (delight by positive emotions), attitudinal (delight by positive disconfirmation) and motivational (delight by self-esteem needs fulfillment) (Torres et al., 2020). The affective approach only focuses on emotion descriptors without explaining how emotions are induced/generated. Hence, cognitive appraisal theory (Le et al., 2020; Prayag et al., 2022) should be applied to understand how and in what ways delightful experiences are shaped by different customer characteristics (i.e., goals/needs, past experiences) in response to similar experience design by tourism and hospitality organizations (Gap 1). Also, previous research dominantly consider customer loyalty as an important consequence of delightful experiences (Parasuraman et al., 2020; Torres et al., 2020). This relationship could be an oversimplification and brand-related factors such as brand attachment could play the role of a mediator (Gap 2).

Second, in a post-pandemic world, previous research outcomes are challenged and need to be further explored to gain customer insights in "new normal" conditions. For example, previous research adopted motivational approach, focusing on esteem needs (Barnes et al., 2011; Torres & Kline, 2013) but the pandemic raises more awareness of other needs such as well-being needs or eudaimonic needs (Miao et al., 2022) (Gap 3).

Next, previous researchers have investigated product/service/experience design to delight customer, but the authenticity of service provider has been larger understudied (Gap 4) (Le et al., 2022). The role of service personnel is becoming vital for customer delight during and post-crisis and staff-customer interactions serve as an antecedent of delight (Ali et al., 2018). As this is “service provider iceberg”, it is necessary to investigate shared values, norms of the service providers such as sustainability can contribute to customer delight (Petzer & Roberts-Lombard, 2021).

Moreover, the current literature has a heavy emphasis on delightful experiences in the consumption stage, and the possibility of creating pre- and post-consumption delight have been largely ignored (Huang & Chung, 2023; Le et al., 2019). Further investigation of savoring/anticipating process (Chun et al., 2017; Filep et al., 2013) for an upcoming/past experience is necessary to stage delightful experiences before/after customer visit (Gap 5). Indeed, peer-to-per communication platforms could play a significant role in promoting delightful experiences (Gap 6).

4. Conclusion

Based on a systematic critical review of the current literature, research outcomes and research gaps serve as key rationales for a conceptual framework rethinking ways to achieve delightful experiences in “new normal” conditions (see Figure 1).

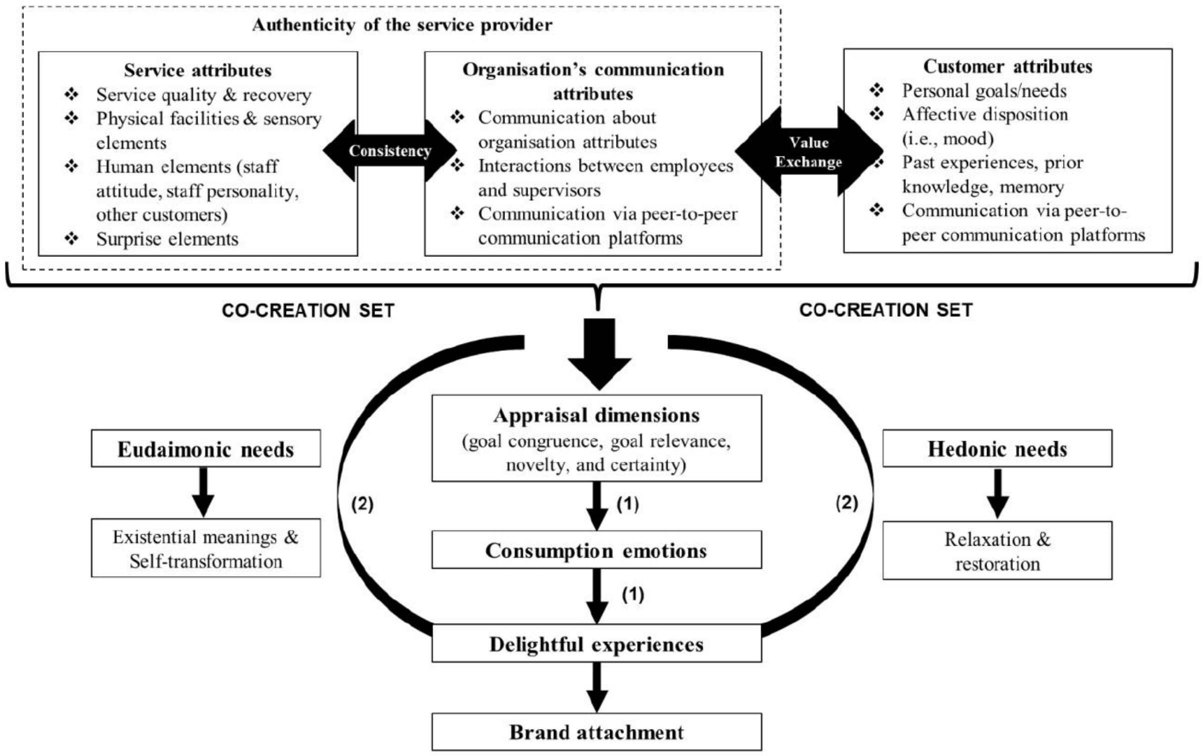

Figure 1: A theoretical framework of customer delightful experiences

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Tracking changes in happiness during travel: Integrating heart rate variability and psychological perspectives

Jung, Sanseol
Happiness Travel Research Center
Hanyang University

Shin, Hakseung
School of Tourism
Hanyang University

Lee, Hoon
School of Tourism
Hanyang University

1. Introduction

The long-term effects of travel on personal satisfaction are a significant topic in tourism research (Lee et al., 2021). Happiness manifests differently according to individuals' travel experiences and states. Lyubomirsky (2011) argued that overcoming hedonic adaptation and extending happiness can be achieved through engaging in new activities, contributing to a firm endorsement of the upward hedonic shift theory. Despite this conceptualization of the construct, researchers have primarily focused on investigating the short-term enhancement of pleasure during travel (Armbrecht & Andersson, 2020).

The majority of research on travel and happiness has used in-depth interviews and post-measurement surveys (Sie et al., 2021). Kahneman (2000) stated that individuals distinctively construct evaluations when deriving them from direct experiences as opposed to those based on memories evolving over time. Meanwhile, Chen & Petrick (2016) have stated that understanding the influence of travel on psychological and physiological health can be a crucial aspect for the tourism industry and tourists. However, existing physiological measurement studies in the field of travel have not thoroughly investigated the changes resulting from individual travel experiences, as they are frequently examined in controlled experimental settings or primarily through physiological variables and self-report surveys.

Therefore, this study employed three methodologies—heart rate variability (HRV), longitudinal surveys, and post-interviews—to promptly investigate the positive psychological and physical effects of travel. Essentially, the aim of this research is to definitively validate the duration of the sustained regression response of happiness through travel, considering both upward and downward hedonic theories.

2. Literature Review

2.1. Happiness through travel
Academically, happiness encompasses both pleasure and meaning, with a particular emphasis on the idea that happiness often elevates through experiences such as travel (Chen & Petrick, 2016; Kwon & Lee, 2020). In essence, sustained and extended happiness through experiences aligns with an upward hedonic theory, while a regression to the original state of happiness corresponds to a downward hedonic perspective.

2.2. Happiness and emotions
Happiness is intricately linked to emotions. According to Seligman (2018), positive emotions serve as strategies for promoting happiness, while negative emotions act as inhibitors. Therefore, people who experience negative emotions (e.g., stress, depression, and anxiety) perceive decreased happiness, leading to an increased desire to engage in travel as a means of regaining happiness (Çolakoğlu et al., 2021).

2.3. Heart rate variability and psychological states
HRV is a useful indicator of an individual's psychological condition (Stigsdotter et al., 2017). It has demonstrated significant predictive power in relation to psychological reactions, such as anxiety and stress (Hartmann et al., 2019). Positive thoughts and attitudes can increase HRV. If the HRV graph demonstrates irregularity and increased variability, it could suggest an enhancement in positive psychological state and a decrease in negative psychological state, as suggested by Weiss et al. (2021).

3. Methodology

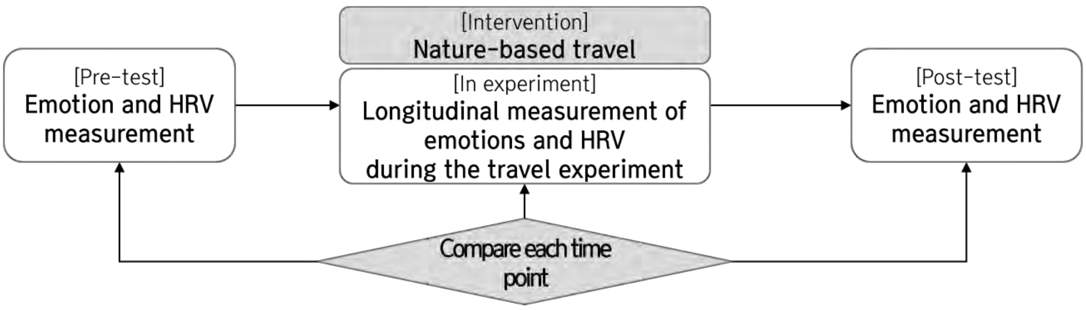

Figure 1. Conceptual model

This study used a mixed-methods approach, measuring HRV and assessing psychological states through survey questionnaires during a nature-based travel experiment. And in-depth interviews were conducted to enhance analysis reliability. Participants shared details of their enjoyable travel experiences, psychological states and activities at 5 time points.

In this study, participants aged 18–30 engaged in a 1-night, 2-day trip at three pre-selected sites in Korea, featuring mountains, forests, and trees. A repeated-measures ANOVA was employed to investigate longitudinal changes in both psychological physical variables across multiple time points(T1-T5*). Based on prior research, inputting a significance level, effect size (0.5) and power (0.90) recruiting 104 with potential missing data, four dropouts resulted in a final sample size of 100.

T1: before the travel, T2: start of travel, T3: on of travel, T4: last of travel, T5: after the travel

4. Results

4.1. Repeated measures ANOVA for psychological variables and HRV

The results for the psychological variables showed that nature-based travel alleviates negative emotions and elicits positive emotions. Specifically, negative emotions decreased at T2 and started to increase at T4. Also, the study results showed an initial increase in happiness induced by travel at T1. The analysis results indicated that travel happiness consistently increased from T2 to T4 and negative emotions continuously decreased from T2 to T4. While there was a slight decrease in physical happiness at T5, it remained significantly higher than at T1.

HRV (HF, RMSSD, and TP) was relatively unstable compared with T3 and T4. At T3, the HRV was the healthiest and most stable. At time point T4, there was partial recovery in the health of the autonomic nervous system, albeit at a level lower than that observed at T3.

4*.2. Qualitative analysis of changes in happiness across travel time points*

Through in-depth interviews with participants, this study explored specific circumstances and factors contributing to physiological and psychological changes observed at five different travel time points.

Table 1. Qualitative analysis summary of psychological changes

Category	T1	T2	T3	T4	T5
Interview content	• Perceived negative emotions in daily routines	• The stress associated with travel(unexpectedly happening and increase in fatigue	• Engagement with natural elements and perceived satisfaction through natural stimulation	• Negative psychological perception of returning to daily life	• Maintenance of positive emotions in daily life experienced during the trip
	• Anticipation of psychological recovery through trip	• Escape from daily life • Psychological recovery	• Serendipitous experiences	• Acquiring resilience for daily life	• Partial increase in negative emotions
Experience	• Daily life experiences such as study, thesis writing and part-time job	• Travel departure	• Campfire • walk and meditation • Unexpected	• walk Check-out • Preparation for returning to daily life	• Engaging in daily life activities • Recalling travel experiences

			experiences • Stargazing		

5. Discussion and Conclusion

Based on in-depth analyses of longitudinal measures for participants' HRV, qualitative interview data and psychological variables, the analyses improved physiological health and revealed positive psychological outcomes through nature-based travel.

Based on the study findings, the following academic implications were identified. This study validated that nature-based travel is effective in promoting physical and psychological happiness and alleviating negative psychological states. Additionally, this study carries significance in its longitudinal assessment of the happiness effects stemming from travel, utilizing data collection at five different time points. And after the trip concluded, individuals maintained a certain level of increased happiness. Through interviews, the study found that serendipity, intense immersion in nature and uncertainty significantly enhance physiological recovery and psychological happiness.

The practical implications are as follows: Firstly, designing targeted travel experiences and analyzing HRV enhancement points contribute to mental and physical well-being management while advancing the travel industry. Secondly, forming advance expectations is crucial when traveling. Utilizing social media platforms to showcase user-generated posts, photos, videos, and other content highlighting the attractiveness of travel destinations can enhance expectations and happiness among travelers. Lastly, stakeholders should develop and implement marketing strategies encompassing personalized event arrangements and travel offerings to enhance serendipitous experiences.

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Savoring tourism experiences: Effects on psychological resources and behavioral intention

Lee, Solbi
College of Hotel and Tourism Management
Youngsan University

Busser, James A.
William F. Harrah College of Hospitality
University of Nevada Las Vegas

Shulga, Lenna V.
School of Travel Industry Management
University of Hawai'i at Mānoa

Abstract:

Based on the broaden-and-build theory, this study aims to bring forward the concept of tourists savoring and examine how this cognitive process affects personal psychological resources (resilience and meaning in life) and their behavioral intention to recommend and revisit the destination. PLS-SEM (n=460) results revealed that entertainment and memory factors of tourism experience had a higher impact on tourists' savoring than education and esthetics, while arousal and escapism did not show a significant impact. Savoring positively influenced individual resilience, which in turn positively affected meaning in life. The study further revealed the significant differences between male and female tourists.

Keywords: Broaden-and-Build, Savoring, Tourist Experience, Resilience, Meaning in Life, Gender

1. Introduction

In the tourism industry, the rapid expansion of tourism demand and increased interest in destination-based trips has resulted in rushed and time-compressed consumption, resulting in poorer quality relationships and limited engagement with the destination (Honore, 2009; Lumsdon & McGrath, 2011). While the fast pace of travel is considered a time-saving mode, the slow pace reflects a time-savoring mode (Dickinson & Peeters, 2014). Increasingly, tourism businesses focus on creating unique tourism experiences that are enjoyable, engaging, and meaningful for travelers who seek authentic, rewarding, multisensory and transformative experiences when visiting destinations (Buzova et al., 2020; Oh et al., 2007).

Tourists' savoring experiences, defined as an individual's ability to attend to positive travel experiences (Bryant, 2003), is a concept that has the potential to deepen the understanding of tourist experiences but remains unexplored (Yan & Halpenny, 2021). Savoring could be critical to the tourism experience as it reinforces attention and awareness to recognize destination elements that may have gone unnoticed (Smith & Bryant, 2019). Savoring also activates the broaden-and-build process (Jose et al., 2012), which is supported by the causal mechanism of broaden-and-build theory (Fredrickson, 2001) and potentially leads to an improved sense of well-being and higher intention to travel again and return to the destination.

Thus, based on the broaden-and-build theory (Fredrickson, 2001), the purpose of this study is to bring forward the concept of tourists savoring their travel experiences (savoring experiences hereafter) after visiting a destination and examine how this cognitive process affects their personal psychological resources (resilience and meaning in life) and their behavioral intention to recommend and revisit the destination. This study contributes to the tourism experience line of research by examining how tourists savoring experiences that broadens-and-builds the positive effects of experiences through the mediating role of resilience to improve their meaning in life and behavioral intention. The tourist experience has served a critical role in tourism research and destination management (Tung & Ritchie, 2011). Hence, this study extends our understanding of gender-based perspectives on tourism experiences along with savoring to guide managerial decisions for destination management organizations (DMOs). The proposed research model is presented in Figure 1.

2. Literature Review

2.1. Broaden-and-build theory

Previously used to understand tourist experiences (Chen et al., 2021), broaden-and-build theory contends that the positive emotions a tourist gains from successful travel encounters (Sthapit, 2019), broaden the thought-action repertoire and build personal resources, including psychological, physical, intellectual, and social components, leading to well-being (Fredrickson, 1998). The broadening effect triggers an upward spiral extending the scope to the cognitive context and attention beyond routine thought or action, encouraging more elastic and creative thinking (Fredrickson, 2001). Furthermore, the building effect of personal resources leads to a more enduring state of well-being (Ouweneel et al., 2011). Therefore, we argue that positive tourism experiences will broaden tourists' savoring experiences as they recall their travel to a destination, which in return will build their personal resources such as resilience and, as a result, positively affect their meaning in life and behavioral intention to recommend and return to the destination.

2.2. Savoring

Conceptualizing savoring, Bryant (2003) proposed that an individual has a belief and a capacity to savor positive events by generating, intensifying, and prolonging enjoyment through one's volition, as a distinct form of perceived control over positive emotions. The capacity for savoring could be understood as an ability to regulate feelings of pleasure, to find, manipulate, and sustain one's enjoyment. It is believed that tourist's capacity for savoring should lead to improved well-being (Miyakawa et al., 2022). In this paper, tourists' savoring experiences is examined as an overarching concept that includes three distinct temporal orientations (Bryant, 2003): past (reminiscing), present (savoring the moment), and future (anticipating).

When savoring past experiences, tourists may look back on their travels to prolong and rekindle their positive feelings. Tourist savoring in the present may intensify their feelings through their positive thoughts gained while traveling to the destination and behaviors. In the future, tourist savoring may generate positive feelings through anticipation based on their previous tourism experiences. Drawing from the micro-experience framework of anticipation, participation, and reflection (Duerden et al., 2015; Rossman & Duerden, 2019), tourists may create pre-arrival expectations based on their previous experiences or information accessed from the hotel and review websites, friends and family. Thus, savoring the future may increase the urge to undertake future positive events beforehand (Yan & Halpenny, 2021).

2.3. Tourist experience

The tourist experience is defined as the subjective personal reactions, feelings, and mental state experienced at a destination while consuming tourism-related activities (Otto & Ritchie, 1996), which convey personal meaning and significance to the tourist (Walker & Moscardo, 2014). Moreover, it is an element of one's psychological need to find meaning in tourism-related events and activities. The tourist experience is a set of events and activities that influence the way tourists engage with and understand the destination, consequently influencing their cognitive, affective, conative, and behavioral reactions toward a destination (Walker & Moscardo, 2014), searching for their self-identity (Cohen, 1979).

Extending Pine and Gilmore's (1998) four realms of experience, Oh et al. (2007) identified that positive tourist experiences included six factors: education, entertainment, esthetics, arousal, memory, and escape. Tourists who actively participate in destination events and activities directly affect the destination business and further affect the personal experience (Oh et al., 2007). Since, the tourism experience increases feelings of satisfaction, loyalty, and well-being (Saayman et al., 2018), following the broaden-and-build theory premise, positive tourism experiences should build tourists' capacity for savoring such experiences. Therefore:

H1. Tourists' savoring experience is significantly influenced by their experiences at the destination: (a) education, (b) entertainment, (c) esthetics, and (f) escape.

H2. Tourists' savoring experience is significantly influenced by transition-oriented experience consequences: (a) arousal and (b) memory.

H3-1. Tourists' arousal is significantly influenced by tourists' experiences at the destination: (a) education, (b) entertainment, (c) esthetics, and (f) escape.

H3-2. Tourists' memory is significantly influenced by tourists' experiences at the destination: (a) education, (b) entertainment, (c) esthetics, and (f) escape.

H4. Tourists' memory is significantly influenced by tourists arousal.

2.4. Resilience

Personal resilience, as a psychological resource, is defined as one's ability to overcome adversity, adapt to change, and grow from the experience (Shin et al., 2012; Smith et al., 2008). It was proposed that context and human actions affect personal resilience (Keim, 2008; Loehr et al., 2019). In the research on older adults, Smith and Hanni (2019) found that respondents who completed the savoring intervention reported improved resilience, reduced depressive symptoms, and increased happiness. Furthermore, within the broaden-and-build theory line of research, it was demonstrated that positive emotions increase one's resilience (Fredrickson, 2004). Therefore:

H5. Tourists' savoring experience positively influences their resilience.

2.5. Meaning in life

The presence of meaning is defined as "the sense made of, and significance felt regarding, the nature of one's being and existence" (Steger et al., 2006, p. 81). Closely related to one's experience evaluation and subjective perception of well-being (Dezutter et al., 2015), the presence of meaning in life was found to predict optimism and mental health (Elizabeth & Chang, 2019). On one hand, the positive experience of pilgrimage moderated by faith maturity improved tourists' meaning in life (Baek et al., 2022). On the other, in happiness research, Chadwick et al. (2021) identified that everyday savoring significantly influenced well-being in adolescents. Therefore, tourism experiences broadened by one's savoring experiences may positively influence an individual's meaning in life:
H6. Tourists' savoring experience positively influences their perception of the presence of meaning in life.

2.6. Tourists' behavioral intention
Originally defined as an individual's likelihood of engaging in a specific behavior (Ajzen, 1991), tourist behavioral intention in this study is defined as one's likelihood to recommend, say positive things, and return to the destination (Kim et al., 2013; Loureiro, 2014). Perceived behavioral control was identified as one of the main factors that influenced tourists' behavioral intention to visit a destination (i.e., Lam & Hsu, 2006). Since, savoring is understood as a form of perceived control over positive emotions (Bryant, 2003), it is reasonable to argue:
H7. Tourists' savoring experience positively affects their behavioral intention.
Building one's resilience was previously associated with improvement in health and well-being (Smith et al., 2010). Broaden-and-build theory postulates that positive emotions, hence positive experiences, over time build psychological resilience, which in turn leads to the enhancement in one's emotional and subjective well-being (Fredrickson, 2004). Using broaden-and-build principles, Roslan and Cho (2022) demonstrated that sports participants' well-being was affected by their willingness to explore new behaviors and resilience. Therefore:
H8. Resilience positively affects tourists' meaning in life perceptions.
Using the same broaden-and-build principle, customers who experienced positive emotions during their casino experience had a higher intention to return to the same casino (Bilgihan et al., 2016). Furthermore, those who have high resilience have higher behavioral intention to remain with the organization (Siu et al., 2015). In general, within organizational behavior studies, the link between resilience and turnover intention is well established (i.e., Dai et al., 2019). Therefore:
H9. Resilience positively affects tourists' behavioral intention.

2.7. Mediating role of transition-oriented experience consequences: arousal and memory
Arousal refers to the extent to which individuals' emotions are activated by external stimuli. Tourist experiences are an impression or reaction to cognitive and recognizable stimuli found in the tourism environment (Chhetri et al., 2014). Wang et al., (2020) confirmed a significant mediating role of arousal in the relationship between environmental stimuli and smart tourism destination experiences. In tourism, memory is defined as remembering a specific moment or event, which will positively impact tourists' perspective toward the destination (Pine & Gilmore, 1999; Oh et al., 2007). Wood (2020) proposed that memory is "the most valuable commodity" that tourism service providers can provide to tourists. Kim et al. (2022) found that tourists'

memory recall in the post-trip stage positively led to mood repair and behavioral intention. Fan et al. (2023) found a significant mediating role of tourism autobiographical memory in the relationship between guest experience and customer retention. Therefore:

H10. Memory serves a mediating role between (a) tourism experiences and tourists' savoring experiences, and (b) arousal and tourists' savoring experiences.

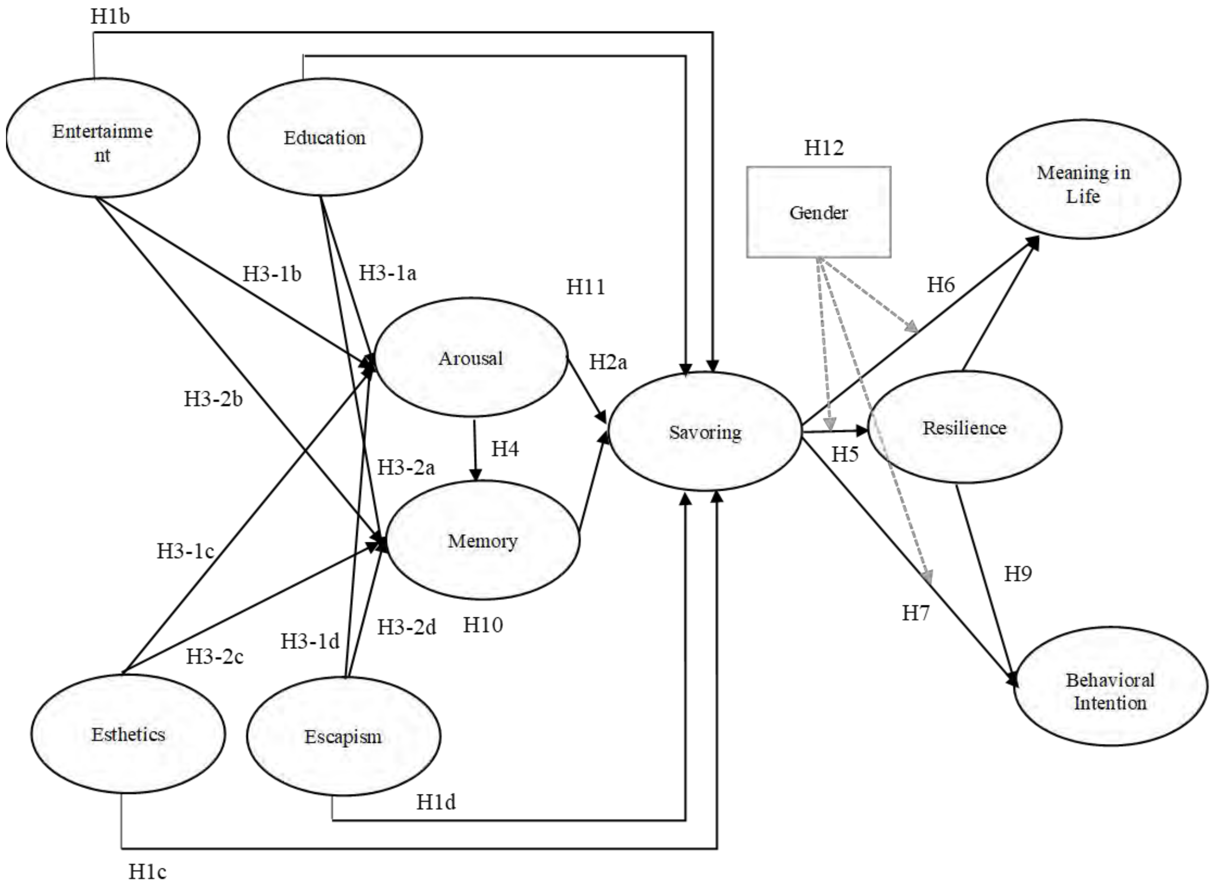
H11. Tourism experiences and tourists' savoring experiences are mediated by the transition-oriented experience consequences: arousal and memory.

2.8. Moderating role of gender

Bryant (2003) posited that individual differences are critical exploratory variables in studying beliefs about savoring and understanding positive functioning. Researchers found that gender affects patterns of tourist information gathering and decision-making, interpretation of the destination, and consumption of tourism experiences (Figueroa-Domecq & Segovia-Perez, 2020). For example, Pung et al. (2020) found that female tourists experience self-change through physical elements of their surroundings and self-consciousness, while male tourists experience flow, adaptation, and a sense of community. Therefore:

H12. Gender moderates the relationship between savoring and (a) resilience, (b) meaning in life, and (c) behavioral intention.

Figure 1
Research Model



3. Methodology

3.1. Questionnaire and measures

The online questionnaire was developed using previously established scales that were widely adopted in tourism and psychology research. Tourism experience was measured using Oh et al. (2007) scales: education (4 items), entertainment (4 items), esthetics (4 items), and escapism (4 items). Transition-oriented tourism experience consequences were measured by scales developed by Oh et al., (2007): arousal (4 items) and memory (3 items). The shortened savoring 10-item second-order reflective scale with three dimensions that represented past, present, and future, was adapted from Bryant (2003). Meaning in life was measured in two dimensions as a second-order reflective construct developed by Steger et al. (2006): presence of meaning in life (5-items) and search for meaning in life (5-items). Resilience was measured with a 6-item scale adapted from Smith et al. (2008). Behavioral intention included 3-items developed by Loureiro (2014) that represented the intention to recommend and revisit the destination. All scales were rated on a 7-point Likert scale from strongly disagree to strongly agree. Resilience and meaning in life scales contained negatively worded items, which were reverse-coded before the data analysis.

3.2. Sample and data-collection

A self-administered survey and online panel of respondents managed by Qualtrics, Inc.

was used to collect the data. US respondents, who were 18 years old or older, traveled to a vacation destination at least once during the last 12 months, and stayed at the destination for at least five nights, were invited to participate. A total of 450 respondents completed the survey. After two attention checks and a speeding check, screening for acquiescence bias and straight-line responses, resulted in 431 responses for analysis.

3.3. Common method bias

A self-administered survey might be influenced by common method bias (Podsakoff et al., 2003). Following Podsakoff et al. (2003) recommendations to reduce the influence of CMB a number of approaches were deployed before and after the survey data was collected. First, respondents were advised in the informed consent before starting the questionnaire that the participation was voluntary, confidential, and anonymous. Next, when collecting participant responses, each question was presented on a separate screen. This technique was used to decrease the possibility of bias by increasing the perceptual distances between questions. Second, the data was statistically examined for the presence of CMB. To start Harman's single-factor test was performed using SPSS 26 and showed 30.13% of explained variance, which was well below the 50% criteria established by Podsakoff et al. (2003). Subsequently, using Amos 25, a confirmatory factor analysis (CFA) was conducted, starting with a one-factor model that showed poor data fit (normed $\chi2$=7.39; RMSEA=0.12; GFI=0.38; TLI=0.43). A five-factor model demonstrated an improved but still poor fit (normed χ^2=5.57; RMSEA=0.10; GFI=0.47; TLI=0.59), a seven-factor model once again showed an improvement (normed χ^2=5.09; RMSEA=0.09; GFI=0.53; TLI=0.64). Finally, when each dimension of tourism experience was tested separately, the ten-factor model showed an acceptable fit (normed χ^2=3.18; RMSEA=0.07; GFI=0.68; TLI=0.81). Thus, after utilizing two approaches to minimize the effects of CMB through study design and statistical analysis, CMB was noted to have no significant impact on the data.

3.4. Data analysis

Partial-least squares structural equation modeling (PLS-SEM) procedures proposed by Hair et al. (2016) using SmartPLS 4.0 were utilized to analyze the data. Known for its flexibility, PLS-SEM is often deployed to examine research models for exploratory purposes, building future theory and extensions, testing border conditions, including categorical moderators (Hair et al., 2016). Furthermore, PLS-SEM is often useful when the structural model is complex, and the research aims to predict a focal construct by identifying its main antecedents (Hair et al., 2016). The minimum sample size necessary to detect minimum R^2 value with 5% significance level and 80% statistical power for a structural model with six predictor variables of a focal construct is 157 cases and for endogenous variables with 8 predictor variables is 174 cases (Hair et al., 2016). Thus, the sample size analyzed in this study (N=431) exceeds the minimum sample size required for PLS-SEM.

The established two-step PLS-SEM procedure was performed to analyze the data in this study as described by Hair et al. (2016). In the first step, the outer measurement model was examined to check construct reliability, convergent and discriminant validity. Reliability was measured using Cronbach's alphas and Composite Reliability (CR) to exceed 0.70 criteria. Convergent validity was measured using average variance extracted (AVE) with values above 0.50. Discriminant validity was tested using the Fornell-Larcker criterion where the square route of AVEs must be higher than the constructs' correlations. In addition, the Heterotrait-Monotrait Ratio (HTMT) should be below 0.90 to corroborate the discriminant validity of the constructs (Hair et al., 2016). To examine the model for multicollinearity the variance inflation factors (VIF) were analyzed, expected not to exceed 5.00 (Hair et al., 2016). In the second step, the inner structural model was analyzed using the bootstrap procedure with 5,000 randomly generated bootstrap sub-samples. The predictive validity of the model was estimated using the coefficient of determination R^2 and predictive relevance Q^2. Next, to test the hypotheses, the path coefficients were examined using t-values, confidence intervals [CI, 95%], and effect sizes (f^2). Finally, the mediation and moderation effects were tested and examined.

4. Results

4.1. Measurement model

The CFA results of outer model evaluation for reliability, convergent and discriminant validity are presented in table 1. In the first iteration, the standardized loadings of two items in resilience scale ("*i have a hard time making it through stressful events*" (r); *"i tend to take a long time to get over set-backs in my life"* (r)), one item in presence of meaning in life scale ("*my life has no clear purpose"* (r)), and two items in search for meaning in life *("i am seeking a purpose or mission for my life"; "i am searching for meaning in my life"*) loaded below the 0.70 threshold established by hair et al. (2016) and were removed from the analysis. In the final iteration, all constructs' standardized loadings ranged from 0.70 to 0.93 and were significant at p<0.001. The reliability of the measures was confirmed by Cronbach's alphas, which ranged from 0.71 to 0.93 and convergent validity was established using Aves, which were above 0.5 level and ranged from 0.51 to 0.82. Discriminant validity was confirmed using Fornell-larcker's criterion and showed that the square-root of constructs' AVEs were above variable correlations. The HTMT was below 0.90 and ranged from 0.05 to 0.87. The VIFs ranged between 1.0 and 3.9, and overall were below 5.0 (hair et al., 2016), thus, no multicollinearity concerns were detected. Therefore, the measurement model was acceptable for structural analysis.

Table 1

Results of CFA

Variable	A	AVE	Arousal	BI	Educ	Enter	Esc	Esthetics	MIL	Memory	RES	SAV
Arousal	0.865	0.713	**0.844**									
BI	0.705	0.630	0.562	**0.793**								
Educ	0.929	0.825	0.560	0.291	**0.908**							
Enter	0.910	0.789	0.525	0.358	0.519	**0.888**						
Esc	0.890	0.749	0.317	0.204	0.479	0.449	**0.865**					
Esthetics	0.881	0.739	0.782	0.612	0.415	0.453	0.219	**0.860**				
MIL	0.838	0.509	0.430	0.334	0.506	0.427	0.484	0.371	**0.713**			
Memory	0.890	0.819	0.774	0.575	0.443	0.460	0.203	0.717	0.353	**0.905**		

RES	0.825	0.651	0.107	0.132	0.119	0.140	0.020	0.178	0.303	0.103	**0.807**	
SAV	0.893	0.511	0.616	0.469	0.496	0.563	0.312	0.588	0.565	0.607	0.327	**0.715**

Note. BI – behavioral intention, Educ – education, Enter – entertainment, Esc – escapism, MIL –meaning in life, RES-resilience, SAV-savoring, CR – composite reliability, AVE – average variance extracted; in bold square route of AVE, constructs correlations are presented below the diagonal, $p<0.001$.

4.2. Structural model

In the second step, the structural inner model was examined to assess the relationships among the constructs (Figure 2). The model explained a moderate in-sample prediction for tourists' savoring experiences ($R^2=0.51$), and meaning in life ($R^2=0.35$), and low prediction for resilience ($R^2= 0.14$) and behavioral intention ($R^2=0.23$). Using PLSpredict, the predictive relevance of the model was examined using the Stone-Geisser test, all models showed Q2 above zero (Hair et al., 2016), and the endogenous construct revealed a moderate level for meaning in life $Q^2=0.28$ and for behavioral intention $Q^2=0.27$. Overall, the results demonstrated satisfactory predictive capability of the research model.

The results of hypothesis testing are presented in Table 2. H1 predicted that tourism experience dimensions will significantly and positively influence tourists' savoring experiences. The paths coefficients were significant and positive from education ($\beta=0.13$, $p<0.05$), entertainment ($\beta=0.25$, $p<0.001$), esthetics ($\beta=0.19$, $p<0.01$) to savoring, confirming H1a, H1b, and H1c. However, the path from escapism on savoring was non-significant ($p=0.56$), thus rejecting H1f. Therefore, H1 was partially accepted. H2 predicted the positive and significant influence of transition-oriented tourism experience consequences on tourists' savoring experiences. The results revealed that arousal on savoring was non-significant ($p=0.47$), thus rejecting H2a. The path from memory on savoring was significant ($\beta=0.24$, $p<0.01$), thus supporting H2b. Therefore, H2 was partially accepted. In partial support of H3-1, education had a positive and significant effect on arousal ($\beta=0.23$, $p<0.001$), entertainment had a positive and significant effect on arousal ($\beta=0.11$, $p<0.05$), as well as esthetics ($\beta=0.63$, $p<0.001$), but not escapism ($p=0.55$). In partial support of H3-2, esthetics had a positive and significant effect on memory ($\beta=0.27$, $p<0.001$), escapism had a significant and negative effect on memory ($\beta=0.43$, $p<0.001$), and education and entertainment had no significant effects ($p_{education}=0.56$; $p_{enteratinment}=0.07$). Experience arousal had a positive and significant effect on memory ($\beta=0.53$, $p<0.001$), supporting H4. Tourists' experience savoring had a positive and significant impact on resilience ($\beta=0.43$, $p<0.001$), thus H5 was accepted. H6 was accepted as savoring had a positive and significant impact on meaning in life ($\beta=0.69$, $p<0.001$). Tourists' savoring experiences had a positive and significant effect on behavioral intention ($\beta=0.62$, $p<0.001$) supporting H7. Resilience showed positive and significant effect on meaning in life ($\beta=0.11$, $p<0.05$), supporting H8. However, resilience on behavioral intention had no significant impact ($p=0.56$), thus rejecting H9.

Table 2

PLS-SEM path analysis and hypotheses testing results

Path	B	t-value	CI [2.5%, 97.5%]	f2
Education -> Savoring	0.131	2.308*	[0.017, 0.240]	0.02

Entertainment -> Savoring	0.252	4.849***	[0.151, 0.354]	0.08
Esthetics -> Savoring	0.189	2.723**	[0.049, 0.326]	0.03
Escapism -> Savoring	0.024	0.590(n.s.)	[-0.058, 0.100]	0.00
Education -> Arousal	0.232	5.446***	[0.152, 0.319]	0.11
Entertainment -> Arousal	0.109	2.488*	[0.024, 0.196]	0.02
Esthetics -> Arousal	0.632	14.449***	[0.544, 0.715]	0.96
Escapism -> Arousal	0.019	0.601 (n.s.)	[-0.043, 0.081]	0.00
Education -> Memory	0.029	0.588 (n.s.)	[-0.068, 0.124]	0.00
Entertainment -> Memory	0.077	1.786 (n.s.)	[-0.008, 0.164]	0.01
Esthetics -> Memory	0.274	3.825***	[0.136, 0.416]	0.08
Escapism -> Memory	-0.072	2.193*	[-0.135, -0.008]	0.01
Arousal -> Savoring	0.072	0.731 (n.s.)	[-0.121, 0.259]	0.00
Memory -> Savoring	0.237	2.948**	[0.076, 0.391]	0.04
Arousal -> Memory	0.525	7.282***	[0.385, 0.663]	0.24
Savoring -> Resilience	0.428	5.928***	[0.285, 0.569]	0.07
Savoring -> MIL	0.686	10.193***	[0.550, 0.815]	0.23
Savoring -> BI	0.624	10.107***	[0.508, 0.747]	0.16
Resilience -> MIL	0.107	2.359*	[0.020, 0.193]	0.02
Resilience -> BI	-0.027	0.590 (n.s.)	[-0.117, 0.060]	0.00

Note. *p<0.05, **p<0.01, ***p<0.001, BI-behavioral intention, MIL- meaning in life, CI- confidence interval.

4.3. Mediation analysis

The results of the mediation analysis are presented in Table 3. Hypothesis 10a proposed that memory is a mediator between tourism experiences and savoring. The analysis demonstrated that only the indirect effect of esthetics on savoring with memory as a mediator was significant (indirect effect 0.07, p<0.05). Since the direct path from esthetics to savoring was also significant, memory served as a partial mediator (Barron & Kinney, 1986). Thus, H10a was partially supported. In support of 10b, memory served as a mediator between arousal and savoring (indirect effect 0.12, p<0.01). Since the direct effect of arousal on savoring was non-significant (p=0.47), memory served as a full mediator for savoring (Barron & Kinney, 1986).

Hypothesis 11 proposed mediated-mediation between tourism experience factors and savoring. This hypothesis was partially supported. Both transition-oriented consequences of tourism experience served as consecutive mediators from education to savoring (indirect effect 0.03, p<0.01), entertainment to savoring (indirect effect 0.01, p<0.05), esthetics to savoring (indirect effect 0.08, p<0.01), but not from escapism to savoring (p=0.56). Thus, confirming partial mediated-meditation effects on tourists' savoring experiences.

Table 3
Mediating effects of arousal and memory on tourists' savoring experiences.

Path	Indirect Effect	t-value	p-value
Arousal -> Memory -> Savoring	0.124**	2.931	**0.003**
Education -> Memory -> Savoring	0.007	0.533	0.594
Esthetics -> Memory -> Savoring	0.065*	2.291	**0.022**
Entertainment -> Memory -> Savoring	0.018	1.404	0.160
Escapism -> Memory -> Savoring	-0.017	1.739	0.082
Education -> Arousal -> Memory -> Savoring	0.029**	2.609	**0.009**
Entertainment -> Arousal -> Memory -> Savoring	0.014*	2.015	**0.044**
Esthetics -> Arousal -> Memory -> Savoring	0.079**	2.714	**0.007**
Escapism -> Arousal -> Memory -> Savoring	0.002	0.587	0.557

4.4. Moderation testing

Hypothesis 11 proposed that gender (n_{male}=162; n_{female}=279) will have a moderating effect from tourists' savoring experiences on resilience, meaning in life, and behavioral intention. Moderation of gender on the paths between savoring and resilience revealed a non-significant result (p=0.11, CI [-0.34, 0.03]), thus H11a was rejected. The moderation of gender on meaning in life showed a significant effect (indirect effect -0.24, t=2.88, p<0.01, CI[-0.39, -0.07]), supporting H11b and gender on behavioral intention was also significant (indirect effect -0.22, t=2.56, p<0.05, CI[-0.39, -0.05]), supporting H11c. The results of post-hoc analysis are presented in Figure 3. The slope analysis demonstrated the positive effect of savoring on meaning in life and behavioral intention only for male tourists. Thus, H11 was partially supported.

Figure 3
Results of moderation analysis for gender from savoring on meaning in life

Note. Male=0; Female=1

Figure 4
Results of moderation analysis for gender from savoring on behavioral intention

Note. Male=0; Female=1

5. Discussion and Conclusion

5.1. Discussion

The study results demonstrated the importance of tourists' savoring experiences on improving tourists' personal resilience, their meaning of life, and behavioral intention. The findings revealed that not all factors of the tourism experience had the same effect on savoring experiences: arousal and escapism did not show significant results. Entertainment and memory factors of tourism experience had a higher impact on tourists' savoring experiences than education and esthetics. These findings provide empirical support for the conceptualization of savoring for memorable experiences (Yan & Halpenny, 2022). In the context of tourism experience, savoring had a positive influence on individual resilience, which in turn positively affected tourists' meaning in life, thus providing further support to the broaden-and-build theory and the notion of upward spirals (Fredrickson, 2004).

Resilience served as a partial mediator from savoring experiences on meaning in life. Yet, despite the positive and direct impact of savoring experiences on behavioral intention, resilience did not significantly influence tourists intention to recommend, say positive things, and return to the destination; no mediation effect was detected. Finally, the results revealed significant differences between male and female tourists in their perceptions of the role savoring experiences played in their cognitive processing of the tourism experiences. The role of savoring experiences was more important for male tourists based on resilience and behavioral intention. The impact of savoring experiences on meaning in life was similar for both genders. However, the memory factor of tourism experience was significant for females and not significant for male tourists.

5.2. Practical and theoretical implications

The theoretical contribution of this study is three-fold. First, it extends the broaden-and-build theory (Fredrickson, 2001) by revealing the role of savoring as a broadening cognitive effect on building one's psychological resources, such as resilience, leading to improved perceptions of meaning in life. Second, the results provide further knowledge about savoring experiences and what factors of tourism experience influence tourists' abilities to savor the past, present, and future.

From a practical standpoint, DMOs and tourism organizations should nurture and support tourists' savoring experiences after they return from their destination to enhance their behavioral intention to return, recommend, and say positive things about the destination. By engaging with tourists' past, present, and future ability to savor their experiences, DMOs may improve not only behavioral intention but also tourists' personal psychological resources, such as their resilience and meaning in life. To build the capacity for savoring, DMOs should emphasize memory and entertainment factors of the tourism experience first, followed by esthetics and educational factors. DMOs may consider sending reminder emails, postcards, audio and video messages filled with images that highlight the memorable experiences and entertainment tourists that captured their stay.

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.

5.3. Limitations of this study and suggestions for future studies
There are limitations to the present study. Future research may consider capturing tourists' experiences pre-trip, during-trip, and post-trip to examine the impact of savoring the past (reminiscing), present (savoring the moment), and future (anticipating) on resilience and behavioral intention. Also, future research could conduct in-depth interviews of tourists to investigate their savoring experiences focusing on the memory and entertainment factors of tourism experiences.

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Factors that influence guest satisfaction with rural accommodation location: Case study of Ger Lodges in Mongolia

Bayarjargal, Anudari
Department of Hospitality and Tourism Management
Sejong University

Lee, Seul Ki
Department of Hospitality and Tourism Management
Sejong University

Abstract:

This study aims to explore factors influencing guest satisfaction with rural lodge locations. Despite extensive research on urban hotel locations, guest satisfaction with rural lodge locations remains understudied. Investigating these distinct lodging options becomes imperative due to their rising popularity. Hence, this research focuses on Ger lodges to illuminate their unique location aspects and impact on guest satisfaction. Service quality factors from the LODGSERV model (Knutson et al., 1990b) were incorporated for comparison purposes. Six location-related variables and 5 service quality-related variables were hypothesized and a four-part questionnaire was developed. Structural equation modeling (SEM) will test the causal relationships between the variables. The findings will guide lodge owners in location choice and strategies. Additionally, this research contributes valuable insights into rural tourism literature.

Keywords: Rural lodge, Guest Satisfaction, Location Factors, Rural Tourism, Mongolia, Ger lodge, Service Quality

1. Introduction

Throughout the years, various researchers have extensively explored the factors that influence the overall success of hotels and lodges, with location consistently emerging as a pivotal determinant (Yang and Lee, 1997). Moreover, even though it is relatively easy to improve or change a hotel/lodge's building style, financial structure, marketing, and quality, it is extremely difficult to change their location due to the high cost and time-consuming matter (Kim, M. S., Roehl, W. S., & Lee, S., 2020). Hence, strategic location selection is paramount for owners to align with their target image and customer base.

However, while the influence of location on the guest satisfaction of an urban hotel has been well-studied, the guest satisfaction factors on rural lodge location remain relatively underexplored (Yang et al., 2008). While it is well noted across the rural tourism literature that rural accommodation should be situated within rural settings for guest satisfaction, there is a lack of detailed examination of specific factors influencing satisfaction. Many of those studies tend to focus on the broader concept of location without delving into the intricate aspects that contribute to guest satisfaction with rural settings. Consequently, there exists a notable gap in comprehending the complex interplay between specific location-related factors and guest satisfaction in rural accommodation.

Despite the existing body of literature on location choice, there remains a notable gap in research on strategies to mitigate the inherent challenges of chosen locations. Given the diverse advantages and disadvantages associated with different locations, it becomes essential to address methods for overcoming these challenges effectively.

Additionally, with the burgeoning popularity of unique, locally-inspired accommodations, understanding the nuances of such lodging options becomes imperative. This study thus turns its focus to Mongolian Ger Lodges, aiming to shed light on their unique location aspects and their impact on guest satisfaction. In addition, this study incorporates an examination of Service Quality factors for comparison purposes, recognizing their significance in shaping guest experiences within the hospitality industry.

Therefore, the objectives of this research are 1) to investigate the factors shaping guests' satisfaction with a rural lodge location, 2) to offer insights into optimal location selection for rural lodge owners, 3) to provide strategies for enhancing guest satisfaction amidst spatial constraints, and 4) to contribute valuable insights into the future of rural tourism literature.

2. Literature Review

2.1. Rural Tourism

Rural tourism represents a sustainable and ethical form of tourism that enables visitors to actively engage with the daily life of local communities situated in rural areas. These areas typically have low populations, are predominantly focused on agriculture, and possess unique traditional and cultural features (Priatmoko et al., 2023). While historically associated with farms, rural tourism also involved utilizing spare rooms in village houses, converting historic buildings, or creating replicas through local cooperatives (Ribeiro & Marques, 2002). Consequently, as Ribeiro and Marques, 2002 stated, the later stages of Rural tourism included more strategic development and involved plans with more advanced and formal cultural rural tourism offerings that benefit the community in the short-term and conserve the resources for the long-term.

Even though there are several different definitions of rural tourism in the literature, the World Tourism Organization (UNWTO) has offered an extensive definition of rural tourism, describing it as a form of tourism wherein the visitors' experience is connected to a diverse array of products, typically associated with nature-based activities, rural lifestyle/culture, and sightseeing (*Rural Tourism | UNWTO*, n.d.).

2.2. Rural Accommodation

To offer an enjoyable rural tourism experience, it is crucial to have natural surroundings and infrastructure that connect tourists with nature (Albacete-Sáez et al., 2007). Unlike other types of accommodation such as traditional hotels located in cities, rural accommodations exhibit unique qualities that blend seamlessly with their natural surroundings and local cultures (Choi et al., 2018).

Rural accommodations play a vital role in preserving historical heritage, traditions, and local craftsmanship, contributing to the cultural richness of their surrounding areas. Economically, they offer rural residents opportunities for self-employment, thereby enhancing the economic viability of rural regions. Socially, these accommodations create employment opportunities, particularly benefiting young people and helping to stem rural depopulation by providing viable career options locally. Ultimately, rural accommodations offer tourists access to environmentally sustainable products and experiences, fostering a deeper connection to nature and rural lifestyles while enhancing the scenic beauty of the landscape (Provotorina et al., 2020).

2.3. Guest Satisfaction

For the last few decades, research on customer satisfaction in the hotel industry has increased drastically due to the increasing growth of the service industries (Choi & Chu, 2001). Based on various investigations from past papers, it is suggested that hotel attributes such as cleanliness, location, room rate, security, service quality, and reputation of the tourism facilities are considered to be very important to guests to evaluate its quality and performance (Choi & Chu, 2001).

2.4. Guest Satisfaction in Rural Tourism

Several scholars have been studying guest satisfaction factors specifically in rural accommodation. Most of the research was done utilizing SERVQUAL, which is a generic 22-item instrument for measuring service quality, developed by Parasuraman et al. (1988) as rural accommodation experience is highly affected by its' service (Loureiro & Kastenholz, 2011).

Even though guest satisfaction factors of rural accommodations are generally similar to other types of accommodation such as urban hotels, there is more focus on human and nature aspects as rural accommodations are not only about the accommodation but also the outdoor activities. For instance, in exploratory qualitative research by Brochado and Brochado (2019), guest satisfaction with glamping facilities is influenced by a combination of factors related to the overall experience, accommodation quality, host interaction, natural surroundings, food quality and sustainability, and opportunities for learning and activities.

Moreover, the overall satisfaction can vary depending on the demographics and motives of the visitors (Rogerson & Rogerson, 2020). In research investigating tourist satisfaction and revisit intentions at rural tourist attractions, novelty-seeking motivation emerged as a significant factor. The study found that novelty-seeking motivation had a direct effect on tourist satisfaction (0.097) and an additional indirect effect (0.033), both of which were statistically significant. This suggests that tourists seeking novel experiences are more likely to be satisfied with their visit, influencing their willingness to revisit rural accommodations such as Ger Lodges in Mongolia (Tang et al., 2022b).

2.5. Location Satisfaction

The overall success of a hotel is greatly tied to its' location factors because a good location is always associated with larger accommodation demand, higher revenue per available room, higher customer satisfaction, better performance, and lower failure rate. When any type of business is making location selection-related decisions, they highly consider the future development potential as well as projecting the competitiveness of the new location (Chou et al., 2008).

Therefore, it is important to choose the location wisely depending on their goal from the beginning. More specifically, hotels generally tend not to change their location, capacity, and quality for a long period because hotels' relocation and product modification of capacity and quality often require a considerably long time and high cost. Accordingly, location, capacity, and quality are considered to be the hotel's "Long-run decision" (Kim et al., 2020).

To summarize the findings from each research conducted by Chou et al. (2008), Kim et al. (2020), Yang et al. (2017), and Choi and Chu (2001), overall guest satisfaction with a hotel location is highly influenced by several factors including the security of the location, transport convenience (convenience of traffic to tourism scenic spots and accessibility to points of interest(POI)), ability to immerse or blend with the local culture (local shops and other local businesses), proximity to dining options and business centers, and quality of the surrounding environment.

2.6. Rural Accommodation Location

Existing literature has proven that every location has advantages and disadvantages. For instance, it is expected that geographically clustered hotels tend to gain higher performance due to the knowledge spillover between the other hotels. Conversely, locating far from the competitors can affect performance negatively as there is not much competition or practical knowledge to gather from others (Chou et al., 2008).

However, this can differ in rural accommodation cases as locating in a crowded area may scare away the customers whose purpose is to relax and enjoy nature affecting their performance negatively. Accordingly, it is important to study location-related performance for rural accommodation separately from a city hotel.

In addition, various researchers indicated that customer satisfaction and hotel choice can hugely depend on their purpose of visit, their social-cultural background (nationality and geographic origin), experience, and demographics (Lew & McKercher, 2006). For example, while many tourists would rather stay in a rural accommodation near tourist attractions or urban development, others may prefer to stay away from touristic areas.

In a systematic literature review on definitions and challenges of Rural tourism by Rosalina et al. (2021), it was highlighted that location emerged as a prominent theme in defining rural tourism, with approximately 77.7% of the articles they reviewed highlighting the rural setting as a defining characteristic (Rosalina et al., 2021). Likewise, while there is a consensus on the significance of locating rural accommodations within rural settings for guest satisfaction, a nuanced examination of the specific factors within these settings influencing guest satisfaction is often lacking. Many studies focus on the broader concept of location without delving into the detailed aspects that contribute to guest satisfaction within rural settings. Thus, there remains a notable gap in understanding the intricate interplay between specific location-related factors and guest satisfaction in rural accommodation.

However, there is some notable literature that highlighted the importance of the location of rural accommodations in their research findings. When studying the satisfaction of the glamping facilities from guests, positive comments about the location are noted such as the proximity to main towns/villages, beautiful river spots, mountains, and picturesque views. The emphasis on "unbelievable views" and the description of locations as "great" and "perfect" indicates that the natural setting and surroundings play a significant role in shaping guests' perceptions and experiences (Brochado & Brochado, 2019). The cultural immersion and availability to blend with the locals affect guests' satisfaction with their stay at a rural lodging facility (Loureiro & Kastenholz, 2011). As mentioned before, understanding the demographics and motives of the campsite visitors is also crucial for providing a satisfactory experience (Rogerson & Rogerson, 2020b). Therefore, different demographic groups may have varying preferences and expectations when it comes to camping experiences and location. As sustainable management practices are increasingly important for guest satisfaction, guests may value campsites that demonstrate a commitment to eco-friendly initiatives and responsible tourism practices (Rogerson & Rogerson, 2020b).

Moreover, as comfort and wellness facilities availability is proven to be an incredible factor in guest satisfaction (Brooker & Joppe, 2013), a location that is too isolated from urban developments could make it difficult to build such comfortable and innovative facilities, especially in Mongolian case. Commercial campground operators have tended to locate near attractive resources, population centers, and major Thoroughfares as these factors provide campers with convenience and access to other amenities and transportation (Fesenmaier & Roehl, 1986).

Upon the findings in this literature, it is important to consider the customer satisfaction factors related to isolated facilities and specifically study how location affects customer's perception of their stay. Likewise, it could be helpful for future researchers and lodge owners/managers to understand their guests, get closer to overcoming the difficulties related to their already chosen location, and make their future rural accommodation location choice.

2.7. Mongolian Rural Tourism and Rural Accommodations

Mongolia, situated in Central Asia, is a landlocked nation spanning an extensive area of 1,566 square kilometers, yet home to only 3.2 million residents. The country holds significant potential for the growth of tourism owing to its captivating natural landscapes, untouched surroundings, and distinctive nomadic way of life (Luvsandavaajav & Narantuya, 2021). As per the information provided by the Mongolian Ministry of Nature and Environment, the tourism sector has emerged as a significant contributor to the national economy, representing 7-8% of the country's GDP. In 2019, the number of international tourist arrivals reached 577,300 (National Statistics Office, 2020).

Throughout history, Mongolia's geographical isolation, characterized by a combination of high-altitude steppes, deserts, and mountains, has given rise to a resilient population primarily engaged in nomadic herding, particularly on horseback. Approximately half of the populace continues to embrace a traditional semi-nomadic way of life on the vast steppe, while the remaining portion resides in urban areas.

("Tourism and Culture in Mongolia: The Case of the Ulaanbaatar Naadam," 2007, p.194).

Due to its semi-nomadic way of life and vast, untouched landscapes, Mongolia attracts travelers keen on exploring rural and nature-based tourism. Accordingly, it has been studied that the travel motivations to Mongolia are mostly natural attractions, events options, cultural offerings, and accessibility and services (Luvsandavaajav & Narantuya, 2021).

2.7.1. Ger Lodge
Mongolia's allure lies in its pristine landscapes and nomadic lifestyle, making it a hotspot for rural and nature-based tourism (Luvsandavaajav & Narantuya, 2021). The traditional Mongolian ger, renowned for its cultural significance, is the main lodging choice in rural areas (Paddock & Schofield, 2017).

Consequently, conducting a case study on Ger Lodges could serve as a useful example for other rural tourism accommodations worldwide.

2.8. Service Quality and LODGSERV
Enhancing tourist satisfaction at rural destinations hinges significantly on the quality of services provided, as many rural tourists seek destinations where they can immerse themselves in nature-related activities, away from pollution and mass development. Accordingly, numerous studies highlight the correlation between excellent service and guest loyalty, new guest attraction, and increased revenue (Albacete-Sáez et al., 2007a). Therefore, it is imperative to delve into how Ger lodges' service quality influences guest satisfaction, in conjunction with examining location factors, which constitute the primary focus of this paper.

To measure service quality in the tourism sector, many researchers have chosen to adapt the SERVQUAL scale to the tourism sector or to propose alternative measuring scales. Notable among these sector-specific scales are LODGSERV for assessing service quality in lodging facilities (Knutson et al., 1990), ECOSERV for eco-tourism (Khan, 2003), and RURALQUAL (Loureiro & González, 2009b). Although these scales are derived from SERVQUAL (Parasuraman et al., 1988), they vary in terms of the number of items and dimensions they encompass. Among these measurement models, the LODGSERV model (Knutson et al., 1990) appeared to be the most suitable for the objectives of this study, and thus, it was employed with slight modifications tailored to the Ger Lodges in Mongolia.

Developed by Knutson et al. (1990), LODGSERV comprises 26 items organized across five generic dimensions of service quality: Tangibility, Reliability, Responsiveness, Assurance, and Empathy, as posited by Parasuraman, Zeithaml, and Berry (1986). This index serves as a robust management tool, facilitating the assessment of service quality levels within lodging facilities. By incorporating LODGSERV into our study framework, we aim to provide a comprehensive understanding of how service quality, alongside location-related factors, shapes guest satisfaction in rural accommodation settings, specifically Ger Lodges in Mongolia.

RESEARCH QUESTIONS

- What are the key factors influencing guest satisfaction with a rural accommodation location, particularly focusing on Ger Lodges in Mongolia?
- How do location-related variables such as security, ease of access, cultural immersion, proximity to attractions, and natural surroundings, along with service quality factors, impact guest satisfaction with rural accommodations?
- What strategies can rural lodge owners or managers employ to enhance guest satisfaction amidst spatial constraints and geographical isolation?

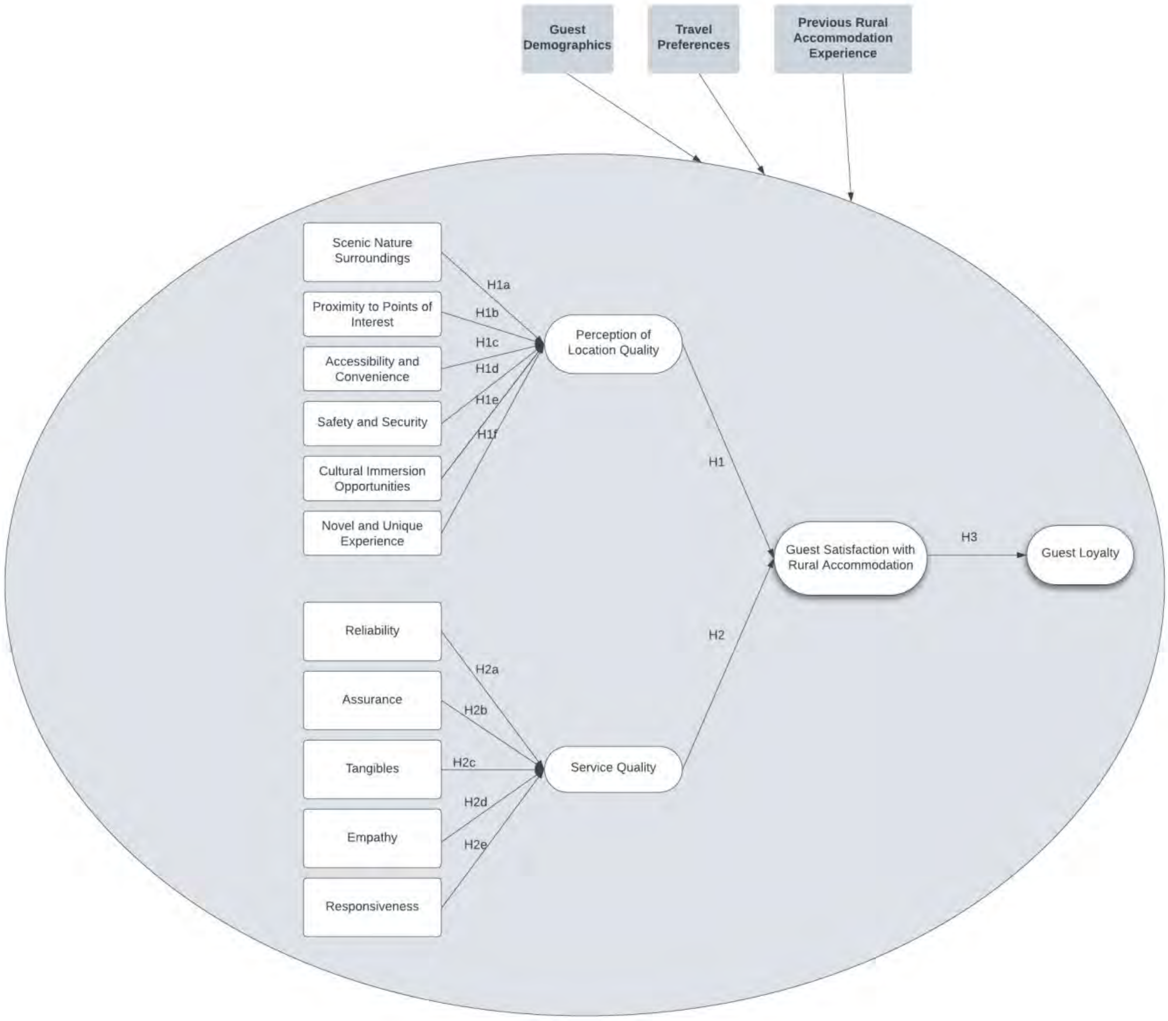
HYPOTHESES

Deriving from the above literature review, the below hypotheses were developed.
Hypothesis 1 (H1): The **perception of location quality** positively affects **guest satisfaction** with rural accommodation.
Hypothesis 1a (H1a): The **scenic beauty and natural surroundings** of Rural accommodation positively influence guests' perception of location quality.
Hypothesis 1b (H1b): The **proximity** of rural accommodation **to POI** such as historical sites and cultural festivals positively influences guests' perception of location quality.
Hypothesis 1c (H1c): The **ease of access and convenience** of reaching the rural accommodation including transportation options and proximity to major tourist hubs, positively influences guests' perception of location quality.
Hypothesis 1d (H1d): The **safety and security** offered in the rural accommodation area positively influence guests' perception of location quality.
Hypothesis 1e (H1e): The **availability of cultural immersion** opportunities, such as interactions with local communities, positively influences guests' perception of location quality.
Hypothesis 1f (Hf): The **availability of novel and unique experiences** exclusive to its location positively influences guests' perception of location quality.
Hypothesis 2 (H2): The **service quality** positively affects **guest satisfaction** with rural accommodation.
Hypothesis 2a (H2a): Reliability of services at rural accommodation positively influences service quality at rural accommodation.

Hypothesis 2b (H2b): Assurance provided by staff at rural accommodation positively influences service quality at rural accommodation.

Hypothesis 2c (H2c): Tangible elements (physical attributes) of rural accommodation positively influence service quality at rural accommodation.
Hypothesis 2d (Hd): Empathy shown by staff at rural accommodation positively influences service quality at rural accommodation.
Hypothesis 2e (H2e): Responsiveness of staff at rural accommodation positively influences service quality at rural accommodation.
Hypothesis 3 (H3): The **guest satisfaction with rural accommodation** positively affects **Guest loyalty**.

Conceptual Framework



3. Methodology

This research adopts a quantitative and exploratory approach to evaluate the location and service-related factors influencing guest satisfaction in Rural Accommodations, with a specific focus on Ger Lodges in Mongolia.

3.1. Rationale for Including Service Quality Factors

In addition to investigating the impact of location-related factors on guest satisfaction, this study incorporates an examination of service quality factors. The decision to include service quality factors is based on their recognized significance in shaping guest experiences and satisfaction within the hospitality industry. While the primary focus of the research remains on location-related variables, the inclusion of service quality factors allows for comparative analysis and a holistic assessment of the determinants of guest satisfaction. By examining both location-related and service-quality factors, this research aims to provide valuable insights into the nuanced dynamics of guest satisfaction in rural accommodation settings.

3.2. Measurement

In the existing literature related to rural accommodations, measurements including SERVQUAL (Parasuraman et al., 1988), LODGESERV (Knutson et al., 1990), and ECOSERV (Khan, 2003) have been used extensively. However, these measurements primarily focus on service quality rather than location-related factors affecting guest satisfaction. Therefore, adjustments were made to adapt these measurements to investigate location-related factors affecting guest satisfaction in rural accommodation.

The location-related questionnaire items were adapted and refined from quantitative studies on hotel and rural accommodations conducted by Choi et al. (2018b), Lee et al. (2010c), and Minh et al. (2015b), and the service quality-related questionnaire items were modified from the LODGSERV model (Knutson et al., 1990). The questionnaire consists of 4 parts: Part 1 gathers demographic information; Part 2 measures the guest perception of each variable; Part 3 evaluates the overall satisfaction; and Part 4 assesses the guests' intention to revisit and recommend. All questions except for demographic information, utilize a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

Measurement items

	Measurements	Items	Source
1	***Scenic Nature Surroundings***	4	Tang et al. (2022), Brochado and Pereira (2017b)
	Unique natural landscape style		
	Close to nature		
	Has natural features		
	Located in great natural beauty		
2	***Proximity to POI***	3	Latinopoulos (2020)
	Close to museums and art sites		
	Close to historical sites, monuments, and landmarks		
	Close to monasteries and religious sites		
3	***Accessibility and Convenience***	3	Lee et al. (2010)
	Close to airport		
	Easy access to main road		
	Major transportation points		
4	***Safety and Security***	4	Albacete-Sáez et al. (2007b)
	Equipped with safety measures		
	Safety measures during complementary activity		
	All areas are well integrated with signs		
	Access routes are integrated with signs		
5	***Cultural Immersions and Opportunities***	3	Brochado and Pereira (2017b)
	Integrated in a rural way of life		
	Well integrated into the region		
	Offer local lifestyle		

6	***Novel and Unique Experience***	5	Assaker et al. (2011)
	Experience different culture		
	Experience local crafts and handiwork		
	Experience local cuisine and new food		
	Experience people from different background		
	Increase knowledge about local people and things		
7	***Reliability***	4	Knutson et al. (1990)
	Equipment works		
	Dependable/Consistent		
	Quickly correct problems		
	Service On-Time		
8	***Assurance***	4	Knutson et al. (1990)
	Trained/Experienced Employees		
	You Feel Comfortable		
	Company Supports Employees		
	Knowledgeable Staff		
9	***Responsiveness***	3	Knutson et al. (1990)
	Prompt Service		
	Staff shift Where Needed		
	Do Special Requests		
10	***Tangibles***	5	Knutson et al. (1990)
	Neat Personnel		
	Quality Food/Beverage		
	Attractive Ger		
	Decor Reflects Concept		
	Attractive Public Areas		
11	***Empathy***	6	Knutson et al. (1990)
	You feel special/valued		
	Sympathetic employees		
	Sensitive employees		
	Convenient hours		
	Anticipate your needs		
	Complimentary services		
	Healthy menu		
12	***Overall Satisfaction***	8	Loureiro and Kastenholz (2011)
	My stay at this Ger Lodge has been very satisfactory.		
	The Ger Lodge satisfied my necessities.		
	The Ger Lodge facilities are worthy of highlighting.		
	I find the staff at the Ger Lodge pleasant.		
	I am pleased with the cultural, sports, and recreational activities which were provided at the Ger Lodge and in the surrounding area.		
	The Ger Lodge delivered the service that I expected to receive.		
	The Ger Lodge delivered an excellent service.		
	In general, my experience here is positive.		
13	***Intention to Revisit and Recommend***	6	Loureiro and Kastenholz

			(2011)
	I will speak positively about this Ger lodge to others.		
	I will recommend this Ger Lodge if someone asks for my advice.		
	I will encourage my friends and relatives to visit this Ger Lodge.		
	I would return to this Ger Lodge if I get a chance.		
	I would come continually even if the price of this Ger Lodge increases.		
	I prefer to pay a bigger price here than in other lodges in Mongolia for the advantages that I receive in this Ger Lodge.		

3.2. Data Collection
For data collection, this research employs a convenience sampling method to gather data from tourists who have recently stayed at rural lodges in Mongolia. The sampling process utilizes both offline and online approaches.

Firstly, the paper questionnaire is distributed through "JamoGrand" LLC, a prominent Ger Lodging company with three establishments located in Terelj National Park, the Gobi Desert, and Khuvsgul Lake which are the main rural destinations in Mongolia. Operating since 2008, JamoGrand has established itself as a popular choice among international guests, particularly from the USA, Japan, and Spain. With each lodge boasting up to 40 ger accommodations and hosting a minimum of 800 guests during the peak seasons, JamoGrand offers a diverse pool of respondents.

Secondly, online distribution (Google Forms) targets approximately 200 tourists from English-speaking countries, chosen for their accessibility. Given the convenience sampling method, respondents contacted are those who have stayed in any of the rural Ger Lodges scattered across Mongolia. The aim is to collect a minimum of 150 usable surveys through both offline and online methods.

3.3. Data Analysis
The data analysis follows a multi-stage process using SPSS software. Initially, the survey is pretested by 10 tourists and 10 Mongolian tour guides experienced in leading tours for English-speaking tourists for at least 5 years. This ensures the survey's relevance to Ger Lodges and eliminates unsuitable items.

Through descriptive analysis, the demographic characteristics of respondents are profiled using frequencies and percentages.

Factor analysis identifies underlying dimensions influencing guest satisfaction, enhancing understanding of variables shaping perceptions and experiences.

Cronbach's Alpha test assesses the internal consistency and reliability of measurement scales, validating their accuracy.

Structural Equation Modeling (SEM) explores interrelationships between variables, unraveling causal pathways shaping guest satisfaction in rural lodge accommodations.

4. Preliminary Results

4.1. Theoretical Framework Review

Drawing upon established theories in hospitality management and rural tourism, our research framework integrates location-related variables and service quality factors to understand their influence on guest satisfaction in Ger Lodges in Mongolia. Within the hospitality literature, the significance of location-related factors such as scenic natural surroundings and proximity to POI has been well-documented (Tang et al., 2022; Latinopoulos, 2020). These elements contribute to guests' overall experiences and satisfaction levels by offering unique opportunities for cultural immersion and novel experiences (Brochado and Pereira, 2017b; Assaker et al., 2011).

Simultaneously, service quality factors play a pivotal role in shaping guest perceptions within the hospitality industry. Attributes such as reliability, assurance, responsiveness, tangibles, and empathy have been identified as key determinants of guest satisfaction and loyalty (Knutson et al., 1990). By incorporating both location-related and service-quality factors into our research framework, we aim to provide a comprehensive understanding of the nuanced dynamics influencing guest satisfaction in rural accommodation settings, particularly Ger Lodges in Mongolia.

4.2. Hypothetical Findings

Based on the theoretical framework and methodology outlined, we anticipate several hypothetical findings regarding the influence of location-related factors and service quality on guest satisfaction in Ger lodges in Mongolia. We expect that guests' perception of scenic-nature surroundings, proximity to POI, accessibility, safety, cultural immersions, and unique experiences will positively correlate with overall satisfaction levels. Similarly, we hypothesize that service quality factors such as reliability, assurance, responsiveness, tangibles, and empathy will significantly contribute to guest satisfaction and intention to revisit and recommend ger lodges.

5. Discussion and Conclusion

5.1. Comparative Analysis with Previous Studies

Our research aims to build upon existing literature by focusing specifically on Ger Lodges in Mongolia, a relatively understudied area within the field of hospitality management. While previous studies have examined the impact of location-related factors and service quality on guest satisfaction in various accommodation settings, few have specifically explored the unique context of Ger Lodges in rural Mongolia. Therefore, our research seeks to fill this gap in the literature and provide valuable insights into the determinants of guest satisfaction in this distinctive setting.

5.2. Limitations and Assumptions

Despite the comprehensive framework and methodology outlined, our research is not without limitations. The use of convenience sampling may introduce biases in the sample composition, limiting the generalizability of findings. Additionally, the adaptation of existing measurements to suit the context of Ger Lodges may overlook certain cultural or contextual nuances. Furthermore, the reliance on self-reported data through questionnaires may introduce response biases. These limitations highlight the need for cautious interpretation of results and underscore the importance of future research to address these constraints.

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Willingness to pay for metaverse applications

Kim, Boran
William F. Harrah College of Hospitality
University of Nevada, Las Vegas

Kim, Jungsun
William F. Harrah College of Hospitality
University of Nevada, Las Vegas

Erdem, Mehmet
William F. Harrah College of Hospitality
University of Nevada, Las Vegas

Abstract:

Metaverse applications are increasingly getting popular across the service industry, including, major hotel brands. This study aims to examine whether the following variables are associated with hotel customers' willingness to pay for metaverse applications: (1) age; (2) gender; (3) education; and (4) previous experience with metaverse. By surveying hotel customers, we found that age, gender, education, and previous experience were significantly associated with willingness to pay for some of the metaverse applications.

Keywords: Metaverse, Hotel technology, Willingness to pay, Demographics

1. Introduction

The metaverse can be defined as "a collective, persistent, and interactive parallel reality created by synthesizing all virtual worlds to form a universe that individuals can seamlessly traverse" (Gursoy et al., 2022, p. 529). In the hospitality industry, the metaverse can play an important role in marketing, advertising, customer relationships, guest experiences, and the decision-making process (Buhalis et al., 2023; Gursoy et al., 2022). Experts also predicted that the metaverse space could generate about $5 trillion in value by 2030 (Gould, 2022). Despite its anticipated potential, there is still a paucity of academic research examining the impact of metaverse applications within the hotel domain. Thus, the purposes of this study are as follows: (1) to explore how customers' demographics (i.e., age, gender, and education) are associated with their willingness to pay for metaverse applications; and (2) to examine the relationships between customers' prior experience with metaverse applications and their willingness to pay.

2. Literature Review

2.1. Relationships between demographics and willingness to pay

Previous studies demonstrated that consumers' demographics influence their willingness to pay for specific technology (Hao et al., 2022; Ivanov & Webster, 2021). For example, Ivanov and Webster (2021) found that male, younger, and less educated consumers are more willing to pay for robot delivery services. However, Hao et al. (2022) examined various types of contactless services with Chinese hotel customers and discovered that older customers tend to have higher levels of willingness to pay for such services. They also revealed that customers with lower levels of education were willing to pay more for certain types of contactless services such as robotic services, while they were reluctant to pay more for other types (e.g., contactless payment). Based on these previous studies, we expect that age, gender, and education will be associated with hotel customers' willingness to pay for metaverse applications, advancing the following hypotheses:

H1a-c: There will be a relationship between customers' (a) age; (b) gender; (c) education and willingness to pay for metaverse applications.

2.2. Relationships between experience with metaverse and willingness to pay

Prior research indicated that customers' knowledge about a specific technology can positively influence their willingness to pay for it (Huang et al., 2021; Jafar et al., 2023). For example, Jafar et al. (2023) surveyed members who were in metaverse communities and discovered that those who have knowledge about metaverse were more likely to purchase products from metaverse stores. Furthermore, Huang (2021) conducted a scenario-based survey and revealed that providing restorative and immersive tourism experience via augmented reality (AR) significantly influenced consumers' willingness to pay more for such experience. Similarly, we expect that customers who already experienced metaverse platforms will be more willing to pay for metaverse applications, proposing the following hypotheses:

H2: There will be a relationship between customers' previous experience with metaverse and willingness to pay for metaverse applications.

3. Methodology

The survey instruments were developed based on the existing literature regarding metaverse and technology acceptance (Gursoy et al., 2022; Jafar et al., 2023; Kang et al., 2012). This study utilized *Qualtrics* to collect data. To ensure that the survey respondents have a global understanding of metaverse applications, we provided scenarios demonstrating diverse metaverse applications in a hotel setting. The participants were U.S. adult residents who had stayed at a hotel in the preceding 24 months. This study employed a quota sampling method to match the gender and age percentages of the sample with those of the U.S. population. 843 complete responses were used for data analysis. To test the hypotheses, we employed crosstab analysis and chi-square (χ^2) tests, via SPSS.

4. Results

The results of crosstab analysis and χ^2 tests indicated that younger customers with metaverse experience were more willing to pay for all 13 metaverse applications examined in this study; thus, H1a and H2 were fully supported. The results further indicated that male customers with lower education levels were more willing to pay for 11 metaverse applications; accordingly, H1b and H1c were partially supported.

We further analyzed the data to rank the metaverse applications based on their willingness to pay for each application. The following metaverse applications were most frequently selected: (1) experiencing events being held at the hotel; (2) using the metaverse hotel's meeting/conference spaces to have an event; and (3) staying at the metaverse hotel's guestroom and invite people to the room. We also found the results are somewhat different across age, gender, education, and prior experience. For example, the following applications were ranked 3rd and 4th in the younger group: (1) staying at the metaverse hotel's guestroom and invite people to the room; and (2) walking around and explore the virtual surroundings of the actual hotel that have been designed to look like the actual surroundings. On the other hand, the following applications were ranked 3rd and 4th in the older group: (1) purchasing items sold by the metaverse hotel; and (2) Walk around the metaverse hotel's guestrooms that have been designed to look like the actual hotel's guestrooms.

5. Discussion and Conclusion

5.1. Discussion and implications

The findings of the current study were similar to previous studies that explored the relationship between demographic characteristics and willingness to pay for an emerging technology. However, some of the findings were inconsistent, possibly due to the different technology application context. First, concerning H1a, we found that age is significantly related to willingness to pay more for metaverse applications. This result is aligned with Ivanov and Webster (2021), which revealed that younger people are more willing to pay for robot services. Second, regarding H1b, our results showed that men were more willing to pay for metaverse applications than women, which is inconsistent with Ivanov and Webster (2021) who found that women were more willing to pay for robot services. Such inconsistent findings could be explained by the differences in the settings and technology between their study and the current study. Third, regarding H1c, customers with lower education levels were partially related to willingness to pay more for some metaverse applications, which is consistent with the study by Hao et al (2022). Fourth, regarding H2, this study's findings showed a positive relationship between metaverse experience and willingness to pay, which is consistent with Jafar et al. (2023) conducted within the metaverse context. In sum, the findings of this study contribute to the existing literature by filling the aforementioned research gap, as well as provide guidelines for hoteliers to effectively implement metaverse applications. Hoteliers can use our findings to justify their investment in metaverse applications and target a group of customers who are more likely to pay for specific metaverse applications.

5.2. Limitations of this study and suggestions for future studies

This study has limitations which provide directions for future research. First, the data were collected from only U.S. hotel customers. Future studies should collect data from hotel customers in different countries. Second, we used a scenario-based survey because most customers had not experienced diverse metaverse applications in a hotel setting when we were collecting data. Thus, we suggest that future studies recruit customers who have experienced these applications.

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A comparison of the perceptions between chinese and international users on the online travel agency's AI chatbot service quality: An importance-performance analysis

Liu, Chun
School of Tourism Sciences, Tourism Management Department
Beijing International Studies University

Yan, Irah
School of Tourism Sciences, Tourism Management Department
Beijing International Studies University

Abstract:

This research aims to investigate the importance and performance of the attributes of AI chatbot service quality (AICSQ) of the Ctrip.com (Trip.com) chatbot utilizing the importance-performance analysis (IPA) and compare the results from their culturally diverse groups of users as cultural differences are important in determining consumer decision-making in the tourism industry. Following the screening process, 900 valid questionnaires were collected, with 394 questionnaires from Chinese users and 506 questionnaires from international users. The findings reveal occasional similarities but highlight the significant differences in perceived importance and performance from their culturally diverse groups' perspectives.

Keywords Importance-Performance Analysis (IPA), Online Travel Agency (OTA), Artificial
Intelligence (AI), AI Chatbot Service Quality (AICSQ)

1. Introduction

Currently, AI chatbots are the new front-line service providers, unlike self-service technology and human customer support, they offer consumers reliable and timely services and lower operational expenses for businesses (Chen, Gong, Lu, & Tang, 2022). To gain a competitive edge, businesses have started utilizing artificial intelligence (AI) chatbots, such as online travel agencies (OTAs), to enhance customer communication, maximize staff time, enhance customer satisfaction, help customers make purchases, provide information about services or products, and respond to frequently asked questions. Nevertheless, despite thorough investigations into chatbots, there is a lack of research on the importance and performance of the service quality attributes of AI chatbots in an OTA context, most specifically, emphasizing the cultural differences of their AI chatbot users as culture is widely acknowledged as a significant factor that shapes consumer decision-making within the tourism industry (Crotts & Pizam, 2003) and Turner, Reisinger, & McQuilken (2002) pointed out that the cultural distinctions lead to differences in the perceived importance of various aspects of tourism services, thus, the following objectives are the focus to fill this research gap: (1) to determine the key attributes' importance and performance of Ctrip.com (Trip.com) AI chatbot from users' perspective, and (2) to compare the key attributes of AI chatbot from Chinese and international users' perspective. This research utilizes Importance-Performance Analysis (IPA). Thus, the present study aims to adopt AI chatbot service quality (AICSQ) from Chen, Gong, Lu, & Tang (2022) to explore the following questions by taking Ctrip.com's (Trip.com) AI chatbot as an example:

1. What are the perceptions of users on the importance and performance of the key attributes of the service quality of the AI chatbot currently available on Ctrip.com (Trip.com)?

2. What are the differences between Chinese and foreign users' perceptions of AI chatbot attributes?

2. Literature Review

2.1 Online Travel Agencies (OTAs) and the AI chatbot

Online travel agencies (OTAs) offer a variety of tourism services through their online platforms, encompassing the booking of flight tickets, accommodations, tours, attraction tickets, and transportation options, thus, with the rise of smartphones and the widespread use of the Internet, OTAs have gradually supplanted traditional business practices (Hien, Vo, Ngan, & Ghi, 2024). Moreover, the word "chatbot" comprises the terms "chat" and "robot" and are automated programs that communicate with humans using artificial intelligence (AI) capabilities such as natural language processing (NLP) (Aoki, 2020). In an AI chatbot system of OTA, an intelligent robot rather than travel agency staff communicates with potential visitors using an OTA AI chatbot system during the consultation process (Zhu, Zhang, Zou, & Jin, 2023).

2.2 Service Quality of AI Chatbot

Service quality refers to the difference between the consumers' expectations and their actual perceptions of the service provided (Parasuraman, Zeithaml, & Berry, 1988). According to Chen, Gong, Lu, & Tang (2022), AI chatbots are new service providers that are portrayed as intelligent, shape user perceptions, and are used in e-commerce, and pointed out that the SERVQUAL model has limitations, such as lack of a comprehensive measurement which may not capture all aspects of service quality that are important to customers. Subsequently, the model fails to take into account cultural differences in customers' expectations and perceptions of service quality, although cultural factors can greatly impact how customers assess service quality. Lastly, a lack of consideration for technological advancements. It may not adequately capture the unique challenges and opportunities associated with technology-driven service interactions (Chen, Gong, Lu, & Tang, 2022). There have been few studies conducted on the service quality provided by robots, such as assessing the quality of robotic services with a four-dimensional scale (Prentice & Nguyen, 2021), the process of resolving the discrepancy in service quality between a robot and human service providers (Zhang, Hu, Li, & Ren, 2022), and the AI chatbot service quality scales (Chen, Gong, Lu, & Tang, 2022). Consequently, the AICSQ's multi-level dimension and measurement scales are believed to be relevant in the environment of OTAs, hence, to introduce the AICSQ attributes, AICSQ of Chen, Gong, Lu, & Tang (2022) were carried out as the importance and performance attributes of the service quality of AI chatbot for this study (Table 1).

Table 1. Importance-Performance Attributes adapted from Chen, Gong, Lu, & Tang (2022).

Attributes	Definition	Sub-attributes	Definition
(SU) semantic understanding	identified as the AI chatbots that can interpret text or speech messages supplied by users	(SU1) understanding query	the AI chatbot's ability to understand users' queries well.
		(SU2) understanding emotion	the AI chatbots that can discern people's emotional states based on their interactions.
(CH) Close human-AI collaboration	AI and human customer support complementing one another's benefits and working toward a shared objective cooperatively offering services to users	(CH1) accessibility	users who can quickly access both manual and AI customer support through the system's interface
		(CH2) easy to transfer	users who can readily go from manual customer support to an AI chatbot or in another way when neither AI nor manual customer service can fulfill their demands or answer their request
		(CH3) memorability	capability for the system to retain user inquiries, preferences, or demands so that customers won't have to repeat themselves when the task is transferred from AI chatbots to human customer support (or vice versa).
(HL) Human-like	AI chatbots that mimic humans and interact with consumers in a genuine, human way	(HL1) human-like social cue	where users can identify social indicators in AI chatbots that resemble those of humans,
		(HL2) human-like personality	where users can sense a human-like personality in AI chatbots during interactions
		(HL3) human-like empathy	where users may sense the individualized care and understanding of AI chatbots throughout conversations.
(CI) Continuous improvement	described as the steady enhancement of AI chatbot functionalities, including	(CI1) self-learning	where AI chatbot continuously learns and improves problem-solving skills through big data analysis
		(CI2) system update	which involves ongoing maintenance, repair, upgrades, and updates of AI chatbot software
(PE) Personalization	the degree to which the user perceives the AI chatbot's service as customizable to cater to their needs	(PE1) identify customers	the capacity of an AI chatbot to recognize user photos from user big data
		(PE2) personalized response	describing AI chatbots that can produce a suitable response by utilizing user input elements
		(PE3) personalized recommendation	AI chatbots can provide tailored recommendations based on the preferences and requirements of their users.
(CA) Culture adaption	the ability of AI chatbots to interact with people from different cultures and adapt to their surroundings	(CA1) non-language barriers	where consumers from different nations can effortlessly speak with AI chatbots in several languages without any difficulties
		(CA2) culture understanding	which entails AI chatbots that can successfully understand the cultures of different countries and can respond appropriately.
(EF) Efficiency	the AI chatbot's ability to serve users efficiently	(EF1) always available	the AI chatbot is available twenty-four hours a day and AI chatbots are available to users wherever and at any time
		(EF2) Responsiveness	the user's perceived readiness of AI chatbots to assist users and deliver timely service
		(EF3) Process simplify	how the AI chatbot may automate the service process to make it simpler and more efficient.

2.3 Importance-Performance Analysis (IPA)

Martilla & James (1977) introduced IPA as a means to gauge customer satisfaction with a product or service. The mean scores for each sub-attribute along with the perceived importance and performance, items were calculated, paired, and used as coordinates for plotting respective attributes in a two-dimensional grid that has been divided into four Quadrants (Figure 1): *Q1 'concentrate here'* attributes which are perceived to be very important to users, but performance levels are relatively low, *Q2 'keep up the good work'* attributes are perceived to be very important to users, and at the same time, the chatbot seems to have high levels of performance in these activities, *Q3 'low priority'* attributes are with low importance and low performance to users, OTA should not be overly concerned since the attributes in this quadrant are not perceived to be important, and *Q4 is 'possible overkill'* this quadrant contains attributes of low importance, but relatively high performance. The users are satisfied with the chatbot's performance, but the OTA should consider present efforts on the attributes of this quadrant as being overutilized (Chu & Choi, 2000; Martilla & James, 1977).

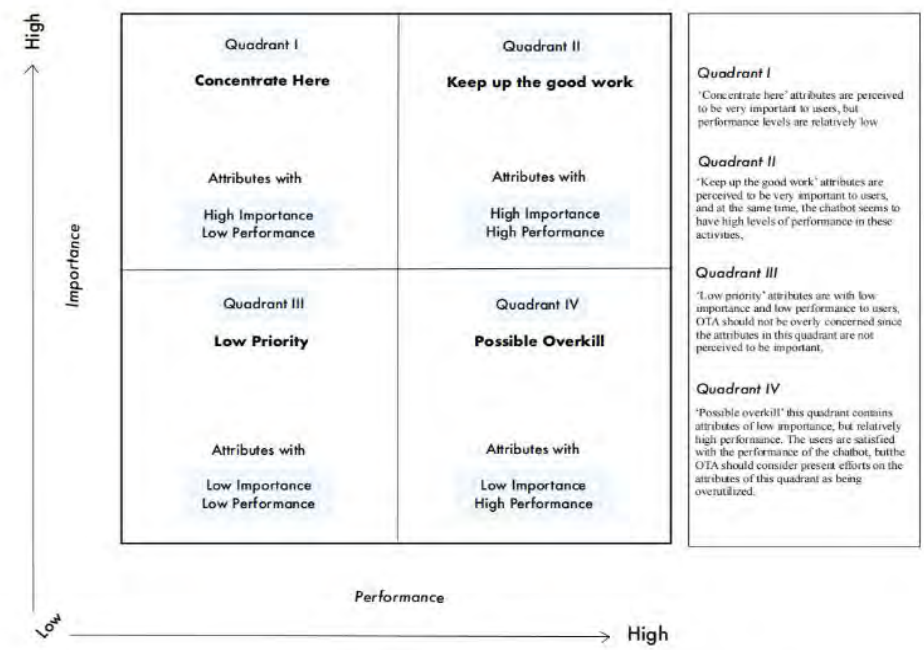


Figure 1. An importance-performance analysis grid (Chu & Choi, 2000; Martilla & James, 1977).

3. Methodology

3.1 Research Object, Sampling, and Data Collection

The Ctrip.com chatbot (Trip.com) was selected as the research object. The following reasons: First, the Chinese market was chosen because China became the world's second-largest OTA market in 2018, and it has developed quickly with a 27% annual growth rate, which is more than four times the pace of growth in the United States in 2017. Second, by far Ctrip.com is one of the three largest OTA chatbot service providers in China and users are becoming acquainted with its chatbot services (Li, Lee, Emokpae, & Yang, 2021). The samples of this research are the Chinese and international users of the Ctrip.com chatbot (Trip.com). The survey questionnaire of Chinese respondents was created and collected from a survey data platform named Credamo. For Trip.com, survey data was created from sojump.com and participants were recruited with the aid of a tour guide, thereby, a convenient sampling technique was adopted. Moreover, to verify that survey respondents are real consumers of chatbot services, a screening question was asked: "Have you used the chatbot services of Ctrip.com/Trip.com within the last 12 months?". Following the screening process, 900 valid questionnaires were collected, with 394 questionnaires from Chinese users and 506 questionnaires from international users.

3.2 Measurement

The final questionnaire survey consisted of 146 items: with 10 items for respondents' relevant personal information, and (67x2) 134 identical items for IPA attributes, using a five-point Likert-type scale, perceived importance: 1=very unimportant to 5=very important, perceived performance: 1=very bad to 5=very good, and 2 attention check questions.

3.3 Data Analyses

Demographic characteristics were carefully assessed using frequency and percentage analysis utilizing SPSS v. 27 (Table 2). The tested factor model yielded a good fit for the international data: *NFI=.879(.857), RFI=.874(.851), IFI=.959(.942), TLI=.957(.940), CFI=.959(.942),* and *RMSEA=.030(.034)*. For the Chinese data: *NFI=.820(.833), RFI=.811(.825), IFI=.936(.943), TLI=.933(.940), CFI=.936(.943),* and *RMSEA=.034(.033)*. Confirmation of construct reliability was achieved using Cronbach's alpha aiming for a threshold of 0.7 or higher (Hair, Black, Babin, & Anderson, 2009), and composite reliability exceeding 0.70. Factor loadings exceeding 0.7 indicate convergent validity, while the average variance extracted (AVE) is ideally above 0.5 (Table 3). Furthermore, the measurement scale demonstrated strong convergent validity. In exploring discriminant validity (Tables 4 and 5), analysis of the data indicated that the square roots of AVE values surpassed the correlations between components (Fornell & Larcker, 1981).

4. Results

4.1 Demographic profile of respondents

Table 2 presents a comparative demographic profile and user satisfaction analysis for individuals who have used the chatbot services of Ctrip/Trip.com, categorized into two groups: international users (*N*=506) and Chinese users (*N*=394).

Table 2. Participants demographic.

Characteristics	International users Total (n = 506)	Chinese users Total (n = 394)	Characteristics	International users Total (n = 506)	Chinese users Total (n = 394)
Age Group			**Yearly household income in USD/RMB**		
18~24 years old	160(31.6%)	135(34.3%)	Less than $10,000/少于10万	24(4.7%)	62(15.7%)
25~34 years old	139(27.5%)	162(41.1%)	$10,000 – $50,000/10-20万	153(30.2)	157(39.8%)
35~44 years old	111(21.9%)	83(21.1%)	$50,000 – $100,000/20-60万	140(27.7%)	135(34.3%)
45~54 years old	45(8.9%)	6(1.5%)	$100,000 – $150,000/60-80万	122(24.1%)	27(6.9%)
55~64 years old	51(10.1%)	8(2.0%)	$150,000 – $200,000/80-200万	41(8.1%)	11(2.8%)
over 64 years old	-	-	Greater than $200,000/大于200万	26(5.1%)	2(.5%)
Gender			**Have you used the chatbot services of Ctrip/Trip.com within the last 12 months?**		
Male	246(48.6%)	113(28.7%)	Yes	506(100%)	394(100%)
Female	260(51.4%)	281(71.3%)	**How often do you use the chatbot services of Ctrip/Trip.com?**		
Level of Education			Less often than once a year	63(12.5%)	7(1.8%)
Junior high school and below	59(11.7%)	3(.8%)	Once or twice a year	67(13.2%)	112(28.4%)
High school	49(9.7%)	7(1.8%)	Once every 4 to 6 months	62(12.3%)	96(24.4%)
College (2-3 years)	142(28.1%)	34(8.6%)	Once every 2 to 3 months	69(13.6%)	80(20.3%)
University (4-year program)	185(36.6%)	260(66.0%)	Once a month or less	67(13.2%)	29(7.4%)
Graduate student or above	71(14.0%)	90(22.8%)	2-3 times a month	66(13.0%)	55(14.0%)
Type of Employment			3-5 times a week	55(10.9%)	11(2.8%)
Student	126(24.9%)	111(28.2%)	More than 5 times a week	57(11.3%)	4(1%)
Unemployed	47(9.3%)	243(61.7%)	**Average time per use**		
Employed Part-time	87(17.2%)	6(1.5%)	Less than 5 minutes	82(16.2%)	88(22.3%)
Employed Full-time	146(28.9%)	23(5.8%)	5 to 10 minutes	95(18.8%)	154(39%)
Freelance/Self-employed	100(19.8%)	4(1.0%)	10 to 20 minutes	86(17.0%)	130(33%)
Retired	-	4(1.0%)	20 to 30 minutes	98(19.4%)	18(4.6%)
Others	-	3(.8%)	30 minutes to 1 hour	53(10.5%)	4(1.0%)
			More than 1 hour	77(15.2%)	-
Marital Status			Others	15(3.0%)	-
Single	115(22.7%)	162(41.1%)	**How would you rate your previous experience on Ctrip/Trip.com with their chatbot?**		
Have a stable partner	138(27.3%)	40(10.2%)	Very dissatisfied	105(20.8%)	1(3%)
Married, no children	41(8.1%)	5(1.3%)	Dissatisfied	103(20.4%)	32(8.1%)
Married with children	163(32.2%)	186(47.2%)	Neutral	104(20.6%)	121(30.7%)
Separated/Divorce	49(9.7%)	1(.3%)	Satisfied	102(20.2%)	220(55.8%)
Widowed	-	-	Very satisfied	92(18.2)	20(5.1%)

Table 3. Measurement properties for the scale of users' perceived importance-performance with AI chatbot service quality (AICSQ).

Attributes			International users (*N*=506) Importance/Performance						Chinese users (*N*=394) Importance/Performance					
	Indicators	Latent variables	Factor loadings	AVE	a	CR	Mean	Std	Factor loadings	AVE	a	CR	Mean	Std
SU	SU1_2		0.781(0.783)	0.587(0.59)	0.878(0.885)	0.876(0.878)	4.11(3.32)	1.01(1.19)	0.780(0.996)	0.832(0.695)	0.842(0.897)	0.908(0.819)	3.95(3.32)	0.669(0.720)
	SU1_1	SU1	0.755(0.771)						0.694(0.898)					
	SU1_3		0.777(0.787)						0.773(0.708)					
	SU2_5	SU2	0.758(0.756)						0.845(0.857)					
	SU2_4		0.762(0.746)						0.768(0.847)					
CH	CH1_8		0.781(0.798)	0.604(0.631)	0.937(0.944)	0.938(0.944)	4.06(3.4)	1.00(1.20)	0.785(0.765)	0.846(0.838)	0.901(0.913)	0.943(0.939)	4.22(3.63)	0.594(0.647)
	CH1_7	CH1	0.778(0.803)						0.753(0.702)					
	CH1_6		0.775(0.782)						0.742(0.668)					
	CH2_11		0.8(0.801)						0.775(0.770)					
	CH2_10	CH2	0.753(0.797)						0.756(0.740)					
	CH2_9		0.79(0.795)						0.626(0.822)					
	CH3_15		0.776(0.773)						0.746(0.820)					
	CH3_14	CH3	0.763(0.79)						0.759(0.787)					
	CH3_13		0.794(0.815)						0.754(0.806)					
	CH3_12		0.763(0.793)						0.770(0.766)					
HL	HL1_19		0.815(0.809)	0.686(0.655)	0.966(0.960)	0.966(0.961)	4.25(3.43)	0.98(1.23)	0.800(0.683)	0.802(0.825)	0.93(0.933)	0.924(0.934)	3.3(3.37)	0.77(0.623)
	HL1_18	HL1	0.802(0.826)						0.779(0.767)					
	HL1_17		0.823(0.811)						0.830(0.733)					
	HL1_16		0.837(0.827)						0.769(0.747)					
	HL2_22		0.808(0.824)						0.769(0.777)					
	HL2_21	HL2	0.853(0.823)						0.790(0.724)					
	HL2_20		0.842(0.831)						0.745(0.756)					
	HL3_28		0.84(0.797)						0.804(0.812)					
	HL3_27		0.813(0.788)						0.705(0.792)					
	HL3_26	HL3	0.824(0.77)						0.734(0.808)					
	HL3_25		0.828(0.803)						0.727(0.797)					
	HL3_24		0.842(0.804)						-					
	HL3_23		0.841(0.81)						-					

CI	CI1_31		0.738(0.792)	1.588(0.611)	0.896(0.906)	0.895(0.904)	4.07(3.45)	0.99(1.21)	0.762(0.851)	0.845(0.830)	0.857(0.891)	0.916(0.907)	4.22(3.68)	0.608(0.659)
	CI1_30	CI1	0.8(0.752)						0.790(0.831)					
	CI1_29		0.752(0.79)						0.644(0.813)					
	CI2_34		0.771(0.783)						0.757(0.732)					
	CI2_33	CI2	0.755(0.778)						0.747(0.804)					
	CI2_32		0.784(0.795)						0.785(0.783)					
	PE1_40		0.866(0.809)						0.791(0.755)					
PE	PE1_39		0.868(0.793)	0.767(0.617)	0.98(0.959)	0.98(0.960)	4.38(3.42)	0.93(1.20)	0.781(0.708)	0.804(0.858)	0.935(0.947)	0.925(0.947)	3.59(3.40)	0.736(0.663)
	PE1_38	PE1	0.899(0.773)						0.755(0.775)					
	PE1_37		0.852(0.782)						0.799(0.733)					
	PE1_36		0.865(0.807)						0.840(0.707)					
	PE1_35		0.88(0.762)						0.787(0.701)					
	PE2_44		0.862(0.759)						0.794(0.807)					
	PE2_43	PE2	0.873(0.805)						-					
	PE2_42		0.879(0.792)						0.714(0.822)					
	PE2_41		0.873(0.782)						-					
	PE3_49		0.859(0.8)						0.731(0.789)					
	PE3_48		0.894(0.781)						0.694(0.803)					
	PE3_47	PE3	0.887(0.775)						0.688(0.812)					
	PE3_46		0.889(0.786)						0.773(0.856)					
	PE3_45		0.891(0.781)						0.736(0.828)					
CA	CA1_53		0.782(0.792)	0.604(0.633)	0.922(0.932)	0.924(0.932)	4.08(3.45)	1.00(1.20)	0.804(0.790)	0.836(0.868)	0.904(0.914)	0.911(0.929)	4.12(0.63)	0.692(0.689)
	CA1_52	CA1	0.772(0.806)						0.783(0.798)					
	CA1_51		0.775(0.81)						0.753(0.782)					
	CA1_50		0.771(0.781)						0.763(0.798)					
	CA2_56		0.772(0.782)						0.791(0.777)					
	CA2_55	CA2	0.81(0.8)						0.713(0.747)					
	CA2_54		0.756(0.782)						0.801(0.813)					
	CA2_57		0.78(0.816)						-					

EF	EF1_60		0.772(0.793)	0.623(0.636)	0.943(0.932)	0.942(0.945)	[illegible].071(3.335	1.02(1.20)	0.775(0.738)	0.871(0.782)	0.907(0.915)	0.953(0.915)	4.48(4.18)	0.511(0.572)
	EF1_59	EF1	0.803(0.797)						0.740(0.796)					
	EF1_58		0.779(0.762)						0.712(0.793)					
	EF2_64		0.762(0.811)						0.744(0.730)					
	EF2_63		0.783(0.82)						-					
	EF2_62	EF2	0.793(0.801)						0.726(0.697)					
	EF2_61		0.794(0.8)						0.789(0.765)					
	EF3_67		0.77(0.805)						0.687(0.851)					
	EF3_66	EF3	0.807(0.812)						0.794(0.858)					
	EF3_65		0.829(0.775)						0.806(0.796)					

Note: HL 23. HL 24. PE 41. PE 43. CA 57. and EF 63 were removed due to low factor loadings (Chinese data).
standardized factor loadings were all significant at p<0.001:AVE:Average Variance Extraction
perceived importance: 1=very unimportant to 5=very important
perceived performance: 1=very bad to 5=very good

Table 4. Discriminant Validity (International users data).

	SU	CH	HL	CI	PE	CA	EF
SU	**0.768**						
CH	0.496***	**0.794**					
HL	0.43***	0.5***	**0.809**				
CI	0.436***	0.499***	0.546***	**0.809**			
PE	0.484***	0.504***	0.578***	0.475***	**0.781**		
CA	0.469***	0.489***	0.501***	0.401***	0.522***	**0.796**	
EF	0.427***	0.489***	0.545***	0.49***	0.492***	0.488***	**0.797**

Table 5. Discriminant Validity (Chinese users data).

	SU	CH	HL	CI	PE	CA	EF
SU	**0.912**						
CH	0.553***	**0.92**					
HL	0.504***	0.524***	**0.896**				
CI	0.593***	0.494***	0.548***	**0.919**			
PE	0.598***	0.514***	0.455***	0.543***	**0.897**		
CA	0.496***	0.509***	0.583***	0.533***	0.498***	**0.914**	
EF	0.601***	0.536***	0.524***	0.528***	0.569***	0.593***	**0.933**

4.2 Independent t-test: Differences in Perceived Importance and Performance between Chinese and International Users

Table 6. Independent *t*-test Results of Significant Differences in Perceived Importance and Performance between International and Chinese Users.

Attributes	User Groups	N	Importance					User Groups	N	Performance				
			mean	StDev	t-value	p-value	mean differences			mean	StDev	t-value	p-value	mean differences
Semantic understanding	International	506	4.11	0.83				International	506	3.38	0.99			
	Chinese	394	3.93	0.77	3.4	0.001	0.18	Chinese	394	3.39	0.8	-0.16	0.873	-0.01
Close human-AI collaboration	International	506	4.06	0.8				International	506	3.4	0.98			
	Chinese	394	4.3	0.7	-4.82	***	-0.24	Chinese	394	3.69	0.69	-5.26	***	-0.29
Human-like	International	506	4.26	0.83				International	506	3.44	1.02			
	Chinese	394	3.29	0.81	17.42	***	0.97	Chinese	394	3.38	0.65	1.1	0.27	0.06
Continuous improvement	International	506	4.08	0.81				International	506	3.45	1			
	Chinese	394	4.34	0.68	-5.2	***	-0.26	Chinese	394	3.79	0.72	-5.98	***	-0.34
Personalization	International	506	4.39	0.83				International	506	3.43	0.96			
	Chinese	394	3.58	0.73	15.4	***	0.8	Chinese	394	3.39	0.7	0.63	0.526	0.04
Culture adaption	International	506	4.08	0.81				International	506	3.46	0.99			
	Chinese	394	4.22	0.75	-2.54	0.011	-0.13	Chinese	394	3.7	0.74	-4.16	***	-0.24
Efficiency	International	506	4.07	0.84				International	506	3.34	0.98			
	Chinese	394	4.54	0.57	-10.12	***	-0.47	Chinese	394	4.27	0.69	-16.64	***	-0.93

Table 6 indicates that the gap values for most of the attributes are significantly different between the two groups.

4.3 Importance-Performance Analysis on AICSQ

4.3.1 International Users' Perceived Importance and Performance of OTA's AICSQ Attributes

Table 7 reports the AICSQ sub-attributes level of importance and performance ranks and scores of international respondents. The three most important sub-attributes among this group of users are *identified customers (PE1; M=4.4, SD=0.93)*, *personalized recommendations (PE3; M=4.39, SD=0.94),* and *personalized response (PE2; M=4.37, SD=0.95).* These sub-attributes have high mean scores, indicating that this group of users perceived them as highly important. Furthermore, the value for standard deviations is relatively low, suggesting that among these respondents, there is a high level of agreement concerning these AICSQ attributes' importance level. On the other hand, the least important three sub-attributes are as follows: *process simplify (EF3; M=4.06, SD=1.03), memorability (CH3; M=4.06, SD=1.02),* and *accessibility (CH1; M=4.05, SD=1).* These sub-attributes have the lowest mean scores among the other sub-attributes which indicates that among this group of users, they perceived these sub-attributes as less important, while their standard deviations value is relatively high which suggests differences in perspectives concerning these AICSQ attributes' importance. In performance level, there are five sub-attributes ranked relatively high on their performance among these users: *non-language barriers (CA1; M=3.47, SD=1.19), self-learning (CI1; M=3.46, SD=1.2), culture understanding (CA2; M=3.45, SD=1.21), system update (CI2; M=3.45, SD=1.22), and personalized recommendation (PE3; M=3.45, SD=1.18).* These sub-attributes have relatively higher mean scores which emphasize that among this group of users, they perceived these sub-attributes as performing well. However, it also shows some differences in perspectives concerning these mentioned AICSQ sub-attributes as they have a higher value of standard deviations. Conversely, there are three sub-attributes ranked as the lowest in performance level among the group, namely: *process simplify (EF3; M=3.32, SD=1.2), always available (EF1; M=3.32, SD=1.19), understanding emotion (SU2; M=3.32, SD=1.19).* These sub-attributes have the lowest mean scores which emphasizes that this group of users perceived these AICSQ sub-attributes as performing less satisfactorily. It also reveals some differences in perspectives concerning these mentioned AICSQ sub-attributes as they have a higher value of standard deviations.

4.3.2 Chinese Users' Perceived Importance and Performance of OTA's AICSQ Attributes

Table 7 also reports the AICSQ sub-attributes importance and performance ranks and scores of Chinese respondents. The three most important sub-attributes among this group of users are: *always available (EF1; M=4.61, SD=0.51), process simplify (EF3; M=4.51, SD=0.55),* and *accessibility (CH1; M=4.46, SD=0.54).* These sub-attributes have high mean scores, indicating that this group of users perceived them as highly important. Furthermore, the value for standard deviations is relatively low, suggesting that among these respondents, there is a high level of agreement concerning these AICSQ attributes' importance level. On the contrary, the four least important sub-attributes are as follows: *understanding emotion (SU2; M=3.31, SD=0.93), identify customers (PE1; M=3.08, SD=0.97), human-like social cue (HL1; M=2.97, SD=0.92)* and *human-like personality (HL2; M=2.68, SD=0.95).* These sub-attributes have the lowest mean scores among the other sub-attributes which indicates that among this group of users, they perceived these sub-attributes as less important, while their standard deviations value are relatively high which suggests differences in perspectives concerning these AICSQ attributes' importance. In performance level, there are four sub-attributes ranked relatively high on their performance among these users: *always available (EF1; M=4.43, SD=0.57), responsiveness (EF2; M=4.19, SD=0.60), accessibility (CH1; M=4.11, SD=0.58), and system update (CI2; M=3.93, SD=0.67).* These sub-attributes have relatively higher mean scores which emphasize that among this group of users, they perceived these sub-attributes as performing well. However, it also shows some differences in perspectives concerning these mentioned AICSQ sub-attributes as they have a higher value of standard deviations. Conversely, there are five sub-attributes ranked as the lowest in performance level among the group, namely: *memorability (CH3; M=3.33, SD=0.78), identify customers (PE1; M=3.33, SD=0.65), personalized response (PE2; M=3.27, SD=0.82), human-like personality (HL2; M=3.18, SD=0.68), and understanding emotion (SU2; M=2.96, SD=0.82).* These sub-attributes have the lowest mean scores which emphasizes that this group of users perceived these AICSQ sub-attributes as performing less satisfactorily. It also reveals some differences in perspectives concerning these mentioned AICSQ sub-attributes as they have a higher value of standard deviations.

Table 7. Mean Rankings of Users' Perceived Importance and Performance of AICSQ Sub-attributes Level.

International users								Chinese users							
Ranks	Importance			Ranks	Performance			Ranks	Importance			Ranks	Performance		
	Sub-attributes	Mean	Std. Dev.		Sub-attributes	Mean	Std. Dev.		Sub-attributes	Mean	Std. Dev.		Sub-attributes	Mean	Std. Dev.
1	PE1	4.4	0.93	1	CA1	3.47	1.19	1	EF1	4.61	0.513	1	EF1	4.43	0.574
2	PE3	4.39	0.94	2	CI1	3.46	1.2	2	EF3	4.51	0.555	2	EF2	4.19	0.603
3	PE2	4.37	0.95	3	CA2	3.45	1.21	3	CH1	4.46	0.541	3	CH1	4.11	0.586
4	HL1	4.26	0.98	4	CI2	3.45	1.22	4	SU1	4.38	0.602	4	CI2	3.93	0.671
5	HL2	4.25	1	5	PE3	3.45	1.18	5	CH2	4.36	0.632	5	EF3	3.92	0.779
6	HL3	4.25	0.99	6	HL2	3.44	1.22	6	EF2	4.36	0.621	6	CA1	3.73	0.725
7	SU1	4.12	1.02	7	HL1	3.43	1.25	7	CI2	4.31	0.613	7	PE3	3.59	0.731
8	SU2	4.1	0.99	8	HL3	3.43	1.24	8	CA1	4.27	0.708	8	CH2	3.57	0.784
9	CI2	4.09	1.02	9	PE1	3.42	1.2	9	CI1	4.14	0.717	9	SU1	3.56	0.763
10	CH2	4.09	0.98	10	PE2	3.4	1.22	10	CA2	3.98	0.783	10	CA2	3.53	0.747
11	EF2	4.08	1.02	11	CH2	3.4	1.21	11	PE2	3.94	0.781	11	HL3	3.48	0.74
12	CA1	4.08	1.01	12	CH3	3.4	1.21	12	CH3	3.93	0.783	12	CI1	3.44	0.757
13	EF1	4.07	1.03	13	SU1	3.39	1.21	13	PE3	3.91	0.662	13	HL1	3.36	0.632
14	CA2	4.07	1.01	14	CH1	3.39	1.19	14	HL3	3.84	0.77	14	CH3	3.33	0.786
15	CI1	4.07	0.98	15	EF2	3.35	1.21	15	SU2	3.31	0.934	15	PE1	3.33	0.653
16	EF3	4.06	1.03	16	EF3	3.32	1.2	16	PE1	3.08	0.975	16	PE2	3.27	0.82
17	CH3	4.06	1.02	17	EF1	3.32	1.19	17	HL1	2.97	0.927	17	HL2	3.18	0.68
18	CH1	4.05	1	18	SU2	3.2	1.18	18	HL2	2.68	0.957	18	SU2	2.96	0.826

Note: SU1=Understanding Query, SU2=Understanding emotion, CH1=Accessibility, CH2=Easy to transfer, CH3=Memorability, HL1=Human-like social cue, HL2=Human-like personality, HL3=Human-like empathy, CI1=Self-learning, CI2=System update, PE1=Identify customers, PE2=Personalized response, PE3=Personalized recommendation, CA1=Non-language barriers, CA2=Culture understanding, EF1=Always available, EF2=Responsiveness, EF3=Process simplify

4.4 Importance-performance analysis grid
Our findings (Table 8; Figure 2) reveal the following:

Quadrant 1: Concentrate here

For international users*, personalized response (PE2; M=4.37, 3.4), understanding query (SU1; M=4.12, 3.39),* and *understanding emotion (SU2; M=4.1, 3.2), are identified in Q1.* Notably, *PE2* is located not far from Q2, which means that the OTA can easily improve the performance of this AICSQ sub-attribute. For Chinese users, *understanding query (SU1; M=4.38, 3.56)* (at the borderline between Q1 and Q2) could mean that the OTA can easily improve the performance of this AICSQ sub-attributes, and *self-learning (CI1; M=4.14, 3.44)* (at the borderline between Q1 and Q3) are located in this quadrant. These sub-attributes are perceived as highly important to users, but their performance levels are relatively low. The focus of strategies should be on enhancing these sub-attributes' performance to match their perceived importance as they are likely sources of customer dissatisfaction and need urgent attention.

Quadrant 2: Keep up the good work

Sub-attributes such as *personalized recommendation (PE3; M=4.39, 3.45), human-like social cue (HL1; M=4.26, 3.43), human-like-empathy (HL3; M=4.25, 3.43),* and *human-like personality (HL2; M=4.25, 3.44)* are located in this quadrant from the perspectives of international users. For Chinese users, *always available (EF1; M=4.61, 4.43), non-language barriers (CA1; M=4.27, 3.73), process simplify (EF3; M=4.51, 3.92), system update (CI2; M=4.31, 3.93), accessibility (CH1; M=4.46, 4.11), responsiveness (EF2; M=4.36, 4.19), and easy to transfer (CH2; M=4.36, 3.57)* are located in this quadrant. These sub-attributes are considered important to users and meet their expectations effectively. To continue meeting or even exceeding user expectations, strategies might center on maintaining or improving these qualities.

Quadrant 3: Low Priority

From the perspectives of international users, *responsiveness (EF2; M=4.08, 3.35), always available (EF1; M=4.07, 3.32), process simplify (EF3; M=4.06, 3.32), memorability (CH3; M=4.06, 3.4),* and *accessibility (CH1; M=4.05, 3.39)* are placed in this quadrant. The results demonstrate that international users pay less attention to these sub-attributes. For Chinese users, *personalized response (PE2; M=3.94, 3.27), memorability (CH3; M=3.93, 3.33), culture understanding (CA2; M=3.98, 3.53), human-like empathy (HL3; M=3.84, 3.48), understanding emotion (SU2; M=3.31, 2.96), identify customers (PE1; M=3.08, 3.33), human-like social cue (HL1; M=2.97, 3.36),* and *human-like personality (HL2; M=2.68, 2.96)* are placed in this quadrant. It implies that the user's interactions with the chatbot may not provide sufficient importance or emphasis to these sub-attributes. Furthermore, how these sub-attributes are currently performed or executed corresponds with their lower importance, suggesting that this is an area in which both service providers and users have relatively less interest or concern.

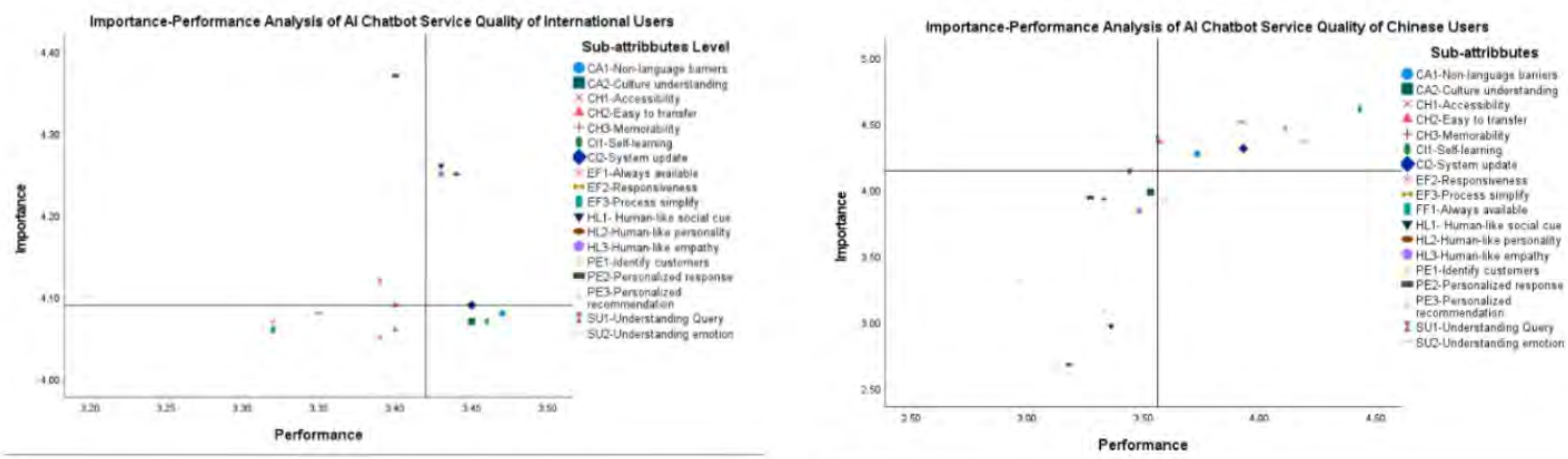
Quadrant 4: Possible Overkill

From international users' perspectives, *culture understanding (CA2; M=4.07, 3.45), self-learning*

(CI1; M=4.07, 3.46), and *non-language barriers (CA1; M=4.08, 3.47)* are notably of low importance but high in performance. From Chinese users, *personalized recommendation (PE3; M=3.91, 3.59)* fall into this quadrant. This implies that the current performance of these sub-attributes may go beyond what users deem important. This positioning points out that the AI chatbot performs well but users might not find these sub-attributes as important. A re-evaluation of resource allocation is suggested to ensure efforts align with the importance.

Table 8. Comparing the IPA between International Users and Chinese Users.

User groups	Concentrate here (Q1)	Keep up the good work (Q2)	Low priority (Q3)	Possible overkill (Q4)
International users	PE2-Personalized response SU1-Understanding Query SU2-Understanding emotion CH2-Easy to transfer (Q3)	PE1-Identify customers (Q1) PE3-Personalized recommendation HL1- Human-like social cue HL3-Human-like empathy HL2-Human-like personality CI2-System update (Q4)	EF2-Responsiveness EF1-Always available EF3-Process simplify CH3-Memorability CH1-Accessibility	CA2-Culture understanding CI1-Self-learning CA1-Non-language barriers
Chinese users	SU1-understanding query (Q2) CI1-Self-learning (Q3)	EF1-always available CA1-non-language barriers EF3-process simplify CI2-system update CH1-accessibility EF2-responsiveness CH2-easy to transfer (Q1)	PE2-personalized response CH3-memorability CA2-culture understanding HL3-human-like empathy SU2-understanding emotion PE1-identify customers HL1-human-like social cue HL2-human-like personality	PE3-personalized recommendation



(a) International users

(b) Chinese users

Figure 2. Importance-Performance Analysis Grid.

5. Discussion and Conclusion

5.1 Discussion and Implications

5.1.1 Theoretical Implications

This research's theoretical implications are as follows: First, this study contributes to the growing knowledge of the literature on human-AI interactions, particularly in cross-cultural contexts. Interdisciplinary studies have demonstrated that when individuals interact with AI, they treat it as if it were a human. Therefore, AI should be understood as an autonomous and intelligent machine that interacts with humans, rather than just an IT artifact (Sun, Shen, & Zhang, 2023). With the results, this study can help to understand the users' preferences and experiences in using AI chatbot services from culturally diverse perspectives and allows researchers to go beyond determining how these culturally diverse people interact with AI chatbots. Based on the findings, the international users perceived a positive and higher importance and performance views on human-like sub-attributes than the Chinese users which could mean that this group of users can interact with AI in a more human-like way to an unprecedented degree (Sun, Shen, & Zhang, 2023) as this attribute meets the international users' expectations and perceptions more than the Chinese users. Moreover, service robots, such as AI chatbots, provide a dynamic and multidimensional experience (Huang, Chen, Huang, Kong, & Li, 2021), through this quantitative approach, this study presents a comprehensive understanding of customer responses to AI chatbots using the AICSQ dimensions, thereby, responding to calls for additional empirical research on the results of human-AI interactions in real-world contexts (Huang, Chen, Huang, Kong, & Li, 2021; Ivanov, Gretzel, Berezina, Sigala, & Webster, 2019; Lu, Wirtz, Kunz, Paluch, Gruber, Martins, & Patterson, 2020). It also supports the theory of applicability in multicultural or international contexts, where cultural factors may significantly influence customers' evaluation of AI chatbot service quality and it may adequately capture the unique challenges and opportunities associated with technology-driven service interactions (Chen, Gong, Lu, & Tang, 2022) as this research explicitly considers cultural differences.

Lastly, the utilization of IPA could contribute to the consumer decision-process and consumer behavior theories in the digital era. Academically, the use of IPA to investigate the similarities and differences between the importance of AI chatbot service quality as perceived by international and Chinese users, and their perceptions of AI chatbot service quality's actual performance, could contribute to further research studies in the area of consumer decision-process theory (Chu & Choi, 2000). Thus, this present study refines and expands the consumer decision-process theory, especially in the context of AI-driven services. For instance, several topics of potential IPA applications ought to be covered this includes applying the IPA technique to compare the perceptions of international and Chinese users on using AI chatbot services which is in line with the results of this present study. With the results, by highlighting the most important sub-attributes of each group: among international users, *identify customers (PE1; M=4.4, SD=0.93), personalized recommendation*

(PE3; M=4.39, SD=0.94), and *personalized response (PE2; M=4.37, SD=0.95)* are the three most important sub-attributes. In performance level, there are five sub-attributes ranked relatively high on their performance among these users: *non-language barriers (CA1; M=3.47, SD=1.19), self-learning (CI1; M=3.46, SD=1.2), culture understanding (CA2; M=3.45, SD=1.21), system update (CI2; M=3.45, SD=1.22), and personalized recommendation (PE3; M=3.45, SD=1.18).* From the Chinese users' perspectives, the three most important sub-attributes among this group of users are: *always available (EF1; M=4.61, SD=0.51), process simplify (EF3; M=4.51, SD=0.55),* and *accessibility (CH1; M=4.46, SD=0.54).* In performance level, there are four sub-attributes ranked relatively high on their performance among these users: *always available (EF1; M=4.43, SD=0.57), responsiveness (EF2; M=4.19, SD=0.60), accessibility (CH1; M=4.11, SD=0.58), and system update (CI2; M=3.93, SD=0.67).* Thus, this theory helps researchers understand the factors and processes that may or may not influence these culturally diverse groups of users to use AI chatbot services.

5.1.2 Practical implications

The study results also lead to practical implications. Firstly, this study highlights the need to tailor a product design and services to a specific audience, as well as using alternative marketing mix methods based on the most valuable selling proposition (Chu & Choi, 2000; Lee & Lee, 2009). OTAs need to carefully examine cultural differences to customize their service offerings accordingly to better align with the preferences of various user groups. As such, services may be delivered more efficiently and effectively based on the culturally diverse perspectives of international and Chinese users, by determining the importance-performance gap, the OTAs may focus on developing their AI chatbot features that will better serve a specific group of users' needs and preferences. Second, resource allocation and prioritization. The OTA may consider specific attribute enhancements for the user groups in which it is considered important but not performing well enough, it might be advantageous to reallocate resources and set priorities for those sub-attributes that require attention. Additionally, OTAs may gain a competitive edge and enhance their AI chatbot's performance by comprehending their position with competitors in meeting user expectations. The findings enable OTAs to identify their strengths and weaknesses and maintain a leading position in the face of competition.

5.2 Conclusion

This work examined the AI chatbot service quality of Ctrip.com (Trip.com) from their users who are culturally diverse in perspectives. As aforementioned, AI chatbot services represent not just a novel service provider but also an innovative service approach, thus, these chatbots possess anthropomorphic qualities yet excel beyond humans in specific realms of intelligence, including information storage, computing capabilities, and learning proficiency (Chen, Gong, Lu, & Tang, 2022). In the OTA settings, service quality is one of the key factors that OTA is dependent on, as users are not only interested in the technical attributes of chatbots but also in the product's functional benefits, hence, AI chatbot attributes are significant predictors of consumer attitudes, influencing their adoption intention toward AI chatbots in tourism (Rafiq, Dogra, Adil, & Wu, 2022). The findings provide a strategic approach to improve the AI chatbot's overall functionality that allows the OTAs to focus and give priority to certain aspects of areas of AI chatbot service quality based on its culturally diverse group of users' expectations and preferences. In achieving a more effective chatbot design, this study framework will also provide a piece of knowledge in assessing AI-based chatbots, more specifically, in the tourism industry, as new models of technologies are gradually introduced and utilized in customer service.

5.3 Limitations of this study and suggestions for future studies

Limitations are present in this study for future research directions. First, the study focuses on an older version of the OTA's AI chatbot, its applicability in the rapidly growing AI sector may be limited, especially in light of newer models such as the Ctrip.com chatbot (Trip.com chatbot) powered by ChatGPT of which the results may not accurately reflect current chatbot capabilities or user experiences. It is suggested to explore the comparison between the previous AI chatbot and the ChatGPT-powered Ctrip.com chatbot (Trip.com chatbot) for future research. Investigating these innovative changes will contribute to our better understanding of AI technology's innovations and might be possible to determine how these new and innovative AI satisfy the users more than the old version. Second, focusing solely on the user perspective may result in insufficient findings due to a lack of perspectives from different sectors, such as the organizational sectors which might be an influencing factor of AI chatbot effectiveness. It is worth investigating how the organization affects the implementation of chatbot and thus, affects the chatbot performances which considerably may provide a holistic viewpoint for future research. Therefore, focusing on dual perspectives (users and organizational perspectives) may provide ideal information for an ideal AI chatbot design. Finally, a longitudinal study is suggested for future research that monitors changes over time as AI technology is growing rapidly, so as the users' demands and expectations are changing unexpectedly.

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Navigating the valley of death challenge of travel-tech startups: Evidence from the korean travel-tech industry

Bang, Dohyung
School of Hospitality and Tourism Management
Purdue University

Jang, SooCheong (Shawn)
School of Hospitality and Tourism Management
Purdue University

Abstract:

This study explores the acceleration of travel technology and its challenges, particularly focusing on startups navigating the “Valley of Death” (VoD). It examines the key factors enabling travel-tech startups to secure Series A funding, thus overcoming the VoD. Analyzing data from 288 Korean startups, the study identified that a founder’s educational background, experience in tech companies, high-tech-oriented business models, and early financing experience are crucial. Contrary to traditional beliefs, technological expertise like patent ownership is less impactful. These insights challenge prevailing venture management strategies and provide guidance for fostering innovation in the travel tech industry.

Keywords: travel technology, travel-tech startups, Valley of Death, signaling, founder’s background, early financing experience

How does human identity shape consumer responses to human-like AI agents in service failure?

Liu, Xing (Stella)
Faculty of Business Administration
University of Macau

Hou, Yuansi
Faculty of Business Administration
University of Macau

Abstract:

Examining the boundary and interaction between humans and AI agent is important since AI agents are coming to resemble humans more and more. This research explores the relationship between humans and artificial intelligence in the context of service failures from the standpoint of social identity. In the current paper, we suggest that consumers with a global identity are more likely to show in-group favouritism for human-like AI agents, which will further boost forgivingness when encountering service failure. Moreover, the differentiation between individuals with global and local identities may become hazy when the in-group cue is emphasized. The theoretical and empirical ramifications will be discussed for this research.

Keywords: human-like AI agent; service failure; consumer identity

1. Introduction

Imagine you're on a journey. You've just returned from your trip and go back the hotel you stay. You are now craving Chinese food from the hotel restaurant. The Chinese restaurant's location is unknown to you. Employees in the hotel are busy tending to other clients. And you notice a humanoid service robot in the vicinity. You approach it and ask to be brought to a Chinese restaurant. The robot replies, "All right, please follow me." Three minutes later, the robot approaches the western eatery and states, "You have arrived at your destination. Have a pleasant dinner." However, the Chinese restaurant is far from your location, and you actually dislike Western cuisine. Under such case, will you be angry? And will you use the robot again if you need assistance in the future?

The deployment of human-like AI agents is a growing trend in the travel and hospitality sector. However, it is a common occurrence for customers to have unsatisfactory service while interacting with those agents, just like the beginning story. Even with abundant research on consumers responses after experiencing service failure and the recovery strategies (Choi et al., 2021; Khoa et al., 2023; Ngan & Yu, 2019), majority of them focused on how contextual and AI-related variables drive customer experience, while neglecting how human-related features may influence human-AI interaction during consumption, especially how social identity may shape consumer experience during the process.

People's psychological response to globalization is a growing sense of interconnectedness with the rest of the globe, which fosters the emergence of a global citizen identity. People can be distinguished from each other by their salient identity, either local or global identity. Global identity and local identity are distinct notions, which can be possessed by consumers simultaneously. One of them may be more salient and hence be more important in influencing behavior, depending on situational or unique characteristics (Nie et al., 2022). Also, people's identity will shape their reactions toward AI agent when the AI agent is indistinguishable from human in terms of appearance or intelligence. Thus, the research of the boundary between human and AI agents should be prioritized. Indeed, research has pointed out that it will be interesting to explore which type of social identity information can trigger group categorization for AI systems (Wang et al., 2020).

Some researcher has shown that some people may develop more empathy for social robots and treat them more as members of their own ingroup as they become more like humans (Vanman & Kappas, 2019). But does it applicable to all people? Since people with global identity usually are more open minded, and less likely to distinguish self from others, thus they may be more inclined to regard human-like AI as in-group members. Thus, following a service failure, consumers with a salient global identity are more likely to show forgiveness to human-like AI agents. Furthermore, when the in-group cue is highlighted (for example, shared the name, home country or birth date with the agent), the distinction between people with global and local identities may be blurred. Hereby, we propose that:

H1: People with a global identity are more likely to show forgiveness and reuse intention after experiencing service failure by AI agents.
H2: The effect of global-local identity on consumers' reaction is mediated by in-group favoritism.

2. Methodology

Three experimental studies will be conducted to test the proposed hypothesis. Below is a brief introduction of the procedure of each study. And the overview of the studies is summarized in Table 1.
Study 1
Study 1 was to test the main effect of social identity on consumer responses to AI service failure. A total of 200 participants will be recruited from the Credamo to join an online experimental study, in which they will be asked to watch a video regarding a service robot failure in a hotel lobby. After watching the video, participants will be asked to finish several questions regarding their opinions, including measurements about forgiveness (Ngan & Yu, 2019), reuse intention as key dependent variables, and global (vs. local) identity as key independent variable (Tu et al., 2012), by utilizing well-established scales in previous literature.

Study 2
Study 2 was to test the mediator role of in-group favouritism. In this study, participants will be first assigned into one of the two conditions: global vs. local identity. Following prior literature, the identity will be manipulated by ask participants write down their initials to support either a "Think Global Movement" or a "Think Local Movement" campaign, launched by a restaurant during their travelling, followed by manipulation checks of global (vs. local) identity perception (Nie et al., 2022). After that, participants were referred to a scenario depicting the service robot failure during dinning, such as serving wrong dishes. Next, they are asked to finish measurements related to forgiveness, word of mouth (Honora et al., 2022), and also in-group favouritism perception (Khoa & Chan, 2023).

Study 3
This study was to test the proposed moderating role of in-group cue, which featured a 2 (in-group cue: present vs. absent) × 2 (identity: global vs. local) between-subjects experimental design. The identity was primed to participants as in study 2. And then a scenario depicting consumer interaction of an online AI agent in a hotel online booking platform will be introduced. For the in-group cue present condition, participants will be notified that the online AI-agent shares the same name with the customer. Afterward, participants answer questions measuring reuse intention (Maxham, 2001), forgiveness, and in-group favouritism perception as in Study 2.

Table 1 Overview of Studies

Study	**Sample**	**Main purpose**	**Context**	**IV manipulation**	**DV(s)**
Study 1 (Credamo)	200	Test main effect	Process failure in offline hotel	Measured	Forgive and reuse
Study 2 (Prolific)	300	Examining the underlying mechanism	Outcome failure in offline restaurant	"Think Global/Local Movement" campaign	Forgive and word of mouth
Study 3 (Prolific)	300	Examining the moderating role of in-group cue	Outcome failure in online booking	"Think Global/Local Movement" campaign	Forgive and reuse

3. Discussion and Conclusion

Given the increasing trend of incorporating robotics and AI into tourism and hospitality operations, it's critical to comprehend how customers react to human-like AI service agent. This research can provide a fresh perspective for researchers to delve into the relationship between human and AI and how will customer react to service failure in interacting with human-like AI agents, enriching the literatures regarding service robot and AI failure. Meanwhile, it provides practitioners suggestions to coordinate service technology implementation to manage customer experience in hospitality industry.

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Does Voice or Text in Chatbot Interactions Influence Consumer Impulsive Buying?

Li, Xiaonan
Asia-Pacific Academy of Economics and Management
Department of Integrated Resort and Tourism Management
Faculty of Business Administration
University of Macau

Liu, Xing (Stella)
Department of Integrated Resort and Tourism Management
Faculty of Business Administration
University of Macau

Law, Rob
Asia-Pacific Academy of Economics and Management
Department of Integrated Resort and Tourism Management
Faculty of Business Administration
University of Macau

Fong, Lawrence Hoc Nang
Faculty of Business Administration and Centre for Cognitive and Brain Sciences
Department of Integrated Resort and Tourism Management
Faculty of Business Administration
University of Macau

Abstract:

This study examines the impact of voice input and text input on consumers' impulsive buying when interacting with Chatbot. The findings demonstrate that consumers exhibit a higher tendency for impulsive buying when engaging with Chatbot through text input compared to voice input. This study fills a gap in the field and provides guidance for merchants when choosing interaction methods and designing user experiences.

Keywords: Communication modality, Chatbot, Impulsive buying, Voice vs. Text

1. Introduction

Artificial Intelligence (AI) has garnered considerable attention and potential from researchers and practitioners. A remarkable advancement in this domain is the emergence of conversational agents, commonly referred to as chatbots, which simulate human-like interactions with users (Ngai et al., 2021). Chatbots have revolutionized customer interactions across various industries, including tourism and hospitality, where they assist with bookings, provide information, and offer personalized recommendations (Sharma & Rawal, 2021). The integration of speech recognition technology has further transformed the communication landscape between users and chatbots. In industries such as retail and travel (e.g., Taobao and Ctrip), voice commands have supplanted the previously prevalent input types, enabling users to engage with chatbots through speech recognition technology. Consequently, the proliferation of both voice-based and text-based chatbots has reshaped consumer interactions with digital platforms.

The choice of input method can indeed influence consumer behavior, as evidenced by prior studies. For instance, King et al. (2022) indicated that typed searches on search engines are more likely to generate purchase intention compared to voice searches, as typed searches prompt an action-oriented mindset, whereas voice searches evoke a deliberate mindset. Moreover, studies have demonstrated that consumers who make oral choices tend to exhibit more indulgent decision-making driven by emotional responses, in contrast to manual modalities such as button-pressing and writing, which are more cognition-driven (Klesse et al., 2015). Furthermore, text-based virtual assistants have been found to be perceived as more human-like than voice-based assistants, leading to increased customer intention to purchase (Ischen et al., 2022).

In the realm of chatbot interfaces, the rise of both voice-based and text-based virtual assistants has reshaped consumer interactions with digital platforms. Previous research has explored the persuasiveness of voice-based virtual assistants compared to their text-based counterparts, revealing differences in their effectiveness (Ischen et al., 2022). Additionally, studies have highlighted the influence of consumer preference expression modality on self-control (Klesse et al., 2015). However, there remains a gap in understanding the impact of voice and text input methods on consumer behavior, particularly concerning impulsive buying.

This study aims to bridge this research gap by examining the extent to which voice input or text input influences users' propensity for impulsive buying.

2. Literature Review

2.1. Chatbot

Prior research has explored the impact factors of chatbots on customer behavior during service interactions. Specifically, these studies have focused on the influence of chatbot language style (e.g., functional vs. social, humor vs. non-humor, warm vs. competence), chatbot response styles (e.g., concrete vs. abstract, double-sided vs. positive, social-oriented vs. task-oriented), and chatbot abilities (e.g., relevance, reliability, and quickness) on customer behavior (Schillaci et al., 2024). Additionally, a wide range of articles has compared customer interactions with real human employees versus chatbots (Liao & Huang, 2024). Scholars have also expressed concerns regarding the potential impact of imbuing chatbots with anthropomorphic features on consumer behavior (Lee & Lee, 2023).

2.2. Conceptualization

Based on previous research, this study will explore whether differences in modality affect consumers' impulsive buying (Figure 1).

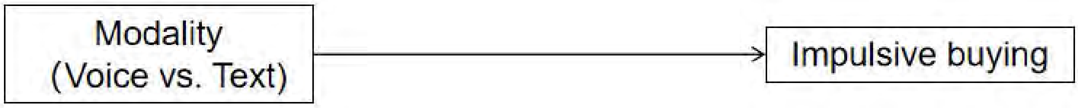

Figure 15. Research model.

3. Methodology

3.1. Participants and procedure

In this empirical investigation, a total of 145 participants were recruited from an online marketing laboratory in China and incentivized with a monetary reward of CNY 2. A rigorous screening process eliminated 25 individuals who failed the attention check or displayed excessively swift or protracted times of answering the questions, resulting in a final sample size of 120 participants.

Upon commencement of the study, Participants were asked to imagine that "when you finish your trip to Macau and are sitting on the high-speed train on your way back home, you notice that there are only a few passengers on the train, and hardly anyone else around. At this moment, you notice that there is a picture of Macau's Xing Ren Bing and a QR code of the store attached to the back of the headrest of the front seat. Since it's a long journey home and your suitcase is already full, you didn't buy any handmade souvenirs from Macau, so you immediately decide to seize this opportunity to learn more about this delicious specialty by scanning the QR code."(Figure 2)

Subsequently, participants were introduced to a simulated purchasing situation, wherein they were required to engage with a chatbot via either voice input or text input on the "Shou Xing Bing Jia" WeChat official account. Following the completion of this interactive session, participants were prompted to assess the degree to which they experienced an inclination to engage in impulsive buying behaviors, both regarding the initially presented Xing Ren Bing product and the subsequent product recommendations proffered by the chatbot.

Figure 16. QR code example.

4. Results

4.1. Profile of the respondents

Table 1 shows the demographic characteristics of the participants.

Table 10. ***Study 1 demographic profile.***

Gender	**Frequency**	**Percent (%)**
Male	53	44.2
Female	67	55.8
Age	**Frequency**	**Percent (%)**
18-29	87	72.5
30-39	32	26.7
40-49	1	0.8
Monthly income (Yuan)	**Frequency**	**Percent (%)**
＜10,000	23	19.2
10,000-19,999	40	33.3
20,000-29,999	22	18.3
30,000-39,999	14	11.7
40,000-49,999	11	9.2
50,000-59,999	3	2.5
60,000-69,999	**0**	**0**
70,000-79,999	3	2.5
80,000-89,999	1	0.8
90,000-100,000	2	1.7
＞100,000	1	0.8
Education	**Frequency**	**Percent (%)**
Below bachelor’s degree	7	5.8
Bachelor’s degree	64	53.3
Master's degree	34	28.3
PhD	15	12.5

4.2. Independent samples t-test

An independent samples t-test was employed to examine the impact of voice input and text input on impulse buying behavior, with the results depicted in Figure 3. The findings revealed statistically significant differences between the two modalities (4.38 vs. 5.28, $t(118) = 3.454$, $p = 0.001$). Specifically, the mean impulse buying behavior score associated with voice input was significantly lower compared to that of text input. These results suggest that the utilization of text input may exert a more potent influence in stimulating impulsive purchasing tendencies.

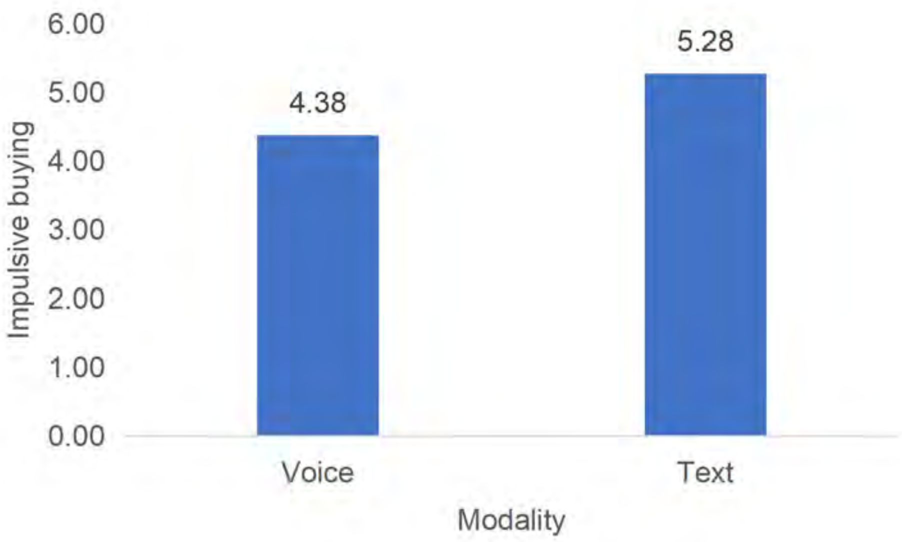

Figure 17. The effect of modality on impulsive buying.

5. Discussion and Conclusion

5.1. Discussion and implications

In terms of academic implications, by investigating consumer impulsive buying within the realm of chatbot interactions, this research enriches our understanding of consumer preferences and the decision-making processes in the context of AI-driven conversational agents.

Furthermore, by acknowledging the link between text input and heightened impulsive buying tendencies, merchants can strategically enhance payment interfaces and procedures to cater to these inclinations. This optimization will ultimately improve the overall user experience and facilitate seamless and expedient transactions.

5.2. Conclusion

In conclusion, the study found that consumers who use text input exhibit higher levels of impulse buying behavior compared to voice input.

5.3. Limitations of this study and suggestions for future studies

This study is currently ongoing, focusing solely on investigating the influence of modality on consumer impulse buying behavior. However, future research endeavors will delve deeper into the underlying factors that contribute to the observed distinctions in impulse buying tendencies between voice and text input. By exploring users' perceptions, attitudes, and motivations towards various input methods, a more comprehensive understanding of the factors shaping consumer impulse purchases will be attained.

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To construct the culinary competency of information and communication technology (ICT) for chef

Ko, Wen-Hwa
Department of Restaurant, Hotel and Institutional Management
Fu Jen Catholic University

Lu, Min-Yen*
Program in Nutrition and Food Science
Fu Jen Catholic University

Chen, Fang-Rong
Program in Nutrition and Food Science,
Fu Jen Catholic University
*Author to whom correspondence should be addressed.

Abstract:

Information and Communication Technology (ICT) is widely utilized, and the culinary industry has entered a new era of digital technology. The reliance on digital technology, along with the need to satisfy rapidly changing customer demands, has led to a focus on innovative intelligent automation services. Due to the high staff turnover rate in the culinary industry, digital technology is extensively used to assist restaurants in enhancing daily work efficiency. ICT-related devices and systems have become a significant development trend. However, to improve kitchen work efficiency, streamline workflows, and effectively allocate human resources, the ICT competency of chefs has become a critical factor in enhancing kitchen performance. The study employed literature review and interviews, and used a modified Delphi method to assess the importance of ICT competency indicators for chefs. Through three rounds of Delphi analysis by 20 experts, the study compiled an initial exploration of the chefs' culinary-related Information and Communication Technology (ICT). The research results show that the ICT indicators for chefs are divided into four constructs with a total of 59 indicators. These include General Technology Competency (G) with 13 indicators, Culinary Application Technology Competency (T) with 11 indicators, Culinary Strategy Technology Competency (S) with 15 indicators, and Culinary Specific Technology Competency (I) with 8 indicators. Among these, General Technology Competency is the most important, followed by Culinary Application Technology Competency, and finally Culinary Strategy Technology Competency and Culinary Specific Technology Competency.

Keywords: modified Delphi method 、 chef 、 Information and Communication Technology(ICT)、competency

Immersive technologies at the national museum of Singapore: Their effects on visitor satisfaction and behavioral intentions

Ang, Kin Lin Judy
Hospitality Business Program, Business, Communication, and Design Cluster
Singapore Institute of Technology

Chua, Yu Hui Julliane
Hospitality Business Program, Business, Communication, and Design Cluster
Singapore Institute of Technology

Iesham, Atikah
Hospitality Business Program, Business, Communication, and Design Cluster
Singapore Institute of Technology

Low, Ting Hui Ashlye
Hospitality Business Program, Business, Communication, and Design Cluster
Singapore Institute of Technology

Ong, Zhi Ning Levene
Hospitality Business Program, Business, Communication, and Design Cluster
Singapore Institute of Technology

Kim, Sungsoo
Hospitality Business Program, Business, Communication, and Design Cluster
Singapore Institute of Technology

Abstract:

With technological advancements in recent years, museums are increasingly integrating new technology. While research has examined how technology might improve museum experiences, a gap exists in understanding how immersive technologies influence behavioral intentions, particularly social media sharing intentions. This study intends to address that gap by identifying factors impacting behavioral intentions, including perceived ease of use, usefulness, enjoyment, and information quality. The findings will shed light on the efficacy of immersive technology, thereby enhancing marketing efforts aimed at museum visitors.

Keywords: Behavioral Intentions, Immersive Technology, National Museum of Singapore, Satisfaction

1. Introduction

Museums are recognized as cultural learning venues that transcend intellectual comprehension and involve emotional immersion (Bast, 2018). Digital technology facilitates innovation, efficiency, and audience engagement, allowing the industry to effectively adapt to global trends without replacing pre-existing experiences (National

Heritage Board, 2022). With technological advancements and support from the local government, immersive art exhibitions such as Future World and the Van Gogh Experience have grown in popularity in Singapore and globally (Goh, 2023). In the context of technology adoption, Generation Z has demonstrated a positive attitude toward advanced information technologies, underscoring the balance between technology's efficiency and the irreplaceable nature of human interaction (Zhang et al., 2022a; Rodrigues et al., 2023). Similarly, Rodrigues et al. (2023) found that Generation Z participants were more engaged and immersed in a virtual museum. Participants below 25 and students were more inclined to visit virtual museums, whereas older participants with a more complete education tended to visit museums in person. While research has explored technology's role in enhancing museum experiences, there is a gap concerning immersive technologies' influence on behavioral intentions, including social media sharing intentions. Therefore, this study aims to fill that gap by identifying factors influencing behavioral intentions (e.g., the intention to share on social media), including perceived ease of use, usefulness, enjoyment, and information quality, drawing from the TAM. The findings could provide valuable insights for academics and marketing professionals into how perceived ease of use, usefulness, enjoyment, and information quality influence visitors' satisfaction with immersing technologies available at museums, increasing social media sharing and recommending technology use (Preko, 2020), thereby improving marketing efforts aimed at museum visitors.

2. Literature Review

The TAM, introduced by Fred Davis in 1989, has significantly influenced our understanding of users' acceptance of technology (Davis, 1989). The critical components of TAM consist of perceived usefulness (PU), perceived ease of use (PEOU), and behavioral intention (BI). Perceived usefulness reflects users' beliefs about how much the technology effectively enhances their task performance. In contrast, the perceived ease of use indicates individuals' beliefs in how user-friendly the technology is (Park & Park, 2020). In essence, this study proposes a modification to the TAM model by integrating two additional factors, namely perceived enjoyment and information quality. The inclusion of this factor is crucial, as prior research has underscored its significant influence on user satisfaction with technology. Research has demonstrated a strong relationship between perceived enjoyment and the core components of the TAM (Chesney, 2006; Song & Han, 2009; Van der Heijden, 2004). DeLone and McLean (1992) have identified information quality as a crucial factor influencing user satisfaction. While technology generates information, the interaction of this information with users directly impacts user satisfaction. Researchers have applied this theory to examine various facets of technology information quality, including digital libraries in Chinese universities (Xu & Du, 2018) and the impact of social networking systems on user satisfaction (Zhang, 2010). Koivumäki et al. (2008) also explored the impact of the information quality of mobile information services on user satisfaction and showed a significant positive relationship between information quality and user satisfaction. Hence, integrating these factors into the existing TAM model enhances its comprehensiveness and applicability to overall satisfaction with technology in the context of National Museum of Singapore (NMS).

Overall satisfaction is crucial for determining visitors' enjoyment and fulfillment with their museum experience (Preko et al., 2020). This represents a summary psychological state, combining all immediate emotional responses following the tourism experience (Garbarino & Johnson, 1999). Zhang et al. (2022b) found that accessibility and interactivity are essential in shaping smart technology-enhanced tourism experiences. Tourists' perceived value of smart technologies is closely tied to their satisfaction levels, with positive effects extending to word-of-mouth recommendations, revisit intentions, and willingness to pay a premium price. Moreover, customer satisfaction significantly influences word-of-mouth (WOM) and intentions to repurchase or revisit (Szymanski & Henard, 2001; Kitapçı et al., 2014) and the use of technology (Son & Han, 2011). Using virtual reality (VR) technology to create immersive sensory experiences can enhance visitor satisfaction (Rodríguez et al., 2020). Visitors are more likely to return if they enjoy an experience (Lee et al., 2011) and are likely to share a positive and memorable experience with VR technology (Lai et al., 2019; Leung et al., 2022). Museums have also found that satisfaction affects the visitor's intention and willingness to use VR technology (Errichiello et al., 2019; Rodrigues et al., 2023; Wang et al., 2024). Satisfied customers are more likely to portray the brand in a good light and offer valuable feedback (Lestari et al., 2023). Thus, based on the literature reviewed, the following hypotheses are proposed to test the conceptual model provided in Figure 1:

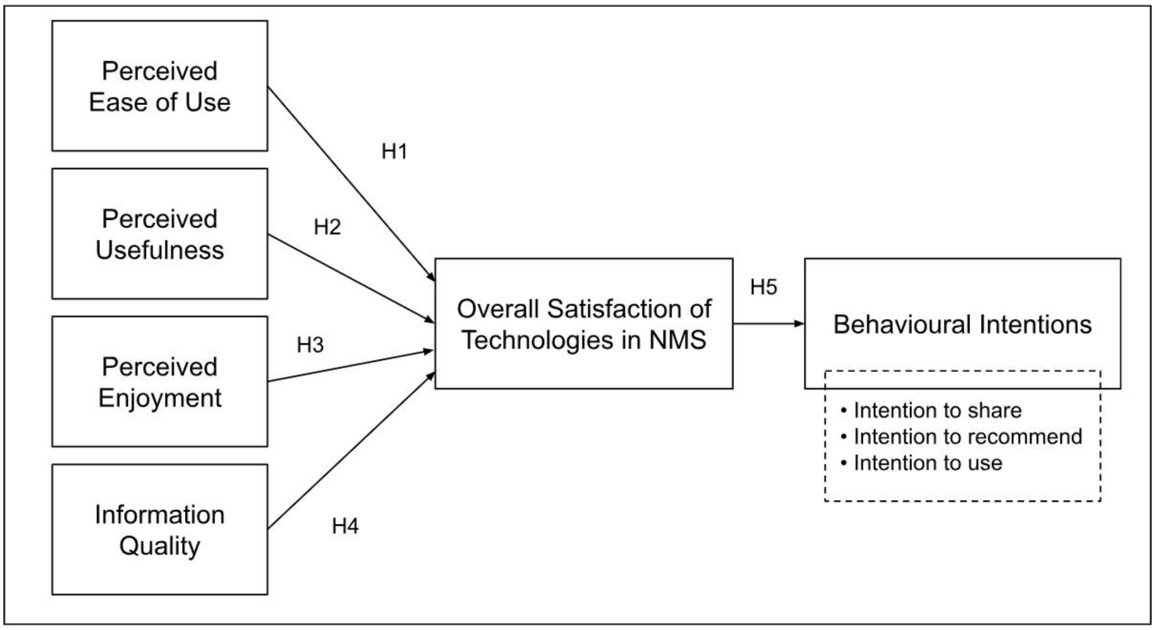

Figure 1. Conceptual Model

H1: Perceived ease of use positively influences overall satisfaction with immersive technology.
H2: Perceived usefulness positively influences overall satisfaction with immersive technology.
H3: Perceived enjoyment positively influences overall satisfaction with immersive technology.

H4: Higher information quality levels positively influence overall satisfaction with immersive technology.
H5: Higher overall satisfaction with immersive technology positively influences BI (i.e., the intention to share, recommend, and use it again).

3. Methodology

The target population of this study consists of museum visitors at NMS. A sample size of 300 people is surveyed to represent the population, and the measurement items are derived from previous literature. Perceived ease of use and usefulness are operationalized by four items (Chung et al., 2015; Huang et al., 2019). Perceived enjoyment is measured by four items (Huang et al., 2019; Disztinger et al., 2017), while six items (Shi et al., 2023; Jung et al., 2015) are used to measure information quality. Moreover, satisfaction with immersive technologies at NMS is measured based on three items (Namkung & Jang, 2007). Lastly, behavioral intention is measured based on three items (Huang et al., 2019; Marasco et al., 2018). The measurement items are assessed using a five-point Likert scale, and demographic variables, including gender, age, education level, and income, are also collected.

Structural equation modeling (SEM) using Analysis Moment of Structure (AMOS) on the SPSS software is used to test the proposed hypotheses in the model. To determine the appropriate number of variables (i.e., perceived ease of use, perceived usefulness, perceived enjoyment, information quality, overall satisfaction, and behavioral intention) and to validate the factor structures of each factor, exploratory (EFA) and confirmatory factor analysis (CFA) are conducted prior to conducting SEM. The principal component analysis is used as the extraction technique, with the factors being rotated using varimax rotation with Kaiser normalization. In addition, the reliability of the measures for maintaining internal consistency will be assessed by calculating Cronbach's alpha.

4. Discussion and Conclusion

This study aims to provide insights into participants' behavioral intentions toward NMS, explicitly focusing on their intentions to share on social media, recommend, and use immersive technology again. When individuals disseminate their favorable experiences with NMS to their friends or family, their recommendations serve as a marketing strategy for NMS, exhibiting enhanced credibility. This is because potential visitors perceive reviews from fellow customers as trustworthy and reliable when making decisions (Hussain et al., 2018). The NMS can evaluate and refine its technologies based on how visitors feel about their experience through what visitors post on social media platforms. In addition, it is worth noting that the findings could reflect user satisfaction with immersive technologies, and this may align with the NMS' commitment to enhancing the accessibility of content and collections through engagement with their stakeholders and the public (National Museum of Singapore, 2023). Moreover, understanding factors like perceived ease of use, usefulness, enjoyment, and information quality can help NMS and other museums tailor immersive technologies to enhance visitor satisfaction. This, in turn, may increase social media sharing and recommendations regarding technology use, amplifying marketing efforts directed at museum visitors (Preko et al., 2020).

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Enhancing persuasion in conversational AI: The role of content concreteness and AI perception

Kim, Min-sung
Smart Tourism Education Platform (STEP)
Kyung Hee University

Kim, Joo Young
Smart Tourism Education Platform (STEP)
Kyung Hee University

Koo, Chulmo (Corresponding author)
Smart Tourism Education Platform (STEP)
Kyung Hee University

Abstract:

This study investigates how content concreteness and AI perception affect persuasion in conversational AI, utilizing Construal Level Theory. With 222 MTurk participants, the research demonstrates that concrete information significantly enhances persuasion compared to abstract information. Moreover, the persuasion effect is stronger when AI is perceived as more machine-like. These results underscore the importance of aligning AI design with psychological theories to optimize persuasive communication. The study contributes to conversational AI literature by elucidating the nuanced interplay between content concreteness, AI perception, and persuasion, offering insights for enhancing AI applications in marketing, customer service, and beyond.

Keywords: Conversational AI, Content Concreteness, AI Perception, Persuasion Index, Construal Level Theory, Human-AI Interaction

1. Introduction

In November 2022, OpenAI introduced ChatGPT, an advanced chatbot driven by the GPT-3.5 language model, aimed at enabling fluid and engaging dialogues with users, and released it to the general public (Vallance, 2023). Following its introduction, ChatGPT rapidly emerged as the leading AI chatbot, drawing in over a million users in merely five days (McKinsey, 2023). Additionally, in the wake of Microsoft's announcement about launching New Bing, a chatbot that incorporates ChatGPT, the Bing mobile application saw upwards of 750,000 downloads in just a week (Kelly, 2023a; Koetsier, 2023). The launch of ChatGPT and the fervent public reception have led to a surge in competition and boosted investment in AI research and development by major technology firms like Google and Meta (Chow & Perrigo, 2023). Google revealed its own conversational AI, Google Bard, and disclosed its strategy to embed an AI-driven chatbot in the forthcoming version of Google Search, aiming to tackle questions that were previously unanswerable and provide quicker information access to users (Kelly, 2023b; Milmo & Paul, 2023). Some analysts foresee that ChatGPT, New Bing, and Google Bard, collectively known as AI chatbots or conversational AI, might one day replace traditional search engines (Cuthbertson, 2022).

Following the rise of ChatGPT, there's been a notable surge in interest and influence in the field of conversational AI as detailed above. Subsequent research has explored the potential of conversational AI in the hospitality and tourism sectors. For instance, Ali et al. (2023) carried out a survey-based study exploring the role of conversational AI in offering personalized travel recommendations. Similarly, Ghazi et al. (2023) investigated customer perceptions towards hotels that have embraced AI through surveys. However, research that adopted experimental design to precisely examine in which situation conversational AIs would show stronger persuasion remains insufficient.

Our research aims to investigate the impact of content concreteness and AI perception on the persuasion index of the information provided by conversational AI. This will be done with construal level theory (CLT), for it is a psychological theory that gives deep insights into the level of mental construal and psychological distance (Trope & Liberman, 2010). Our research aims to investigate the impact of content concreteness and AI perception on the persuasion index of the information provided by conversational AI. This will be done with construal level theory (CLT), for it is a psychological theory that gives deep insights into the level of mental construal and psychological distance (Trope & Liberman, 2010). Specifically, this study's two main research questions are: (1) How differently does the information concreteness (abstract vs concrete information) provided by conversational AI affect the persuasion index? (2) What is the role of AI perception (machine-like to human-like) on the path from information concreteness to persuasion index?

2. Literature Review

Construal Level Theory (CLT) suggests that the way individuals perceive and process information varies with their psychological distance from the subject matter (Trope & Liberman, 2010). This theory posits that information can be construed at different levels of abstraction: more directly experienced or concrete phenomena are processed at a lower construal level, while phenomena that are psychologically distant or abstract are processed at a higher construal level (Förster, Liberman, & Shapira, 2009; Trope & Liberman, 2010). Additionally, when people establish a certain construal level, they tend to prefer the information that matches their construal level (Fiedler, 2007; Trope, Liberman, & Wakslak, 2007; Trope & Liberman, 2010). The applicability of this CLT to our research lies in its potential to elucidate how the concreteness of information and the perception of AI influence persuasion in the context of conversational AI. Therefore, we develop our model (Figure 1) and formulate hypotheses based on CLT.

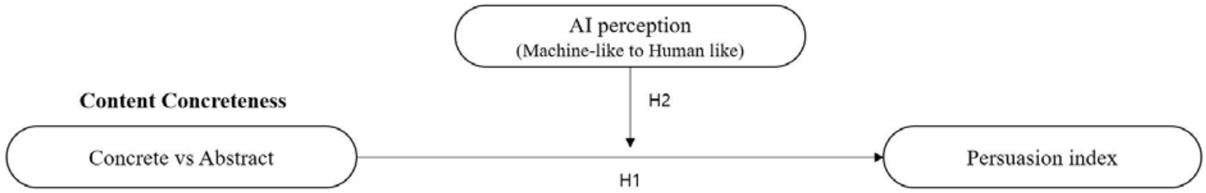

Figure 1. Proposed research model of study 1

Among the studies about online information, there are several examples that imply lower construal message leads to better acceptance of people generally. To illustrate, Bansal and Voyer (2000) and Jiménez and Mendoza (2013) found that in usual settings, the online reviews that were perceived as more useful were concrete reviews. Aerts, Smits, and Verlegh (2017) also discussed how the linguistic style of the online reviewers affects the attitudes of the readers toward products and suggested that mostly concreteness leads to more favorable attitudes. These findings align with the theory that concrete information is related to lower construal levels and lower psychological distance and thus, tends to be more accepted (Liberman & Trope, 2008). This implies that conversational AI, by providing information that is perceived as more concrete, could effectively reduce psychological distance and enhance persuasion in usual situations.

Further, in the human-computer interaction field, there is a study of service robots which showed robots that stimulate low construal levels were preferred to robots that stimulate high construal levels (Akdim, Belanche, & Flavián, 2023). According to their explanation, this is because customers tend to view robots with low construal levels as practical tools with specific tasks in mind and short-term applications. In contrast, human-like robots, which are more related to a high construal level, encourage them to think more broadly and distantly, making them more aware of the uncertain outcomes of introducing robots. Based on this high construal level, people perceive potential threats, both consciously and unconsciously, possibly because they fear that robots could surpass human control (Belk, 2020; **Loureiro, Guerreiro, & Tussyadiah**., 2021; Stefanova, 2020). This explanation would be similarly adapted in the case of conversational AI, in a way that if people perceive an AI more closely because of its relation with low construal level, they would ultimately focus on practical benefits using AI. Alternatively, if people perceive an AI distantly because of its relation with a high construal level, he or she would eventually be more concerned about unexpected consequences of using AI.

Based on these previous studies, it can be assumed that when conversational AI shows concrete information, people think concretely, which leads them to be inclusive toward the AI and the provided information. Conversely, if conversational AI gives abstract information, people would think abstractedly, and ultimately become non-inclusive. Therefore, we established the hypothesis as follows:
H1. Content concreteness affects the persuasion index of the information provided by conversational AI, in a way that concrete information shows significantly higher persuasion index than abstract information.

Furthermore, perception toward AI whether AI is human-like or machine-like can moderate the relationship between information concreteness and persuasion index. There is a previous study that showed less human-like service robots are preferred over more realistic counterparts due to the negative emotions, such as fear or perceived creepiness, associated with highly human-like robots (Stefanova, 2020). This implies that if a person already perceived AI as human-like, he or she would not feel negative emotions toward more human-like robots or AIs.

Moreover, Kim and Duhachek (2020) revealed that normally, people perceive more positively when AI agents give low construal contents rather than high construal ones, but in the case of the people who were told that AI agents can "learn by themselves", the relative effectiveness of low-construal as opposed to high-construal messages was attenuated. Relating this result with the construal level theory, they explained that the general belief in AI is that AI agents are fixed-function machines that can only follow pre-programmed algorithms, resulting in contents related to the low construal level provided by AI agents showing a higher persuasion index. On the other hand, when the belief that AI agents can learn from their own experiences was injected, it led to a weakened relative persuasive effect of contents consistent with the low construal level.

Based on these previous studies, we assumed that when people believe that AIs have more machine-like features than human-like features, they tend to prefer information related to lower construal levels, which results in better persuasiveness in more concrete messages. On the other hand, if people think AIs have more human-like features, the preference above will be weakened, and thus high-construal messages are perceived as more persuasive than the case of machine-like AI believers. Therefore, we established the hypothesis as follows:

H2: The perception of AI as human-like versus machine-like moderates the relationship between content concreteness and the persuasion index of the information provided by conversational AI, such that the persuasion index for abstract information is higher when the AI is perceived as more human-like compared to when it is perceived as more machine-like, thereby weakening the relative persuasiveness of concrete information.

3. Methodology

3.1. Participants and Design

This ongoing research employed an experimental design for study 1 and it was completed in early February 2024 via Amazon Mechanical Turk (Mturk), a common data collection platform in tourism research (Hou, Zhang, & Li; 2021; Lee & Oh, 2017; Wang, Hou, & Chen, 2020).Via random sampling among general Americans, two hundred twenty two MTurk participants (women = 50.0%) were aimlessly assigned to one of the conditions in a single-factor (hotel information: concrete, abstract) between-participants design. Additional studies would be conducted after precise review on study 1.

3.2. Procedure

The experiment took place online. Participants were suggested to imagine the scenario that they were planning a beach holiday, and they were searching for hotels located near the beach via a conversational AI as part of their preparations.
Then participants randomly received an image of conversational AI's response including either abstract hotel information (high-construal) or concrete hotel information (low-construal). The images are presented in Figure 2.

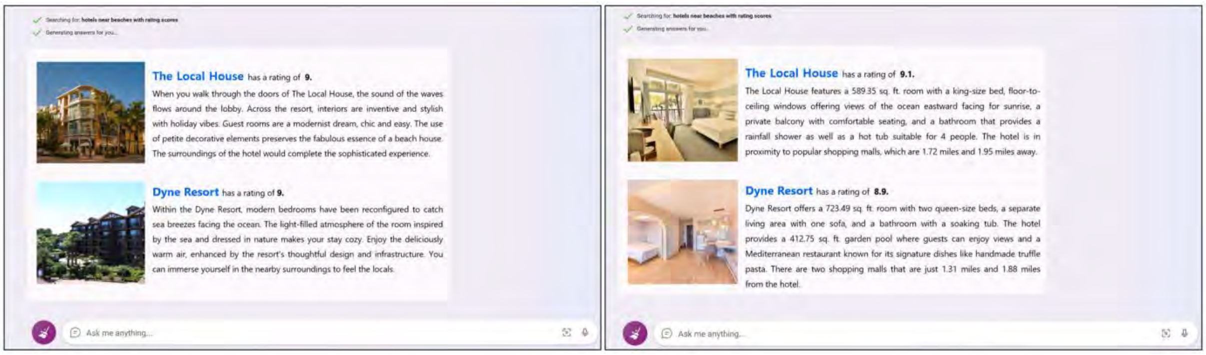

Figure 2. Screenshots of the abstract information (left) and concrete information (right) shown to participants

Participants then indicated the extent of persuasion using three items ("Based on the information, I would try out the provided hotels, I would be interested in booking the provided hotels, and I would book the provided hotels."; 1 = strongly disagree, 7 = strongly agree) which was adjusted from the items of Kim and Duhachek's (2020) study. Items were averaged to create the index of fit, α = .93. Also, as a manipulation check, we measured the extent to which provided information is concrete ("This provided hotel information is concrete."; 1 = very abstract, 7 = very concrete). We also investigated the extent to which the participants think of AI as human-like or machine-like ("How would you categorize the role of Artificial Intelligence in providing recommendations when assisting with your decision-making? Please answer using the slider below"; 0: very similar to Machine, 100: very similar to Human). Finally, participants answered demographic questions.

4. Results

4.1. Profile of the respondents

As mentioned above, exactly 50% of the participants were women, and others were men. The results of other demographic analysis are shown in <Table 1>.

Characteristics		Frequency	%	Characteristics		Frequency	%
Annual household Income	Below $20,000	18	8.1	Age	20-29	22	9.9
	$20,001 ~ $50,000	64	28.8		30-39	78	35.1
	$50,001 ~ $80,000	56	25.2		40-49	71	32.0

	\$80,001 ~ \$110,000	45	20.3		50-59	25	11.3
	\$110,001 ~ \$140,000	16	7.2		60-69	22	79.9
	\$140,001 ~ \$170,000	10	4.5		Above 70	4	1.8
	\$170,001 ~ \$200,000	6	2.7				
	Above \$200,001	7	3.2				

Table 1. Demographic profile of the respondents

4.2 Manipulation Check

A manipulation check was conducted to determine whether participants perceived a significant difference in the concreteness of hotel information provided by the conversational AI. An independent samples t-test revealed that the concreteness of the provided hotel information was rated significantly differently between the two conditions (concrete vs. abstract), $t(220) = -5.900$, $p < .001$, with a mean difference of -1.012. The 95% confidence interval for this difference ranged from -1.350 to -0.674, indicating a moderate to large effect size. Levene's test for equality of variances was significant ($F = 20.827$, $p < .001$), which suggests that the variance of scores for the two groups was not equal. As such, the t-test for equality of means was interpreted based on the assumption of unequal variances ($t(189.792) = -5.880$, $p < .001$), which does not substantively change the conclusion that there is a significant difference in perceived concreteness. These results confirm that the manipulation of information concreteness was successful, with participants recognizing concrete information as being significantly more concrete than abstract information.

4.3 Hypotheses Testing

We applied Hayes' PROCESS macro (Model 1) in SPSS to test the direct effect of content concreteness on the persuasion index (H1) and to examine the moderating role of AI perception (machine-like to human-like) on this relationship (H2). Our sample comprised 222 participants from MTurk.

For H1, we found a significant direct effect of content concreteness on the persuasion index. Specifically, concrete content was associated with a higher persuasion index ($b = .330$, $SE = .154$, $t(218) = 2.148$, $p < .05$, 95% CI [.027, .633]), supporting H1 that concrete information leads to higher persuasion.

In terms of H2, the interaction between content concreteness and AI perception was significant ($b = -.015$, $SE = .006$, $t(218) = -2.715$, $p < .01$, 95% CI [-.026, -.004]), indicating that AI perception does moderate the relationship between content concreteness and persuasion index. Therefore, it was revealed that the effect of content concreteness on persuasion was stronger when AI was perceived as more machine-like compared to when it was perceived as more human-like.

In detail, we observed that at extreme levels of AI perception (very similar to machine), concrete information led to a higher persuasion index (AI perception at -27.788, effect = .750, SE = .219, t = 3.428, p < .01, 95% CI [.319, 1.181]). Conversely, at levels of AI perception indicative of human-likeness (very similar to human), the effect of content concreteness on persuasion was not significant (AI perception at 27.788, effect = -.090, SE = .217, t = -0.415, p = .679, 95% CI [-.518, .338]), supporting H2. The result is shown as Figure 3.

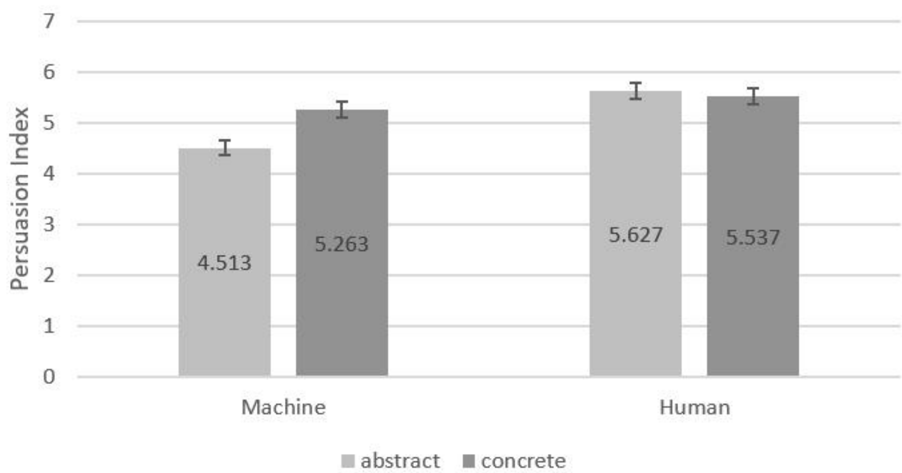

Figure 3. Result of Hayes' Process macro Model 1

5. Discussion and Conclusion

5.1. Discussion and implications

The present study explored the effects of content concreteness and AI perception on the persuasion index of information provided by conversational AI, utilizing Construal Level Theory (CLT) as a theoretical framework. Our findings revealed a significant direct effect of content concreteness on persuasion, supporting Hypothesis 1 (H1). This aligns with prior research indicating that concrete, lower-construal-level information tends to be more persuasive and accepted by individuals due to its proximity to immediate experience (Bansal & Voyer, 2000; Aerts, Smits, & Verlegh, 2017). The result underscores the utility of CLT in understanding how the abstraction level of information influences its persuasiveness, extending the theory's applicability to the domain of conversational AI.

Moreover, the study confirmed Hypothesis 2 (H2) by demonstrating that the perception of AI as human-like versus machine-like significantly moderates the relationship between content concreteness and the persuasion index. Specifically, machine-like perceptions of AI enhanced the persuasive impact of concrete information. This finding contributes to the burgeoning literature on human-computer interaction by elucidating how anthropomorphism affects user engagement with AI technologies (Akdim, Belanche, & Flavián, 2023; Stefanova, 2020).

Theoretically, this research enriches the theoretical discourse on the interplay between information processing and AI design, offering empirical evidence that supports and extends Construal Level Theory within the context of AI-driven communication. It invites further scholarly exploration into how psychological constructs like psychological distance and construal levels influence the effectiveness of technological interfaces.
Practically, the study highlights the importance of tailoring conversational AI's communication style to align with its perceived identity. When AI is designed or presented as more machine-like, embedding concrete, detailed information in its responses could enhance persuasiveness. This insight is particularly relevant for sectors where decision-making support from AI is critical, such as hospitality, e-commerce, and healthcare.

5.2. Conclusion
Overall, these results suggest that while content concreteness generally enhances the persuasiveness of information provided by conversational AI, the degree of this effect is contingent upon the extent to which the AI is perceived as human-like or machine-like. This supports the notion that perceptions of AI can significantly influence the effectiveness of persuasive communication in human-AI interactions.

This investigation sheds light on the nuanced dynamics between content concreteness, AI perception, and persuasion, offering valuable insights for the development and implementation of more effective conversational AI systems. By demonstrating that the perceived nature of AI can modulate the impact of the information it provides, the study underscores the potential of leveraging psychological theories to enhance AI-user interactions.

5.3. Limitations of this study and suggestions for future studies
Despite its contributions, this study acknowledges several limitations. First, the experimental manipulation, while effective, was limited to a single context (hotel information for a beach holiday), which may not capture the full spectrum of conversational AI applications. In addition, the study's single experiment might not fully capture the depth of users' perceptions and experiences with conversational AI.

Future research should aim to address these limitations and expand upon the findings of this study. Exploring additional contexts and sectors where conversational AI is employed can provide a more comprehensive understanding of how content concreteness and AI perception influence persuasion across different scenarios. Additionally, examining other potential moderating factors, such as individual differences in technology acceptance or trust in AI, could further elucidate the complex dynamics at play.

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Adapting to change: The role of artificial intelligence in shaping new business models in hospitality

Schmidt, Alexander Lennart
Research Centre
Hotelschool The Hague
The Netherlands

Abstract:

This study explores how artificial intelligence (AI) impacts business model innovation within the hospitality industry. Utilizing a qualitative content analysis of secondary data and in-depth interviews, this study aims to provide insights into the design of AI-driven business models, highlighting their impact on the hospitality businesses' competitiveness. The presentation of archetypes serves as practical guidance for industry decision makers.

Keywords: Artificial Intelligence, Hospitality, Business Model, Business Model Innovation, Technology

1. Introduction

There is an ongoing debate on how hospitality businesses manage digital transformation to stay competitive (Tajeddini et al., 2020). The recent diffusion of artificial intelligence (AI) technologies amplifies this debate, underpinning the need for research on competitiveness in this new era (Doborjeh et al., 2022). We understand AI as a technology which is used to capture and describe machines that emulate human mind-related cognitive functions, such as learning and problem-solving (Michalski et al., 1984). In the hospitality sphere, innovative concepts emerged: AI-based reservation assistants (e.g., allora.ai), booking.com's AI-based travel planners, or AI customer relationship management solutions (e.g., RunnerAI). Propelled by these technological dynamics, the hotel industry is faced with a pressing need to adapt and innovate (Ozdemir et al., 2023). The objective is to understand how the hospitality industry (specifically hotel companies) is impacted by innovative business models based on artificial intelligence technology.

Recent studies highlight the relevance of business model innovation in the hospitality industry to understand how technologies enable industry change (Breier et al., 2021). This study presents in-depth insights into how artificial intelligence technologies are leveraged in innovative business models. Thus, this study contributes to the research question: How do companies design business models based on AI technologies in the hospitality industry?

By applying a qualitative content analysis methodology to systematically retrieved secondary data and in-depth interviews, this study contributes to an ongoing theoretical exploration of AI business models for hospitality (Dwivedi et al., 2024). Moreover, this study equips practitioners with insights on how to design business models to unlock innovation potential based on AI technologies.

2. Literature Review

2.1. AI and hospitality

With a contribution of 9.1% to the global gross domestic product in 2023, the hospitality and tourism industry is a significant economic sector (World Travel & Tourism Council, 2023). Simultaneously, new technologies such as AI are exemplary drivers for technology-induced change. Both established hospitality businesses and potential new market entrants are confronted with these technological changes. In this context, recent scholarly contributions underline that technological inventions bear the potential for significant shifts in competitive positioning of hospitality businesses (Tajeddini et al., 2020), with a particular emphasis on how AI is shaping the industry's future (Gursoy & Cai, 2024). Recent reviews how technology is changing the hospitality industry present a skewed picture. Current literature focuses on questions about how AI technologies are impacting certain business departments or processes (Doborjeh et al., 2022; Dwivedi et al., 2024). There is a lack of studies investigating the impact of AI on business models.

2.2. Technology as basis for business model design

While previous studies were skewed towards the argumentation that technological innovation would be the decisive component in unfolding competitive changes, researchers increasingly advocated to examine the encompassing business models to grasp effects of technological innovation on competitiveness (Schmidt & van der Sijde, 2022). Those studies argue for the business model as the unit of analysis to understand how businesses are leveraging underlying technological innovations in unlocking growth paths and eventually challenging established markets.

Recent contributions state that underlying business models have only been tentatively specified (Christensen et al., 2018). Simultaneously, scholars underline that there are business models which are shared by multiple competitors (Teece, 2010), making it relevant to understand how those AI-based business models are constituted. Hence, it appears promising to investigate the design of AI-based business models and their impact on hospitality businesses competitiveness.

3. Methodology

We define the hospitality industry as the empirical setting. The phenomenon of interest is how artificial intelligence is leveraged in business model design. Consequently, we focus on the business model as the unit of analysis. We rely on two sources of qualitative data.

3.1. Data collection: Secondary Data

We access the database LexisNexis to systematically collect newspaper articles and industry reports about how AI technologies are leveraged in hospitality business models. LexisNexis p*rovides a large data repository through aggregating legal, government, business, and high-tech information sources.* To increase the trustworthiness and completeness of our data collection, we aim to be as systematic and complete as possible. We carefully define a search query and filter criteria:

- Search query: “Artificial Intelligence” AND “Hotel”
- Criteria/filters:
  - Time span: Last two years (04/2022-04/2024)
  - Content type: all
  - Location: international
  - Language: English
  - Aggregation of duplicates

This search approach leads to 625 unique data entries. Subsequently, we clean and prepare the retrieved data. We skim the documents and delete all paragraphs that are not related to the phenomenon of interest (i.e., AI technologies in business models). Consequently, we arrive at a cleaned data set only including text material about how AI technologies are leveraged in hospitality business models.

3.2. Data collection: Qualitative Interviews
Secondly, we perform 16 in-depth interviews with hospitality industry professionals to complement our data set. The interviews range from 10 to 45 minutes. We interview directors of operations, directors of technology, sales representatives, and consultants. We transcribe and translate all interviews to English.

3.3. Qualitative Analysis
Subsequently, we enter analysis where we were confronted established business model design constructs of value proposition, value creation, and value capture with the data on the leveraging of AI (Teece, 2010). We apply deductive qualitative content analysis (Lincoln & Guba, 1986). We use the software NVivo to support our coding activities. Two researchers perform the coding process, and we use emerging discrepancies in coding as a basis for discussion.

4. Results

This research is work in progress. We expect to present how AI technologies enable different designs of business models. Based on previous business model research, we expect to present archetypes or patterns of AI-based business models to capture the effect of AI technologies on business competitiveness. We present those business model designs considering the theoretical disruptive innovation debates (i.e., disruptive vs. sustaining innovation).

5. Discussion and Conclusion

Given the advancements in innovation literature, we argue that the identified business model designs will contribute to our understanding of AI’s impact on hospitality business models and how AI is leveraged to either sustain existing models or induce disruptive models. Linking to existing research contributions in the field of business model designs (Gassmann et al., 2014; Schmidt & van der Sijde, 2022), we expect to provide a practical guideline for managers in the hospitality industry to better understand the impact of AI technology on their business models.

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The effects of information quality and entertainment on purchase intention in hotel live streaming: A moderated mediation model

Lee, Sooyeon
William F. Harrah College of Hospitality
University of Nevada, Las Vegas

Bai, Billy
William F. Harrah College of Hospitality
University of Nevada, Las Vegas

Abstract:

This study aims to investigate the effect of hotel live streaming on viewers' purchase intention when they have parasocial interaction with streamers. Drawing from the flow theory, the study tested the relationships among information quality, entertainment, flow, and purchase intention in hotel live streaming, as well as the mediating effect of flow. The study further examined the moderated mediation effect of parasocial interaction on the indirect relationships between information quality, entertainment, and purchase intention via flow. The results showed that the relationships are stronger when viewers perceive high parasocial interaction toward live streamers.

Keywords: hotel live streaming, parasocial interaction, flow theory, information quality, entertainment, purchase intention

1. Introduction

The live streaming market emerged with the development of mobile synchronous technology (Global Data Travel and Tourism, 2022). The global live streaming market is expected to achieve a market value of about $256 billion by 2032 (Custom Market Insights, 2023). The sudden burgeoning of the live streaming market in the hospitality and tourism industry has occurred due to the outbreak of COVID-19. Under extreme circumstances, where face-to-face activities are strictly restrained, marketers rearranged their marketing strategy and adopted live streaming as a new marketing tool to expose and distribute their products. This is because live streaming provides a virtual social place beyond the physical limitations. Hotels generally sponsor or collaborate with popular influencers as streamers, aiming to attract potential customers (Lau, 2020). Also, the effectiveness of live streaming in making a profit has been verified (Noh, 2021).

The success of live streaming depends on various aspects, such as the quality of information, entertainment of live streaming content, and interaction between viewers and streamers. Live streaming performers endeavor to provide high-quality information to enhance consumers' outcomes (Cheung et al., 2008). Entertainment is pivotal because viewers' pleasure takes priority in live streaming, inducing positive feelings in viewers (Martins et al., 2019), which may extend into behavioral intention. Parasocial interaction explicates how the audience's behaviors in media are affected by their imaginary affinity with broadcasters (Kim et al., 2015), which is crucial since it provokes customer purchase intention (Sokolova & Kefi, 2020).

People experience flow when they are entirely immersed in a specific media environment (Sherry, 2014). Past research has discovered that consumers are likely to spend more time and money when they are in the flow of social media content (Pelet et al., 2017). Kim et al. (2020) demonstrated that flow in the dining environment is highly related to consumers' positive attitudes. Despite the urgency of applying flow theory in hospitality live streaming (Yu et al., 2022) and the frequent usage of flow theory in media research, little research has been conducted on the adoption of flow theory in examining viewers' behavior in HLS (Lin et al., 2022). Flow theory may be suitable for explicating viewers' behavioral intentions in HLS because people tend to easily immerse in video media (Deng et al., 2022).

Despite its growing importance, few studies on hotel live streaming (HLS) exist. Previous research primarily addressed the live streaming of tangible products, not services, which calls for an extension of live streaming research to deal with intangible services (Liu et al., 2022; Xie et al., 2022), such as hotel products. In addition, existing research focused on a single dimension of live streaming, such as streamers or viewers (Li et al., 2023). Therefore, there is a need to understand HLS from a holistic perspective. Furthermore, given that live streaming relies on streamers and the true meaning of live streaming is completed through genuine interaction between viewers and streamers, it is imperative to investigate viewers' behaviors with parasocial interaction.

To fill these research gaps, this study aimed to test the relationship between information quality and entertainment of HLS and viewers' purchase intention. Drawing from the flow theory, the study expanded the research model by adopting parasocial interaction as a boundary condition. The study also examined the mediated moderation effect of parasocial interaction on viewers' purchase intention through flow. The study's results will contribute to the application of flow theory and the effect of parasocial interaction in the HLS context. Hotel marketers can benefit from the results by leveraging flow and parasocial interaction in designing and implementing HLS programs.

2. Literature Review

2.1. Flow theory

Flow is defined as a state of mind in which individuals are completely involved in a particular activity (Csikszentmihalyi, 1975). According to Bose (2008), when people enter the flow, they are barely interrupted by unnecessary stimuli since people filter out irrelevant information. Hoffman and Novak (2009) asserted that flow is everywhere in daily activities, including shopping. Many scholars have adopted this novel framework to comprehend consumer behaviors in diverse online applications (Hyun et al., 2022). Kim and Kim (2022) used the flow theory to investigate viewers' experience in live streaming. As such, the current study employed flow theory to explicate the establishment of flow and its effect on viewers' purchase intention on promoted hotel products in HLS.

2.2. *Antecedents of flow in HLS*

Information quality is defined as the extent of the individual's perception of information delivered by producers (Mun et al., 2013). In the context of social media, people gain helpful information from interaction with influencers. The role of interaction is enhanced in live streaming settings because live streaming is designed to offer real-time interaction with streamers, which enables users to obtain quality information via instant communication (Hilvert-Bruce et al., 2018). Given that information quality influences the consumers' favorable mental state (Guo & Sun, 2022), the study assumes that information quality leads HLS viewers to flow filled with a positive attitude, entirely immersed in HLS.

H1. Information quality positively influences the flow of viewers in HLS.

Entertainment refers to relaxation, diversion, and pleasure that predispose the audience to concentrate on media (Bosshart & Macconi, 1998). According to Martins et al. (2019), entertainment elicits positive attitudes in consumers, which is consequently linked to flow. Entertainment is embedded in live streaming since it is an audio and video-based channel. Previous research confirmed that intriguing TV commercials stimulate viewers to enter flow by forming a favorable attitude toward the content. Similarly, the study assumes that the entertainment content of HLS catalyzes viewers to be immersed in the flow.

H2. Entertainment positively influences the flow of viewers in HLS.

2.3. *Mediating role of flow*

Past studies have revealed that flow has a mediating effect on the relationship between environmental factors and individuals' outcomes based on their experience (Cater et al., 2021; Kim & Thapa, 2018). According to Gao et al. (2017), consumers enter into flow when they receive high-quality information because that information increases the plausibility of interaction with tour content. In addition, Ali (2016) confirmed that information quality has an indirect effect on users' behaviors on a hotel website through flow. Hsu et al. (2012) demonstrated that entertainment influences the flow, and flow affects purchase intention. Likewise, the study assumes that viewers enter the flow of HLS when they receive high-quality information and enjoy the content of HLS, thereby leading to their intention to purchase in HLS. Thus, the study proposes two hypotheses as follows.

H3. Flow positively influences viewers' purchase intention in HLS.

H4. Flow mediates the relationship between a) Information quality, b) entertainment, and viewers' purchase intention in HLS.

2.4. Moderating role of parasocial interaction

Parasocial interaction refers to a psychological connection between a media figure and an audience (Horton & Wohl, 1956). People form illusionary intimacy toward media performers through virtual interaction, under the belief that they individually know them (Chung & Cho, 2017). Scholars recently shed new light on parasocial interaction, considering it a critical construct that affects the relationship between social media users and influencers. The interactive environment of social media especially increases the probability of strong parasocial interaction by cultivating a favorable perception of promoted products shared by influencers (Lueck, 2015). In live streaming, streamers play a similar role to social media influencers. Streamers not only perform promotional activities but also serve as protagonists of the broadcast with whom viewers are eager to connect.

Aligning with the increasing popularity of influencer marketing in social media, researchers have attempted to examine the role of parasocial interaction in comprehending users' behaviors on social media. Existing research has shown that streamers can influence viewers' engagement and arouse purchase intention (Wongkitrungrueng & Assarut, 2018). Viewers who experience quality information and enjoyable content of HLS may enter the flow, thereby generating an intention to purchase promoted products (Kim & Thapa, 2018). In addition, parasocial interaction could influence viewers' flow filled with positive feelings by bolstering the personal relationship between viewers and streamers (Liu et al., 2023).

Generally, viewers who perceive high parasocial interaction toward streamers should have more favorable attitudes toward introduced travel destinations through streamers (Bi et al., 2021). When viewers form strong parasocial interactions with vloggers, viewers' flow experience could be more robust (Hsu, 2020). Furthermore, when their immersion in flow becomes stronger, viewers should also become more motivated to purchase (e.g., purchase intention) the promoted products in tourism live streaming (Liu et al., 2022). Conversely, viewers who perceive low parasocial interaction with streamers might experience limited flow and purchase motivation, even though the information is valuable and the content of live streaming is entertaining. Consequently, it results in limited motivation to engage in viewers' behavioral intentions, such as purchase intention. Therefore, the current study assumes that the indirect effect of information quality and entertainment of HLS on viewers' purchase intention through flow will be conditional under the level of parasocial interaction (high vs. low). Based on the preceding discussion, the following two hypotheses are developed.

H5. Parasocial interaction moderates the relationships between a) information quality, b) entertainment, and flow, such that the relationships are stronger under higher parasocial interaction.
H6. Parasocial interaction moderates the indirect relationships between a) information quality, b) entertainment, and purchase intention through flow, such that the relationships are stronger under higher parasocial interaction.

Figure 1 below shows the research model of the study.

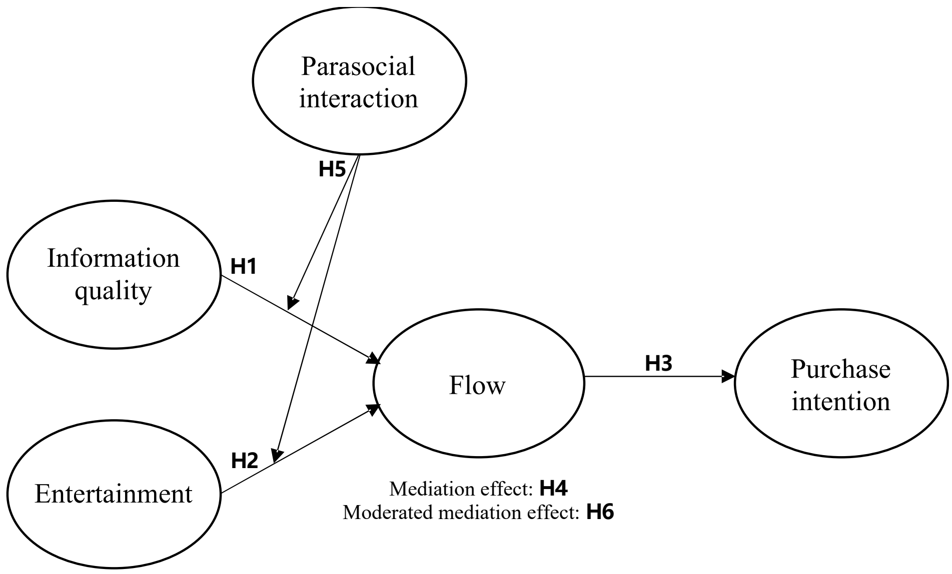

Figure 1. Research model

3. Methodology

3.1. Sample and data collection

The study data was collected on Prolific, an online survey platform. The study conducted a pre-screening survey before the main survey to gain a qualified sample. Only respondents who were over 18 years old, watched HLS, and provided proper answers to the question about HLS were eligible to participate in the main survey. A total of 310 data that passed the attention checks were used for the final data analysis. The average participants' age was 40.14 (SD =13.57), and 61% of the respondents were male. The income level ranged from $55,000-84,999, accounting for 26.8%, followed by $25,000-54,999.

3.2. Measurement

The study employed well-established items from previous research to ensure the reliability of constructs. Information quality was measured by using a five-item scale from Guo and Sun (2022). A sample item was "Information in the hotel live streaming was up to date." Entertainment was measured by adapting a five-item scale from Voss et al. (2003). A sample item was "Watching the hotel live streaming was fun." Parasocial interaction was measured by using a nine-item scale from Shen et al. (2022). A sample item was "The live streamer makes me feel comfortable as if I am with a friend." Flow was measured by using a four-item scale from Kim and Han (2014). A sample item was "When I watch hotel live streaming, time seems to pass by very quickly." Purchase intention was measured by using a four-item scale from Shen et al. (2022). A sample item was "I am likely to buy hotel products recommended by the live streamer." All the variables were assessed using a seven-point Likert scale from "strongly disagree = 1" to "strongly agree = 7". The study adopted age, gender, and income level as control variables following the suggestion from Guo and Sun (2022).

4. Results

4.1. Data analysis

Before testing the proposed hypotheses, we executed confirmatory factor analysis (CFA). The proposed seven-factor model showed the best model fit ($\chi 2[533]$ = 1295.31, RMSEA=.07, CFI=.94). The AVE value of parasocial interaction was higher than 0.50, and its composite reliability (CR) surpassed 0.90 (Fornell & Larcker, 1981). Also, the values of average variance extracted (AVE) of all remaining variables were above 0.70. Thus, the study confirmed adequate validity of all variables (Hair et al., 2009).

4.2. Direct and mediation effects

The study used SPSS PROCESS Macro model 4 to test the hypotheses of direct effect (H1-H3) and mediation effect of flow (H4). As shown in Table 1, the results indicated that information quality (B = 0.86, p <.001) and entertainment (B = 0.83, p <.001) both positively influenced viewers' flow. Therefore, H1 and H2 were supported. Also, the study confirmed that flow positively influenced viewers' purchase intention (B = 0.56, p <.001; B = 0.49, p <.001), which supported H3. The mediation effects of flow on the relationships between a) information quality, b) entertainment and purchase intention were significant, supporting H4 (H4a, indirect effect = 0.48, 95% CI = [0.35,0.62]; H4b, indirect effect = 0.41, 95% CI = [0.29,0.53]).

4.3. Moderation and moderated mediation effects

The study used SPSS PROCESS Macro model 7 to test H5. Table 1 shows the results of the moderation effect of parasocial interaction on the relationship between a) information quality (B = 0.09, p <.01), b) entertainment (B = 0.08, p <.01), and flow. As the study confirmed moderation effects, we further executed a simple slop test (see Figures 2 and 3). The results indicated that the relationships between a) information quality (simple slope = 0.78, p <.001), b) entertainment (simple slope = 0.79, p < .001), and purchase intention were both stronger with high parasocial interaction. Thus, H5 was supported. Finally, the study tested the moderated mediation effect of parasocial interaction in the research model. The results showed that parasocial interaction moderated the indirect effects of a) information quality (index = 0.06, 95% CI = [0.01,0.10]), b) entertainment (index = 0.04, 95% CI = [0.01,0.07]), on purchase intention through flow, where both indirect effects were stronger with high parasocial interaction. Thus, H6 was supported.

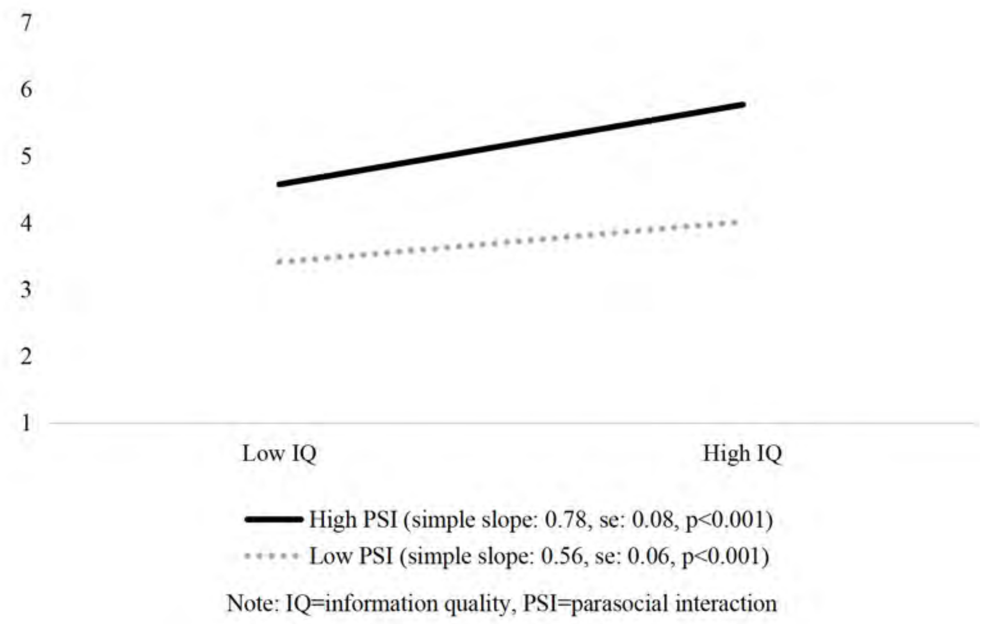

Figure 2. Moderating effect of parasocial interaction on flow – information quality relationships

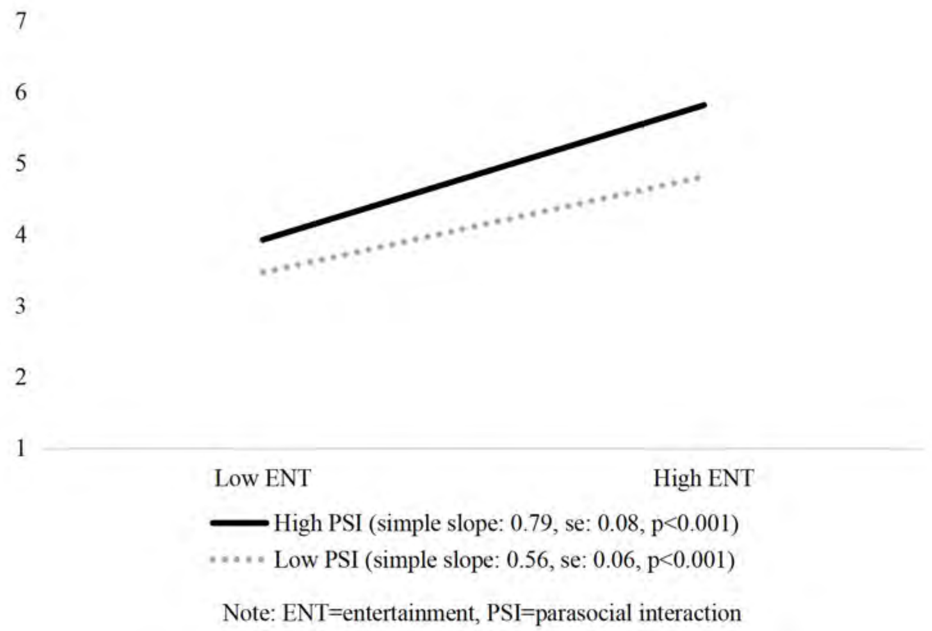

Figure 3. Moderating effect of parasocial interaction on flow – entertainment relationships

Table 1. Hypothesis testing results (H1-H3, H5)

	DV: Flow				DV: Purchase intention	
	Step 1		Step 2		Step 3	
	B(SE)	*B*(SE)	*B*(SE)	*B*(SE)	*B*(SE)	*B*(SE)
Intercept	0.35 (0.40)	0.30 (0.29)	4.50*** (0.22)	4.30*** (0.20)	2.00*** (0.35)	2.12*** (0.37)
Age	-0.01 (0.01)	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.01	-0.00 (0.00)
Gender	-0.00 (0.12)	0.14 (0.10)	0.07 (0.11)	0.12 (0.10)	-0.07	0.01 (0.12)
Income1	-0.15 (0.21)	-0.11 (0.17)	0.05 (0.18)	-0.01 (0.16)	-0.65***	-0.67*** (0.19)
Income2	-0.08 (0.18)	-0.07 (0.14)	0.02 (0.16)	0.00 (0.14)	-0.25	-0.24 (0.17)
Income3	-0.24 (0.24)	-0.37 (0.20)	-0.15 (0.21)	-0.27 (0.19)	0.02	-0.06 (0.23)
Income4	-0.18 (0.18)	-0.22 (0.15)	-0.06 (0.16)	-0.11 (0.14)	-0.04	-0.07 (0.17)
IQ	0.86*** (0.06)		0.39*** (0.08)		0.41*** (0.07)	
ENT		0.83*** (0.04)		0.67*** (0.64)		0.36*** (0.07)
PSI			0.55*** (0.06)	0.26*** (0.06)		
PSI×IQ			0.09** (0.04)			
PSI×ENT				0.08** (0.02)		
F					0.56*** (0.05)	0.49*** (0.07)

Note: N=310, IQ=information quality, ENT=entertainment, F=flow, Income1=less than \$25,000, Income2=\$25,000-\$54,999, Income3=\$85,000-\$99,999, Income 4=over \$100,000; ***p*<0.01; ****p*<0.001

5. Discussion and Conclusion

5.1. Conclusion

The purpose of this study was to comprehend the mechanism of viewers' behavior in HLS. The study investigated the effect of information quality and entertainment on viewers' purchase intention of HLS products. Moreover, the study examined the mediation effect of flow on the relationships between information quality, entertainment, and viewers' purchase intention based on flow theory. The study further tested the moderated mediation effect of parasocial interaction. The study provides several major findings. First, both the information quality and entertainment of HLS positively influence viewers' flow. Second, flow mediates the relationship between information quality, entertainment, and viewers' intention to purchase HLS products. Finally, the moderated mediation effect of parasocial interaction was confirmed.

5.2. Implications

The current study suggests several theoretical implications. First, the results support the flow theory in the context of HLS, which bolsters previous findings in different research fields (Lin et al., 2022). Moreover, the study expands flow theory with parasocial interaction as a boundary condition. The findings of the study demonstrate the moderated mediation effects of parasocial interaction on the relationship between information quality, entertainment, and purchase intention via flow. Unlike the existing research that used parasocial interaction as a mediator or predictor of consumer behavioral intention, the study employed parasocial interaction as a moderator, which stresses the role of parasocial interaction as a conditional factor in comprehending viewers' behavior in HLS. Finally, following the call for different geographical or cultural contexts outside of Asian countries (Yu et al., 2022), this study investigates hotel live streaming in the U.S. context. The results advocate the findings from Liu et al. (2022) that flow influences consumers’ purchase intention in live streaming. Thus, the study contributes to the generalization of previous findings.

The study also provides important practical implications for hotel practitioners. First, the findings showed that viewers tend to purchase promoted hotel products on HLS when they experience flow derived from quality information and amusing broadcast content. Hence, hotel marketers should devote their efforts to increasing the likelihood of flow. For example, they can stimulate flow by leveraging live streaming functions, such as conveying updated information and offering raffles for entertainment. Second, given that parasocial interaction moderates the relationship between information quality, entertainment, and purchase intention via flow, hotels may collaborate with influential streamers who have highly engaged followers. Finally, the moderated mediation role of parasocial interaction was confirmed. Thus, hotel marketers may focus on enhancing parasocial interaction by composing a real-time conversation between streamers and their viewers. By providing viewers with the valuable opportunity to connect with popular streamers, hotels could reinforce parasocial interactions.

5.3. Limitations and suggestions for future studies

Despite the abovementioned contributions to hospitality literature, the study is not free from limitations. First, the majority of respondents watched HLS on YouTube Live, which could decrease the generalizability of our findings. Each live streaming channel has its characteristics, and the motivation for watching HLS might differ depending on the types of platforms. Thus, different live streaming platforms should be investigated in future studies. Second, the study only used the quantitative research method. Past research discovered the critical predictors of consumer behavior in the diverse social media context. However, HLS is a novel type of distribution channel characterized by real-time communication in a specific timeframe based on video media. Also, it is distinguished from other product marketing because it is a combination of service and product (Shostack, 1977). Therefore, future research should use qualitative research methods, such as focus group interviews, to explore other potential factors related to flow in HLS, thereby enriching the in-depth comprehension of viewers' behavior in HLS.

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Revolutionizing hospitality learning: The impact of smart technology integration and collaborative practicums on student outcomes

Hsu, Meng-Jun
Assistant Professor, Department of Hotel Management,
National Kaohsiung University of Hospitality and Tourism, Kaohsiung

Yeh, Wen-Chin
Assistant Professor, Department of Fashion Business and Merchandising
Ling Tung University, Taichung, Taiwan

Hsieh, Yen-Ling
Graduate Institution of Hospitality Management
National Kaohsiung University of Hospitality and Tourism, Kaohsiung, Taiwan

Abstract:

This study reveals that integrating smart technologies and optimized service processes in hospitality internships significantly boosts students' intentions to explore and adopt smart service platforms, as confirmed through empirical research. By implementing a novel " Dual Relationship-Dynamic Intention Model for Smart Technology and Service Process Integration in Hospitality." model, it showcases the positive effects of hands-on teaching methods on students' smart technology adoption behaviors and explores future strategies for advancing smart hospitality education.

Keywords: *Smart Technology Integration, Service Process Integration, Smart Technology Agility, Exploration Intention, Adoption Intention*

1. Introduction

This study examines the hospitality industry's shift towards cloud-based management systems, focusing on the integration of Property Management Systems (PMS) and other hospitality technologies within a Software as a Service (SaaS) architecture. It emphasizes the role of cross-disciplinary talent in leveraging diverse smart technologies (software, hardware, and APIs) to foster digital transformation, highlighting the potential for technological advancements to enrich resources and deepen insights into global market strategies for international hotel brands (Abukhalifeh & Pratt, 2022). In Taiwan, hospitality professionals are actively engaging in digital transformation, turning experiences into quantifiable and qualitative application modules, and promoting cross-disciplinary thinking, essential for industry innovation. The research underscores the necessity of ongoing Smart Technology Integration and resource evaluation to align with digital transformation efforts, aiming to develop operation policies that reflect current strategies. It points out the urgent need for professionals with Smart Technology Agility, capable of quickly adapting to market changes and customer demands, especially in the era of 5G and AIoT, where innovative and effective operational solutions are crucial (Gaur et al., 2021). Collaboration with our school's internship hotel has enabled hands-on digital transformation experiences for students, who develop and test smart technology applications. This approach aims to produce talents proficient in both technology and management, ready to inject innovation into the global hospitality sector. By integrating theory with practice, the project seeks to bolster the hospitality industry's capacity to tackle digital challenges, advocating for continuous development and innovation. The initiative highlights the importance of practical teaching methods and the development of a platform for students to apply their learning in real-world settings, illustrating the integrated application platform's architecture and user interface as fundamental components of this educational model, Smart hotel integrated application system architecture shows in figure 1.

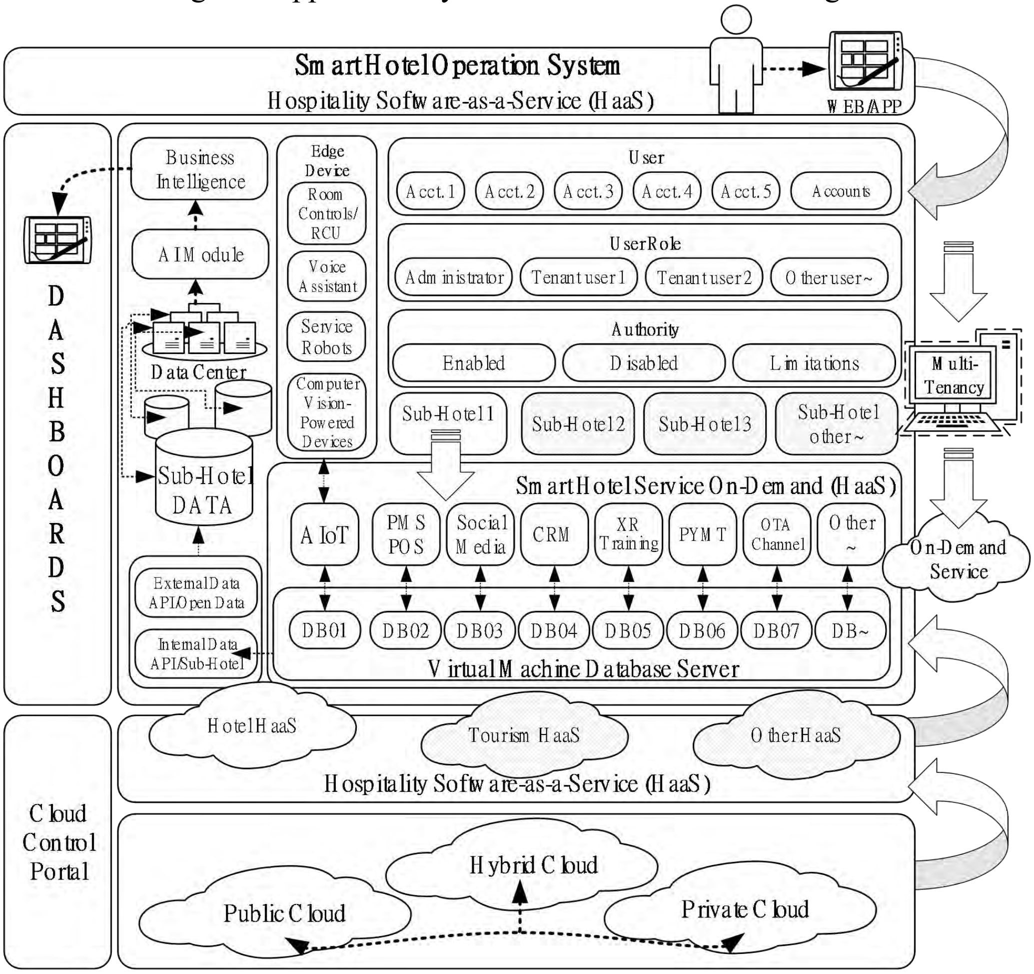


Figure 1、Smart hotel integrated application system architecture (Hsu et al., 2022)

2. Literature Review

The integration and utilization of smart technology within the hospitality industry have emerged as pivotal factors in enhancing the adaptability, efficiency, and competitiveness of hospitality enterprises. This literature review synthesizes research findings on Smart Technology Integration, Service Process Integration, Smart Technology Agility, Exploration Intention, and Adoption Intention, highlighting their collective impact on the hospitality industry's evolution. Smart Technology Integration is fundamental to the hospitality industry, fostering adaptability and flexibility across various operations. Kamna, Gautam, & Jaggi (2021), Lee, Wang, & Grover (2020), and Rai & Tang (2010) emphasize that this integration allows for real-time adjustment of information and processes, catering to specific industry needs. Barua, Konana, Whinston, & Yin (2004), and Hanelt, Bohnsack, Marz, & Antunes Marante (2021) discuss the alignment of diverse information systems and the facilitation of cooperation across different technology platforms, which is essential for enhancing data consistency and processing efficiency. Mikalef, Pateli, & van de Wetering (2021), and Rai & Tang (2010) further explore how Smart Technology Integration fosters human-machine collaboration, significantly benefiting the educational and practical training aspects within hospitality settings. Service Process Integration reflects the operational harmony within the hospitality industry, where technology professionals play a critical role in embedding and refining standard operating procedures. Wong, Tan, Hew, Ooi, & Leong (2020) identify the evolution from initial module application to a deeper connection between technology professionals and business owners, promoting increased process specificity and resource management specialization (Mikalef et al., 2021; Mollah, 2021). This integration is crucial for mutual communication and cooperation, enabling swift response to market changes (Gosain, Malhotra, & El Sawy, 2004; Mikalef et al., 2021).

Smart Technology Agility is identified as a vital capability for the hospitality industry to navigate and thrive in a hyper-competitive environment. Kamna et al. (2021) define organizational agility as the ability to perceive and respond to rapid changes, fostering innovation. This agility is essential for sensing and reacting to opportunities and challenges within the industry, with innovations often driven by external industries familiar with the hospitality sector's offerings (Roberts & Grover, 2012; Melian-Alzola et al., 2020; Mollah, 2021; Yin et al., 2020). Exploration Intention focuses on the initiative-taking seeking of information and capabilities by hospitality technology professionals. Maruping & Magni (2012) and Kathuria, Karhade, & Konsynski (2020) highlight the importance of not just meeting standards for continuous use but fostering a willingness to explore management processes and innovations, essential for adapting to industry shifts and enhancing service offerings. Adoption Intention is significantly influenced by positive experiences and outcomes associated with the use of smart technology. Bhattacherjee (2001) notes the role of user satisfaction in motivating ongoing use, while Kathuria et al. (2020) and Maruping & Magni (2012) discuss the impact of successful interactions and decision-making on the adoption of new systems and services. This intention is further supported by the interaction between students and smart service platforms in real-world scenarios, testing and demonstrating the demand for intelligent services within the industry (Chan, Yim, & Lam, 2010; Hong, Thong, & Tam, 2006).

In conclusion, the integration of smart technology and the agility it affords the hospitality industry are crucial for its ongoing evolution and competitiveness. The literature underscores the importance of fostering a culture of exploration and adoption among professionals, which is essential for leveraging technology to enhance service quality, operational efficiency, and customer satisfaction in the hospitality industry.

3. Methodology

This study introduces an interdisciplinary course titled "Hospitality Intelligence and Information Technology Applications," blending IT equipment and service science with a focus on diverse learning modalities in IT applications for hospitality students. It incorporates practical teaching on hotel operations, restaurant management, and IoT applications, emphasizing the variety in application modules' context, definitions, and values in instructional design and learning interactions. The course content is delivered through co-teaching by IT professionals and senior hospitality executives, ensuring extensive student-teacher interaction. Given the complexity of measuring performance in hospitality intelligence and strategic management, the course emphasizes "Agility" and "Smart Technology Intentions" as crucial for assessing teaching effectiveness and significantly impacting students' ability to adapt and adopt smart hospitality applications (Lu & Ramamurthy, 2011; Roberts & Grover, 2012). It incorporates Microsoft Azure and Amazon EC2 cloud services for individual student accounts to test and organize face recognition and smart modules, with post-lesson review mechanisms based on recorded operational screens. This approach facilitates the integration of smart hospitality strategies into practical exercises at internship hotels, serving as a basis for future strategic and service design adjustments, and introduces examples of smart hospitality technology applications to spark student interest, shows in Figure 2. proposed research model.

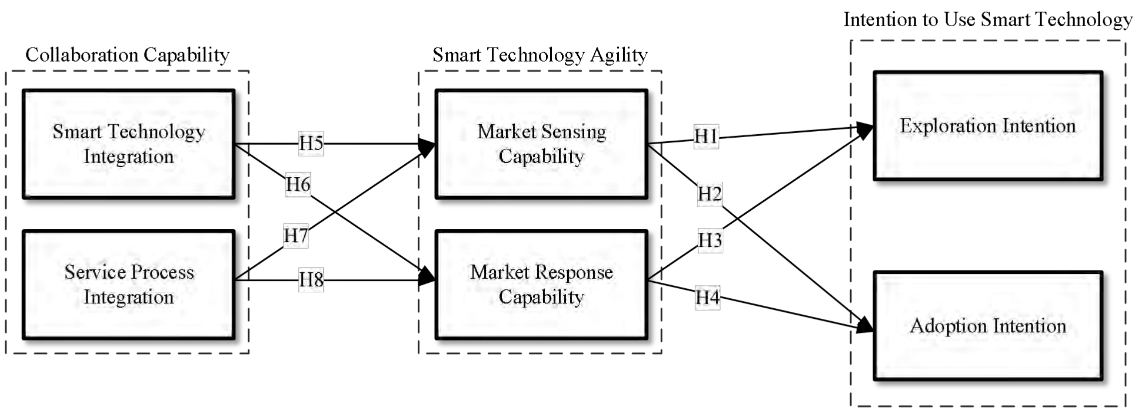


Figure **2. Proposed research model**

3.1. Market Sensing Capability and Exploration Intention

In the context of the hospitality industry's digital transformation, the ability to maintain a competitive edge is notably enhanced by investing in organizational capabilities and resources, creating temporary advantages. Central to surviving in such a competitive landscape is the Market Sensing Capability, crucial for recognizing market shifts and customer needs. This capability is integral to organizational agility, enabling timely and effective responses to innovation opportunities amidst rapid changes. Research by Maruping and Magni (2012) and Kathuria et al. (2020) underscores that beyond adherence to technological use standards, the Exploration Intention driven by market sensing significantly influences the adoption of innovative technologies and processes, thereby enhancing management effectiveness and innovation. Hence, Market Sensing Capability is vital for fostering innovation and digital transformation within the hospitality industry, suggesting that a stronger Market Sensing Capability leads to a higher Exploration Intention towards smart service platforms. This forms the basis of Hypothesis 1: "Market Sensing Capability" positively affects the "Exploration Intention" for applying smart service platforms.

3.2. Market Sensing Capability and Adoption Intention

In the hospitality industry, maintaining a competitive advantage amidst rapid digital transformation necessitates leveraging organizational agility, particularly Market Sensing Capability and Market Response Capability. Agility enables quick adaptation to environmental changes, with Market Sensing Capability being crucial for identifying innovative opportunities through industry insights and interactions (Roberts & Grover, 2012; Kamna et al., 2021; Melian-Alzola et al., 2020). Professionals with strong market sensing are more inclined to explore and implement new systems or services that boost organizational efficiency (Bhattacherjee, 2001). This capability not only facilitates the adoption of new operational policies and services but also encourages organizations to embrace new smart service platforms amid changing market conditions, enhancing their willingness to adopt these technologies (Kathuria et al., 2020; Maruping & Magni, 2012). Thus, improving Market Sensing Capability can significantly raise practitioners' Adoption Intention towards smart service platforms, positively influencing the industry's progression in digital transformation. Accordingly, Hypothesis 2 is proposed: A user's "Market Sensing Capability" has a positive effect on their "Adoption Intention" towards the application of smart service platforms.

3.3. Market Response Capability and Exploration Intention

Market Response Capability is crucial for the hospitality industry to thrive in a dynamic competitive environment, enabling organizations to quickly and effectively react to market changes and seize opportunities for innovation (Kamna et al., 2021; Melian-Alzola et al., 2020). High response capability not only allows for rapid adaptation to market shifts but also fosters an initiative-taking exploration and application of new smart service platforms, enhancing the Exploration Intention. This intent reflects not just curiosity about innovative technologies but also active engagement with management processes and industry information (Kathuria et al., 2020). Furthermore, positive experiences and outcomes from adopting innovative technologies reinforce the motivation for continued use of these services (Bhattacherjee, 2001). Thus, this study posits that a high Market Response Capability is not only vital for success in a dynamic environment but also key in encouraging hospitality technology professionals to intensify their exploration of new smart service platforms. Accordingly, Hypothesis 3 is proposed: A user's "Market Response Capability" positively affects the "Exploration Intention" towards the application of smart service platforms.

3.4. Market Response Capability and Adoption Intention

Agility in the hospitality industry is essential for sensing and responding to specific opportunities for innovation and competition, stemming from an organization's unique processes and cannot be bought but must be developed internally (Roberts & Grover, 2012). The capability to quickly adapt to and act upon environmental changes and customer demands is crucial for thriving in challenging settings (Kamna et al., 2021; Melian-Alzola et al., 2020). Positive user experiences with systems or services significantly bolster the intention to continue their use (Bhattacherjee, 2001). Hospitality technology professionals with strong Market Response Capability are more effective in their decision-making and interaction regarding the adoption of new operational policies, services, and systems, fostering the adoption of smart service platforms and encouraging innovation and digital transformation within the industry (Kathuria et al., 2020; Maruping & Magni, 2012). Thus, this study introduces Hypothesis 4: "Market Response Capability" positively affects "Adoption Intention" towards the use of smart service platforms.

3.5. Smart Technology Integration and Smart Technology Agility

This study examines how Smart Technology Integration affects Market Sensing Capability and Market Response Capability within the context of smart technology collaboration. It introduces Hypotheses 5 and 6, investigating how integrating smart technologies enhances acute market perception and swift, effective responses, thereby improving the efficiency of collaborative smart technology efforts. Smart Technology Integration refers not only to the role adjustment of hospitality technology professionals across industry relations but also to the integration of information systems and process adjustments for efficient collaboration and data processing. This capability enables rapid adaptation to market changes, seizing innovation opportunities in dynamic environments. Organizational agility, including sensing and response abilities, is crucial for the hospitality industry to effectively perceive environmental changes and respond quickly, surviving in competitive settings. Effective internal and partner integration of smart technologies sharpens market change perception and understanding, also boosting the ability to quickly and effectively meet market demands and challenges. These hypotheses focus on how Smart Technology Integration, by improving information flow and collaborative efficiency, enhances market sensing and response capabilities, key to sustaining competitive advantage in the hospitality industry. Therefore, Hypotheses 5 and 6 are proposed, Hypothesis 5: A user's "Smart Technology Integration" positively influences "Market Sensing Capability" in smart technology collaboration. Hypothesis 6: A user's "Smart Technology Integration" positively influences "Market Response Capability" in smart technology collaboration.

3.6. Service Process Integration and Smart Technology Agility

The concept of Service Process Integration is particularly crucial. It involves not only effectively integrating operational processes for quick mastery and handling of exceptions but also developing deeper connections and dependencies between hospitality technology professionals and owners. By merging processes from both sides, it can enhance the specificity of processes for owners or increase the company's specialization in managing specific resources. Service Process Integration strengthens the ability of hospitality technology professionals and industry owners to effectively coordinate and improve upon hospitality technology and processes. Through high process transparency and optimization, it enables rapid detection and action in response to market changes, enhancing sensitivity and understanding of market dynamics, and allowing for more effective prediction of market trends. Thus, Service Process Integration promotes a swift reaction to market demands and changes, thereby enhancing competitive advantage. These assumptions focus on the crucial role of Service Process Integration in improving Market Sensing Capability and Market Response Capability, suggesting that effective integration and coordination of processes can lead to agile responses to market dynamics, securing a competitive edge in rapidly changing environments. Based on this discussion, the study proposes Hypotheses 7 and 8, Hypothesis 7: A user's "Service Process Integration" positively influences "Market Sensing Capability" in technology collaboration. Hypothesis 8: A user's "Service Process Integration" positively influences "Market Response Capability" in technology collaboration.

4. Results

The aim of this study is to cultivate professionals with diverse interdisciplinary knowledge through the development and analysis of hospitality smart technology teaching courses, providing guidance for the design and development of smart and interdisciplinary courses in future hospitality technology vocational education. By combining traditional Instructional Systems Design (ISD) procedures, specifically the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model, with Project Management (PM) processes such as IPECC (Initiating, Planning, Executing, Controlling, Closing), this research systematically develops modules for hospitality smart technology courses. These modules cover everything from platform logic framework design to application scenarios, aiming to enhance students' application capabilities and practical effects. In the initial stage of teaching, instructors will utilize templates of smart hotel war room platforms planned and designed in internship settings, along with related application scenarios, to ensure students learn in a structured and practical environment. These platforms will be integrated into Microsoft Teams, purchased by the school, to facilitate centralized resource management and integration, promoting real-time interaction between students and teachers and facilitating mobile learning. Through this curriculum planning and implementation, students will learn how to use smart technology tools (such as Azure AI) combined with data science concepts to build and develop hospitality smart application platforms. The curriculum also includes collaborative sharing with information industry experts and senior executives in the hospitality industry, facilitating communication and construction of teaching materials through the network community established via Microsoft Teams, enhancing students' practical operation capabilities and the integration of theoretical knowledge. Smart technology integration and optimization of service processes play crucial roles in the curriculum. We attempt to teach students how to utilize smart technology tools like Azure AI to enhance the efficiency and quality of hospitality services through practical operations.

However, this also highlights a challenge: students' varying levels of proficiency in technical applications require targeted guidance and support in the teaching process. Furthermore, understanding the correlation between technology integration, service process optimization, and their significance in enhancing customer satisfaction and business efficiency becomes another issue for us to ponder deeply. Additionally, the implementation of practical teaching demonstrates the importance of industry connections in education. By inviting information industry experts and senior executives from the hospitality sector to participate in the curriculum, we not only enrich teaching content but also provide students with opportunities to align with the industry. This interaction not only enhances students' learning motivation but also helps them develop a more practical career vision. However, striking a balance between theoretical teaching and sharing practical experiences to ensure students can make effective connections between the two is something we need to explore further in the future. Finally, the implementation of mobile learning demonstrates the potential of educational technology in improving learning outcomes.

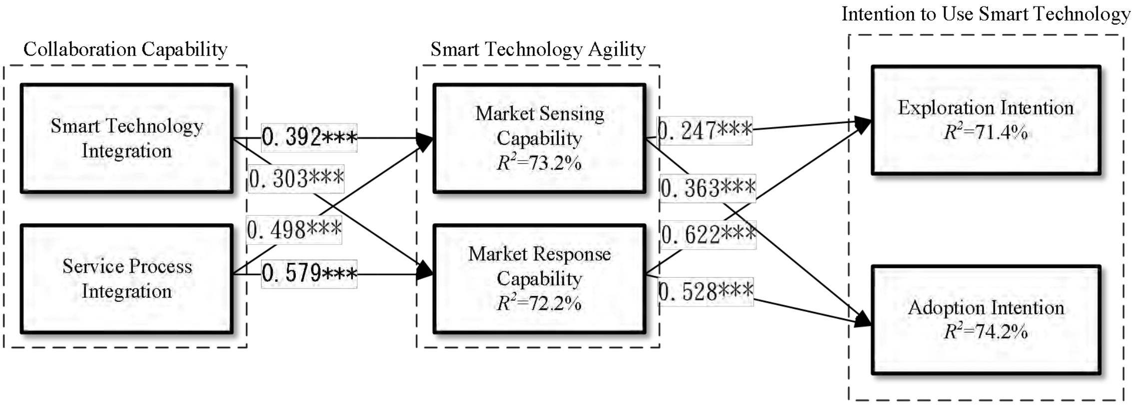
This study employs the Partial Least Squares (PLS) method as the data analysis technique for evaluating the research model and uses SmartPLS 3.0 as the analytical software. This method has recently used in the field of information systems as a statistical tool for theoretical validation(Hair, Risher, Sarstedt, & Ringle, 2018; Jöreskog & Wold, 1982). PLS is primarily a component-based structural equation modeling (SEM) measurement approach, which explores the structural relationships between path coefficients and latent constructs using a nonparametric approach (Ahuja & Thatcher, 2005; Chin, Marcolin, & Newsted, 2003; Hair Jr, Hult, Ringle, & Sarstedt, 2013). It is particularly effective for robust testing of statistical data that are small in sample size and exhibit non-normal characteristics (Ahuja & Thatcher, 2005; Chin, 1998; Hair et al., 2018). PLS employs the Bootstrap method to avoid the estimation risk that traditional multiple regression methods might face due to a small sample size. This study also adjusts the numerical values of the actual sample sizes proportionally to set the number of resamples in the Bootstrap process, adopting the sampling number settings recommended by Lohmöller (1982) and Hair Jr et al. (2013): (1) the number should be greater than the original sample size; (2) the maximum cap for resampling is set at 5000.

The hypothesis testing in this study model utilizes the Partial Least Squares (PLS) method to validate the assumptions proposed within various theoretical models. A seven-point Likert scale is used for measurement. A total of 180 valid questionnaires were collected, targeting students from four classes over two semesters, specifically Semester 111-1 and Semester 111-2, comprising 180 students in total. Measurements were taken at the end of the semester. Shows in Table 1.

Table 1、Sampling Source Summary (n=180).

Measurement Variable	Item	Frequency	Percentage
Gender	Biological Female	139	77.2
	Biological Male	41	22.8
Age	19-25 years old	180	100
Average daily study time of [Internship	0~1 hour/day	44	24.4
	1 hour/day	72	40.0

Field Intelligent Service System] before starting an on-campus internship	2 hour/day	36	20.0
	3 hour/day	15	8.3
	4 hour/day	9	5.0
	5 hour/day	1	0.6
	6 hours or more/day	3	1.7



***p<0.05 = t>1.96; **p<0.01 = t>2.58; ***p<0.001 = t>3.29.**

Figure 3、Research Analysis Results after Implementing Smart Technology Instruction

Table 2、Summary of Analysis Results (n=180).

	RESEARCH HYPOTHESES	β-Value	t-value	Result
H1	Market Sensing Capability → Exploration Intention	0.247	2.624	SUPPORT
H2	Market Sensing Capability → Adoption Intention	0.363	4.889	Support
H3	Market Response Capability → Exploration Intention	0.622	6.594	SUPPORT
H4	Market Response Capability → Adoption Intention	0.528	7.066	SUPPORT
H5	Smart Technology Integration →Market Sensing Capability	0.392	4.617	SUPPORT
H6	Smart Technology Integration → Market Response Capability	0.303	3.372	SUPPORT
H7	Service Process Integration → Market Sensing Capability	0.498	5.574	SUPPORT
H8	Service Process Integration → Market Response Capability	0.579	6.292	SUPPORT

***p<0.05 = t>1.96; **p<0.01 = t>2.58; ***p<0.001 = t>3.29.**

This study aims to explore the impact of market sensing capability, market response capability, smart technology integration capability, and service process integration capability in the hospitality industry on the exploration intention and adoption intention of smart service platforms among interns. The **Figure 3 and Table 2** shows, our study results support all proposed hypotheses, confirming the positive effects of market sensing capability, market response capability, smart technology integration capability, and service process integration capability on the exploration intention and adoption intention of smart service platforms. Specifically, the β-value of market sensing capability for exploration intention is 0.247, and for adoption intention is 0.363, indicating its positive influence on encouraging interns to explore and adopt new smart service platforms. Market response capability shows a β-value of 0.622 for exploration intention and 0.528 for adoption intention, emphasizing its crucial role in encouraging interns to explore and adopt new technologies by swiftly and effectively responding to market changes. Smart technology integration has a β-value of 0.392 for market sensing capability and 0.303 for market response capability, highlighting its significant role in enhancing an organization's market sensing capability and market response capability. Similarly, service process integration demonstrates β-values of 0.498 for market sensing capability and 0.579 for market response capability, indicating its crucial role in improving market sensing and response capabilities. Overall, the findings underscore the importance of enhancing market sensing capability and market response capability through smart technology integration and service process optimization in the hospitality industry to foster exploration intention and adoption intention of smart service platforms. These results not only offer practical insights into maintaining competitiveness in the competitive hospitality market but also lay the groundwork for further research, particularly in exploring how to effectively integrate technology into hospitality business strategies during students' internship experiences.

5. Discussion and Conclusion

In this study, we attempted to combine traditional instructional system design procedures with project management processes to create a curriculum aimed at cultivating students' diverse interdisciplinary knowledge and skills. This process made me deeply aware that flexibly applying Smart Technology Integration in teaching becomes a highly challenging task in the face of rapidly changing circumstances in the hospitality industry. Here are some reflections from my teaching experience.

Firstly, we believe it's crucial to establish students' understanding of Market Sensing Capability and Market Response Capability. Through experiential learning, allowing students to personally experience and analyze market changes not only enhances their sensitivity to industry dynamics but also fosters their ability to respond quickly and effectively in future work. This requires continuous updating of teaching content to ensure its alignment with the latest industry developments. Additionally, it involves cultivating students' critical thinking skills, enabling them to independently analyze the reasons and trends behind market changes.

Secondly, Smart Technology Integration and Service Process Integration occupy significant positions in the curriculum. We attempted to teach students how to use smart technologies, such as Azure AI tools, through practical operations to enhance the efficiency and quality of hospitality services. However, this also exposed an issue: students' foundational differences in technical applications necessitate targeted guidance and support throughout the teaching process. Furthermore, understanding the correlation between technology integration and service process optimization, as well as their importance in enhancing customer satisfaction and business efficiency, becomes another topic requiring in-depth consideration.

Moreover, practical teaching has demonstrated the importance of connections with the industry for education. By inviting experts from the IT industry and senior executives from the hospitality sector to participate in the curriculum, we not only enriched the teaching content but also provided students with opportunities to align with the industry. Additionally, deep collaboration with the industry not only provides practical opportunities for students but also aligns teaching content more closely with actual job requirements, thereby enhancing the effectiveness and relevance of education. This necessitates a greater emphasis on communication and collaboration with the industry in future teaching designs, actively exploring collaborative education models between schools and businesses.

In summary, the development and implementation of the hospitality Smart Technology Integration teaching curriculum have made me deeply realize the importance of teaching innovation and the transformation of the teacher's role when facing rapidly evolving technological and industry demands. In the future, we will continue to explore and optimize teaching methods, striving to cultivate hospitality professionals who can adapt to industry changes and possess interdisciplinary integration capabilities. Such teaching practices not only hold significant implications for students' career development but also have far-reaching effects on enhancing our education quality and effectiveness. Through continuous reflection and improvement, we look forward to providing students with a more enriching, effective, and inspiring learning environment.

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Exploring the impact of technology adoption level and technology-induced role ambiguity on frontline employees' technology coping behaviors and job outcomes

Park, Hyekyung
Dedman College of Hospitality
Florida State University

McGinley, Sean
Dedman College of Hospitality
Florida State University

Wei, Wei
Rosen College of Hospitality Management
University of Central Florida

Abstract:

The restaurant industry rapidly adopted mobile ordering technology during the pandemic, with certain customers preferring it post-pandemic. Understanding its impact on employees is crucial, particularly regarding role ambiguity in handling both face-to-face and mobile orders. Using Job-Demands Resource Theory, this study explores how mobile order adoption in restaurants impacts employees' perceived role ambiguity and job performance. Findings from 483 restaurant frontline employees showed a curvilinear relationship between the level of mobile order adoption and role ambiguity – a moderate adoption level induced peak ambiguity. These findings emphasize the need to manage role ambiguity in integrating mobile ordering technology effectively.

Keywords: Role ambiguity, Employee technology coping, Job-demand resource theory, Restaurant mobile technology, Coping model of user adaptation

1. Introduction

With the growing use of technology to improve customer experiences, the roles of restaurant frontline employees have expanded beyond just taking orders to handling orders from multiple channels, including mobile ordering systems (Business Insider, 2023). Nevertheless, restaurants have reduced their frontline workforce, assuming that technology can effectively replace most of their duties (He, Teng, & Song, 2023) and enhance employees' job performance (Jeong, Lee, & Nagesvaran, 2016). Unfortunately, despite restaurants incorporating mobile technology as a job resource, employees perceive it as an additional job requirement (Christ-Brendemuhl & Schaarschmidt, 2019). Thus, the adoption of the mobile order system has created role ambiguity for frontline employees because the roles in the workplace given by the organization and perceived by employees themselves contradict. Such technology-induced role ambiguity leads employees to deviate from their original

roles, eventually lowering job performance (Christ-Brendemuhl & Schaarschmidt, 2019; Zhao, Xia, & Huang, 2020).
The Job-Demands Resource Theory (JD-R) (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) sheds light on the potential mechanism linking technology adoption and job performance because the theory argues workplace strains are a response to the imbalance of demands and resources available to employees (Bakker & Demerouti, 2007). As workplaces adopt digital interfaces between the organization and guests while still welcoming guests on a face-to-face basis, employees will be caught between two streams of information: the traditional in-person interaction and the digital one. As the mix of demands becomes more digitized, employees may have difficulty prioritizing and feeling a sense of control over their environment due to a heightened level of perceived role ambiguity. Essentially, when frontline employees are tasked with both assisting guests in person and fulfilling digital orders, they may feel intensified stress as they navigate dual responsibilities. In contrast, when digital orders dominate their workload, managing these orders becomes a routine part of their duties, resulting in less role ambiguity and alleviating workplace strain. However, prior studies have shown contradicting findings regarding the impact of technology adoption on employees' job performance. Jeong, Lee, and Nagesvaran (2016) demonstrated that integrating mobile technology in the workplace can improve job performance. In contrast, Christ-Brendemuhl and Schaarschmidt (2019) found that this adoption can also induce stress among employees, causing them to deviate from their organizational roles.

Despite the variance in employees' job performance due to technology adoption, there have been limited studies in the area to reconcile the contradicting findings. Therefore, drawing on JD-R theory, the present study aims to explore the impact of technology adoption levels on restaurant frontline employees' technology coping behaviors and job performance. The study sets out to examine the mediating impact of technology-induced role ambiguity on the relationship between technology adoption levels and technology coping behaviors and perceived job performance of restaurant frontline employees.

2. Literature Review

2.1. Previous literature on hospitality mobile technology

Due to the technological advancements in our daily lives, customers' expectations of hospitality technologies have increased (Beldona, Schwartz, & Zhang, 2018). Previous studies have demonstrated that the adoption of technology in the hospitality industry can result in positive outcomes, including enhanced customer satisfaction (Bilgihan, Kandampully, & Zhang, 2016; Cobanoglu, Berezina, Kasavana, & Erdem, 2011), behavior intention (Chen, 2015), and firm performance (Jung, Kim, & Farrish, 2014). Among several technology investments, hospitality businesses have specifically increased their investments in mobile technology to allow customers to reach their business through multiple channels after the outbreak of COVID-19. Customers' spending through online services reached $759 billion in 2020 (Census Bureau, 2021). In restaurants, the growth is even higher, reaching a 23% increase in orders in just three months after the Covid-19 outbreak (Statista, 2020).

Due to the substantial influence of mobile applications on customer experience, many researchers identify key factors that contribute to hospitality customers' adoption or adoption intentions of the technology. Based on the constructs introduced in the technology adoption model (TAM) and unified theory of acceptance and use of technology (UTAUT), researchers examine the impact of perceived ease of use, perceived usefulness, perceived behavioral control, and social norms on customers' technology use intention and satisfaction (Fong, Lam, & Law, 2017; Kim, 2016; Park & Huang, 2017). As the importance of security increases, some researchers investigate how the perceived risk (Fong, Lam, & Law, 2017; Wang & Wang, 2010) and security/privacy (Morosan & DeFranco, 2016) impact customers' technology adoption intentions. There have also been attempts to find new factors that increase technology adoption, such as the degree of cocreation (Morosan & DeFranco, 2016), customer traits (e.g., gender, age; Kim, 2016), and organizations or employees' support (Lei, Wang, & Law, 2019).

Despite the extensive research conducted on customers' experiences with mobile orders, there has been a lack of research on employees' perceptions of mobile orders in restaurants and how they impact their job performance. Additionally, the current work environment requires restaurant employees not only to interact with customers face-to-face but also to manage orders placed through mobile platforms (Zhao & Bacao, 2020), resulting in contradictory findings regarding whether this change has been beneficial for restaurant employees. For instance, Jeong, Lee, and Nagesvaran (2016) have demonstrated how mobile technology enhances job performance, satisfaction, and retention. Recently, Kim, Baker, and Ma (2023) indicated that mobile order systems have reduced employees' cognitive and emotional efforts at work, consequently improving employees' well-being. However, Christ-Brendemuhl and Schaarschmidt (2019) found that the digitization of the work environment has induced stress among employees, leading to deviant behaviors in the work process. Likewise, prior studies have shown that the adoption of mobile technology can have both positive and negative impacts on restaurant employees' job performance, underscoring the importance of identifying the reasons behind these varied findings. Hence, the current study attempts to reconcile the conflicting findings from prior studies by investigating whether the disparity in results generated from varying levels of technology adoption among restaurants.

2.2. Job demand-resource theory

The original Job Demands-Control Theory (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) has been updated to the Job Demands-Resources Theory (JD-R) by Bakker and Demerouti (2007) to incorporate a variety of demands that workers face beyond workload. Essentially, JD-R incorporates the ideas of the Demands-Control Theory and updates them with all demands workers face, the resources provided to deal with those demands, and places greater emphasis on the control that workers have over their demands (Bakker & Demerouti, 2007). Resources can be internal, like how the person approaches the job, or external, such as things that the organization provides to help with the job demands. One key point is that the resources provided (internal or external) must match and assist with the specific demand of the job (Hakanen, Schaufeli, & Ahola, 2008; Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010). An example of a mismatch of resources to demands, is if a worker is struggling to balance the work and family domains, an organization granting greater autonomy over work tasks would not be of much assistance; conversely, a worker who is provided with greater autonomy over shift scheduling may be given just the resource needed to balance the work and family domains.

Early empirical evidence supports JD-R with longitudinal studies showing support for job demands and resources influencing a myriad of factors like well-being in the form of burnout (Brauchli, Schaufeli, Jenny, Füllemann, & Bauer, 2013), changes in organizational attitudes (Hakanen, Schaufeli, & Ahola, 2008), and turnover intentions (Rodriguez-Munoz, Sanz-Vergel, Demerouti, & Bakker, 2012). The early support for JD-R did not support a consistent link between demands and job outcomes (Brough, Timms, Siu, Kalliath, O'Driscoll, Sit, ... & Lu, 2013). In fact, the mixed results regarding job outcomes have not been clarified based on a recent meta-analysis of hospitality and tourism studies looking at organization resources (Kanjanakan, Zhu, Doan, & Kim, 2023). The work done on JD-R did not even consider job outcomes like performance as part of the study's parameters (Kanjanakan et al., 2023). To help nudge the scholarly conversation forward, this study focuses on job performance as a key outcome variable and looks at one factor many organizations view as a resource for their employees' new technology. When restaurants invest in mobile ordering technology, they simultaneously give their guests a new ordering platform and a resource to help their team members work (Jeong, Lee, & Nagesvaran, 2016). However, this particular technology may actually create another demand on workers as they will have to split their attention between guests at the restaurant and mobile orders, which could lead to role ambiguity.

2.3. Role ambiguity and coping model of user adaptation

Stress is "a psychological set of reactions and processes created by a demand" (Lazarus & Folkman, 1984, p. 2). Lazarus and Folkman (1984) state that coping is defined as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person " (p. 141). They suggest that when an individual encounters a stressful situation, they undergo a two-step evaluation process. During the primary appraisal, one assesses whether the situation aligns with their goals (goal-relevance); if it does, it is perceived as a challenge (positive), whereas if it does not, it is seen as a threat (negative). In the second stage of appraisal, individuals evaluate their confidence or efficacy in reducing stress (Duhachek & Kelting, 2009). If they believe they can overcome the situation, they are likely to employ problem-focused coping strategies and seek solutions to mitigate the stress (Lazarus & Folkman, 1984). In contrast, when individuals perceive themselves as lacking the ability to manage stress, they perform emotion-focused coping strategies, which involve attempts to regulate their emotions through social support, avoidance, or denial (Duhachek & Kelting, 2009).

Beaudry and Pinsonnault (2005) introduce the coping model of user adaptation (CMUA) model to explain how employees cope with the stress that occurs from new technology adopted in the work environment. As shown in Figure 1, if an employee thinks that the new system or technology is beneficial to their work and aligns with their job roles, they will appraise the technology as a challenge (challenge appraisal; Beaudry & Pinsonnault, 2005). In contrast, when one perceives the technology is not aligned with their job-related roles, the person would perceive the technology as a threat. The primary appraisals, namely challenge and threat appraisals, determine employees' coping efforts to adjust to the new technology, eventually impacting their job outcomes (D'Arcy, Herath, & Shoss, 2014). Prior research adopts the CMUA model to find how employees cope with the technology and what leads to positive or negative job outcomes (Stacey, Taylor, Olowosule, & Spanaki, 2021).

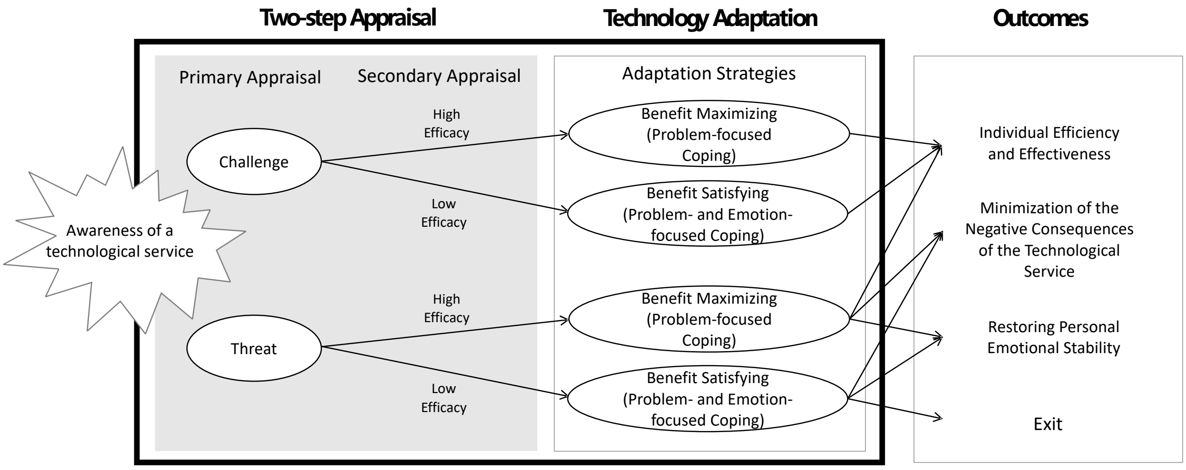

Figure 1. Technology coping model from Beaudry and Pinsonnault (2005)

2.4. Hypotheses development

When most restaurant transactions are generated through mobile ordering systems, restaurants typically ensure sufficient organizational support through training, compensation, and adequate staffing to manage the surges of orders (Jeong, Lee, & Nagesvaran, 2015). In contrast, when a restaurant receives a few orders via mobile order systems, it is highly likely that they lack organizational support for this process due to its diminished importance (Christ-Brendemuhl & Schaarschmidt, 2019). In both cases, employees experience low role ambiguity as they understand the procedures associated with restaurants' use of mobile orders. However, for restaurants with moderate levels of mobile orders, employees are faced with the dilemma of deciding whether to prioritize mobile or face-to-face orders, thereby increasing their perceived role ambiguity (Christ-Brendemuhl & Schaarschmidt, 2019). Previous research indicates that role ambiguity arises when organizational job roles are unclear and during the transitional phase of restaurants shifting from face-to-face orders to mobile orders, where the job requirements of the dual-ordering system remain unsettled (Kim, Baker, & Ma, 2023). While previous studies have examined how job demand and resources influence role ambiguity (Christ-Brendemuhl & Schaarschmidt, 2019), the impact of mobile order system adoption levels on employees’ perceived role ambiguity has not been explored. Thus, this study proposes an inverted U-shaped relationship between the level of technology adoption in restaurants and employees' perceived role ambiguity in their jobs.

Hypothesis 1. There is an inverted U-shaped relation between the technology adoption level of restaurants and the role ambiguity among restaurant frontline employees, such that the relationship is initially positive but becomes weaker as the technology adoption level increases; the relationship disappears when the technology adoption level increases further.

Previous research indicates that when employees experience increased role ambiguity, they may struggle to understand their job responsibilities, leading to uncertainty about the benefits of the situation (Christ-Brendemuhl & Schaarschmidt, 2019). According to the CMUA model (Beaudry & Pinsonnault, 2010), if employees believe that the mobile order system does not align with their roles in the job, they are likely to view the technology as a threat. Perceiving the mobile order system as a threat prompts individuals to avoid or passively engage with it, consequently reducing their perceived job performance (Beaudry & Pinsonnault, 2005). In contrast, when employees perceive the mobile order system as advantageous to their job, they regard it as a challenge and actively seek ways to optimize its use (Stacey, Taylor, Olowosule, & Spanaki, 2021). Consequently, when employees perceive technology adoption as a challenge, it enhances their perceived job performance (D'Arcy, Herath, & Shoss, 2014). Based on the CMUA model and prior research findings, the current study posits the following hypotheses:
Hypothesis 2. Restaurant frontline employees' perceived role ambiguity has a negative impact on the challenge appraisal of mobile order systems used in restaurants.
Hypothesis 3. Restaurant frontline employees' perceived role ambiguity has a positive impact on the threat appraisal of mobile order systems used in restaurants.
Hypothesis 4. Restaurant frontline employees' challenge appraisal of mobile order systems used in restaurants has a positive impact on perceived job performance.
Hypothesis 5. Restaurant frontline employees' threat appraisal of mobile order systems used in restaurants has a negative impact on perceived job performance.

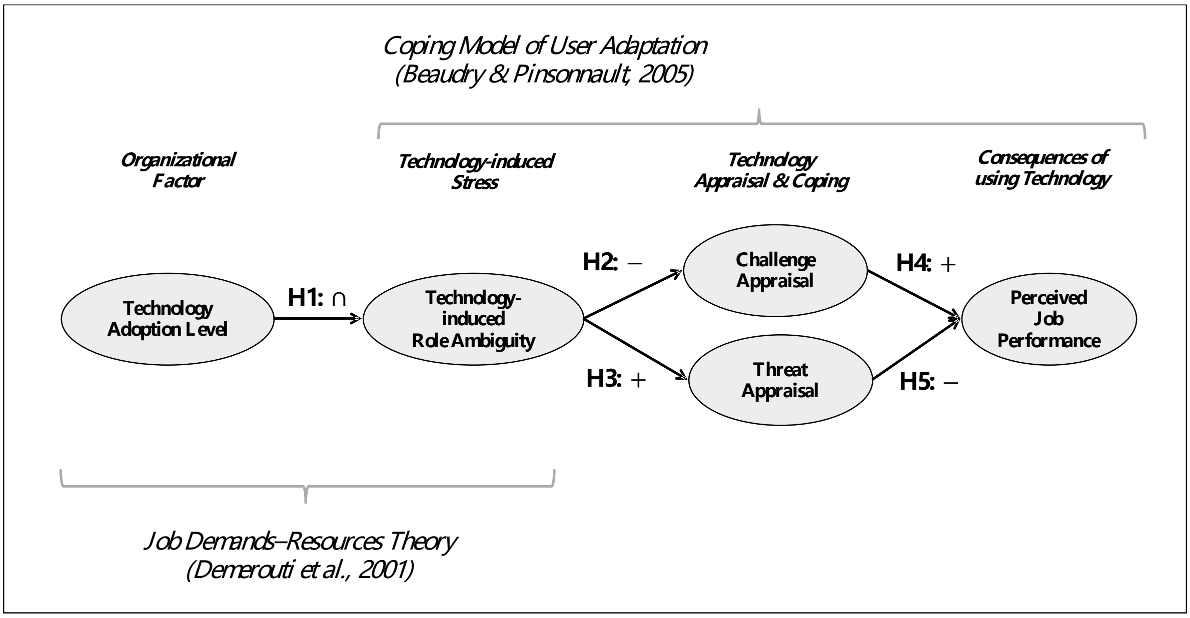

Figure 2. Research model

3. Methodology

The study examined the proposed model (Figure 2) through measurement model testing and partial least squares structural equation modeling (PLS-SEM) using SmartPLS4. PLS-SEM was chosen considering its merits in analyzing sophisticated models for synthesizing and extending established theories (Hair, Matthews, Matthews, & Sarstedt, 2017). Aligned with research objectives, a total of 483 participants were recruited based on two criteria using filtering questions: (1) frontline employees at a restaurant and (2) where mobile ordering systems are used. Table 1 shows the demographical information. The responses were collected between February and March 2024. All measurement constructs adopted validated construct measures.

4. Results

4.1. Measurement model testing

Proposed reflective measurement models were assessed following Hair, Matthews, Matthews, & Sarstedt (2017) using Smart PLS 4. As shown in Table 2, most reflective indicator loadings were above 0.7. The internal consistency reliability was evaluated via Cronbach's Alpha (α), rho_A, and composite reliability; all indicators were above 0.7. Average variance extracted (AVE) indicators for all variables were above 0.5, which indicated good convergent validity. The discriminant validity was evaluated by both the Fornell-Larcker Criterion (Fornell & Larcker, 1981; Table 3) and Heterotrait-Monotrait ratio (Henseler, Ringle, & Sarstedt, 2015; Table 3). There was no multicollinearity issue as outer VIF was all below 10. In addition, the common method bias was examined following Kock's (2015) instruction. All inner variance inflation factors (VIF) at factor level for models were below 3.3, therefore, the common method bias was not likely to be an issue in the proposed model.

4.2. Structural equation modeling

The coefficients of the hypothesized paths and significance levels were attained from a 5000-subsample-bootstrapping (Chin, 1998). Following the process of Bouncken, Pesch, and Gudergan (2015), the curvilinear relationship between technology adoption level and technology-induced role ambiguity was examined. The overall result showed a significant result that supports the proposed hypotheses (Table 4). As shown in Figure 3, all the paths had significant results except for the relationship between threat appraisal and perceived job performance. Hypothesis 1 indicates an inverted U-shaped effect of technology adoption level on technology-induced role ambiguity. The quadratic effect of technology adoption level on technology-induced role ambiguity is significant (β = –0.070, t = 1.823), whereas the linear term is not, in support of Hypothesis 1. Technology-induced role ambiguity has a significant negative impact on challenge appraisal (β = –0.319, t = 7.202), while it has a significant positive impact on threat appraisal (β = 0.553, t = 13.319), supporting Hypothesis 2 and 3. Hypothesis 4 is supported as challenge appraisal has a significant positive impact on perceived job performance (β = 0.764, t = 20.327). In contrast, Hypothesis 5 was not supported because threat appraisal did not have a significant impact on perceived job performance.

Table 1. Descriptive analysis (N = 483)

Characteristics	Frequency	Percentage (%)
Gender		
Male	206	42.7
Female	277	57.3
Age		
18-29	210	43.5
30-39	163	33.7
40-49	60	12.4
50-59	39	8.1
60 or older	11	2.3
Annual household income (in U.S. dollars)		
Below 20,000	140	29.0
20,001-40,000	237	49.1
40,001-60,000	58	12.0
Above 60,001	48	9.9
Highest level of education		
High school degree or equivalent	162	33.5
Associate degree or equivalent	68	14.1
Bachelor's degree or equivalent	197	40.8
Master's degree or equivalent	47	9.7
Doctoral degree or equivalent	2	0.4
Professional degrees such as M.D., J.D., DDS, etc.	4	0.8
Other	3	0.6

Table 2. Measurement model

Construct and Measurement Items	Mean	S.D.	Factor Loading	VIF
Log (Technology Adoption Level)				
TAL. How much percentage of all restaurant orders are made using a mobile order service?	1.456	0.338	1.000	1.000
Technology-induced Role Ambiguity (Composite Reliability = 0.877; Cronbach α = 0.874; AVE = 0.701)				
After the restaurant had implemented the mobile order service, I felt as if:				
TRA1. I do not know exactly how I am expected to do my job.	2.590	1.545	0.797	1.802
TRA2. My company does not provide me with clear guidelines and goals for my job.	2.489	1.533	0.865	3.356
TRA3. I lack information to carry out my job.	2.302	1.432	0.849	3.242
Challenge Appraisal (Composite Reliability = 0.941; Cronbach α = 0.941; AVE = 0.760)				
I feel or think that the mobile order service:				
CA1. Would have a positive impact on my job.	4.551	1.576	0.876	2.860
CA2. Made me eager to use it.	4.263	1.674	0.897	3.888
CA3. Could make me more confident in my job.	4.161	1.615	0.902	3.293
CA4. Made me excited about its outcome.	4.058	1.693	0.851	5.000
CA5. Made me hopeful.	3.936	1.665	0.828	4.392
Threat Appraisal (Composite Reliability = 0.941; Cronbach α = 0.934; AVE = 0.742)				
I feel or think that the mobile order service:				
TA1. Was a threatening situation for me.	2.288	1.521	0.721	2.568
TA2. Made me anxious.	2.584	1.660	0.927	3.095
TA3. Would have a negative outcome for me.	2.385	1.518	0.874	5.230
TA4. Would have a negative impact on my job.	2.451	1.513	0.948	4.306
TA5. Made me upset.	2.027	1.422	0.817	2.801
Job Performance (Composite Reliability = 0.930; Cronbach α = 0.929; AVE = 0.767)				
JP1. I can increase my effectiveness on the job by using the mobile order service.	3.476	1.010	0.850	3.200
JP2. Using the mobile order service makes me better organized.	3.373	1.078	0.873	3.836
JP3. Using the mobile order service enhances the quality of my job.	3.236	1.082	0.904	3.500
JP4. Using the mobile order service allows me to work more for the same amount of effort.	3.383	1.137	0.875	3.008

Table 3. Discriminant validity

Fornell-Larcker Criterion

Construct	TAL	TRA	CA	TA	PJP
TAL	1.000				
TRA	0.011	0.837			
CA	0.300	-0.350	0.872		
TA	-0.002	0.554	-0.512	0.861	
PJP	0.333	-0.288	0.805	-0.446	0.876

Note. Boldface values show the square roots of AVE; TAL = Technology adoption level, TRA = Technology-induced Role Ambiguity, CA = Challenge appraisal, TA = Threat appraisal, PJP = Perceived job performance

Heterotrait-Monotrait Ratio

Construct	TAL	TRA	CA	TA	PJP
TAL					
TRA	0.036				
CA	0.299	0.350			
TA	0.037	0.555	0.509		
PJP	0.333	0.289	0.805	0.442	

Table 4. Results of structural equation modeling

Hypothesized Paths	Coefficients	Standard deviation	*t*-statistics	Hypotheses
H1: log (Technology Adoption Level) → Technology-induced Role Ambiguity	–0.036	0.057	0.642	Supported
log (Technology Adoption Level)^2 → Technology-induced Role Ambiguity	–0.070	0.038	1.823†	
H2: Technology-induced Role Ambiguity → Challenge Appraisal	–0.319	0.044	7.202***	Supported
H3: Technology-induced Role Ambiguity → Threat Appraisal	0.553	0.041	13.319***	Supported
H4: Challenge Appraisal → Perceived Job Performance	0.764	0.037	20.327***	Supported
H5: Threat Appraisal → Perceived Job Performance	–0.053	0.042	1.267	Not Supported

Note. †p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001.

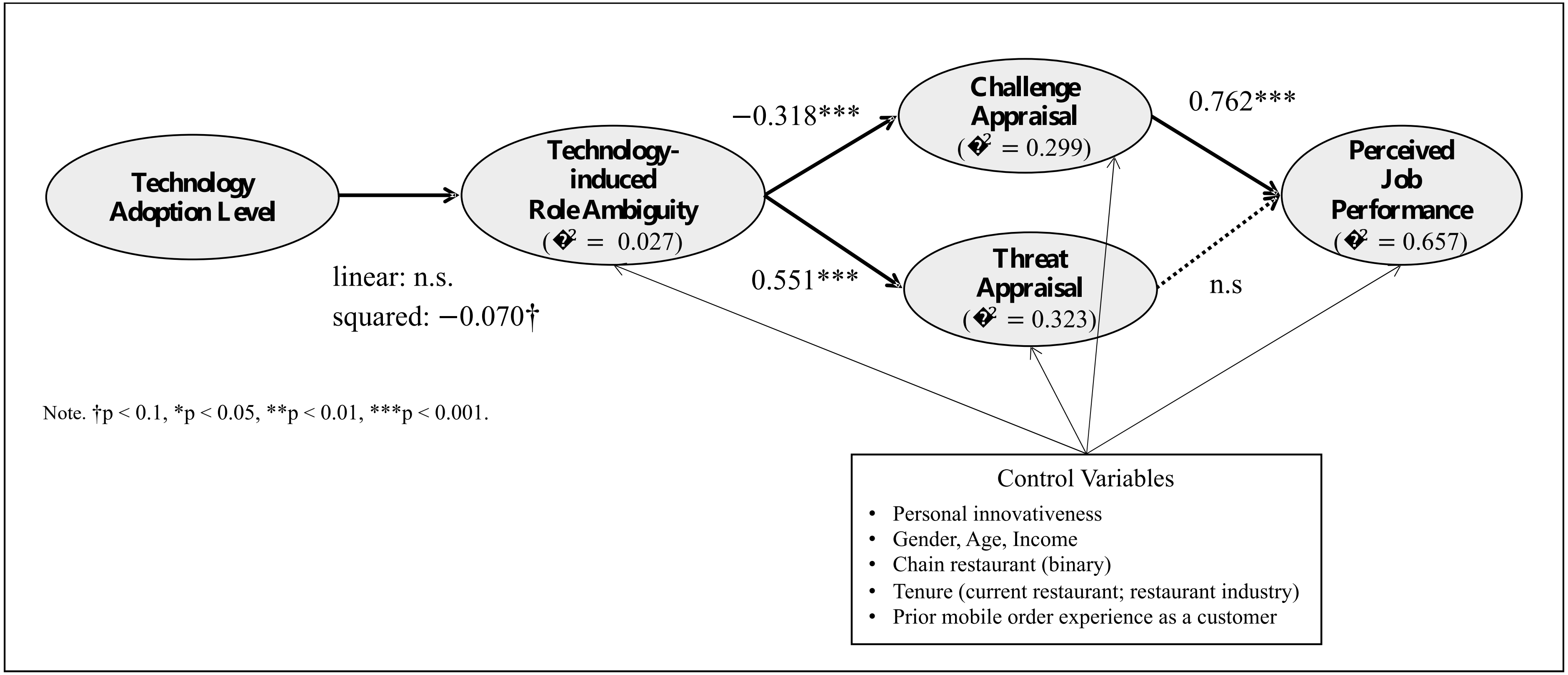

Figure 3. Research model with results

5. Discussion and Conclusion

5.1. Discussion

The results revealed an inverted U-shaped relationship between the technology adoption levels of restaurants and the role ambiguity of restaurant frontline employees, such that the relationship is initially weak yet positive and becomes stronger as the technology adoption level increases; the relationship dissipates when the technology adoption level increases further to reach a tipping point. Additionally, the technology-induced role ambiguity served as a mediator in the relationship between a firm's technology adoption level and employees' technology coping behaviors and job performance. The study findings introduce the level of technology adoption that determines the perceived role ambiguity, which eventually impacts employees' technology coping behavior and job performance. Consequently, the findings from the research reconcile the contradicting findings from prior studies that have shown either positive or negative impacts of mobile order system adoption and employees' job-related outcomes. Additionally, the study integrates the JD-R theory and CMUA model to explicate how incongruity of organizational support for technology adoption level can lead to employees' role ambiguity, which impacts their technology coping behavior. The integration of the theory sheds light on the importance of restaurant operators' understanding of the interplay between strategic decisions and target customers, and the importance of aligning organizational support for their restaurants' technology adoption level.

5.2. Theoretical implications

Overall, the present research offered empirical support for the nuanced relationship between technology adoption levels and the coping behaviors and job performance of restaurant employees, mediated by technology-induced role ambiguity. Specifically, the theoretical implications of this study significantly contribute to the existing literature on technology adoption in the workplace, particularly within the hospitality industry, by offering a nuanced understanding of how role ambiguity can be induced by technology adoption and further affects employee job performance. Given the contradictory findings between technology adoption and employees' job performance in the extant literature (Brough, Timms, Siu, Kalliath, O'Driscoll, Sit,... & Lu, 2013) and a lack of attention specifically in the hospitality cannon (Kanjanakan, Zhu, Doan, & Kim, 2023), this research utilized and expanded the Job Demands-Resources (JD-R) theory (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) by incorporating the concept of technology-induced role ambiguity as a pivotal factor that mediates the relationship between technology adoption and job performance. It challenges and refines the JD-R theory by illustrating that technology, while often considered a resource, can also introduce demands that lead to role ambiguity, thereby impacting employees' ability to perform effectively.

Furthermore, the study's findings introduced a critical perspective on the curvilinear relationship between technology adoption and role ambiguity, suggesting an existence of an optimal level of technology integration beyond which the benefits diminish. The findings of the curvilinear relationship between technology adoption and role ambiguity reconcile the contradicting findings of whether technology adoption is beneficial for enhancing job performance (Christ-Brendemuhl &Schaarschmidt, 2019). Additionally, this inverted U-shaped dynamic underscores the importance of moderation in technology implementation. The findings elucidate the intricate impact of technology adoption on restaurant frontline employees, highlighting a critical balance between the beneficial and detrimental effects of firms' technology adoption. Such insight extends current theoretical models by demonstrating that the impact of technology on employee performance is not linear, as previously assumed (Jeong, Lee, & Nagesvaran, 2016), but rather contingent on the level of technology adoption.

Finally, by considering several control variables both at the individual and organizational level, this research underscores the importance of considering the psychological and organizational contexts in which technology is adopted. It prompts a reevaluation of how theories such as the JD-R model can be applied to understand the complex dynamics of technology use in the workplace. This study thereby opens new avenues for future theoretical development, encouraging scholars to explore further the multifaceted impacts of technology on employee well-being and performance within various organizational settings.

5.3. Practical implications

The practical implications of this study are substantial for restaurant operators and the broader hospitality industry, particularly in navigating the complexities of technology adoption and its impact on employee performance. First and foremost, the findings underscore the importance of a balanced approach to technology integration, where the level of technology adoption should be carefully managed to avoid exacerbating role ambiguity among frontline employees. Restaurant managers need to recognize the tipping point at which further technological integration may not lead to additional benefits in employee job performance and might, in fact, hinder it due to increased role ambiguity. By understanding these dynamics, restaurants can tailor their technology strategies to optimize employee performance and satisfaction, fostering a more resilient and adaptive workforce in the face of rapid technological changes.

Second, this research highlights the critical role of training and support systems designed to help employees adapt to technological changes. For instance, providing comprehensive training that addresses not only the operational aspects of new technologies but also their impact on job roles can help mitigate the sense of role ambiguity and enhance job performance. Moreover, personalized support and communication strategies should be developed based on the restaurant's specific technology adoption level. Managers should engage in open dialogues with employees to understand their challenges and perceptions regarding technology use in their roles, fostering a supportive environment that encourages adaptation and minimizes stress associated with role ambiguity.

Finally, this research advocates for a strategic approach to technology adoption, suggesting that restaurants should carefully and thoroughly evaluate their operational needs and the potential impact on employees before implementing new technologies. This strategic approach will not only enhance operational efficiency but also ensure that technology serves as an enabler of employee satisfaction and performance, rather than a source of stress and uncertainty.

5.4. Limitations of this study and suggestions for future studies

This research is not without its limitations, which pave the way for future scholarly inquiry. First, the study primarily focuses on the hospitality sector, specifically restaurants that have integrated mobile ordering systems. Future research could expand this investigation to other sectors within the hospitality industry, such as hotels or theme parks, to explore if the findings are consistent across different contexts. Future research could also benefit from a longitudinal approach, examining the long-term effects of technology adoption on employee performance and well-being.

Second, the study employs a quantitative methodology, which, while providing valuable insights, could be complemented by qualitative research methods. Interviews or focus groups could offer a deeper understanding of the subjective experiences of frontline employees dealing with technology-induced role ambiguity. This mixed-methods approach could enrich the findings and provide more nuanced insights into the mechanisms at play.

Lastly, considering the rapid pace of technological advancements, future research should also consider other emerging technologies and their potential impact on the workforce. The integration of artificial intelligence, virtual reality, and robotics presents new challenges and opportunities for employee role clarity and performance in the hospitality industry.

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Does virtual reality (VR) mood matter? Investigating the impact of tranquil VR environments in wineries

Han, Jiyoon (Jennifer)
School of Hospitality Business Management
Washington State University

Seo, Soobin
School of Hospitality Business Management
Washington State University

Mu, Di
Murrow College of Communications
Washington State University

Deng, Demi
Horst Schulze School of Hospitality Management
Auburn University

Abstract:

Amidst mounting stress levels, individuals actively seek tranquility for mental well-being. Virtual reality (VR) environments offer a promising solution, allowing users to gauge destination moods beforehand. This study investigates the impact of VR destination moods, particularly within wineries, on psychological detachment, restoration, and visit intentions. Study 1, utilizing a single factor between-subjects design, reveals that tranquil VR environments enhance psychological restoration, thus increasing visit intentions. Study 2 proposes further exploration of scent congruency effects on arousal-related components to bolster visit intentions, supported by the biometrics data (i.e., eye tracking and Galvanic Skin Response data) validation.

Keywords: Virtual Reality, Winery Mood, Restoration, Tranquility, Peace of Mind, Winery Tours

1. Introduction

As stressful situations of contemporary society increase, many individuals are gravitating towards tranquility over crowdedness or excitement. This tranquility frequently intertwines with mindfulness during practice and in daily life, offering potential benefits for mental well-being (Chan et al., 2023). Likely, in the bustling world of travel and tourism, where people seek respite from the chaos of daily life, the quest for tranquility and serenity has become important. In addition, as destinations vie for attention and travelers yearn for immersive experiences, Virtual Reality (VR) technology emerges as a potent tool to transport individuals to tranquil paradises without leaving the comfort of their surroundings, which provides peace of mind and meditation experiences (Rogers, 2019). Wineries are one of the popular destinations often selected for escapism, and many wineries are utilizing different promotional materials to draw potential customers. This introduction delves into the utilization of VR videos for travel destinations as a means to amplify tranquility, showcasing practical examples, and elucidating its significance to both the industry and consumers.

VR videos in the realm of wineries offer a portal to serene vineyards, captivating vistas, and immersive experiences that evoke a sense of tranquility and escapism. VR transports users on immersive journeys that stimulate the visual and auditorial senses. Through such VR environments, users can explore these destinations in stunning detail, experiencing the sights and sounds as if they were there in person. Additionally, VR meditation experiences set natural environments provide a sanctuary for relaxation and mindfulness, offering a respite from the stresses of everyday life. Such VR moods (calm, tranquil, excited, crowded, etc.) are expected to affect people's decision-making process to visit the winery, as well as benefiting their psychological factors to detach and restore themselves from their busy ordinary lives.

However, research on VR mood configurations has revealed several gaps. Firstly, there's a deficiency in understanding how consumers perceive VR moods and their impact on behavioral intentions. Additionally, studies often lack in-depth exploration of VR content and its influence on psychological mechanisms such as detachment and restoration, underscoring the necessity for further investigation in this domain. Moreover, although VR has shown efficacy in eliciting emotions like anxiety, relaxation, fear, and joy in controlled laboratory environments, there's a need to integrate subjective and physiological measures for a holistic comprehension of its functioning within destination or winery travel settings.

The incorporation of VR videos in promoting wineries carries significant implications for both the industry and consumers. For winery brands and destinations, VR serves as a potent marketing tool, showcasing their distinctive attractions and picturesque vineyards. By delivering immersive experiences, wineries can evoke wanderlust and spark interest among potential visitors, resulting in increased footfall and revenue. VR videos cater to the evolving preferences of modern travelers, offering previews of winery ambiances, allowing them to find their ideal fit and fostering peace of mind and psychological detachment from daily life. For consumers, VR videos offer an escape from the constraints of time, budget, and physical limitations, enabling them to explore distant destinations and indulge in moments of tranquility from the comfort of their homes. Whether planning future adventures or seeking moments of relaxation, VR provides a transformative journey that transports users to far-flung locales and immerses them in the beauty and serenity of the world.

In conclusion, the integration of VR videos into winery promotions represents a convergence of technology and wanderlust, offering a gateway to tranquility and exploration. As VR continues to evolve, its role in amplifying tranquility in travel destinations, including wineries, is poised to grow, offering new possibilities for engagement, inspiration, and discovery in the realm of winery tours. Thus, this study aims to explore the impact of pre-travel VR winery mood on consumers' psychological responses related to psychological measures, satisfaction and destination visit intentions.

2. Literature Review

2.1. Theory of Tranquility and Attention Restoration Theory

The theory of tranquility encompasses a broad spectrum of realms (Herzog & Barnes, 1999). Various individuals associate tranquility with different elements such as social interaction, natural sounds, or pure silence, which influence their perception and evaluation of soundscapes (Grahn & Stigsdotter, 2003). For example, when creating tranquil spaces in urban areas like parks and gardens, achieving visual tranquility is linked with natural sounds, minimal man-made noise, and the presence of vegetation and wildlife in green spaces (Grahn & Stigsdotter, 2003). Designing restorative environments with an optimal balance of landscape and soundscape characteristics is critical for nurturing tranquility and well-being. Overall, tranquility plays a pivotal role in enhancing quality of life and fostering resilience in urban settings.

Beyond examining the physical realm, which includes the landscape and sound features of the environment, the experiential aspect of tranquility also focuses on concepts such as sense of presence and inner peace (Christoffersen, Škodlar, & Henriksen, 2022). According to Attention Restoration Theory, exposure to natural environments enhances cognitive performance by replenishing directed attention, a limited cognitive resource (Stevenson, Schilhab, & Bentsen, 2018). The tranquil ambiance of an environment is strongly correlated with its impact on quality of life and psychological well-being, as tranquility underscores the significance of natural restorative environments for stress reduction and positive health outcomes (Ulrich, 1984; Grahn & Stigsdotter, 2003). Consequently, tranquility is often associated with a state of peace of mind and relaxation, echoing the concept of ataraxia from Greek ethics, which defines happiness as peace of mind dependent on one's attitude, diverging from the classical views of the good life focused on virtue and reason (Striker, 1990). As such, tranquil environments can reinforce perceived tranquility and peace of mind, as well as an individual’s psychological factors related to stress, including psychological detachment and restoration.

2.2 VR winery tours and mood condition

Since the COVID-19 pandemic, VR tourism experiences have emerged as a burgeoning facet of destination and winery tourism (Loureiro, 2022). Particularly in the realm of VR wineries, brands have begun constructing their own VR platforms to entice both prospective and existing customers, offering them an exclusive experience with the aim of driving wine sales. Presently, VR winery promotional materials predominantly showcase their vineyards guiding viewers through sequential steps mirroring the customer experience. VR 360 videos have been developed, providing consumers partial immersive experience in the winery setting. However, while these VR experiences effectively capture the natural beauty and landscape, many lack the nuanced environmental moods crucial for evoking specific emotional responses, such as tranquility or festivity, as observed in promotional materials. Recognizing and refining these subtle mood elements in VR content is imperative, as previous research has indicated their influence on tourists' mood management processes and visit intentions (Leung, Chang, Cheung, & Shi, 2023). Depending on the content, the mood of VR environments can positively or negatively impact psychological well-being and fatigue, potentially due to heightened cognitive demands (Loureiro, 2022). Likely, the mood of VR environments should be clearly defined and communicated in order to enrich customer’s experiences and psychological conditions. Based on our review, we propose the following set of hypotheses:

H1: VR environment with tranquil mood will have a stronger effect on visit intentions than the VR environment with festive mood.

H2: VR environment with tranquil mood will have a stronger effect on perceived tranquility and peace of mind than the VR environment with festive mood.

H3: VR environment with tranquil mood will have a stronger effect on psychological detachment and restoration than the VR environment with festive mood.
H4: Tranquility factors (i.e., perceived tranquility, peace of mind) will mediate the relationship between VR environment mood and the visit intentions.
H5: Psychological factors (i.e., psychological detachment and restoration) will mediate the relationship between VR environment mood and the visit intentions.

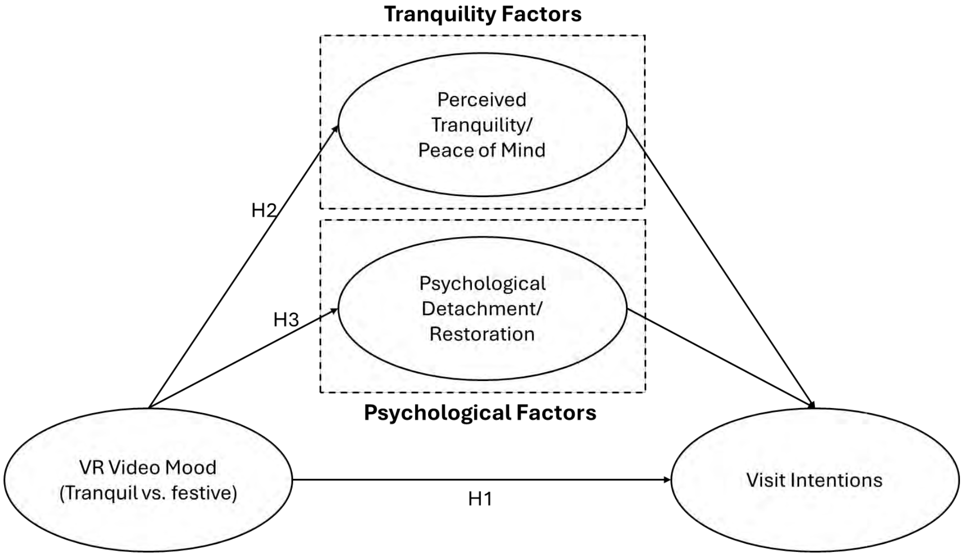

Figure 1. Model for Study 1

3. Study 1

3.1. Method

Study 1 utilized a single-factor (Tranquil VR winery mood vs. Festive VR winery mood) between-subjects factorial design. Participants were randomly assigned to one of the two conditions. Utilizing a fully randomized experiment enhances the reliability and validity of statistical inferences regarding the manipulated variables, while reducing the impact of extraneous factors like individual traits (Kuehl, 2000). Participants were recruited through Amazon Mechanical Turk (MTurk), and eligible participants were required to be 18 years and older, English-speaking, and residents of the U.S. Attention check questions were incorporated to ensure valid responses, and after reviewing failed questions and completing data cleaning procedures, the sample consisted of a total of 142 respondents.

Participants were randomly assigned to either the VR 360 video winery stimuli with a tranquil mood or the festive mood. Following the definition of tranquility outlined in the tranquility theory and prior research, the tranquil mood VR winery depicted serene landscapes devoid of people, accompanied by nature sounds without music. In contrast, the festive mood VR winery portrayed bustling scenes with people engaging in wine consumption and enjoying lively music, accompanied by loud and noisy ambient sounds. Awareness of the wineries, wine drinking frequencies, knowledge, and personal tech innovativeness were controlled.

3.2 Measurement

Participants were tasked with responding to inquiries regarding the randomization process, manipulation of stimuli, experiences of tranquility, psychological responses, and intentions to visit the winery. Measurements pertaining to tranquility (e.g., nature/relaxation) were adapted from the work of Hu et al. (2021), psychological detachment from Cropley & Zijlstra (2011), restoration adapted from Bodin & Hartig (2003), and visit intention from Byrd et al. (2016). All are 7-point likert scale items.

3.3 Results

3.3.1 Manipulation check

To verify the effectiveness of the randomization process, we initially collected respondents' opinions through an open-ended question, asking them to describe the overall mood or atmosphere of the winery VR video they were presented with. Remarkably, over 91% of respondents tailored their responses accurately to the respective moods of the wineries. Keywords such as "trees," "nature-friendly," "tranquil," "serene," "nature sounds," and "calm" were commonly used to describe the tranquil VR winery, whereas words such as "crowded," "people talking," "music," and "excited" were associated with the festive VR winery. Moreover, randomization questions, offering options to select either tranquil or festive mood, also yielded successful outcomes. Manipulation check questions assessed the extent of tranquility experienced at the winery and the perceived social presence or business activity. The results revealed significant differences between the two groups: the tranquil setting elicited higher ratings for tranquility ($t = -2.896$, $p = .004$), whereas the festive setting was associated with greater engagement with people ($t = -2.462$, $p = .015$).

3.3.2 Results

To examine participants' perceptions regarding tranquility and psychological factors, paired sample t-tests were conducted to discern any differences. As anticipated, the results revealed that the group exposed to winery VR with a tranquil mood exhibited heightened perceptions of tranquility, particularly in terms of recognizing nature and relaxation ($t = -3.180$, $p = .002$), as well as experiencing peace of mind ($t = -2.251$, $p = .026$). Furthermore, the tranquil VR group demonstrated greater psychological detachment ($t = -2.428$, $p = .016$). Although somewhat marginal, differences were also observed in psychological restoration ($t = -1.958$, $p = .052$) between the tranquil group and the festive group. The tranquil group exhibited more pronounced effects on visit intentions ($t = -2.453$, $p = .015$). Therefore, H1-H3 were all supported.

3.3.4 Mediation

To examine the mediating effect of tranquility and psychological factors, we conducted mediation analyses employing 5,000 bootstrapping (Model 4, Hayes, 2017). Regarding the tranquility factors, perceived tranquility exhibited a significant indirect effect (indirect effect= .22, [95% CI = .065, .426]), as did peace of mind (indirect effect= .21, [95% CI = .026, .438]). Similarly, for the psychological factors, psychological detachment emerged as a significant mediator in the relationship between VR mood and intentions to visit (indirect effect = .18, [95% CI = .039, .378]), along with psychological restoration (indirect effect = .18, [95% CI = .002, .399]). Therefore, the results supported our hypotheses for mediation (H4-H5).

4. Study 2 (In-progress)

4.1 Theoretical Development

Building on the insights from Study 1, we embarked on Study 2 to explore additional determinants influencing behavioral intentions related to the VR winery mood. Research suggests that VR technology has the potential to enrich the sensory aspects of wine tasting by immersing individuals in diverse environmental contexts, consequently shaping their perceptions of aroma and evoking emotional responses (**Torrico, Han, Sharma, Fuentes, Gonzalez Viejo, & Dunshea, 2020)**. In line with this, we sought to examine whether elements such as sensory triggers, specifically olfactory conditions, may modulate the impact on consumers' perceived tranquility and psychological states. Consequently, our investigation delves into the role of scent congruency, positing that aligning mood-congruent scents with the VR environments could yield distinct effects on tranquility, psychological factors, and intentions to visit.

4.2 Pleasure Arousal Dominance (P-A-D) model

In addition to exploring scent manipulation, we aim to investigate its effects on emotions, as outlined in the Pleasure Arousal Dominance (P-A-D) model, which elucidates how individuals perceive and respond to stimuli based on these three factors (Hall, Elliott, & Meng, 2017). This model has been widely utilized across disciplines such as cognitive neuroscience and emotion studies. Within the realm of scent, the P-A-D model provides a framework for understanding how different scents elicit varying levels of pleasure, arousal, and dominance in individuals. Furthermore, we recognize the potential power of congruent scents to enhance the immersive experience of VR wineries (Torrico, Han, Sharma, Fuentes, Gonzalez Viejo, & Dunshea, 2020). Analyzing the effect of VR winery environments coupled with scents that are congruent with the winery mood through the P-A-D model offers valuable insights into the potential impact of fragrances on emotions and behaviors (Hall, Elliott, & Meng, 2017). Consequently, our second study serves as an extension of the first by adding the emotional factors. The model is as follows:

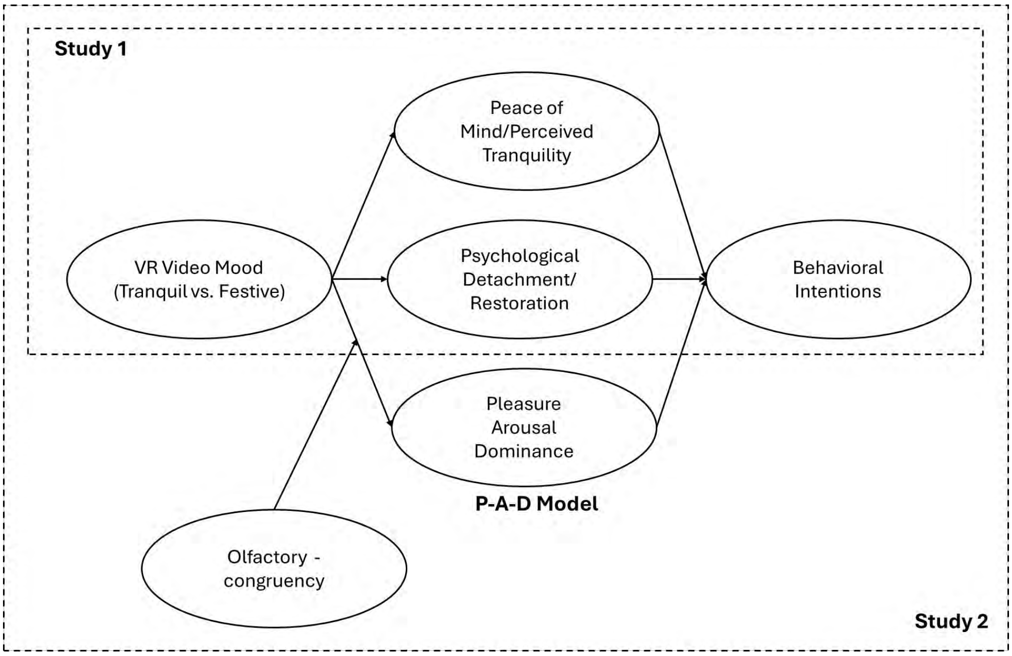

Figure 2. Extended Conceptual Model (Study 1 & 2)

4.2 Method

Study 2 consists of two phases. The first phase aims to evaluate the emotional responses to VR winery stimuli by collecting participants' biometric data. Previous research suggests that physiological and eye movement indicators correlate with emotions. Since participants will view only one winery per group, ensuring consistent emotions, we selected the following metrics to assess emotional states and attention within the VR environment: maximum, minimum, and average galvanic skin response (GSR), average pupil size, fixation frequency, fixation count, and average fixation duration, to generate an emotional heatmap (Guo, Cao, Ding, Liu, & Zhang, 2015). The study will utilize the same VR winery stimuli (Tranquil vs. Festive) video played via the Varjo Aero VR headset, which includes an embedded eyetracking system. The Shimmer3 GSR+ device will collect GSR data. Data will be analyzed through the iMotions software.

Note: image captured from iMotions website

Example 1. Shimmer3 GSR+ used for data collection

The second phase aims to examine the relationship between constructs from study 1 and the P-A-D model with winery mood and behavioral intentions related to wineries. Study 2 employs a 2x2 (Tranquil VR winery mood vs. festive VR winery mood x Mood congruent scent vs. non-congruent scent) between-subjects factorial design. In terms of procedures, participants will be recruited and scheduled for the experiment, which will last 10-15 minutes. Upon arrival at the lab, participants will receive information and consent regarding VR and scent manipulation, including potential risks. They will then proceed to the VR lab, undergo calibration, and initiate the VR controller. Participants will be randomly assigned to one of the four experimental groups, and go through the VR winery experience, fully immersive. Following the VR experience, they will respond to questions from study 1 and the P-A-D model, along with manipulation check questions that include scent considerations.

For scent manipulation, a pretest was conducted wherein 30 samples were collected to determine which scent aligns most closely with the mood and ambiance of the winery. Drawing from prior literature reviews and consultations with olfactory experts, we selected 10 fragrances, including Berry, Flower, Vanilla, Mountain, Wood, and Linen. Participants were presented with fragrance sample test sheets and asked to complete a questionnaire based on their impressions after smelling each scent. The results indicated that the most suitable winery-scent combinations were Berry and Mountain, while Vanilla showed the least compatibility. Flower was deemed the best scent to describe tranquility, while Mountain was identified as the most fitting for a festive VR environment. The final selection of scents will be administered through an automatic scent diffuser, ensuring participants are not directly exposed to the scents during the study.

Example 2. Scent Manipulation Pre-test

Note: a= Berry; b=flower; c= vanilla; d= mountain; e=wood; f= linen
Figure 3. Best Winery-Scent Fit

Example 3. VR Experience with Varjo Aero (Lab-setting)

4.3 Expected Results
We expect the laboratory experiment to replicate the findings of our first study. Additionally, we predict that participants in two different groups will show varying levels of emotional responses to the VR and scent stimuli. The Tranquil VR winery group is expected to experience lower levels of arousal, but higher levels of pleasure and dominance compared to those in the festive VR winery group, as the latter may involve more noise and interpersonal interactions, potentially leading to heightened arousal but diminished pleasure and dominance. Furthermore, we anticipate that the Pleasure Arousal Dominance (PAD) model will act as a mediator in elucidating the relationship between VR winery mood and behavioral intentions, helping to explain how individuals' emotional states influence their intentions and behaviors in virtual winery environments.

5. Discussion and Conclusion

5.1. Discussion and implications
In conclusion, this study delved into the utilization of VR technology in the context of wine tourism, aiming to amplify tranquility and attract potential visitors. Through the exploration of winery moods, the research provided valuable insights into their impact on consumers' tranquility perceptions, psychological factors, and intentions to visit the wineries. The findings

underscored the potential of VR environments, particularly those simulating tranquil settings, to enhance psychological detachment and restoration, thus influencing visit intentions.

Through a single-factor between-subjects design in Study 1, our findings shed light on how tranquil VR environments can bolster psychological detachment and restoration, thereby influencing individuals' intentions to visit such destinations. By corroborating the tranquility and attention restoration theory, this research contributes academically to the existing literature on the therapeutic potential of VR and its role in enhancing the mental well-being of winery travelers. Additionally, it enhances our understanding of how configuring VR mood conditions, particularly those emulating tranquil settings like wineries, can exert a stronger impact on customers' psychology and visit intentions.
To explore the significance of mood configurations and sensory congruency in VR winery promotional materials, Study 2 proposes further exploration into the effects of scent congruency on arousal-related components. As we have tested the factors, with validation supported by biometric data such as eye tracking and Galvanic Skin Response (GSR) data. The initial phase, supported by physiological data, offers a more comprehensive understanding of the mechanisms underlying the influence of VR winery moods on consumers' visit intentions. The integration of biometric data enhances the methodological rigor of the research, augmenting the reliability and validity of the findings.

Practically, the insights from this research have implications for the design and implementation of VR experiences aimed at promoting mental well-being and attracting visitors to destinations like wineries. Understanding how specific environmental cues, such as tranquility and scent congruency, impact psychological states can inform the development of tailored VR experiences to enhance relaxation and encourage visitation. For businesses in the tourism and hospitality sectors, leveraging VR technology to offer virtual previews of destination moods could potentially boost customer engagement and interest, leading to increased visitation rates and enhanced customer satisfaction. Experimentation with various mood configurations could further cater to customers seeking to experience the natural ambiance of wineries.

5.2. Limitations of this study and suggestions for future studies

This study is not free from limitations. This study is not without limitations. Firstly, its scope is confined to the specific context of VR wineries, potentially limiting the generalizability of its findings to other industries or destinations. Variables may need to be tailored according to different contexts, and future studies could explore testing across various settings and environments to enhance applicability. Additionally, limitations related to sample size and diversity may have impacted the study's external validity. Future research endeavors could aim for larger and more diverse samples to ensure the broader representativeness of the results. The study also employed a cross-sectional design.

Future studies could consider adopting longitudinal approaches to investigate the pre and post effects of VR winery promotions on visit intentions and behavior over an extended period. Qualitative studies could complement quantitative findings by providing more in-depth insights into the VR winery mood and experience, offering a richer understanding of consumer perceptions and preferences. Furthermore, future research could explore additional sensory measures beyond olfactory cues to assess emotional factors comprehensively. By incorporating a broader range of sensory stimuli, researchers can gain a more holistic understanding of the impact of VR winery promotions on psychological responses and visit intentions.

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Cutting down plate waste: How descriptive norms and mascot-enhanced flyers influence hotel guest behaviours

Saito, Hiroaki
College of International Management
Ritsumeikan Asia Pacific University

Usrey, Bryan Gordon
College of International Management
Ritsumeikan Asia Pacific University

Kamata, Hiromi
School of Business Administration
Hitotsubashi University

Hayato Nagai
Graduate School of Management
Ritsumeikan University

Sho Kashiwagi
Faculty of Cross-Cultural and Japanese Studies
Kanagawa University

Kate Inyoung Yoo
College of Foreign Studies
Kansai Gaidai University

Abstract:

Food-related sources contribute significantly to global greenhouse emissions. In particular, the hospitality industry significantly contributes to this environmental damage through food waste. Such type of food waste, or plate waste, referring to the uneaten food left on plates, is a considerable burden on both hotel finances and the overall environment. Utilising a field experimental design, this ongoing research aims to develop and test four unique flyer designs to reduce plate waste. Specifically, the study tests the role of descriptive norms (provincial vs general) and brand mascots.

Keywords: Food Waste, Hospitality, Descriptive Norm, Mascot

1. Introduction

The concept of food waste can refer to the general waste that is generated during food production, preparation, and consumption (Dolnicar et al., 2020), with the latter representing around a third of all food waste (Juvan et al., 2018). One such category of consumption-based food waste is plate waste, or food that is left uneaten on a plate and subsequently disposed of. Such plate waste is of great importance, as in 2021, 1,217,000 tonnes of food waste was recorded from hospitality consumption in the Australian market (Danenberg, 2022).
Despite this, only a handful of studies have sought to develop specific interventions to reduce plate waste amongst guests, with most of the current work being done in North America (e.g.,

Sakaguchi et al., 2018) and Europe (e.g., Dolnicar et al., 2020; Juvan et al., 2018). Our ongoing research aims to extend such literature in the Japanese market through an examination of key interventions aimed at reducing plate waste during the breakfast buffet at three hotel locations. Specifically, we argue that provincial (vs. general) descriptive norms on a call-to-action flyer will reduce plate waste. Moreover, we posit that this effect may be heightened via a mascot on the flyer. While mascot research has been in the field of tourism, our work seeks to extend such literature within the context of sustainability.

2. Literature Review

Consumers, increasingly aware of their environmental impact through consumption, often hesitate to adopt sustainable behaviours (Auger & Devinney, 2007). To encourage such behaviour, scholars have consistently shown that descriptive norms play a significant role (Peattie, 2010). Goldstein et al. (2008) categorised descriptive norms into general and provincial norms based on the depicted reference group. Importantly, they discovered provincial norms (local settings and circumstances) were more influential than global norms (applicable beyond local settings, such as 'earth'). Following this, scholars have documented provincial norms' effectiveness in recycling and energy conservation (e.g., Fornara et al., 2011).

The primary aim of this research is to test how guests conform to desired behaviour (i.e., plate waste reduction), which may vary depending on the type of spatially proximal reference group tied to that norm (i.e. general vs local), positing that when people share similarities with reference groups, they are more likely to conform to the message. In contrast, general descriptive norms tied to a more global reference group will be seen as more distant and thus have a reduced impact on plate waste reduction.
H1: Provincial (vs. general) descriptive norms will significantly reduce plate waste.
Mascots have been utilised in various contexts to influence behaviours. Such mascots are influential for several reasons, including a belief that they may aid in the formation of an emotional connection and warm feelings toward a given brand (Su & Li, 2023). Importantly, scholars have shown that mascots can enhance motivation and information processing, being far more persuasive (Radomskaya et al., 2021). Furthermore, Waytz et al. (2014) argued that anthropomorphised objects may be an ideal strategy for promoting environmental behaviours.

Building on the above, our ongoing study proposes that mascots, when paired with provincial descriptive norms, will exert a substantial positive impact on the guests' plate waste reduction. Indeed, mascots can serve as highly relatable and engaging figures that boost one's sense of duty and unity, particularly when paired with provincial descriptive norms focused on a spatially proximal reference group (i.e., a local region). We propose that this combination will reduce plate waste to a greater extent than the norm alone.

Conversely, the impact of mascots on general descriptive norms is posited to be minimal. This is because such norms lack the spatial proximity and contextual relevance that provincial norms offer. Consequently, regardless of the presence or absence of a mascot, the sense of local identity and belonging is expected to be absent when appealing to general descriptive norms.

H2: Integration of mascots with provincial descriptive norms will lead to a significant reduction in plate waste compared to scenarios where mascots are absent or are paired with general descriptive norms.

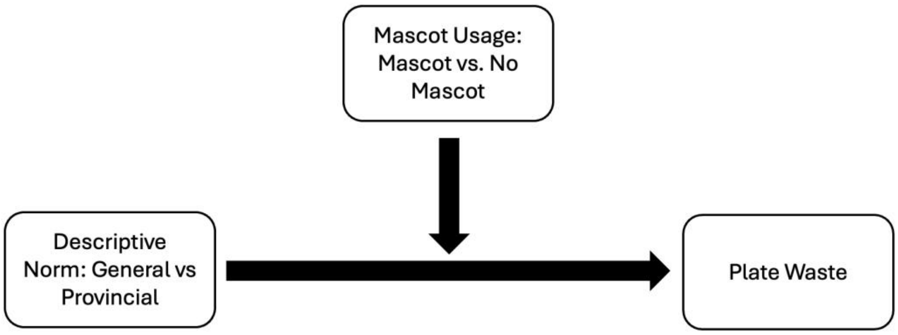

Figure 1. Conceptual model

3. Methodology

Currently, we are conducting a field experiment with a hotel management company that operates hotels across Japan. The experiment is being implemented at three locations, and each hotel is popular with locals and international travellers. Our focus is on breakfast, as each morning, the hotel provides a buffet for 350 guests on average.
Our key dependent variable is edible plate waste left behind by guests. The unit of analysis is an average of the grams of plate waste generated per day. To do this, we collaborated with the hotels to determine the weighting procedure. Plate waste would be divided into edible and non-edible, with the former being used in our analysis. In addition, we are assessing the season and country of origin.

We aim to measure plate waste for five different conditions; each condition was implemented for a one-month period. Given that our experiment would take place during normal breakfast hours, our experimental conditions would occur sequentially following the control condition. The control group represented the status quo with no experimental manipulation taking place.

Following this, we will employ a 2 (descriptive norm: global vs local) x 2 (mascot usage: mascot vs no-mascot) between subjects' field experiments. Flyers were designed to incorporate messages related to plate waste and printed in both English and Japanese. In the global (vs. local) condition, participants would read a message informing them about the impact of food waste on the global (local) environment. The hotel management company's mascot was used in the mascot condition, whereas no mascot was presented in the no-mascot condition. To reflect our environmental appeal, the colour of the hotel mascot was changed from brown to green.

4. Discussion and Conclusion

This study investigates the influence of descriptive norms (provinces vs. general) and the utilisation of mascots on reducing plate waste. This ongoing study aims to introduce a novel strategy for mitigating plate waste through a causal research design with behavioural outcomes. This is a significant contribution as, despite the widespread acknowledgment of the tourism sector's need for greater environmental sustainability, few studies, such as Dolnicar et al. (2020), have proposed actionable measures.

Furthermore, our research design offers valuable theoretical insights. Firstly, we aim to underscore the impact of provincial norms over general norms, highlighting the importance of the "where" component in norm literature. Second, our findings highlight the substantial impact of provincial norms, particularly within the under-researched area of the Japanese market. Third, although previous studies have recognised the marketing efficacy of cuteness and mascots, few have explored the interaction between descriptive norms and mascot usage. We aim to illustrate how brand mascots can significantly influence sustainable behaviours, particularly when aligned with provincial norms.

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Crisis communication and furloughed hotel employees' intention to stay: The role of perceived organizational support

Chen, Han
Lester E. Kabacoff School of Hotel, Restaurant and Tourism Administration
University of New Orleans

Chapital, Tabitha
Lester E. Kabacoff School of Hotel, Restaurant and Tourism Administration
University of New Orleans

Green, Yvette
Lester E. Kabacoff School of Hotel, Restaurant and Tourism Administration
University of New Orleans

Abstract:

This study investigated the interaction of situational crisis communication strategy (SCCS) and perceived organizational support (POS) on furloughed hotel employees' job insecurity, negative job affects (NJA), and intention to stay (ITS). It also examined the mediating role of job insecurity and NJA. A 2 (SCCS: apology vs. excuse) × 2 (POS: high vs. low) between subjects, factorial design was employed. Results indicated when apology strategy was used, high POS resulted in lower job insecurity among furloughed hotel employees than low POS. Implications on how to reduce furloughed hotel employees' job insecurity and negative perceptions towards their employer were provided.

Keywords: Furloughed hotel employee; job insecurity; negative job affect; perceived organizational support; crisis communication; intention to stay

1. Introduction

Travel restrictions and social distancing guidelines were put in place by the Center for Disease Control (CDC) in response to the rapid spread of COVID-19 in 2020, which led hotels to implement large-scale employee furloughs (American Hotel & Lodging Association, 2021). Furloughed employees experience higher levels of stress, which could lead to higher turnover (Labrague & de Los Santos, 2020; Mimoun et al., 2020). As the industry performance gradually recovers (STR, 2021), hotels would want their furloughed employees to return. It is critical to investigate factors that may impact furloughed employees' intention to stay (ITS) with the hotel.

Situational Crisis Communication Theory (SCCT) hypothesizes that gauging the aspects of a crisis will better help organizations predict reputational perceptions, which may influence furloughed employees' ITS. A vast majority of research on SCCT has focused on consumers rather than furloughed employees' perceptions of the organization (Coombs & Holladay, 2008; Crijns et al., 2014; Marsen, 2019; Schoofs et al., 2019). In addition, perceived organizational support (POS) was found to effectively alleviate employees' perception of change-related uncertainty (Cullent et al., 2014) and lower hotel employees' turnover intentions (Akgunduz & Sanli, 2017). However, it is not clear whether POS would interact with hotels' crisis communication strategy and influence furloughed employees' job insecurity, negative job affects (NJA), and ITS. Therefore, the current study aims to examine (1) the mediating role of job insecurity and NJA on the relationship between crisis communication strategy and ITS; and (2) the moderating role of POS on the relationships.

2. Literature Review

2.1. Situational crisis communication strategy and furloughed employees' intention to stay

Furlough is defined as a mandatory leave of employment without compensation for any period of time (Halbesleben et al., 2013). Hohman et al. (2013) investigated how furloughs affected the turnover intentions of social workers and uncovered that when organizations ignored the feelings of impacted employees, their intention to return decreased. The hotel industry was not largely affected by this method of temporary work reductions until the onset of the COVID-19 pandemic, where the job loss is likely to have significant impacts on furloughed hotel employees' ITS. ITS was defined as an employees' plan to stay with their organization (Cho et al., 2009), which was shown to be an effective predictor of actual employee turnover (Brown et al., 2012). However, much of the literature available on the impact of COVID-19 only emphasized the turnover intention of hotel employees who remained employed throughout the pandemic (Abuelnasr, 2020; Bufquin et al., 2021). The effects furlough could have on hotel employees' ITS with their current hotel were limited.

SCCS is defined as the crisis response chosen by an organization depending upon the type of crisis, the organizations degree of responsibility in causing the crisis, and the potential threat to the organizations reputation as a result of the crisis (Coombs, 2007). The study focuses on two commonly practiced crisis communication strategies: excuse strategy, which aims to minimize organizational responsibility; apology strategy, where the organization takes full responsibility for the crisis (Coombs, 2007). Social Exchange Theory (SET) suggests that those who perceive values from organizations tend to reciprocate more positive behaviors and less negative behaviors (Blau, 1964). Hotels that adopted an apology response strategy during the pandemic may lead their furloughed employees to perceive a more positive relationship with their hotels and result in more positive behaviors such as higher ITS than the excuse response strategy.

2.2. Job insecurity and negative job affects

Job insecurity refers to the concern an individual feels towards potential and unplanned loss of their job (De Witte, 1999). Based on the SET, the relationship between furloughed hotel employee and the hotel requires the employees to place human traits, such as trust, on the organization (Emerson, 1976). The placement of these human characteristics upon a hotel would suggest that the apology communication strategy may be viewed as more empathetic by the furloughed employees. As a result, furloughed hotel employees will be less likely to view their employer as indifferent to their furlough when an apology is issued compared to the use of excuse, which may lead to lower level of job insecurity.

Job affect is defined as the various positive and negative emotional states felt by the employee regarding their organization (Thomson, 2007). Previous research suggested that a crisis leads stakeholders to hold more negative attitudes, such as anger, towards organizations perceived to be more responsible for the crisis (Coombs, 2007; Utz et al., 2013). The apology strategy requires that the hotel take full responsibility for their decision to furlough whereas the excuse strategy attempts to diminish fault in their decision by stating that the situation is outside of their control. Hence, furloughed hotel employees would perceive the apology strategy less negatively than the excuse strategy, which will result in lower level of NJA.

Moreover, high levels of job insecurity leave employees feeling less valued by their employer (Cullen et al., 2014) and negative emotions have been found to influence an employees' perception towards the employer (Yu et al., 2021), which may negatively influence ITS with the hotel as they may perceive more loss over gain if they decide to stay with the hotel.
H1: a) Job insecurity and b) NJA mediate the relationship between hotel crisis communication strategy and furloughed employees' ITS.

2.3. The moderating role of POS
POS refers to the extent to which employees perceive the employer values their contribution and concerns about their well-being, which could lead to less negative affective responses to organizational change, job insecurity, and turnover intention (Akgunduz & Sanli, 2017; Cullen et al., 2014; Eisenberger et al., 1986). According to the SET, higher levels of POS during furlough could possibly help hotel employees maintain a positive relationship with their hotels, which may strengthen the relationship between SCCS (apology and excuse) and job insecurity, NJA, and ITS.
H2a: Furloughed employees' POS (high vs low) has an interaction effect on the relationship between hotel crisis communication strategy (apology vs excuse) and job insecurity, such that apology strategy has more negative effect on job insecurity when POS is high than low.
H2b: Furloughed employees' POS (high vs low) has an interaction effect on the relationship between hotel crisis communication strategy (apology vs excuse) and NJA, such that apology strategy has more negative effect on negative job affect when POS is high than low.
H3: Furloughed employees' POS (high vs low) has an interaction effect on the relationship between hotel crisis communication strategy (apology vs excuse) and ITS, such that apology strategy has more positive effect on ITS when POS is high than low.

3. Methodology

The study employed a 2 (SCCS: apology vs. excuse) × 2 (POS: high vs. low) between subjects, factorial design. The target population of the current study is line-level hotel employees that are 18 or older who were furloughed by the pandemic. A scenario-based online survey was distributed via Amazon Mechanical Turk (MTurk) for data collection. Prior to reading each scenario, participants were asked to imagine themselves as a line-level hotel employee who has been furloughed due to a crisis. The four scenarios were created to manipulate high- and low-level POS during their furlough. For each POS level, one scenario attempted to apologize for the employee furlough while the other adopted the excuse strategy to diminish organizational fault. Participants were randomly assigned to one of the four experimental scenarios and completed the survey based on the scenario.

All survey instruments were adopted from established scales (De Witte, 1999; Mitchel, 1981; Thompson, 2007). NJA was measured with a 5-point Likert scale ranging from 1 (slightly or not at all) to 5 (extremely). All remaining survey instruments were measured using a 7-point Likert scale (1-strongly disagree to 7-strongly agree).

4. Results

A total of 130 usable responses were collected. Close to 60% of the participants were male (n=76, 58.5%). Over sixty percent of the participants were between 25 to 44 years old (n=83, 63.9%). Approximately 74% of the participants had a bachelor's degree (n=96). The majority of the participants reported a household income between $40,000 to $79,999 (n=79, 60.8%). The average tenure with the current hotel was 3.7 years.

MANOVA was performed for the manipulation check prior to the main analysis. Results indicated that the manipulation of SCCS was effective that the apology scenario was perceived as using higher level of apology (M apology=5.89, M excuse = 5.16, $F [1,126] = 10.59$, $p < 0.01$) and lower level of excuse than the excuse scenario (M apology=5.15, M excuse = 5.63, $F [1,126] = 5.15$, $p < 0.01$). Hotel in the high POS scenario was perceived as more supportive than the low POS scenario (M high =5.89, M low =4.92, ($F [1,126] = 17.16$, $p < 0.01$). Realism check showed that the scenario was perceived as realistic (M=5.72, SD=1.26) and easy to understand (M=5.95, SD=1.06).

PROCESS macro model 4 was used to examine hypothesis 1. Gender, household income, furlough length, and tenure with the current hotel were used as covariates. The indirect effect was tested using bootstrapping with a sample size of 5,000 and a 95% confidence interval (CI) (Hayes, 2009). Results indicated that SCCS was not significantly associated with job insecurity (.02, CI [-.39, .44]) or negative job affects (-.08, CI [-.41, .24]). Hence, the indirect effect of SCCS on intention to stay via job insecurity (.004, CI [-.09, .10]) or negative job affects (-.03, CI [-.16, .43]) was not significant. Hypothesis 1 was not supported.

MANCOVA was used to examine hypotheses 2 and 3. Results indicated that the interaction between SCCS and POS was significant on furlough employees' job insecurity ($F [1,112] = 6.27$, $p < 0.05$) but not significant on NJA ($F [1,112] = 2.12$, $p > 0.05$) or ITS ($F [1,112] = 0.29$, $p > 0.05$). Hypotheses 2b and 3 were not supported. Figure 2 displayed the interaction between SCCS and POS. The figure showed that when excuse strategy was used, low level of POS could result in lower job insecurity (M=5.03, SD=.21) for furloughed hotel employees than high level of POS (M=5.13, SD=.19). However, the difference was not statistically significant ($F [1,71] = .16$, $p > 0.05$). When apology strategy was used, a higher level of POS (M=4.68, SD=.23) could significantly reduce furloughed employees' job insecurity than low level of POS (M=5.58, SD=.13) ($F [1, 55] = 3.93$, $p < 0.01$). Hypothesis 2a was partially supported.

5. Discussion and Conclusion

5.1. Discussion and implications

Results suggested that SCCS and POS interacted to impact furloughed hotel employees' job insecurity that when apology strategy was used, high POS could lead to lower job insecurity than low POS. This is concurrent with the literature which stated that the apology strategy was more likely to yield more positive outcomes than excuse (Claeys et al., 2010) and that POS played a role on the amount of job insecurity felt by an employee (Khan & Ghufran, 2018). The apology strategy admits blame and seeks forgiveness which may improve the relationship between employee and employer. Therefore, the use of the apology strategy and high POS may result in furloughed employees who feel more trust towards their employer and experience lower levels of job insecurity.

POS did not have a significant interaction with SCCS on furloughed hotel employees' NJA, which was different from previous finding that POS has a negative effect on NJA (Rhoades & Eisenberger, 2002). Similarly, POS and SCCS did not show significant interaction effect on ITS with the hotel. This contradicts the finding that POS resulted in a positive effect on desire to stay (Rhoades & Eisenberger, 2002).

Different from what suggested by previous literature that events trigger affective states which result in changes in attitudes, perceptions, and behavior intentions (Ashton-James & Ashkanasy, 2008; Weiss & Cropanzano, 1996), the findings of the current study did not show significant main effect of SCCS on furloughed employees NJAs. Similarly, the use of apology and excuse crisis communication strategy did not result in significant differences on furloughed employees' job insecurity, which added to the current understanding of the less investigated apology and excuse strategy on furloughed hotel employees. On the other hand, this study partially supported the SET that high POS and apologies lead the furloughed hotel employee to feel less insecure in their job. This indicated that the use of support and genuine regret influence the level of trust furloughed employees place on their employer and their exchange agreement.

Hotels may use apology strategies to communicate the decision, circumstances surrounding it, and their regret in having to temporarily downsize to their employees. To implement this strategy, hotels may issue an apology letter to employees informing them about the furlough and include the resources and people available to them during their furlough. Hotels should include an anticipated return date and follow up personally with each employee furloughed to express honest concern and answer any questions they may have. Additionally, hotels should pair apology with high POS. Hotels can provide higher POS by expressing how much they value their employees, specifically during a crisis that calls for the decision to downsize by furloughing staff.

5.2. Limitations of this study and suggestions for future studies

The timeframe in which the study was conducted could be a limitation as many of the participants had returned to work and the initial shock of the COVID-19 pandemic furlough in the industry had mostly passed after two years. Over time, negative events are seen as less negative (Weiss & Cropanzano, 1996), which may have influenced the participants' answers despite the scenarios attempted to bring up the emotions the researchers were looking for. Future studies could analyze different SCCS, such as scapegoat, denial, or justification against the same or similar variables.

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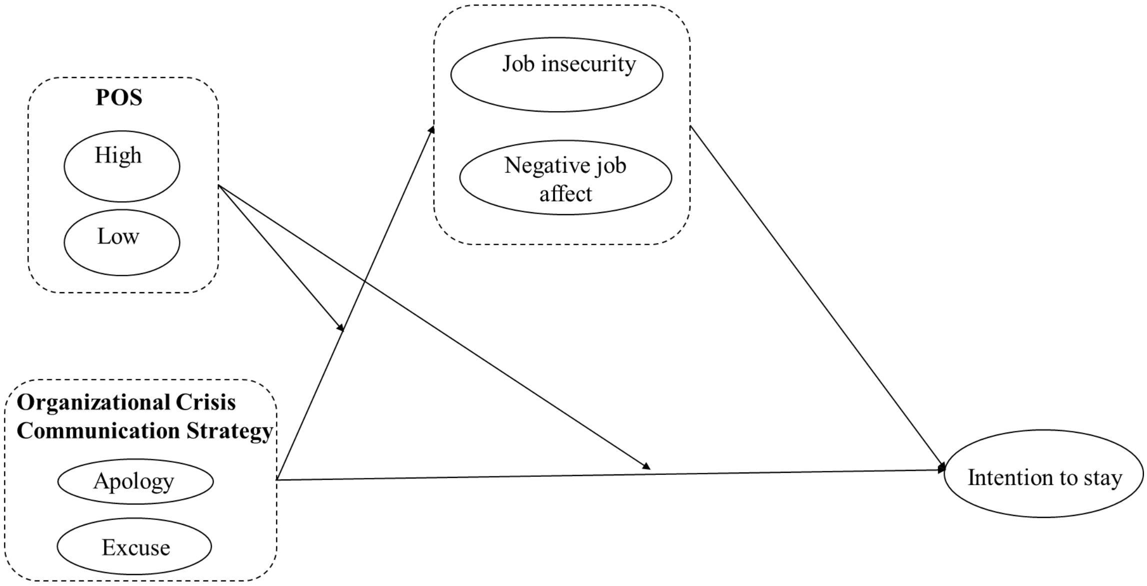

Figure 1 Proposed Research Model

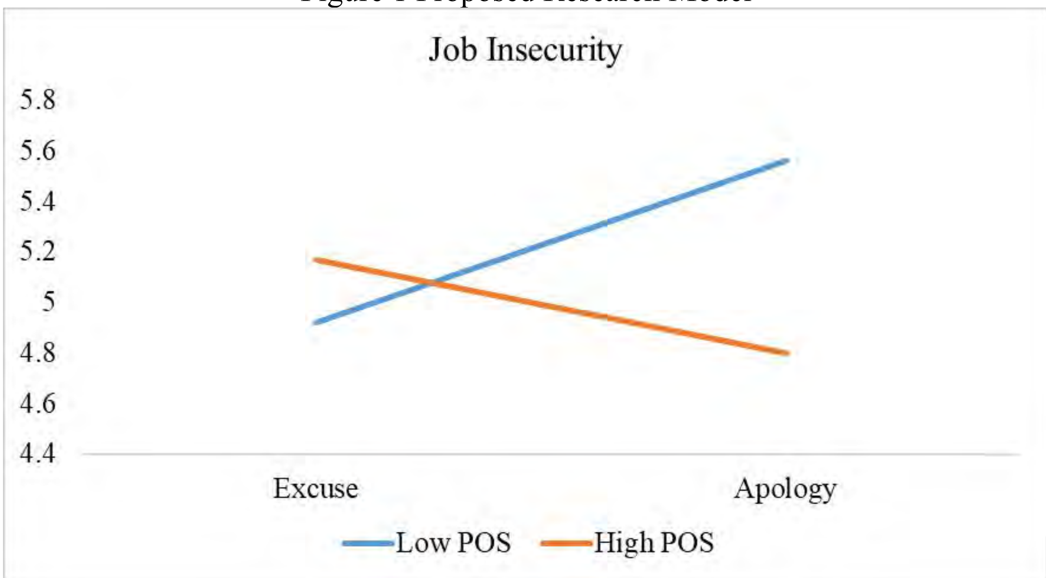

Figure 2 Interaction of SCCS and POS on Job Insecurity

Emotional labor of employees in selected fastfood restaurants in metro manila, philippines

Medino, Jennifer
Department of Hotel, Restaurant and Institution Management, College of Home Economics University of the Philippines

Guevarra, Shirley
Department of Hotel, Restaurant and Institution Management, College of Home Economics University of the Philippines

Abstract:

This research assessed the emotional labor (EL) of fastfood employees in Metro Manila, Philippines using the Hospitality Emotional Labor Scale (HELS), and determined what influenced their EL and how it affected them. Descriptive statistics, Spearman Rho and Mann-Whitney tests analyzed survey data from 262 employees. Data from Focus Group Discussion involving eight employees were also obtained. Results show that individual, socio-cultural and organizational factors influenced EL which affected the employees' well-being and work performance. Genuine acting, the most performed type of emotional labor reflected the employees' satisfaction with their job.

Keywords: emotional labor, surface acting, deep acting, genuine acting, work performance

1. Introduction

Fast food or quick service restaurants are those serving highly standardized processed foods designed for immediate consumption, usually located in high traffic areas, and catering to a wide range of customers (Aggarwal, 2006). These restaurants are popular for their outstanding service to the customers and affordable and appetizing products that are prepared and served fast (Priya, 2020). In addition, they hire young employees, known to be still at the stage of emotional maturity development (Schlosser, 2002).

Excellent customer service is important in a restaurant business, as it can result to satisfied customers who will keep coming back to the store, contributing to its revenue. Thus, workers are expected to give the customers quality food and service consistently, all the time (Restaurant Engine, 2022). They are expected to display friendly and warm gestures during any service interaction. However, some staff may find it challenging to perform the expected behaviors genuinely due to many factors. Aside from the physical activity, the management and regulation of emotions also form part of the work every customer-contact fast food employee must perform, thus the word "emotional labor."

Emotional labor requires one to induce or suppress feeling to create positive emotional experience to the customers. Perceived as part of quality service (Johanson and Woods, 2008) it can lead to customer satisfaction and loyalty that may influence their future purchase intentions. Management and customers expect employees to perform routine tasks with a smile, regardless of how they are truly feeling. However, fast food employees, though usually seen as enthusiastically working, experience many challenges that negatively affect them at work. These and other individual, social, organizational or employment factors influence emotional labor, which eventually may affect work performance and well-being (Liu et al., 2004). Unfortunately, because emotional labor is something that happens within a person, it is hardly recognized and is difficult to manage (Johanson and Woods, 2008).

The main objective of this research therefore, was to determine what influenced the emotional labor of employees of selected fast food establishments in Metro Manila and how it affected them. The specific objectives of this study are as follows: 1. To identify the emotion-related behaviors required for the frontline employees; 2. To examine the issues and concerns of employees on emotion-related behaviors required of them; 3. To determine the individual, socio-cultural and organizational factors that may possibly influence the employees' emotional labor; 4. To identify the coping mechanisms of employees who are experiencing emotional labor; and 5. To identify management programs and practices that address emotional labor at work.

2. Literature Review

2.1. Emotional Labor

The definition of emotional labor has developed complementary perspectives over the years. Schermerhorn, et al. (2011) defines it as the need for one to display proper emotions as expected of his job. Thus, the employee must manipulate his emotions to be able to satisfy organizational requirements. Ashforth and Humphrey, as mentioned by Brown (2010), further define emotional labor as the display of emotions through observable behavior deemed appropriate. Most popularly, Hochschild (1983) who coined the word emotional labor states that it "…requires one to induce or suppress feeling in order to sustain the outward countenance that produces the proper state of mind in others" (p. 7). Workers in the service industry are compensated for performing their jobs which may include managing their emotions and displaying acceptable behaviors to satisfy expectations of customers and employers.

Further, Rafaeli and Sutton (1989) describe emotional labor in the context of hospitality and service industry as having "specific scripts of what and how emotions should be displayed during service transactions… employees are trained to follow specific organizational display rules… no matter how unpleasant the guests happen to be and how angry the employees feel." (Chu, 2002, p.46). These display rules or demonstrative behaviors required by the organization would include "making eye contact, delivering smiles, and showing genuine concern for guests' needs…simply engaging in friendly conversation, greeting guests and showing interest in guests" (Johanson and Woods, 2008, p. 310). This is commonly experienced by fast food employees who are expected and /or required to always show enthusiasm, empathy, and positive disposition to their customers as the case may require.

2.2. Emotional Labor

Schermerhorn, et al., (2011) identify three major types emotional labor, namely deep acting, surface acting and genuine acting. Deep acting happens when an employee adapts or empathizes with the situation or the customer with the help of cognition to display the emotion that is appropriate to the situation. It involves altering one's emotional state by attempting to feel/experience the emotion being displayed (Oktug, 2013; Chu, 2002). Emotional labor also happens when employees feel and express the same emotions as expected by the organization in a particular situation. Chu (2002) calls this genuine acting with the actions being consistent with one's true feelings. This makes the work easier for the employee as he does not need to do any manipulation of emotion resulting in positive outcome (Brown, 2010). Surface acting requires one to fake or regulate observable expressions of emotions to display the emotion that the job requires (Schermerhorn, et al., 2011) and not actually being felt (Oktug, 2013). Hochschild (1983) argues, "… we deceive others about what we really feel…" (p. 33), "…we try to change how we outwardly appear… the action is in the body language…" (p.35). The more frequent one performs surface acting, the more he experiences emotional exhaustion and burnout (Monaghan, 2006).

3. Methodology

3.1 Research Design

This study is exploratory and descriptive, using both the quantitative and qualitative approaches in gathering data. The quantitative data were obtained through a survey of front line employees of selected fastfood restaurants. The qualitative part on the other hand used Focus Group Discussion (FGD) to validate the results of the survey on the influences and effects of emotional labor on the respondents.

3.2 Sampling Design

The respondents for the survey and FGD were selected through convenience sampling which is based on the availability of the respondents. Out of the 292 survey questionnaires, 262 usable questionnaires were received or a response rate of around 87.9% per cent. Eight participants comprised the FGD.

3.3 Research Instrument

The research used a five-part questionnaire to: 1) obtain the demographic profile and current employment details of the respondents; 2) identify different emotional labor-related behavior (ELRB) towards customers, co-employees and superiors, as expected or required of the fast food employees' job; 3) identify the type of emotional labor most often performed by employees using the Hospitality Emotional-Labor Scale (HELS) - genuine acting, surface acting, and deep acting; 4) list the possible health outcomes and organizational or performance-related effects of having to display the required emotional labor-related behaviors (ELRBs); and 5) enumerate the various individual, socio-cultural and organizational factors that influence an employee's emotional labor, whether positively or negatively. Questionnaire items were based from literature reviews, first-hand information and testimonies. Employees used a 7-pt Likert scale to rank statements that described experiences or engagements in performance of emotional labor.

3.4 Data Collection

The survey was conducted in five popular and top fast food chains in the Philippines (Your Pinoy Team, 2021). These establishments were either company-owned or franchises commonly serving burgers, chicken, pasta, fries, and sodas. These were located in malls or along high-traffic locations in different cities of Metro Manila with combined population of about 13 million, the highest population belonging to Quezon City (Philippine Statics Authority, 2018).

3.4 Data Analysis

Data were presented as means, frequencies and percentages. Spearman's Rho and Mann-Whitney U test were used to analyze the data. A significance level of 0.05 was used in the Mann-Whitney 2-tailed test. Spearman's Rho measured the correlation between the influences and effects to emotional labor - surface acting, deep acting, genuine acting. The Mann-Whitney U test was used to determine whether dependent variable emotional labor differed based on independent variables such as gender, job position and employment status. FGD data were interpreted alongside the survey data.

4. Results

4.1. Profile of the respondents

The respondents consisted of 52.9% females and 47.1% males. About 65% of the respondents belonged to the 21-25 age bracket, and 24.28 % under the 16-20 age bracket. Majority were Catholics, single and with no child yet. Large percentage of the respondents were either high school or college students taking up management courses. Of those enrolled, 13 were under a skills enhancement program of one of the leading fast food chain, and two were under a scholarship program for the employment of students of another big fast food restaurant brand. Under these programs, students developed their skills and financed their schooling by working certain hours per week in the fast food company (Allan et al., 2005).

They were employed as cashiers (50.6%), dining crews (47.9%), riders (7.3%) and as party hosts (6.5 %). Most of them worked six days per week and twice a month, received their pay of $ 0.62 to 1.18 per hour or monthly take-home pay of $18.18 to 145.45 at the time of the survey. Part time employees or working students received the lower rate or lower take-home pay as most of them were agency-hired and contractual.

4.2 Emotional Labor-Related Behaviors (ELRB)

Emotional Labor-related Behaviors (ELRBs) or the display rules are demonstrative behavior required by the organization.

Table 1

Emotional Labor of Employees Based on the Hospitality Emotional Labor Scale (HELS)

	%
Genuine Acting	67.9
Surface Acting	50.0
Deep Acting	66.0
Emotional Dissonance	64.1

Table 1 shows that the types of emotional labor that respondents performed were genuine and deep acting. On the one hand, based on the result of the ratings of ELRBs towards customers, items “say ‘thank you’ every after-service interaction”, “smile”, and “maintain eye-contact during interactions” were the top three most required ELRBs respectively. For ELRBs towards superiors, “say ‘thank you’ every after service interaction” and “smile” still remained the top-ranked followed by “offer help or assistance”, and “show you are enthusiastic and energetic.” This was also true towards co-employees, except for “smile” which only ranked fourth.

For the FGD, the common answers were to smile and to give lively, sincere greetings and welcoming greetings to make customers feel welcome. One participant said that they need to evaluate first the customer’s mood and language before giving the proper greeting. As front liners, they were also required to look good and wear makeup. Participant A, Cashier, 22 years old, shared, “You must be presentable. There is also standard makeup. You can’t face the customer without blush on.” Another participant mentioned requirements like being “neat” and to always wear hairnet.

4.3 Emotional Labor Influences

4.3.1 Individual Characteristics

Based on Spearman Rho's correlation test of the survey responses, age and take-home pay were the only variables that had significant correlation with the emotional labor type.

Table 2
Emotional Labor based on Mann-Whitney Test: Males versus Females

Sex (M=1, F=2)		Genuine Acting	Surface Acting	Deep Acting	Emotive Acting
1	Mean	5.1	4.9	5.2	5.2
	N	123.0	123.0	123.0	123.0
	Std. Deviation	1.4	1.3	1.2	1.4
2	Mean	5.4	4.9	5.3	5.1
	N	137.0	137.0	137.0	137.0
	Std. Deviation	1.3	1.7	1.0	1.3
Total	Mean	5.3	4.9	5.3	5.2
	N	260.0	260.0	260.0	260.0
	Std. Deviation	1.3	1.5	1.1	1.4
Mann-Whitney p-value		.218	.706	.796	.371

Table 2 presents the result of Mann-Whitney test, indicating no significant difference in the responses of males versus females on the HELS.

Table 3
Emotional Labor based on Mann-Whitney Test per Job Position

	Genuine Acting	Surface Acting	Deep Acting	Emotive Acting
Grouping Variable: Cashier				
Mann-Whitney U	6081.000	6007.000	5692.000	6304.000
Wilcoxon W	16377.000	16303.000	15988.000	16600.000
Z	-2.224	-2.354	-2.930	-1.822
Asymp. Sig. (2-tailed)	.026	.019	.003	.068
Grouping Variable: Dining Crew				
Mann-Whitney U	6839.500	5960.500	7304.500	6441.000
Wilcoxon W	16850.500	15971.500	17315.500	16452.000
Z	-.902	-2.504	-.050	-1.637
Asymp. Sig. (2-tailed)	.367	.012	.960	.102
Grouping Variable: Rider/Delivery				
Mann-Whitney U	1894.500	2163.500	2025.500	2051.000
Wilcoxon W	2104.500	27588.500	2235.500	2261.000
Z	-1.175	-.285	-.740	-.660
Asymp. Sig. (2-tailed)	.240	.776	.459	.509
Grouping Variable: Party Host				
Mann-Whitney U	1137.500	708.000	734.000	910.500
Wilcoxon W	28632.500	28203.000	28229.000	28405.500

Z	-.149	-2.115	-1.996	-1.196
Asymp. Sig. (2-tailed)	.881	.034	.046	.232

Per job position, the party hosts engaged in surface acting and deep acting significantly. They needed to display a happy or lively behavior while hosting the party even though it is not something that they naturally enjoyed doing, nor what they were feeling in order to satisfy the guests. Cashiers on the one hand, engaged in genuine acting, surface acting and mostly deep acting as they performed their tasks. The shifts in emotional labor were a result of the various influences, such as the role being in conflict with own personality, feelings of inferiority and difficulty with schooling as among the most significant ones. Being Riders was not a significant factor in emotional labor based on the Mann-Whitney test, as they did not have prolonged exposure to the guests and not as pressured to make a sale, unlike the ones in the stores. They, nonetheless, were exposed to many stresses like the weather, traffic along the way, the risks of accidents and worries of arriving late.

Meanwhile, the dining crew engaged in surface acting, or showed positive emotions even if they did not genuinely feel them. They were tasked to clear the table after the customer had left, therefore not requiring them to show the same display of positive emotions as required with cashiers or the party hosts. Whenever there was a need, they just put on that smile, superficially, then go back to their usual physical tasks after.

4.3.2 Socio-Cultural Influences

All the listed influences were most significantly correlated with surface acting, with highest correlation on items "inferiority due to my gender, religion, race or physical appearance," "my personality is different from what the job requires from me," and "others" specifically hangover or vices and stomach ulcer. The FGDs revealed that family and financial problems remained as top influences to employees' emotions at work. It could be a conflict or quarrel with a loved one and lack of money to support family needs. Other influences that surfaced were problems with schooling or studies brought about by conflict with or limited time due to work, heavy traffic going to work causing them stress or resulting in tardiness, conflict with co-workers, resentment towards manager, and problems with love life. Participant B said that "...When I have a problem, I always leave it at home, I don't think about my problem when I come to the store" (Participant B, Dining crew, 20 years old). Another participant shared, "… change your mood.. think happy, think positive" (Participant H, Cashier, 25 years old).

4.3.3 Organizational Influences

All identified organizational influences had high significant correlation with surface acting, particularly the items "dislike or conflict with superior", "dislike or conflict with co-employees", "dislike or conflict with customers", "too strict rules", "employment contract is near to expire", and "difficulty with equipment or machine." Some participants were hesitant to perform the ELRBs due to unpaid overtime work; or overtime work and working day off being converted only to regular hours, affecting their take-home pay. The FGD supported this finding where "dislike or conflicts with co-workers" due to misunderstanding or competition ranked among the top organizational influences of emotional labor. Participant H, Cashier, 25 years old remarked, "If you can't agree, you're not happy, you're also affected at work. Common conflict is when they just want to prove they are good, they will put you down, it's like competition."

4.4 Effects of Emotional Labor on Well-being and Work Performance of Employees and their Coping Mechanism

Identified effects of emotional labor had significant correlation with all the emotional labor types but highest correlation on surface acting. Consistent with the literature, the negative effects of emotional labor on health and wellness were highly attributed to surface acting. The more surface acting employees performed, the more they experienced occupational hazards or accidents such as slips, falls, bumps, vehicle accidents, followed by 'gets depressed', 'gets confused' and 'loss of mental alertness.' Its negative effects on performance also included "ideation to absent from work," "pretends to be busy", "commits errors like giving wrong change or wrong orders," "accidentally damages materials", and "receives customer complaints." FGD participant E, 21 years old, claimed having given the wrong order to a customer at one time that he was very down and problematic. Due to bad mood. participant F, a Dining crew, 22 years old, spilled a glass of drink while participant C, Cashier, 19 years, gave the wrong change. Participant F was charged with the cost of the drink and ordered to clean the mess.

To reduce the experience and negative effects of emotional labor particularly surface acting, some FGD participants shared that they learned ways to feel better after encountering emotionally challenging situations. One resorted to talking and joking with friends (Participant D, Cashier, 24 years old), while another would eat comfort foods particularly cold and sweet fares (Participant F, Dining crew, 22 years old). Despite these experiences, most FGD participants expressed satisfaction in their job. Participant F (Dining crew, 22 years old) shared that she is "Happy - learned a lot to interact with other people. Also because of the incentives 15% discount when buying at the store, also a big salary, overtime is paid, there is even a night differential."

4.5 Management Programs

Some fastfood managers and owners recognized the importance of emotion management in the success of any customer service job. Participant C, Cashier, 19 years old, mentioned that he appreciates their manager's manner of motivating them by giving free sundae to those who could give the best smile during the shift. The management also provided employees orientation and training on the standards, product knowledge and customer service to prepare them mentally and emotionally for the job (Participant E, Dining crew, 21 years old). Participant H, Cashier, 25 years old remarked, "I was first trained as a cashier, about work knowledge and steps on how to deal with customers…what if the customers are like that, how will you deal with him so as to prevent him from getting angry or going berserk?"

5. Discussion and Conclusion

5.1. Discussion and implications

Results indicate that the types of emotional labor that fast food employees performed were genuine and deep acting regardless of their physical and emotional condition when reporting for work. On the one hand, the most cited emotional labor-related behaviors (ELRB) of the employees are smiling and maintaining eye-contact. These are considered essential in customer service and communication. A genuine acting as reflected in genuine smile is associated with being positive and approachable, while eye-contact creates an impression that the staff is attentive, sincere and gives him importance (Okeke, 2017). "Thank you" is an expression of gratitude for the customers for patronizing the product or for visiting the store. These are generally regarded as warm and appropriate behaviors before the customers, superiors and even co-employees to create that positive impression or improve the service interaction. These must be done with positive emotions to be able to do them naturally and comfortably. Affective Events Theory (Schermerhorn, et al., 2011, p.69.) suggests that emotional labor requirements, when applied to real work events can create positive or negative emotional reactions depending on personal predisposition.

Emotional labor influences on individual characteristics revealed that younger employees and those who received lower take-home pay tend to perform deep acting. The study of Glomb et. al (2004) supports the result on take-home pay stating that "higher levels of emotional labor demands are found to be associated with lower wage rates for jobs low in cognitive demands and with higher wage rates for jobs high in cognitive demands." However, the result on age does not conform to a 2017 study among food service workers in which middle-aged employees performed their work with more sincere, genuine emotions than the younger ones. Those above middle age were higher in deep acting than the younger employees (Cetin et al., 2018).

The Mann-Whitney test result which showed no significant difference in the responses of males versus females on the HELS does not confirm to Reid's (2023) finding. The latter stated that women are higher in empathy than men, thus can create stronger bonds with customers, making them feel important. The result however supports the same study among librarians where sex showed no significant difference in emotional labor performance (Sheih, 2011). In terms of position, the shifts in emotional labor were due to influences, such as performing role conflicting with the employee's own personality, feelings of inferiority and difficulty with schooling as among the most significant ones. Party hosts performed surface and deep acting by being lively while cashiers performed genuine, surface and deep acting. Both directly engaged with customers. Being tasked to clean the table after the customer had left, the dining crew were not required to display positive emotions. When needed, they just put on that smile, superficially, then go back to their usual physical tasks after. Rider positions were not also significant on emotional labor but were exposed to stresses like weather, traffic along the way, the risks of accidents and worries of arriving late.

On socio-cultural influences, family and financial problems were top influences on employees' emotions at work conforms. Employees expend personal resources (such as energy, feelings, thought, time) in their desire to meet the emotional requirement of their work (Brown, 2010). These resources, family relationship and money, when lost or depleted, can lead to negative emotion and stress, making it difficult to perform the ELRBs genuinely.

Stress and heavy traffic which affect schooling and reporting for work, problems with co-workers, manager, and love life caused employees to perform deep acting strategies. Emotion Regulation Theory (Gross, 1998) explains this, being a process by which an individual manages his emotions the way he wants it, which emotion to have, when and how should they express them.

For organizational influences, the employees' daily engagement with people, machine and work requirements usually triggered negative emotions towards these, thereby forcing them to perform the ELRBs through surface acting. Unfair labor practices that affect their take-home pay or commitments demotivated employees to perform ELRB. Equity Theory (Wildes, 2008) explains that employees are influenced by perceived fairness and justice at work. An employee believed that his efforts, in this context his emotional labor, must be similarly compensated or recognized as the other employees of the same rank or job.

In general, surface acting was identified as having the most negative effects on the health and wellness of fast food employees. When that discrepancy between emotional display and felt behavior intensifies or continues for a long time, the more the negative effects will be experienced (Gosserand and Diefendorff, 2003). This leads to emotional exhaustion and reduced mental alertness (St. Catherine University, 2022) consequently resulting in performance-related issues. The employees devised their own way of coping with these bad effects of performing emotional labor such as joking and eating. Filipinos are known for being friendly and hospitable, recognized by Forbes Magazine as among the friendliest countries based on HSBC's "Expat Explorer Survey" (Asia Society, 2023). Hospitality is a Filipino value. In the FGD. most employees shared that they are generally happy in their job, hence performing genuine acting or no emotional labor at all in front of customers.

This study helps companies create better emotion management programs beyond reward system and employees' orientation and training on product and service standards and knowledge. Likewise, it is significant in job matching. Person-job-fit is important to lessen the impact of emotional labor of employees. When the employee's personality, abilities, values and needs fit in with the organization or the job, it results in decreased stress, absenteeism, job turnover and job dissatisfaction (Leung, 2023). The Theory on Person-job Fit (Rafaeli and Sutton, 1987 as mentioned by Chu, 2002) states that "emotional harmony" is achieved when the emotion one displays is similar to what she/he actually experiences.

5.2. Conclusion

Emotional labor requires employees to be presentable at all times, give an enthusiastic greeting with eye contact, always smile, and deliver a standard script in 'jolly' voice. Individual, socio -cultural and organizational influences on the employees' emotional labor brought negative effects on their well-being and work performance significantly correlated with surface acting. However, employees mostly used genuine acting signifying that they remained happy with their job. Despite the many negative aspects of fast food work, the respondents claimed that they will still recommend working in fast food restaurants.

5.3. Limitations of this study and suggestions for future studies

Future studies can explore how employees, the management or customers have adjusted nowadays after emotional and mental health issues became a priority of concern because of the global pandemic phenomena.

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Impact of organizational climate and organizational support in employees performance: A case study of domestic cruise line in the Philippines

Sunga Roland Salvador
Institute of Tourism and Hotel Management
Far Eastern University

Mark Alvero
Institute of Tourism and Hotel Management
Far Eastern University

Abstract:

This research investigates the influence of organizational climate and support on employee performance focusing on the perceptions of organizational culture and climate among employees of domestic cruise line in the Philippines. Employing a quantitative, descriptive correlational methodology, the study utilized a self-administered survey distributed to crew members onboard. Findings indicate that superior support and encouragement significantly enhance employees' perceived value of the organizational culture, particularly among those working in galley and kitchen services and housekeeping services. These groups demonstrated a stronger connection to maritime organizational culture compared to other departments. Additionally, the study identified a positive reciprocal correlation between employees' perceptions of maritime organizational culture and their perceptions of the maritime organizational climate. This suggests that an enriched understanding and engagement with maritime culture may enhance the organizational climate, thereby potentially boosting overall employee performance. This study underscores the critical role of supportive organizational environments in fostering favorable workplace climates and enhancing employee efficacy in the maritime sector.

Keywords: Technology, Tourism, Image, Intention

1. Introduction

Shipboard industry is a diverse and dynamic sector that requires careful consideration of organizational culture and behavior (Panayides, 2017). Understanding the organizational culture and behavior of a shipping company is crucial before deciding to adapt or resist their existing practices (Estimo et al., 2020). Organizational culture refers to the beliefs, values, and behavioral norms that exist within an organization. Examining these cultural aspects is important as they have a significant impact on employee behavior, job satisfaction, and overall success of the organization (Muktamar, 2023). In recent years, researchers have increasingly recognized the importance of organizational culture in various industries, including the shipboard industry. Organizational culture plays a key role in shaping the behavior of employees within the shipboard industry. The organizational culture within a shipping company is influenced by various factors, such as the history, leadership style, and values of the organization. Furthermore, individual characteristics and the interactions between organizational culture and these characteristics also affect employee behavior. Moreover, organizational culture can have a significant impact on employee job satisfaction. A positive organizational culture promotes a happy and healthy work environment (Tsai, 2011). Employees who are satisfied with their work environment and have a positive perception of the organizational culture are more likely to contribute positively to team communication and collaboration.

Diversity is a prominent feature in the shipboard industry, making it crucial for individuals to study the organizational culture and climate of prospective shipping companies. This diversity is a reflection of the global nature of maritime trade, where crew members from different nationalities collaborate to achieve common objectives. As Olabiyi, (2023) argue, diversity in this context is not just a characteristic of the workforce but a critical factor influencing team dynamics, communication patterns, and ultimately, organizational effectiveness. The concept of diversity in the shipboard industry extends beyond mere demographic differences to encompass a wide range of cultural, linguistic, and professional backgrounds. This diversity is a reflection of the global nature of maritime trade, where crew members from different nationalities collaborate to achieve common objectives and ultimately, organizational effectiveness.
Organizational culture within the shipboard context is shaped by both the industry's traditional norms and the practices of individual shipping companies. Hofstede's cultural dimensions theory provides a useful framework for understanding how national cultures influence organizational behavior in such a multicultural setting (Brannen, 2009). According to Cox and Blake (1991), organizations must not only acknowledge the inherent value of diversity but also proactively manage it to enhance creativity, problem-solving, and adaptability. This involves implementing policies and practices that promote equality, facilitate cross-cultural communication, and encourage the inclusion of diverse perspectives in decision-making processes. The interplay between diversity and organizational culture in the shipboard industry also highlights the importance of leadership in navigating the complexities of a multicultural workforce. Leaders play a pivotal role in setting the tone for an inclusive culture by modeling inclusive behaviors, fostering an environment of respect and openness, and ensuring that diversity and inclusion principles are embedded in the organization's values and practices (Anderson, 2023).

Currently, there has been a significant shift in focus towards the shipboard industry. The growing focus on the shipboard industry can be attributed to various factors, including technological advancements, the diverse needs of customers, increased options for customers, and intensifying competition among shipping companies. Shipboard companies face various challenges as part of their service industry, including the need to retain a qualified workforce that can adapt to the changing needs of passengers and the company's operational procedures and organisational behaviour.

With the rising need for shipboard human resource recruitment and a lack of skilled labour, there is a growing demand for a more comprehensive training programme to better prepare the workforce for current and future needs in the shipboard industry. The overarching objective of this research is to examine the influence of organizational climate and organizational support on employee performance within the context of the Philippine domestic cruise line industry. Specifically, this study aims to assess how the perceptions of organizational climate and the extent of organizational support perceived by the employees contribute to their overall job performance. The research will investigate various dimensions of organizational climate—including but not limited to, communication patterns, leadership styles, and employee recognition—and how these elements correlate with employee productivity, job satisfaction, and retention rates. Furthermore, the study seeks to explore the role of organizational support in enhancing employee capabilities by providing necessary resources, emotional backing, and growth opportunities.

2. Literature Review

2.1 Maritime Culture and Organization

The recent discourse on organizational practices highlights the paramount importance of organizational culture in shaping vibrant and successful entities. Leaders play a pivotal role in the genesis and sustenance of this culture, meticulously crafting their expectations and beliefs, which, over time, become the bedrock of the organization's ethos (Schein, 2010). This culture, once established, acts as a conduit for leaders to imbue the organization with their vision and values, particularly orienting newcomers towards the organizational objectives. Emphasizing an ethical culture is synonymous with nurturing organizational growth, preemptively addressing challenges, and securing a competitive advantage (Schein, 2010).

Organizational culture, however, is not a monolith but a multifaceted construct, as evidenced by its diverse definitions across various disciplines such as anthropology and organizational leadership. It embodies the unique tapestry of values, beliefs, and behaviors distinguishing one organization from another (Serrat, 2017). The intricate layers of organizational culture, including rituals, values, and norms, evolve through continuous interaction among members, influenced significantly by leadership and the organizational structure (Schein, 2004).

In the maritime context, the cultural and climatic dimensions within organizations play a critical role in safety and leadership. The dichotomy between observable behaviors and underlying values in maritime culture, alongside factors such as involvement and supervisor support in maritime climate, underscores the complex interplay between organizational culture and leadership in shaping outcomes, including accident rates (Sealight Maritime, 2017). This study's backdrop is the shipping company 2GO, headquartered in Manila, Philippines. As the largest ferry operator in the country, 2GO's practices provide a pertinent case for examining the implications of organizational culture and leadership within the maritime industry.

2.2 Job Skills Mismatch in Cruise ship Industry

Cruise ships are highly favored by travelers and offer job prospects for a variety of professionals such as deck officers, engineers, hospitality staff, and entertainers. Nevertheless, with the increasing demand for cruise ship positions, a new issue has arisen regarding the mismatch between job skills and competencies. Improving working conditions onboard ships is essential to attract young people to the maritime industry and tackle the problem of job skills and competency mismatch (Caesar et al., 2015). The enhancement should address different aspects, including decreasing extended duty periods at sea, offering sufficient vacation time without salary cuts, upgrading internet accessibility, enhancing onboard accommodation, encouraging gender diversity in the workforce, and guaranteeing job stability through social security programs (Caesar et al., 2020). Enhancing working conditions on ships is essential to attract young individuals to the maritime sector and align with jobseekers' expectations. In the maritime industry, the workforce primarily consists of millennials who play a vital role in meeting the industry's growing demands and standards (Estimo et al., 2020). In order to tackle the job skills and competency mismatch in the cruise ship industry, it is crucial to offer sufficient training and development programs that are in line with the changing requirements of the industry (Caesar et al., 2015). Furthermore, it is important to enhance the working conditions on ships. The maritime industry, especially the cruise ship sector, is currently dealing with a significant issue related to job skills and competency mismatch (Estimo et al., 2020).

Statement of the Problem

The study was able to identify how the organizational culture and climate of 2GO shipping company influenced their maritime hotel services. Specifically, the researcher answered the following questions:

1. What is the demographic profile of the respondents, in terms of:

1.1. age
1.2. sex
1.3. income
1.4. type of work
2. What is the crew ships' assessment in the company's organizational culture, as to:
2.1. observable behavior
2.2. values
3. What is the crew ships' ratings in the company's organizational climate, with respect to:
3.1. involvement,
3.2. peer cohesion,
3.3. supervisor support,
3.4. expressiveness,
3.5. autonomy,
3.6. task orientation,
3.7. work pressure,
3.8. clarity,
3.9. staff supervision,
3.10. innovation, and
3.11. physical comfort
4. Is there a significant relationship between the crew ship's perception of organizational culture and climate when grouped according to demographic profile?
5. Is there a significant relationship between the organizational culture and organizational climate?

3. Methodology

The researcher employed a descriptive correlational research design to delineate the characteristics of crew ships and assess the influence of organizational climate and culture on their work performance. As per Aggarwal (2008), descriptive research focuses on collecting information about current conditions or situations to describe and interpret them. Engaging in this research method involves more than just collecting and organizing data; it also requires thorough analysis, interpretation, comparisons, and identifying trends and relationships.

The study utilized a non-probability sampling design in which participants included 263 employees of 2Go Travel who were on board during the study period from August to December 2021. Data collections were employed using self-administered survey questionnaire to voluntary respondents from 5 cruise vessels.

3.1. Measurement

The data collected were accurately tallied, tabulated, interpreted, and analysed with the use of various statistical tools:

Frequency, Percentage, and Weighted Mean were utilised in analysing the demographic profile of the respondents, the crew ships' perception of the company's organisational culture, and the crew ships' perception of the company's organisational climate. Two statistical tests were utilised to analyse the relationship between the crew ship's perception of organisational culture and climate based on demographic profiles. Utilising Pearson r correlation, Tukey HSD, and ANOVA, the study examined the connection between the crew ship's perception of organisational culture and the practices in the operation.

4. Results

4.1. Profile of the respondents

Age profile. Data in Table 1 revealed the age profile of the respondents. It was gleaned from the table that the youngest age group of the sample was within the range of 18-20 [f=52; P=19.77%] and the oldest, within 36-40 [f=2; P=0.76%]. The chronologically second age group, 21-25 years of age, was the biggest among subgroups [f=98; P=37.26] while the next age group, 26-30, was third biggest [f=51; P=19.39%] which showed that the sample was rather a young group of employees as further indicated by the sample mean of 23.77 years, placing the sample within a general age group whose age ranged from 20.17 to 27.37 years [SD=3.6]. The remaining age group – 31-35 years of age and 36-40 years of age – consisted of a very small fraction as a subgroup[f=8; P=0.76%]. It was remarkable however that there existed a subgroup in the sample who did not admit their age [f=52; P=19.77%].

Table 1:Age Profile of the Respondents

Age Range	f	%
18-20	52	19.77
21-25	98	37.26
26-30	51	19.39
31-35	8	3.04
36-40	2	0.76
No response	52	19.77
Total	**263**	**99.99**

Sex profile. The data on the sex profile of the respondents awee presented in Table 2. The sample was predominantly female [f=120; P=45.63%] as disclosed in the table. The male were viewed to be inferior in number owing to the number of respondents [f=40; P=15.21%] who did not admit their sex.

Table 2: Sex Profile of the Respondents

Sex	f	%
Male	103	39.16
Female	120	45.63
No response	40	15.21
Total	**263**	**100**

Income profile. The income profiles of the respondents were summarized in Table 3. It inferred from the table that majority of the respondents earned an income within Php 14,001 – Php 16,000 a month [f=85; P=32.32%] from the company but the smallest earning group was found to be one income bracket lower than this, Php 12,000 – Php 14,000 a month [f=65; P=24.71%]. While it was noticeable that very few among the respondents earned more than Php 22,000 – 2 respondents equally for the income brackets of Php 25,001-Php 25,000 and Php 28,001-Php 30,000 and none for the income group of Php 22,001-Php 25,000 – the respondents received above lowest rates for this type of work as indicated by the frequencies of 37 and 17 for the income brackets of Php 16,001-Php 19,000 [P=14.07%] and Php 19,001-Php 22,000 [P=6.46%], respectively.

The sample was placed in the income bracket of the workforce earning, on the average, Php 15,268.18 and between Php 12,355.81 and Php 18,180.55. This income was considered attractive enough compared to workers of the same nature whose companies are land-based.

Table 3: Income Profile of the Respondents

Income Bracket	F	%

12,000-14,000	65	24.71
14,001-16,000	85	32.32
16,001-19,000	37	14.07
19,001-22,000	17	6.46
25,001-28,000	2	0.76
28,001-30,000	2	0.76
No response	55	20.91
Total	**263**	**100**

Type of work. The respondents' types of work were presented in the matrix of data in Table 4 which dealt with the departments where they were deployed as workers. Departmentalized work groups employees of the same nature together and distinguished them from the type of work other departments are assigned to do. Nevertheless, there was a subgroup within the sample [f=55; P=20.91%] who did not admit their nature of work.

Table 4: Respondents' Type of Work

Type of Work	F	%
Food and Beverage Services	152	57.79
Galley and Kitchen	12	4.56
House Keeping	68	25.86
Front Office Services	13	4.94
Others	3	1.14
No response	15	5.70
Total	**263**	**100.00**

The data analysis from the study primarily shows that a significant portion of the participants (57.79%) were engaged in food and beverage services, followed by 25.86% who were involved in housekeeping services. Smaller proportions of the sample were assigned to galley and kitchen services (4.56%) and front office services (4.94%). A minimal number of respondents (1.14%) worked in diverse roles classified as "Others," including hotel, salon, and research and development sectors. There was also a small subset (5.70%) who did not specify their job roles.
Demographically, the typical respondent profile suggests a young workforce, with an average age of 23.77 years, predominantly female, and within an age range of 20.17 to 27.37 years. The average monthly income was reported at PHP 15,268.18, with income brackets ranging between PHP 12,355.81 and PHP 18,180.55. Notably, there were few exceptions where individuals earned over PHP 30,000 or were employed in less common sectors, potentially indicating a sensitivity to disclosing information due to the risk of identity exposure. These findings underscore the demographic characteristics and employment distribution within the studied group, highlighting the dominance of young, female employees in food and beverage services. The reluctance of some participants to disclose complete demographic details may reflect concerns about the confidentiality and potential identification based on their unique demographic and employment combination.

Table 5: Respondents' Perception on Organizational Climate

Indicator	General Weighted Mean	SD	V.E.
Involvement	3.74	.74	A
Peer Cohesion	3.69	.59	A
Supervisor Support	3.47	.62	A

Expressiveness	3.51	.68	A
Autonomy	3.62	.63	A
Task Orientation	3.93	.64	A
Work Pressure	3.69	**.70**	A
Clarity	3.56	**.72**	A
Staff Supervision	3.58	.66	A
Innovation	3.58	.74	A
Physical Comfort	3.94	.73	A
Grand Mean	**3.67**		
Standard Deviation	**.44**		
Verbal Equivalent	**Agree**		

The analysis of organizational climate within maritime settings revealed a general consensus among respondents aligning with the "Agree" level across eleven examined variables, as detailed in the referenced data (Table 5). However, despite this overall agreement, certain variables exhibited notably low mean scores and considerable variance, indicating a less uniform perception among participants. Specifically, the variable concerning Supervisor Support registered the lowest agreement, with a mean of 3.47 and a standard deviation of 0.62. This ranged from a neutral stance ("Neither agree nor disagree," with a computed lower limit of 2.85) to agreement (upper limit of 4.09).

Furthermore, although the responses predominantly fell within the "Agree" category, the wide variances suggest that this agreement is not unequivocal for all variables. This indicates a nuanced perception where responses oscillated between neutrality and agreement. This variability underscores areas that may require attention in the formulation of strategies aimed at enhancing employee training and overall organizational culture.
Additionally, the perception metrics related to "Observed Behavior" and "Values" reflected positively on the operational ethos of the management, with means recorded at 3.67 and a standard deviation of 0.44. These findings, falling between 3.30 and 4.14, suggest a range of views from neutral to agreeable. The study highlights the importance for management to delve deeper into these findings to refine and possibly intensify the cultural aspects within the organization, thereby aligning them more closely with the company's strategic objectives. This approach would potentially amplify the efficacy of management practices and foster a more cohesive and explicitly understood organizational culture.

Table 6: Multiple Comparisons in Perception on Organizational Culture between Department Groups using Tukey's HSD

(I) Dept	(J) Dept	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Upper Bound	Lower Bound
Food and Beverage	Galley and Kitchen	-.08452	.12694	.963	-.4335	.2644
	Housekeeping	-.02819	.06211	.991	-.1989	.1426
	Front Office	.10664	.12235	.907	-.2297	.4430
	Others	.08048	.24650	.998	-.5971	.7581
Galley and Kitchen	Food and Beverage	.08452	.12694	.963	-.2644	.4335
	Housekeeping	.05632	.13232	.993	-.3074	.4201
	Front Office	.19115	.16918	.791	-.2739	.6562

	Others	.16500	.27279	.974	-.5849	.9149
Housekeeping	Food and Beverage	.02819	.06211	.991	-.1426	.1989
	Galley and Kitchen	-.05632	.13232	.993	-.4201	.3074
	Front Office	.13483	.12792	.830	-.2168	.4865
	Others	.10868	.24931	.992	-.5767	.7940
Front Office	Food and Beverage	-.10664	.12235	.907	-.4430	.2297
	Galley and Kitchen	-.19115	.16918	.791	-.6562	.2739
	Housekeeping	-.13483	.12792	.830	-.4865	.2168
	Others	-.02615	.27068	1.000	-.7703	.7179
Others	Food and Beverage	-.08048	.24650	.998	-.7581	.5971
	Galley and Kitchen	-.16500	.27279	.974	-.9149	.5849
	Housekeeping	-.10868	.24931	.992	-.7940	.5767
	Front Office	.02615	.27068	1.000	-.7179	.7703

Based from the computations using Tukey's Honestly Squared Difference (HSD) at 95% confidence interval, the data showed that none of the groups differed significantly from other employees belongings to other departments in terms of their perception on maritime culture.

It was remarkable however that employee deployed in the Galley and Kitchen Services and those in the Housekeeping Services departments perceived maritime organizational culture at higher levels than did the rest of the respondents as indicated by the positive sign in their MD values. Conversely, respondents deployed in Food and Beverage Services, Front Office and departments tagged as "Others" perceived maritime culture at lower levels than did the rest of the respondent groups in the sample as indicated by the negative sign in their MD values though these were not found significant.
In general, the study found that male respondents and those deployed in Front Office and departments tagged as "Others" perceived maritime culture at lower levels than did the rest of the respondent groups, though the variance was not found significant. However, employees earning income between Php 25,001 to Php 28,000 perceived maritime culture significantly lower than the rest of eh respondent groups in the sample.

Table 7: Multiple Comparisons in Perception on Maritime Climate between Age Groups using Tukey's HSD

(I) Age_Grp	(J) Age_Grp	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Upper Bound	Lower Bound
18-20	21-25	.07472	.777	-.1192	.2919	.08633
	26-30	.08752	.975	-.1885	.2931	.05229
	31-35	.17726	1.000	-.4577	.5177	.02997
	36-40	.26127	.302	-.2131	1.2245	.50569
21-25	18-20	.07472	.777	-.2919	.1192	-.08633
	26-30	.07523	.991	-.2410	.1729	-.03405
	31-35	.17153	.997	-.5283	.4155	-.05636
	36-40	.25741	.480	-.2888	1.1275	.41935
26-30	18-20	.08752	.975	-.2931	.1885	-.05229
	21-25	.07523	.991	-.1729	.2410	.03405
	31-35	.17748	1.000	-.5106	.4660	-.02231
	36-40	.26142	.415	-.2658	1.1726	.45340

31-35	18-20	.17726	1.000	-.5177	.4577	-.02997
	21-25	.17153	.997	-.4155	.5283	.05636
	26-30	.17748	1.000	-.4660	.5106	.02231
	36-40	.30348	.520	-.3592	1.3106	.47571
36-40	18-20	.26127	.302	-1.224	.2131	-.50569
	21-25	.25741	.480	-1.127	.2888	-.41935
	26-30	.26142	.415	-1.172	.2658	-.45340
	31-35	.30348	.520	-1.310	.3592	-.47571

Post hoc analysis was further conducted using Tukey's Honestly Squared Difference (HSD) at 95% confidence interval.

Though it was inferred from the data that none of the age groups differed significantly from the rest of the respondents in their perception on maritime climate as indicated by their p-values greater than .05, it was noted however that perceptions rose to higher level as age of respondents also increased as indicated by the positive sign in all MD values in the table.

Comparison of perception between sex groups at .05 level of significance was computed using t-test for independent samples as provided in Table 8 .

Table 8: Group Statistics on Organizational Climate between Sex Groups

Variable	Sex	N	Mean	Std. Deviation	Std. Error Mean
Organizational Climate	Female	120	3.6547	.40405	.03752
	Male	103	3.6256	.48678	.04868

It was noted that the means differed very slightly between male and female groups and that the SEM values for the groups were very close. It was inferred further from that variance in the perception on organizational climate between sex groups was not significant in this data set [t=.474; p=.636]. It was noted that there was tendency for female respondents to perceive maritime climate at lower level than did the male respondents in the sample as indicated by the positive sign in the computed t-value.

Table 9: Comparison in Perception on Organizational Climate between Sex Groups

Variable		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Upper	Lower
Organizational Climate	Equal variances assumed	.213	.645	.481	214	.631	.02914	.06062	-.0903	.14863
	Equal variances not assumed			.474	192.93	.636	.02914	.06146	-.0920	.15036

Analysis of variance among respondents belonging to different income brackets was conducted using F-test for uncorrelated means of k-sample groups at α=.05. Results of the computations are summarized in Table 10.

Table 10: Analysis of Variance in Perception on Maritime Climate within Income Groups

Statistics	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	2.842	6	.474	2.479	.024
Within Groups	39.547	207	.191		
Total	42.389	213			

The data provide that the 7-group sample did not differ in perception on maritime climate as a sample as indicated by the fitness of the model [F=2.479; p=.024]. However, post hoc analysis was conducted using Tukey's Honestly Squared Difference (HSD) at 95% confidence interval. Results of the computations were presented in Table 11.

It was highly remarkable that respondents belonging to the income bracket of Php 25,001 to Php 28,000 perceived maritime climate significantly lower than did the rest of the respondents in the sample as indicated by the negative sign in their MD values as well as their p=values that were less than the critical .05 mark. These findings corroborated with those that were found in the previous multiple comparison in the perception on maritime culture across income brackets.

Table 11: Multiple Comparisons in Perception on Maritime Climate between Income Groups using Tukey's HSD

(I) Income_Grp	(J) Income_Grp	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Upper Bound	Lower Bound
8,000-11,000	12,001-14,000	.16310	.14895	.929	-.2804	.6066
	14,001-16,000	.19553	.14612	.833	-.2396	.6306
	16,001-19,000	.18179	.15535	.905	-.2808	.6443
	19,001-22,000	.20267	.17844	.916	-.3287	.7340
	25,000-28,000	**1.25100(*)**	.33857	**.005**	.2429	2.2591
	28,001 and over	-.11900	.33857	1.000	-1.1271	.8891
12,001-14,000	8,000-11,000	-.16310	.14895	.929	-.6066	.2804
	14,001-16,000	.03243	.07300	.999	-.1849	.2498
	16,001-19,000	.01869	.09005	1.000	-.2494	.2868
	19,001-22,000	.03957	.12577	1.000	-.3349	.4141
	25,000-28,000	**1.08790(*)**	.31401	**.011**	.1529	2.0229
	28,001 and over	-.28210	.31401	.972	-1.2171	.6529
14,001-16,000	8,000-11,000	-.19553	.14612	.833	-.6306	.2396
	12,001-14,000	-.03243	.07300	.999	-.2498	.1849
	16,001-19,000	-.01374	.08529	1.000	-.2677	.2402
	19,001-22,000	.00714	.12241	1.000	-.3573	.3716
	25,000-28,000	**1.05547(*)**	.31268	**.015**	.1244	1.9865
	28,001 and over	-.31453	.31268	.952	-1.2456	.6165
16,001-19,000	8,000-11,000	-.18179	.15535	.905	-.6443	.2808
	12,001-14,000	-.01869	.09005	1.000	-.2868	.2494
	14,001-16,000	.01374	.08529	1.000	-.2402	.2677
	19,001-22,000	.02088	.13328	1.000	-.3760	.4177
	25,000-28,000	**1.06921(*)**	.31710	**.015**	.1250	2.0134
	28,001 and over	-.30079	.31710	.964	-1.2450	.6434

19,001-22,000	8,000-11,000	-.20267	.17844	.916	-.7340	.3287
	12,001-14,000	-.03957	.12577	1.000	-.4141	.3349
	14,001-16,000	-.00714	.12241	1.000	-.3716	.3573
	16,001-19,000	-.02088	.13328	1.000	-.4177	.3760
	25,000-28,000	**1.04833(*)**	.32903	**.027**	.0686	2.0280
	28,001 and over	-.32167	.32903	.958	-1.3014	.6580
25,000-28,000	8,000-11,000	**-1.25100(*)**	.33857	**.005**	-2.2591	-.2429
	12,001-14,000	**-1.08790(*)**	.31401	**.011**	-2.0229	-.1529
	14,001-16,000	**-1.05547(*)**	.31268	**.015**	-1.9865	-.1244
	16,001-19,000	**-1.06921(*)**	.31710	**.015**	-2.0134	-.1250
	19,001-22,000	**-1.04833(*)**	.32903	**.027**	-2.0280	-.0686
	28,001 and over	**-1.37000(*)**	.43709	**.032**	-2.6715	-.0685
28,001 and over	8,000-11,000	.11900	.33857	1.000	-.8891	1.1271
	12,001-14,000	.28210	.31401	.972	-.6529	1.2171
	14,001-16,000	.16310	.14895	.929	-.2804	.6066
	16,001-19,000	.19553	.14612	.833	-.2396	.6306
	19,001-22,000	.18179	.15535	.905	-.2808	.6443
	25,000-28,000	.20267	.17844	.916	-.3287	.7340

* The mean difference was significant at the .05 level.

Analysis of variance in the perception on maritime climate within departments was conducted using F-test for uncorrelated means of k-sample groups at .05 level of significance. The results of the computations were provided in Table 12. It was inferred from the above table that the fitness of the collected data of the 5-group sample was not significant [F_{value}=.420; p=.794].

Table 12: Analysis of Variance in Perception on Maritime Climate within Department Groups

Statistics	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	.300	4	.075	.420	.794
Within Groups	42.147	236	.179		
Total	42.447	240			

Moreover, post hoc analysis was conducted using Tukey's Honestly Squared Difference (HSD) at 95% confidence interval between and among departments. Table 13 presented the results of the computations.

Table 13: Multiple Comparisons in Perception on Maritime Climate between Department Groups using Tukey's HSD

(I) Dept	(J) Dept	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Upper Bound	95% Confidence Interval Lower Bound
Food and Beverage	Galley and Kitchen	-.08452	.12694	.963	-.4335	.2644
	Housekeeping	-.02819	.06211	.991	-.1989	.1426
	Front Office	.10664	.12235	.907	-.2297	.4430
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Galley and Kitchen	Food and Beverage	.08452	.12694	.963	-.2644	.4335
	Housekeeping	.05632	.13232	.993	-.3074	.4201
	Front Office	.19115	.16918	.791	-.2739	.6562
	Others	.16500	.27279	.974	-.5849	.9149

Housekeeping	Food and Beverage	.02819	.06211	.991	-.1426	.1989
	Galley and Kitchen	-.05632	.13232	.993	-.4201	.3074
	Front Office	.13483	.12792	.830	-.2168	.4865
	Others	.10868	.24931	.992	-.5767	.7940
Front Office	Food and Beverage	-.10664	.12235	.907	-.4430	.2297
	Galley and Kitchen	-.19115	.16918	.791	-.6562	.2739
	Housekeeping	-.13483	.12792	.830	-.4865	.2168
	Others	-.02615	.27068	1.000	-.7703	.7179
Others	Food and Beverage	-.08048	.24650	.998	-.7581	.5971
	Galley and Kitchen	-.16500	.27279	.974	-.9149	.5849
	Housekeeping	-.10868	.24931	.992	-.7940	.5767
	Front Office	.02615	.27068	1.000	-.7179	.7703

The study revealed that variations in perceptions of maritime climate across different departments were not statistically significant, as evidenced by p-values exceeding the critical threshold of 0.05. Notably, employees in Galley, Kitchen, and Housekeeping Services reported higher perceptions of maritime climate compared to other groups within the sample, although these differences did not reach statistical significance.
Conversely, those employed in Food and Beverage Services, Front Office, and a category labelled as 'Others' consistently reported lower perceptions of maritime climate, though these findings were also not statistically significant. This trend was similar among respondents aged 18-20 and female respondents, who perceived maritime climate to be less severe compared to other groups.

Furthermore, a distinct observation was made regarding income levels, where respondents earning between Php 25,001 and Php 28,000 reported significantly lower perceptions of maritime climate compared to their counterparts.
Overall, the data suggest a pattern where specific job roles and income levels influence perceptions of maritime climate, with Food and Beverage Services, Front Office, and 'Others' routinely perceiving it less intensely. This trend was particularly pronounced among respondents within a specific income bracket, underscoring a potential economic dimension to the perception of maritime environmental conditions.

Table 14: Correlation Analysis on Maritime Culture and Maritime Climate

Variables	**Statistics**	**Maritime Culture Mean**	**Maritime Climate Mean**
Maritime Culture	Pearson Correlation	1	**.482(**)**
	Sig. (2-tailed)		**.000**
	N	263	256

** Correlation is significant at the 0.01 level (2-tailed).
It was gleaned from the above data that the respondents' perceptions between maritime culture and maritime climate was significantly correlated [p=.000]. The positive correlation showed that as the perception on maritime culture rises, a corresponding increase in the perception on maritime climate results, and vice versa. Conversely, higher levels of perception in maritime culture attributed to a higher level of perception on maritime climate, and vice versa.

The relationship was found significant though, the degree of relationship was found to be only at substantial level [r=.482]. This was elaborated such that any favorable condition that demonstrate positive observed behaviour and desired values in the company could create an upshot in the perceived maritime climate in the organization.

5. Discussion and Conclusion

5.1. Discussion and implications

The operational vision of the management is to provide hospitality services in the crew ship that are set in a workplace where maritime culture and climate favor positive outlook toward work. As such, no difference in the perceptions in these two variables should exist because the difference is an indication of division in the work force which could gradually facilitate the formation of factions among employees.

Further, it is the operational vision of the management that cultivating positive maritime culture in the company could help create a favourable maritime climate in the workplace.

On the basis of the salient findings of the study, variances in the perception in the two variables involved were natural since no perfect organization can exist. But that significant difference in the perception of the two variables consistently shown by the group earning between Php 25,001 to Php 28,000 was remarkable and must be acted upon toward the vision of the organization if the top management of the company wishes to keep the workforce intact and to prevent the possibility of faction formation among employees which may arise from their significantly lower perceptions.

These findings pointed out to the top management of the company the areas of concern which serve as the grassroots that brought about the significant difference in their perception and to help the necessary steps to counter their perception while time, energy and resources permit.

However, the significantly positively related perceptions of respondents between maritime culture and maritime climate are amenable to the operational vision of the management. It is of paramount concern among business managers that the level of maritime culture is in tune with the level of maritime climate.

In general, the data provided that the operational vision of the management was reflected in the findings of the study but the underlying issues which may be taking place within the group earning income between Php 25,001 and Php28,000 should be identified and addressed to keep the job satisfaction of the employees and to ensure that quality service, commitment and dedication to work may be maintained.

5.2. Conclusion

From the findings of this study, the following conclusions were drawn:

Women were the primary demographic among the respondents, possibly due to their high level of enthusiasm and charm in delivering services in hotel operations. Most of the participants were employed in Food and Beverage Services operations, which involve extensive interaction with guests. The crew ships employees noticed that the shipping company's organizational culture demonstrated observable behavior

The implication is that the company places a high emphasis on holding meetings, possibly even on a daily basis before starting operations. The employees of the crew ships noticed that the company's organizational climate is shaped by the support and encouragement from their superiors.

Workers in the Galley and Kitchen Services and Housekeeping Services departments showed a stronger connection to maritime culture compared to other respondents due to their well-suited skills for their roles. Staff in Food and Beverage Services, Front Office, and other departments viewed maritime culture at lower levels compared to other respondent groups. However, this was not deemed significant and did not directly impact the hotel's operations.

Female respondents tended to perceive maritime climate at a lower level than male respondents, possibly due to factors related to their population that could influence their positions in the company.

Staff in Food and Beverage Services, Front Office, and other departments consistently perceived maritime culture and climate at lower levels compared to other groups in the sample. There is a strong positive correlation between employees' perceptions of maritime culture and maritime climate. As perception of maritime culture increases, so does perception of maritime climate, and vice versa. The management's operational vision focuses on fostering a positive maritime culture within the company to establish a conducive maritime climate in the workplace.

5.3 Limitations of this study and suggestions for future studies

The study identified several limitations that impact the interpretation of its results and provide avenues for future research. Primarily, the quantitative methodology employed limits insights into the subjective experiences of employees concerning organizational climate and support. This approach confines the analysis to predetermined hypotheses and overlooks subtler, influential factors on employee performance due to its structured nature. Furthermore, the purposive sampling technique, while targeted, risks sampling bias and restricts the findings' applicability across the organization, particularly in the cruise line industry where diverse employee experiences are prevalent. The modest number of participants also restricts the statistical robustness of the results, potentially obscuring smaller yet significant effects.

To address these limitations and refine future research, several recommendations are proposed. Future investigations could benefit from a mixed-methods approach, integrating both quantitative and qualitative data to gain a comprehensive understanding of organizational impacts on employee performance. Increasing the sample size and utilizing random sampling would enhance the reliability and generalizability of the findings. Moreover, the study revealed significant insights into the organizational culture and climate from the employees' perspective, particularly in the hotel services department, suggesting the need for ongoing training and revision of training manuals.

Further recommendations include encouraging active employee participation in company improvement activities, which could foster a mutual benefit scenario enhancing both organizational and employee performance. Revising the employee manual, particularly training policies, and incorporating motivational strategies could further enhance job satisfaction. Additionally, establishing partnerships with training centers and educational institutions could enhance the employability of graduates interested in the shipboard industry.

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Modeling adaptive resilience framework of resort establishments in ecotourism destination: A study of employee efficacy and motivation

Jonson, Anna Pamela
Institute of Tourism and Hotel Management
Far Eastern University

Masa, Jan Racky
Institute of Tourism and Hotel Management
Far Eastern University

Abstract:

This theoretical investigation seeks to elucidate the correlations among various facets of adaptive resilience namely, entrepreneurial zeal, public-private collaboration, environmental awareness, and crisis management engagement—and their impact on the self-efficacy, satisfaction, and loyalty of employees within resort businesses located in ecotourism areas. Additionally, the research explores the influence of brand image and collectivism on employees' behavioral intentions and motivational levels. Drawing on existing scholarship, the study proposes a conceptual framework designed to chart the interactions between adaptive resilience practices in resort management and their role in navigating challenges and promoting sustainability.

Keywords: Technology, Tourism, Image, Intention

1. Introduction

The tourism and hospitality sector has been increasingly subjected to a variety of crises and disruptions in recent years, encompassing everything from natural disasters to global pandemics, which have significantly affected its operational continuity and long-term viability. Ulak (2016) highlights a burgeoning interest among academics in exploring crisis management within this sector, focusing on a diverse array of crises such as natural disasters, terrorism, health emergencies, and political upheavals. A crucial element in the resilience and recovery of tourism destinations, particularly those prone to such adversities, is the robustness of their infrastructure (Ulak et al., 2020). The COVID-19 pandemic, for instance, has starkly revealed the fragility of the tourism and hospitality industry, underlining the need for strategies that enhance adaptive resilience in the face of crises. This is exemplified by ecotourism sites like Mocha Island in Chile and the Amazon region in Brazil, where the tourism industry plays a vital role in the regions' recovery and ecological restoration efforts post-disaster (Maikhuri et al., 2017), highlighting tourism's capacity to drive socio-economic rejuvenation in affected communities.

The resilience and adaptability of tourism destinations are crucial for their sustenance and recovery amidst decreasing demand and various external shocks. The field of crisis management emerges as a critical component of tourism operations, requiring the development and implementation of strategies aimed at minimizing negative impacts (Milićević et al., 2022). Extensive international research has delved into diverse tourism destinations and crisis situations to understand the decision-making processes and strategies employed in crisis management (Yang et al., 2021). The notion of adaptive resilience, especially in the context of tourism and hospitality entities, has attracted significant interest from both scholars and industry practitioners, emphasizing its importance in crisis management (Ntounis et al., 2021; Sharma et al., 2021). Given the inherent vulnerability of tourism and hospitality establishments to a wide range of crises, including natural disasters, pandemics, and terrorist activities, it is imperative for these businesses to be equipped with effective crisis management capabilities. These capabilities are essential for ensuring the safety of guests, protecting the reputation of the establishments, and maintaining operational continuity (Peterson & DiPietro, 2021). In the aftermath of the COVID-19 pandemic, the concept of resilience in the tourism sector has become increasingly intertwined with crisis management, serving as a foundational element for preparedness, strategic planning, and facilitating the phases of response, recovery, and sustained resilience (Aldao et al., 2022). Resilience in this context refers to the ability of tourism and hospitality establishments to withstand, adapt, and thrive amidst disruptive events, ensuring their continued operation and success in the face of challenges.

2. Literature Review

The growing concern over environmental sustainability and the urgency to address disaster mitigation in ecotourism settings have become focal points in contemporary academic discussions. Henderson (2007) asserts that the inherent vulnerability of the tourism sector to various crises necessitates proficient management strategies to navigate and mitigate these challenges effectively. This has spurred a significant body of research aimed at understanding the impact of crises and disasters on the tourism landscape. For instance, the study by Hystad and Keller (2008) on the resilience of tourism businesses in British Columbia, Canada, following a major forest fire revealed a notable gap in efforts towards enhancing preparedness and building resilience within the industry. This gap is not confined to natural disasters alone but spans a wide range of crisis scenarios, including those precipitated by human actions.

Academic discourse consistently emphasizes the critical importance of crisis and risk management practices in safeguarding the tourism sector, particularly in highlighting the sector's exposure to various catastrophic events. Rindrasih (2018) points out a significant research gap: the insufficient exploration of the potential intersections between tourism and disaster scenarios. This gap underlines the essential connection between crisis events and the tourism industry's stability, a linkage further illuminated by the disruptive effects of the COVID-19 pandemic on global tourism, evident through decreased tourist arrivals and significant economic impacts. The consistent occurrence of crises and disasters presents an ongoing challenge to the sustainability and resilience of the tourism sector, advocating for a focused approach towards disaster mitigation and enhanced preparedness, especially within the realm of ecotourism, as suggested by scholarly research.

Several studies have specifically addressed the issue of disaster mitigation in ecotourism destinations. According to Sunkar et al. (2022) emphasized that the unique characteristics of ecotourism destinations make them particularly vulnerable to disasters. For example, the fragile natural environments and remote locations of ecotourism destinations can make them more susceptible to natural disasters such as hurricanes, floods, and wildfires. Additionally, the reliance on natural resources and the delicate balance of ecosystems in these destinations can be easily disrupted by human-induced disasters such as oil spills or pollution events. Therefore, it is crucial for ecotourism destinations to develop and implement effective disaster mitigation strategies to protect their natural and cultural assets.

One approach to disaster mitigation in ecotourism destinations is through the establishment of early warning systems. According to Faulkner and Vikulov, (2001) early warning systems can provide timely information about potential disasters, allowing for the implementation of preventive measures and evacuation plans. These systems can include monitoring technologies such as seismic sensors, weather forecasting, and communication networks to relay information to residents, tourists, and tourism operators. Additionally, effective communication and collaboration among stakeholders is essential in disaster mitigation efforts. Moreover, Filimonau and De Coteau (2019) suggested several key steps in managing disasters in the tourism industry. These steps include conducting risk assessments, developing emergency response plans, establishing communication channels with relevant stakeholders, and providing training for staff on crisis management protocols. In addition, Yang and Wu (2020) conducted research on disaster management in a ecotourism destination in Taiwan. They found that community involvement and local participation were crucial in disaster management. By actively engaging local communities, stakeholders, and tourism operators in the disaster management process, ecotourism destinations can increase their resilience and capacity to effectively respond to disasters.

2.2 Socially Responsible Consumption in Ecotourism Destination

Alibašić (2022) discussed the importance of incorporating a sustainability perspective into disaster management practices in the tourism industry. This involves considering the long-term effects of disasters on the environment, community well-being, and the overall sustainability of the destination. Overall, the literature suggests that disaster mitigation in ecotourism destinations requires a multi-faceted approach. They found that effective disaster management requires a comprehensive approach that integrates various stakeholders, including local government, tourism businesses, and community members. Furthermore, a study by Nkombi and Wentink (2022) highlighted the importance of community involvement in disaster management in ecotourism destinations. Community involvement in disaster management not only enhances the resilience of the destination, but also fosters a sense of ownership and responsibility among community members.

In terms of environmental concerns, several studies have discussed the negative impacts of ecotourism and the need for environmental management practices. Kiper (2013) emphasized the importance of sustainable practices in ecotourism destinations to minimize negative environmental impacts. According to their study, these practices include responsible waste management, conservation of natural resources, and minimizing pollution from tourist activities. Additionally, they highlighted the role of education and visitor management in reducing these impacts. Furthermore, a study by Higham and Bejder (2008) explored the differences between certified and noncertified operators in delivering ecotourism services (Huang et al., 2019). They found that certified operators generally had higher environmental management standards and were more committed to sustainable practices.

Beeton et al. (2022) highlighted the critical role of effective visitor management in preserving the ecological integrity of ecotourism sites. They posited that the adoption of various strategies, including setting limits on the number of visitors (carrying capacity), educational initiatives for tourists, and stringent guidelines governing the utilization of natural resources, is instrumental in curbing the detrimental effects of tourism on the environment. Furthermore, Timothy and Nyaupane (2009) explored the ramifications of natural disasters on ecotourism locales. Their findings suggest that such calamities exert profound adverse effects on the ecological balance, infrastructure, and the well-being of communities in these areas. The consequences extend to the destruction of tourist landmarks, compromised access, and in extreme cases, human casualties. The inherent vulnerability of ecotourism sites, attributed to their remote and ecologically sensitive nature, necessitates the integration of comprehensive disaster preparedness and response mechanisms within their operational frameworks. The literature consistently underscores the importance of engaging local communities in the formulation and execution of these disaster management strategies, emphasizing a collaborative approach to resilience building in ecotourism settings.

In a recent study by Sahil and Sood (2021), the importance of involving local communities in disaster management in ecotourism areas is highlighted. The study emphasises the need for local populations to be actively engaged in planning and decision-making processes to enhance preparedness and responses to disasters. The study highlights the importance of a collaborative approach that brings together local residents, government officials, and tourism stakeholders to enhance disaster management strategies. In addition, research supports the importance of collaboration among various stakeholders to improve disaster resilience at ecotourism sites. Scholars like Aliperti et al. (2017) and Sawalha (2020) emphasize that integrating community perspectives into disaster management frameworks enhances preparedness and strengthens response mechanisms. This collection of research emphasizes the significance of creating a unified and inclusive strategy that utilizes the distinct contributions of all stakeholder groups to enhance disaster management results in ecotourism settings.

2.3 Public Private Partnership in Crisis Management

The resilience of the tourism industry during times of crisis is predominantly attributed to governmental interventions. Scholars such as Prideaux (2000) and Nguyen (2021) contend that the government's crisis response, particularly through infrastructure development, significantly influences how national tourism sectors navigate reduced tourist influx. Additionally, the pivotal role of brand image in shaping tourist behavior amidst a crisis necessitates attention. The allure and perception of an eco-tourism destination, foundational to its image, are susceptible to considerable damage during crises.

Tourists' risk perception in crisis situations is a multifaceted phenomenon, as elucidated by Jiang et al. (2022). Various factors, encompassing external assistance, media's unbiased reporting, crisis awareness, recovery plans, social circles of potential tourists, gender dynamics, and the efficacy of governmental departments, collectively mold tourists' risk perception. Despite their centrality, these attributes remain insufficiently explored in existing literature. Moreover, the recuperation of a destination's image and tourists' intentions to revisit post-crisis emerge as pivotal aspects in effective tourism management. Novelli and Sayed (2016) underscore the significance of government-led tourism recovery measures, encompassing economic stimuli and the promotion of domestic tourism. Rebuilding the destination's image and reinstating trust among tourists are imperative for the industry's resurgence following a crisis. Crisis management in the tourism sector necessitates agile governance and collaborative efforts among stakeholders. These stakeholders, comprising the government, tourism organizations, local communities, and private sector enterprises operating within eco-tourism destinations, collectively contribute to effective crisis response. Such crisis management extends beyond ensuring tourist safety to encompass the implementation of comprehensive recovery plans and strategies aimed at restoring the destination's brand image.

Wang and Ritchie's (2012) investigation, grounded in the Theory of Planned Behavior, delineates crucial determinants that shape crisis preparedness actions. These elements encompass attitudes towards crisis planning, prevailing societal norms, and experiences from past crises. The research further underscores the imperative for subsequent inquiries into the perspectives and predispositions of tourism operators towards crisis management initiatives. It stresses the significance of motivating small to medium-sized enterprises (SMEs) in the tourism sector to enhance their resilience through structured crisis preparedness programs. Moreover, the study observes that governmental interventions aimed at tourism recovery, such as fiscal stimuli, predominantly target domestic tourism sectors. Nonetheless, these measures contribute to diminishing the perceived risks associated with travel, thereby enticing international tourists back to affected locales. In the context of crisis situations, the synergy between public and private sectors emerges as a pivotal factor in the effective management and revitalization of eco-tourism destinations.Public-private partnerships in crisis management of eco-tourism destinations can help facilitate effective and efficient responses to crises, as well as aid in the recovery and rebuilding process. Filimonau and De Coteau (2019) emphasize the importance of managing disasters in the tourism industry (Krisnawati, 2021). They outline three main steps in managing disaster in the tourism industry: restricting destroyed tourism infrastructures, changing tourist perception towards the destination and regaining their trust, and developing a comprehensive recovery plan. Furthermore, Sharma et al. (2021) highlight the role of government measures in the post-pandemic rejuvenation of the global tourism industry.

2.2. Conceptualization

In line with the Theory of Planned Behavior (TPB), an individual's behavioral intention is greatly impacted by their attitudes towards a behavior, perceptions of social pressure, and perceived ability to perform the behavior, as outlined by Davis and colleagues (2002). In this theoretical framework, behavioral intention is seen as an individual's prediction about their involvement in a specific action in a particular context, described in relation to the likelihood of carrying out that behavior (Hill et al., 1977). Ajzen and Fishbein (2005) argue that intention is a crucial factor in determining future behavior, emphasizing the importance of accurately assessing intention to predict future actions (Fishbein & Ajzen, 1975). In general, people are more likely to engage in a behavior when they have positive attitudes and subjective norms about it, and when they feel they have control over it (Davis et al., 2002). When people feel they have sufficient control over their behavior, they are likely to act on their intentions when the right moment arises (Davis et al., 2002).

Within TPB scholarship, behavioral intention is frequently used as a proxy for anticipated behavior (Sparks & Pan, 2009). This study examines how employee motivation is influenced by factors like entrepreneurial spirit, public-private partnerships, environmental consciousness, and crisis response in ecotourism destination in Batangas. This study expands the TPB scope by exploring how brand perception impacts self-efficacy, and employee motivation. Moreover, this study aims to investigate how collectivism, perceived behavioral control and self-efficacy may impact employee performance and motivation.

From the discussion of extant literature and empirical study, the following hypothesis of the study were presented:

H1: There is no significant difference between the sociodemographic profile of the employee in their perceived experience of adaptive resiliency in resort establishments of the destination.

H2: There is no significant difference between the perception of employees in the Adaptive resiliency dimensions of the tourism establishment in terms of Entrepreneurial drive, public private partnership, environmental consciousness and crisis management.

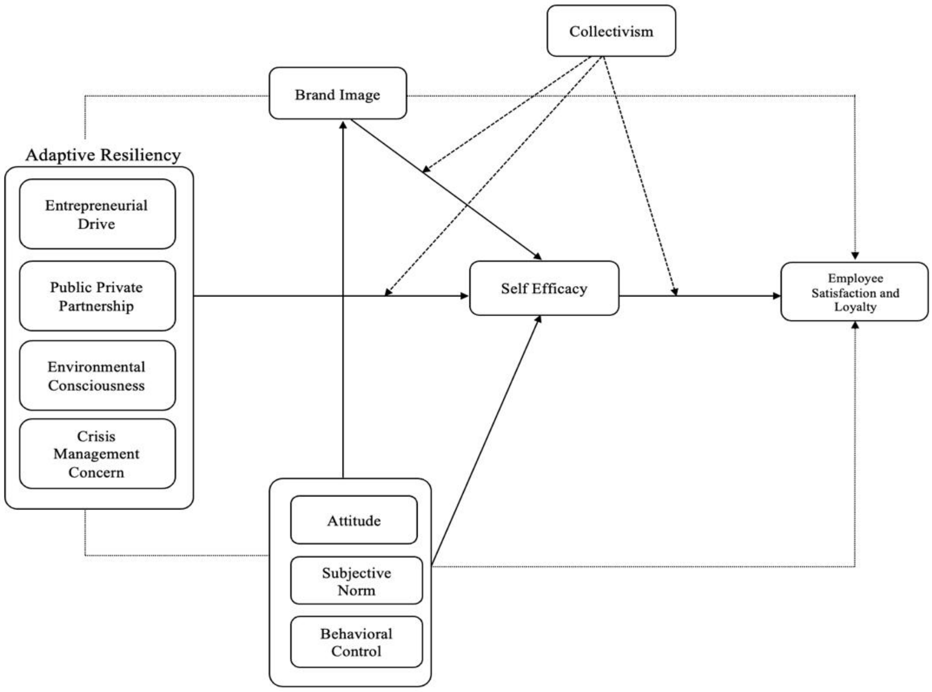
H3: There is no significant relationship between the perceived brand image and the factors that influence adaptive resiliency of the resort establishment in terms of: a. Entrepreneurial Drive b. Public Private Partnership c. Environmental Consciousness d. Crisis Management Concern

H4: Collectivism mediates the link between brand image and self-efficacy.

H5: Collectivism mediates the link between adaptive resiliency and self-efficacy.

H6: Collectivism mediates the link between perceived behavioral control, self-efficacy and employee motivation.

H7: To test the hypothesized framework of the study.



3. Methodology

The research study will utilize mix methodology employing both quantitative and qualitative design, utilizing thematic analysis and predictive causal design in extrapolating the perceived influence of adaptive resiliency dimensions in crisis management towards the formation of tourist satisfaction and loyalty in selected resort establishments in ecotourism destination in Batangas. Anchored in the Theory of Planned behavior, the use of predictive causal research design was supported by the study of Wang and Ritchie, (2012) which allows for the identification of predictive factors and causal relationships between the variable of interest. This methodology aligns with the research inquiries of the present study as it offers empirical substantiation derived from an extensive dataset.

Participants
Target respondents in the study are inbound local and international tourist traveling to ecotourism destination in Batangas. Respondents are pre-qualified based on the inclusion criteria set by the researcher. Qualified respondents are guest with current and prior accommodation in of any of the selected resort establishment in Batangas for at least a year prior the survey. Must be at legal age and proficient in English. The participants for this study are selected using an interval sampling method, whereby every third tourist is approached and invited to participate. The implementation of an interval sampling technique serves to mitigate prevalent biases in the research and guarantees a comprehensive portrayal of tourists who visit the destinations. The justification for choosing participants who have either currently or previously stayed in the designated resort establishments is to guarantee that they possess firsthand familiarity with the tourism offerings and services available of resort establishment in ecotourism destination in Batangas.

Data collection
The researcher will employ hybrid survey method utilizing self-completed questionnaire survey form and through QR link online survey whichever is preferred by the randomly selected

respondents in the study. In-person interview from enrolled participants shall also be utilized to conduct in depth understanding of the concepts and experiences. Using systematic random sampling technique, respondents in the study will be given informed consent to express voluntary participation and are required to complete the survey. Field study will be conducted on April 15 to July 20, 2024. Trained research assistants will hand the survey form and QR link to the tourists at the beach based on systematic interval. Computed sample size of the study will be computed based on inverse square root. In the proposed framework, 500 survey questionnaire will be distributed and qualified responses will be validated based on the completeness of the data. Required responses in the study aims to exceed the minimum responses to guarantee adequate representation of the measurable data for the study.

Ethical Consideration
This study also adheres to the guidelines outlined in the Declaration of Helsinki, which provides standards for conducting research involving human subjects. Yip et al. (2016) emphasizes that ethical considerations are essential in research, particularly when it involves human participants. In this study, ethical considerations were given careful attention to ensure the well-being and protection of the participants. Participants in this study were provided with comprehensive information about the research and gave their informed consent before participating. The researchers ensured that participants' privacy and confidentiality were protected, as well as their right to voluntary participation without any negative repercussions. Furthermore, participants were informed of their rights to withdraw from the study at any time without penalty.

3.1. Measurement
Following the initial screening of encoded data, data clearing and validation procedures will be implemented. Subsequent to the importation of data, numerical coding will be assigned to categorize nominal data for analytical purposes. The chosen analytical method for this study is partial least squares structural equation modeling (PLS-SEM), as advocated by Soewarno and Tjahjadi (2020). PLS-SEM is a comprehensive multivariate statistical analysis procedure employed for the simultaneous evaluation of both measurement and structural models. The initial phase of analysis involves an examination of the sociodemographic profile of respondents, employing statistical measures such as percentage calculation, arithmetic mean, and standard deviation to gain a comprehensive understanding of respondent characteristics. Upon completion of the preliminary analysis, the study proceeds to test the hypothetical model using PLS-SEM. This method is considered appropriate as it facilitates the examination of relationships between latent variables as proposed by the research model. Ensuring the reliability of the measurement model is crucial, and this is achieved through the assessment of composite reliability—a metric that gauges the internal consistency or reliability of the scale utilized for measuring latent variables.

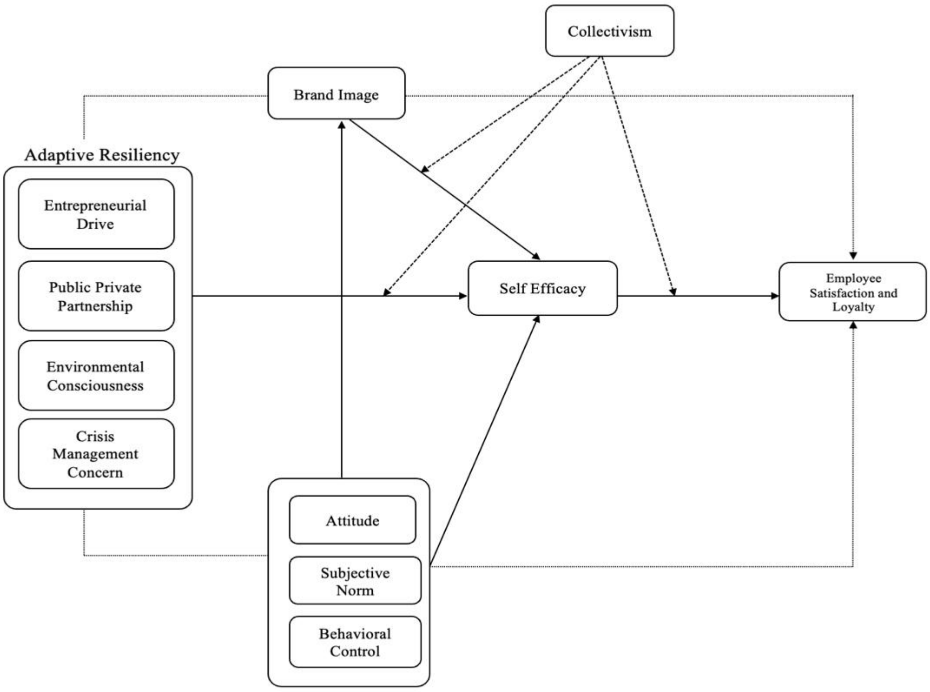
The evaluation of the measurement model encompasses confirmatory factor analysis, a method employed to assess the reliability, convergent validity, and discriminant validity of measures (Li et al., 2021). Indicator reliability, elucidating the proportion of variance explained by each indicator, is appraised through confirmatory factor analysis (Atinga et al., 2020). Additionally, internal consistency is scrutinized via composite reliability (Li et al., 2021). Convergent and discriminant validity of measures are also examined. The Heterotrait-Monotrait ratio of correlations approach is utilized to assess discriminant validity.The evaluation of the measurement model entails several steps. Initially, the factor loadings of each indicator are scrutinized through confirmatory factor analysis to ensure their adequacy in measuring respective latent variables. This involves assessing indicator reliability, the proportion of variance explained by each indicator. Concurrently, composite reliability is calculated to evaluate internal consistency. Subsequently, convergent validity is assessed through the computation of average variance extracted (Fatoki, 2019). Finally, the Heterotrait-Monotrait ratio of correlations is employed to gauge discriminant validity (Ali et al., 2020). In summation, the analysis of the measurement model in this study involves the comprehensive evaluation of convergent validity, internal consistency reliability, and discriminant validity.

4. Results

Utilizing the proposed conceptual framework, our investigation sought to elucidate the dynamics between adaptive resilience, brand image, collectivism, self-efficacy, and their collective impact on employee satisfaction and loyalty. The framework served as a roadmap to guide the empirical analysis.

The study's results indicated that adaptive resilience, characterized by entrepreneurial drive, public-private partnerships, environmental consciousness, and crisis management concern, positively influences the brand image. This finding aligns with the literature, which suggests that resilient organizations can maintain a stable and favorable brand perception, even in challenging times (Bisbey et al., 2021. Furthermore, a strong brand image can potentially be associated with enhanced self-efficacy among employees. This resonates with the social cognitive theory, which posits that a robust organizational image can enhance individuals' belief in their capabilities (Opolot et al., 2023). Interestingly, our study extends this by showing that collectivism, or the value placed on group cohesion and communal goals, moderates this relationship, indicating that in collectivist cultures, the impact of brand image on self-efficacy is more pronounced. Within the framework, the constructs of attitude, subjective norm, and behavioral control—collectively forming a triad influenced by adaptive resilience—demonstrated a notable correlation with self-efficacy. Employees' positive attitudes towards their organization, the perceived social pressure to perform (subjective norm), and their control over their behavior were all significant predictors of self-efficacy, providing empirical support for the tenets of the theory of planned behavior (Ajzen, 1991).

Central to the framework is the path leading to employee satisfaction and loyalty. The proposed conceptual framework showcases that self-efficacy is a crucial mediator in this path, wherein higher self-efficacy levels engendered by a positive brand image and the triad of attitude, subjective norm, and behavioral control contribute to increased employee satisfaction and loyalty (Wongsuwan & Na-Nan, 2022). This finding can be potentially linked to fostering employees' beliefs in their competencies as a strategy for enhancing organizational commitment.



5. Discussion and Conclusion

5.1. Discussion and implications

The framework integrates constructs from various theoretical backgrounds, such as adaptive resilience, self-efficacy, and the theory of planned behavior (which includes attitude, subjective norm, and behavioral control). The connection between adaptive resilience factors (like entrepreneurial drive and crisis management concern) and brand image suggests a theoretical assertion that a company's ability to adapt and overcome challenges contributes positively to the perception of its brand. Additionally, the influence of brand image on self-efficacy implies a belief in the reciprocal relationship between organizational identity and individual employee's belief in their capabilities.

Self-efficacy, in turn, is shown to have a direct link to employee satisfaction and loyalty, aligning with social cognitive theory that posits self-efficacy as a driver of motivation and job satisfaction. The dotted lines to collectivism indicate a hypothesized moderating effect, where the degree of collective belief systems within the organization may amplify or reduce the effects of brand image and self-efficacy on employee outcomes.

This model suggests that investing in adaptive resilience is not merely a crisis management strategy but also a brand-building one. Encouraging entrepreneurial drive and engaging in public-private partnerships can enhance the company's brand image. Managers should recognize the importance of environmental consciousness and crisis management in shaping the organization's external and internal reputation.

Furthermore, the model emphasizes the importance of nurturing employees' self-efficacy to boost satisfaction and loyalty. Managers could, therefore, focus on training programs, recognition, and creating a supportive environment that strengthens employees' belief in their professional capabilities.

5.2. Conclusion

The theoretical framework proposed highlights the potential impact of adaptive resilience in enhancing brand image. This assertion posits that an organization's capacity to effectively address adversities significantly enhance its brand perception, affirming its reliability and competency in the eyes of stakeholders. Furthermore, the linkage between an enhanced brand image and increased self-efficacy among employees emphasizes the reciprocal influence between an organization's identity and its workforce's confidence in their professional capabilities. This interrelation suggests that organizational resilience not only shapes external perceptions but also fortifies internal workforce dynamics, thereby fostering a conducive environment for employee satisfaction and loyalty. The hypothesized moderating effect of collectivism indicates that cultural dimensions within an organization can either amplify or attenuate these dynamics, thus necessitating a nuanced understanding of organizational culture in theoretical explorations.

It is noteworthy to mention that the current study is a conceptual research and the next phase of the study is currently being conducted using quantitative study to further back up the hypothesis of the interconnection between variables presented in the study.

5.3. Limitations of this study and suggestions for future studies

The current conceptual study, although presenting a plausible theoretical framework and potential pathways for empirical validation, does have some inherent limitations that need to be acknowledged. First, the study's emphasis on conceptual analysis without direct empirical testing may restrict its practical applicability until supported by quantitative or qualitative data. In addition, the wide range of variables included in the conceptual framework may not account for all possible external factors that could affect the phenomena being studied.

In addition, the scope of this study is determined by the theoretical constructs it presents and the literature from which these constructs have been derived. Therefore, the study's findings are primarily focused on theoretical applications, contributing to academic discussions and laying the groundwork for future research, rather than providing immediate practical solutions. In order to further advance this area of research, it would be beneficial for future studies to conduct empirical tests on the proposed theoretical framework using quantitative methodologies. Surveys or experiments could be utilized to gauge the impact of adaptive resilience on brand image and employee self-efficacy. In addition, qualitative methods like case studies or interviews could offer a more comprehensive understanding of how organizational culture impacts these relationships.

It would be beneficial for future research to expand the examination of cultural variables beyond collectivism and explore additional dimensions like power distance and uncertainty avoidance. These factors could potentially have a substantial impact on organizational dynamics. Incorporating these elements into the framework could provide a more holistic perspective on the cultural factors involved.

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Exploring the relationship among dramaturgical elements, experiential value, and relationship quality in different service types of restaurants

Pei-Wen Hsieh
Graduate Institute of Sport, Leisure and Hospitality Management
National Taiwan Normal University

Athena H.N. Mak
Graduate Institute of Sport, Leisure and Hospitality Management
National Taiwan Normal University

Abstract:

Due to factors such as the pandemic, warfare, and inflation, many surveys and studies have indicated that consumers are increasingly concerned about whether the price they pay can yield equivalent or even greater value for them. This study combines dramaturgical elements, experiential value, and relationship quality to explore customers' dining experiences in restaurants. Employing a quantitative approach, an online questionnaire was distributed, which yielded 162 valid responses. The results reveal that the setting, actors, and performance within dramaturgical elements influence experiential value, while CROI (Consumer Return on Investment) and service excellence components of experiential value, affect relationship quality. Additionally, this study finds a partial mediation relationship among dramaturgical elements, experiential value, and relationship quality.

Keywords: Dramaturgical Elements, Experiential Value, Relationship Quality, Restaurant Service Types

1. Introduction

During the COVID-19 pandemic, the restaurant industry in various countries faced challenges such as losses and closures. According to statistics on the annual growth rate of the restaurant industry from the Ministry of Economic Affairs of Taiwan (2023), it is evident that during the outbreak in 2020, many countries experienced negative growth in their restaurant industry revenues. However, as the pandemic gradually subsided and restrictions were lifted, most countries' restaurant industries witnessed a return to positive growth in revenues. Moreover, following the gradual easing of the pandemic situation in each country (2022), the growth rate of the restaurant industry revenues even surpassed pre-pandemic levels (2018) in many countries. The annual growth rate of the restaurant industry revenues in many countries in 2022 was above 10%, indicating a gradual stabilization of the restaurant industry (Ministry of Economic Affairs of Taiwan, 2023). In Taiwan, during the COVID-19 pandemic, the restaurant industry faced similar challenges. However, over the past five years (from 2018 to 2022), the number of establishments in the industry has consistently shown positive growth annually, indicating intense competition, whether during the peak of the pandemic or after the easing of restrictions (Ministry of Finance of Taiwan, 2023).

Due to intense competition in the restaurant industry, restaurant operators are providing more diverse menu items and services to highlight their uniqueness or differentiation. Consequently, customers' expectations for food and service quality in restaurants are rising, moreover, factors such as the COVID-19 pandemic and warfare have led to global inflation, causing consumers to increasingly prioritize whether the price they pay for dining out can deliver equivalent or higher value, thereby seeking better dining experiences (Chua et al., 2020; National's Restaurant News [NRN], 2022; Yrjölä et al., 2019).

While there is abundant research related to value in the service industry, scholars have mentioned that the concept of "Experiential Value" is becoming increasingly important in today's society. Although there is considerable literature examining customer satisfaction through experiential value, there is limited research applying experiential value to discuss customer dining experiences (Norris et al., 2023). Additionally, in exploring service-related theories and literature, it has been found that there are numerous theories related to service, with some literature indicating that the "Dramaturgical Theory" is highly applicable to industries with high service contact, as it can be used to examine customers' dining experiences and processes (Tsai, 2015). Furthermore, related studies have indicated that in addition to focusing on customer satisfaction and experience, restaurants also need to consider maintaining good long-term relationships with customers to facilitate sustainable operation, "Relationship quality" can be used to discuss both customer satisfaction and maintaining long-term relationships with customers (Meyer & Sabadie, 2023).

Based on the above discussion, this study identified several gaps in the literature: (1) there is limited literature using experiential value to explore customers' dining experiences in restaurants; (2) although there are studies investigating the relationship between dramaturgical elements, experiential value, and relationship quality, none have applied this framework to the restaurant context; and (3) existing literature on restaurants often focuses on a single restaurant or a specific type, lacking exploration or comparison of different restaurant types. Therefore, based on these identified research gaps, the purpose of this study is to investigate the relationship between dramaturgical elements, experiential value, and relationship quality in the restaurant context. Furthermore, it aims to compare this research framework when applied to different types of restaurants to determine whether differences exist and to identify which factors within this framework are relatively important to customers.

The specific objectives of this study are as follows:

(1) To examine whether "dramaturgical elements" significantly influences "experiential value."
(2) To investigate whether "experiential value" significantly affects "relationship quality."
(3) To explore whether "dramaturgical elements" significantly impacts "relationship quality."
(4) To determine if there is a significant mediating effect of "experiential value" on the relationship between dramaturgical elements and relationship quality
(5) To assess whether there are significant differences in the dimensions of dramaturgical elements, experiential value, and relationship quality among different service types of restaurants.

2. Literature Review

2.1. Restaurant service type

The restaurant industry encompasses a diverse range of service formats, yet there remains no clear classification in academic research. Many scholars distinguish between full-service restaurant and limited-service restaurant when studying restaurant service formats. Kao and Huang (2023) explored whether there are differences in customers' acceptance of using service robots between full-service and limited-service restaurants using an extended Technology Acceptance Model. Lee and Ha (2014) examined whether economic downturns have different effects on full-service and limited-service restaurants in the United States. Mun and Jang (2018) investigated whether the profitability of full-service and limited-service restaurants differs based on variations in operating expenses. Therefore, in this study, the distinction between restaurant service types is also categorized into full-service and limited-service restaurants, and their differences are explored.

The definition of a full-service restaurant entails providing customers with table service and a complete dining experience, including a comprehensive service process. This includes welcoming customers upon arrival, seating, menu introduction, order taking, meal delivery, and tableside payment assistance provided by restaurant staff. Full-service restaurants not only refer to high-end establishments but also include casual dining venues, where customers evaluate various aspects of the dining experience in addition to food quality (Han et al., 2010).

In contrast, a limited-service restaurant provides customers with minimal or no service beyond basic necessities. Customers may need to order and pay at the counter or ordering window. Compared to full-service restaurants, self-service is common in limited-service restaurants (Karabas et al., 2020).

2.2. Dramaturgical elements

The concept of dramaturgical elements is an extension of dramaturgical theory, first proposed by Burke in 1945, Burke posited that communication and behavioral performances exhibited during interactions between individuals carry significance, with individuals' understanding and attitudes toward the interaction process depending on the motives and objectives (Burke, 1969; Grove & Fisk, 1983). However, the concept of dramaturgical theory, which is more widely discussed and referenced today, was introduced by Goffman, he suggested that when people interact face-to-face with unfamiliar individuals, they initially judge how to interact with them based on their appearance and behavior, through communication or behavioral performances, individuals attempt to foster relationships and leave positive impressions, likening this process to dramatic performances to examine interpersonal interactions (Goffman, 1959).

Subsequently, Grove and Fisk (1992) proposed a dramaturgical theory framework suitable for the service industry, dividing the framework into four elements: actors, audience, setting, and performance, each representing different roles or environments in the service context. Actors refer to the personnel serving customers on-site, where the expressions, behaviors, attire, technical skills, and communication abilities of service personnel may significantly impact customer experiences; audience refers to the customers consuming services in the service environment, in cases where multiple customers are served simultaneously (e.g., tourism, entertainment industries) or self-service situations arise (e.g., ATMs, buffets), the audience element in the framework becomes more crucial; setting denotes the service space, where the facilities, decor, colors, sounds, and temperature of the service environment may influence customer perceptions, moreover, in environments where customers spend more time (e.g., hotels, hospitals), the setting element becomes more important; performance represents the interaction process between service personnel and customers in the service environment, with the effectiveness of the performance contingent upon the professionalism, responsiveness, and level of customer engagement demonstrated by service personnel (Grove & Fisk, 1992).

2.3. Experiential value

Experiential value is not merely the perceived value that consumers derive from purchasing a product or service, but rather the overall experience gained during the consumption process, customers determining whether the money, time, and other resources invested in the purchasing process are worthwhile (Holbrook, 1998). Holbrook defines experiential value as the tendency of customers to select products or services that align with their values or preferences and assess whether the exchange is worthwhile (Holbrook, 2000; Kim et al., 2020).

Holbrook synthesized previous theories on value and introduced the concept of experiential value (Chen, 2022; Holbrook, 1998). Subsequently, Mathwick et al. (2001) proposed a framework for experiential value based on Holbrook's concept, comprising four quadrants: intrinsic value, extrinsic value, hedonic value, and utilitarian value. Each quadrant encompasses different key factors, including consumer return on investment (CROI), service excellence, playfulness, and aesthetics.

Consumer return on investment (CROI) refers to consumers' consideration of the returns they receive (e.g., monetary, time, psychological) when making a purchase; service excellence pertains to the professional performance of service providers, which consumers find commendable; playfulness refers to the enjoyment consumers experience during the purchasing process; aesthetics pertains to the visual appeal and design of the product, influencing consumers' decision to purchase (Mathwick et al., 2001).

2.4. Relationship quality

"Quality" was initially used to describe products produced in the manufacturing industry and gradually extended to the service industry in the 1980s, referring to the perceived relationship and interaction between customers during the service process; Gummesson consolidated multiple marketing concepts and definitions, mentioning that relationship quality is an extension of marketing concepts, maintaining good interaction with customers is crucial for enterprises to sustain relationships with customers, defined as customers' perceptions and subjective feelings toward service providers during service interactions, higher-quality services provided by service providers can lead to better long-term relationships with customers (Gummesson, 1987).

Various scholars have used different dimensions of relationship quality. Naudé and Buttle (2000) reviewed past studies on relationship quality and found that the most commonly used dimensions for measuring relationship quality are satisfaction, trust, and commitment. Hassebrauck and Fehr (2002) also attempted to identify the most suitable dimensions for validating relationship quality, and the results showed that the most suitable dimensions for detecting relationship quality are satisfaction, trust, and commitment. This study explores from the perspective of consumers; therefore, customer satisfaction, trust, and commitment will be included as dimensions of relationship quality.

Customer satisfaction is the overall assessment made by customers based on their accumulated experiences or feelings about the products and services received, serving as an important indicator for maintaining good relationships with customers; trust refers to believing or accepting what the other party says, considering the other party reliable and trustworthy, from a business perspective, it is believing that cooperation with the other party can bring positive effects and good results; commitment refers to the intention of both parties to establish a good long-term relationship and take action to maintain interaction (Tran et al., 2020; Wong & Sohal, 2002).

2.5. The relationship among dramaturgical elements, experiential value, and relationship quality

Previous studies have confirmed that dramaturgical elements influence experiential value. Huang (2012) investigated the experiential value and customer satisfaction in hotels using dramaturgical elements, and the results showed that the dramaturgical elements of actors, audience, setting, and performance positively affect experiential value. Tang (2015) also examined the factors influencing customers' choice of purchasing a particular mattress brand using dramaturgical elements, and the results indicated that actors and setting positively influence experiential value.

Regarding the impact of experiential value on relationship quality, Jin et al. (2013) explored the relationship between customer experience, relationship quality, and customer loyalty in full-service restaurants, revealing that elements within experiential value such as CROI, aesthetics, and service excellence positively influence relationship quality. Taylor et al. (2018) discussed the impact of relationships among experiential value, relationship quality, and other dimensions in restaurants, showing that CROI and service excellence positively influence relationship quality.

Tsai (2015) investigated the relationship between dramaturgical elements, experiential value, relationship quality, and relationship marketing in theme parks, although the questionnaire items presented sub-dimensions within these four constructs, the research results only showed relationships among dramaturgical elements, experiential value, relationship quality, and relationship marketing (dramaturgical elements positively influence experiential value, experiential value positively influences relationship quality, and relationship quality positively influences relationship marketing). There was no further explanation of whether the sub-dimensions of each construct would further impact other sub-dimensions.

In summary, although previous studies have confirmed that dramaturgical elements influence experiential value and that experiential value influences relationship quality, not every dramaturgical element affects experiential value, and not every sub-dimension of experiential value affects relationship quality. Differences may arise depending on the research context. Therefore, based on the results of previous studies, this research aims to explore the relationships among the sub-dimensions of dramaturgical elements, experiential value, and relationship quality in restaurants, and to investigate further whether there is a mediating relationship among dramaturgical elements, experiential value, and relationship quality dimensions, as suggested by Tsai (2015).

3. Methodology

3.1 Research approach and design

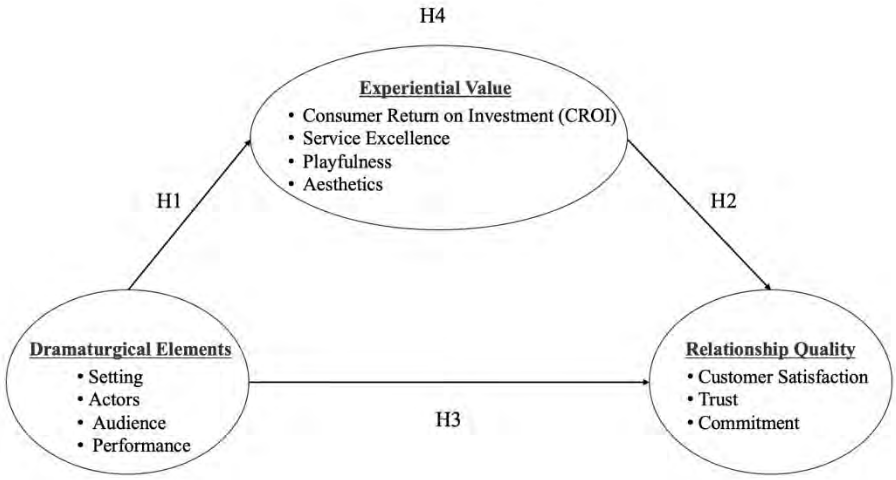
This study adopts a quantitative approach, using a questionnaire survey distributed through online platforms. The sampling method is purposive sampling, targeting individuals aged 18 and above who have dined at full-service or limited-service restaurants in the past three months as research subjects. The main purpose of this study is to investigate the relationships among each sub-construct of dramaturgical elements, experiential value, and relationship quality, as well as to explore whether there is mediating effect of experiential value on the relationship between dramaturgical elements and relationship quality.

The research hypotheses are as follows:

H1: The four dimensions of dramaturgical elements will have a significant positive impact on the four dimensions of experiential value.
H2: The four dimensions of experiential value will have a significant positive impact on the three dimensions of relationship quality.

H3: The four dimensions of dramaturgical elements will have a significant positive impact on the three dimensions of relationship quality.
H4: There is a significant mediating effect of experiential value on the relationship between dramaturgical elements and relationship quality

Figure 1
Research Framework



3.1 Research approach and design
The questionnaire of this study consists of 11 dimensions, with a total of 53 items (Setting: 9 items, Actors: 7 items, Audience: 3 items, Performance: 3 items; CROI: 5 items, Service Excellence: 4 items, Playfulness: 4 items, Aesthetics: 5 items; Customer Satisfaction: 5 items, Trust: 4 items, Commitment: 3 items). Each dimension item is measured using a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The measurement scales in this study were adapted from studies conducted by Tsai (2015), Chen (2016), Du (2016), and Huang et al. (2010). SPSS 23.0 and SmartPLS 4.0 statistical software were used to analyze the data.

4. Results

4.1. Profile of the respondents
A total of 187 responses were obtained, and after excluding invalid responses, 162 valid responses were received (86.63% effective questionnaire recovery rate). Among them, there were 62 responses (38.27%) from full-service restaurants and 100 responses (61.73%) from limited-service restaurants. The respondents were predominantly female. The majority of respondents were aged between 21 and 30 years old. Regarding educational attainment, the majority had education beyond graduate school, followed by those with a university degree. The average monthly income for most respondents was below NT$26,400. The average expenditure per person for the meal was mostly between NT$501 and NT$1,000, followed by below NT$500.

Table 1:
Participants' demographic details (N=162)

Characteristics	Frequency	Percentage
Restaurant service type		
Full-Service restaurant	62	38.27%
Limited-Service restaurant	100	61.73%

Gender		
Male	47	29.01%
Female	115	70.99%
Age		
18-20 years	6	3.70%
21-30 years	103	63.58%
31-40 years	23	14.20%
41-50 years	20	12.35%
51-60 years	9	5.56%
Over 61 years	1	0.62%
Educational qualification		
Graduate school and above	93	57.41%
University	66	40.74%
High school or below	3	1.85%
Monthly income		
Less than NT$26,400	73	45.06%
NT$26,401 to NT$35,000	25	15.43%
NT$35,001 to NT$45,000	18	11.11%
NT$45,001 to NT$55,000	13	8.02%
NT$55,001 to NT$65,000	12	7.41%
NT$65,001 or more	21	12.96%
The average spending per person for the meal		
Less than NT$500	51	31.48%
NT$501 to NT$1,000	71	43.83%
NT$1,001 to NT$2,000	25	15.43%
NT$2,001 to NT$3,000	6	3.70%
NT$3,001 or more	9	5.56%

In terms of scores on each construct, this study distinguishes between all samples, full-service restaurants, and limited-service restaurants. In the Dramaturgical Elements dimension, the highest average score for both all samples and full-service restaurants is in "Performance," while for limited-service restaurants, it is in "Actors." In the Experiential Value dimension, regardless of restaurant type, the highest average score is consistently in "Service Excellence." However, for "Playfulness," the average score for all samples and limited-service restaurants is relatively lower compared to other dimensions. In the Relationship Quality dimension, the highest average score for both all samples and limited-service restaurants is in "Customer Satisfaction," whereas for full-service restaurants, it is in "Commitment." Additionally, ANOVA analysis revealed that there were no significant differences among the constructs across different service types of restaurants.

Table 2:
Descriptive statistics table for each construct

	All Sample		Full-Service		Limited-Service	
	Mean	SD	Mean	SD	Mean	SD
Dramaturgical Elements						
Setting	5.60	0.93	5.76	0.91	5.50	0.92
Actors	5.88	0.91	5.91	0.99	5.86	0.85
Audience	5.64	0.94	5.73	0.95	5.59	0.94
Performance	5.93	0.94	5.96	1.00	5.91	0.91

Experiential Value						
CROI	5.55	1.01	5.57	1.11	5.54	0.96
Service Excellence	5.62	1.09	5.66	1.20	5.60	1.01
Playfulness	4.97	1.13	5.08	1.16	4.91	1.12
Aesthetics	5.39	0.95	5.48	0.97	5.34	0.93
Relationship Quality						
Customer Satisfaction	5.80	0.99	5.67	0.96	5.79	0.93
Trust	5.73	0.93	5.30	1.18	5.77	0.91
Commitment	5.43	1.17	5.81	1.08	5.51	1.15

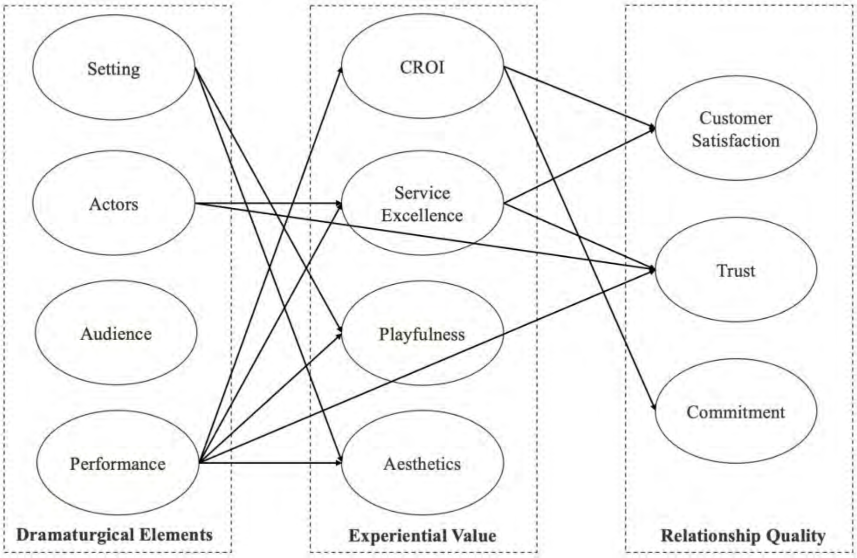
After conducting reliability and validity analyses for each dimension in this study, the Cronbach's alpha coefficients and CR values for all dimensions exceeded 0.7, and the AVE values were all above 0.5. These values meet the cut-off values, indicating satisfactory reliability and validity.

Table 3:
Construct reliability and validity

	Cronbach's alpha	CR	AVE
Dramaturgical Elements			
Setting	0.939	0.950	0.733
Actors	0.865	0.827	0.615
Audience	0.939	0.961	0.891
Performance	0.928	0.940	0.638
Experiential Value			
CROI	0.919	0.939	0.755
Service Excellence	0.938	0.956	0.844
Playfulness	0.886	0.921	0.745
Aesthetics	0.883	0.914	0.681
Relationship Quality			
Customer Satisfaction	0.936	0.952	0.798
Trust	0.900	0.938	0.834
Commitment	0.938	0.952	0.800

Path analysis was conducted on the constructs of this study. Among the dramaturgical elements, “setting” positively influences both “playfulness” and “aesthetics”, “actors” positively affect “service excellence” and the “trust” facet of relationship quality, and “performance” positively influences all four sub-dimensions of experiential value and the “trust” facet of relationship quality; however, the “audience” construct does not exert any influence on other constructs. Within the experiential value construct, “CROI” positively affects “customer satisfaction” and “trust”, “service excellence” positively influences “customer satisfaction” and “commitment”, while “playfulness” and “aesthetics” do not have significant effects on any constructs. Hence, it is evident that hypotheses H1-H3 of this study are partially supported. Additionally, this study further identifies the presence of partial mediating relationships among dramaturgical elements, experiential value, and relationship quality (H4). For detailed results, please refer to figure 2, figure 3, and table 4.

Figure 2:
The linear relationship of the structural model



List only the relationships with significant positive effects

Figure 3:
The relationship of dramaturgical elements, experiential value, and relationship quality

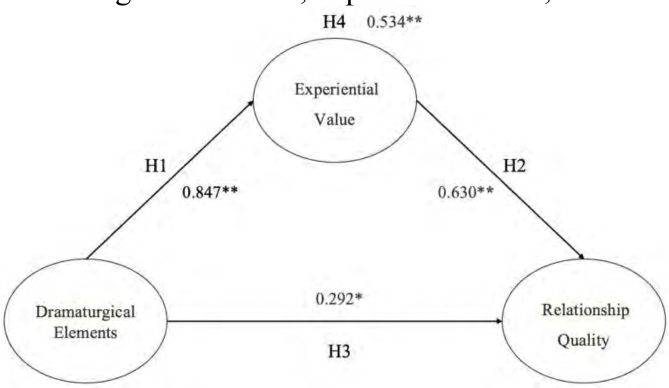


Table 4:
Path analysis

Hypotheses	Path	Effect	P-value	Outcome
H1 (**DT à EV: 0.847****)	ST à CROI	-0.042	0.598	-
	ST à SE	-0.003	0.956	-
	ST à PF	0.198*	0.031	**Supported**
	ST à AT	0.373**	0.000	**Supported**
	AC à CROI	0.056	0.670	-
	AC à SE	0.607**	0.000	Supported
	AC à PL	-0.082	0.518	-
	AC à AT	-0.025	0.790	-
	AD à CROI	0.143	0.206	-
	AD à SE	0.051	0.396	-
	AD à PL	0.151	0.089	-
	AD à AT	0.094	0.189	-
	PF à CROI	0.588**	0.000	**Supported**
	PF à SE	0.281*	0.001	**Supported**
	PF à PL	0.508**	0.000	**Supported**
	PF à AT	0.440**	0.000	**Supported**

	CROI à CS	0.244*	0.001	**Supported**
	CROI à TS	-0.176*	0.015	**-**
	CROI à CM	0.396*	0.001	**Supported**
	SE à CS	0.404**	0.000	**Supported**
	SE à TS	0.322*	0.001	**Supported**
H2	SE à CM	0.229	0.067	**-**
	PL à CS	0.109	0.092	**-**
(EV à RQ: 0.630)**	PL à TS	0.008	0.921	**-**
	PLà CM	-0.053	0.623	**-**
	AT à CS	0.020	0.798	**-**
	AT à TS	0.083	0.408	**-**
	AT à CM	0.175	0.137	**-**
	ST à CS	-0.002	0.967	**-**
	ST à TS	-0.152	0.069	**-**
	ST à CM	-0.045	0.662	**-**
	AT à CS	0.145	0.071	**-**
	AT à TS	0.444**	0.000	**Supported**
H3	AT à CM	-0.024	0.840	**-**
	AD à CS	-0.036	0.513	**-**
(DT à RQ: 0.292*)	AD à TS	-0.014	0.808	**-**
	AD à CM	-0.036	0.746	**-**
	PF à CS	0.161	0.072	**-**
	PF à TS	0.308*	0.001	**Supported**
	PF à CM	0.170	0.240	**-**
H4	DT à EV à RQ	**0.534****	**0.000**	**Supported**

DT, Dramaturgical Elements; EV, Experiential Value; RQ, Relationship Quality; ST, Setting; AC, Actors; AD, Audience; PF, Performance; CROI, Customer Return on Investment; SE, Service Excellence; PL, Playfulness; AT, Aesthetics; CS, Customer Satisfaction; TS, Trust; CM, Commitment; *p < 0.05; **p < 0.001

5. Discussion and Conclusion

5.1. Discussion and implications

The primary objective of this study is to investigate the relationships among the sub-dimensions of dramaturgical elements, experiential value, and relationship quality. Although some previous studies have explored the relationships among these constructs, they did not delve into the specific impacts of each sub-dimension.

Based on results of this study, it is found that "performance" significantly influences the CROI construct, while service excellence, is influenced by "actors and performance". In the playfulness construct, "setting and performance" are influential, and in aesthetics, it is "setting and performance". This indicates that performance, among dramaturgical elements, is pivotal for experiential value, with "audience" having minimal impact. About relationship quality, "CROI and service excellence" affect customer satisfaction, while "service excellence, actors, and performance" influence trust. Commitment is influenced by "CROI". However, playfulness and aesthetics in experiential value do not affect any constructs. Additionally, the study reveals that dramaturgical elements indirectly impact relationship quality through experiential value, suggesting partial mediating effects within the research framework.

Moreover, another objective of this study is to explore whether there are significant differences in the constructs across different service types of restaurants. Although the ANOVA test results did not reveal significant differences in the constructs, slight variations were observed in the average scores across different restaurant types. For instance, customers dining in full-service restaurants generally exhibit higher satisfaction scores across various constructs compared to those dining in limited-service restaurants. However, customer satisfaction and commitment scores in relationship quality are slightly lower for customers dining in full-service restaurants than those in limited-service restaurants. Additionally, regardless of the restaurant type, customers tend to give relatively lower scores for playfulness.

5.2. Conclusion

Based on the results of this study, the following recommendations are proposed for restaurant operators: (1) To enhance customer satisfaction, trust, and maintain long-term relationships with customers, restaurants should focus on providing high value for money and delivering quality services. (2) The professionalism of service staff and their interactions with customers are crucial and can further influence other factors; thus, restaurants should prioritize providing comprehensive staff education and training. (3) Since the "playfulness" scores were relatively low, indicating that customers did not thoroughly enjoy the dining experience, it is suggested that restaurant operators consider improving the dining environment to enhance customer comfort, instead of solely maximizing space utilization.

5.3. Limitations of this study and suggestions for future studies

In terms of research limitations, due to the limited sample size collected in this study and the unequal distribution of sample proportions in demographic variables such as gender, age, and monthly income, the respondents in the sample may not be representative of the entire population of Taiwan. Additionally, the research model of this study is exploratory in nature, and no scholars have previously validated it. Future research may empirically investigate the hypothesized effects proposed in the model in different contexts. This would enable the refinement of the framework or the removal of less impactful factors, thus facilitating further exploration of the application and potential of this model.

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Risk assessment of the surfaces at school foodservices

Suk, Yonghee
Department of Food and Nutrition
Yonsei University

Ham, Sunny
Department of Food and Nutrition
Yonsei University

Abstract:

During the COVID-19 pandemic, there has been heightened awareness of hygiene in crowded settings, such as school meal services. Nevertheless, specific guidelines for surface hygiene management within these facilities are lacking. To address this gap, a total of 24 stakeholders involved in school meal operations were interviewed to identify potentially contaminated surfaces. And the hygiene status of these surfaces was assessed using ATP meters, aiming to improve surface hygiene management practices in school meal settings.

Keywords: ATP-meter, school meal, surface hygiene

1. Introduction

Since the advent of the COVID-19 pandemic, there has been a heightened awareness and concern regarding the transmission of infectious diseases in crowded places (Lee et al., 2021). Group dining facilities, being venues where large numbers of people gather simultaneously, have been recognized as particularly risky environments during pandemics (Korean Foodservice Newspaper, 2020). Consequently, government has acknowledged this risk and issued guidelines for enhancing hygiene management in such group dining facilities. The Centers for Disease Control and Prevention (CDC) in the United States, in their "Hygiene management guidelines in response to COVID-19" (CDC, 2022), have advised that high touch surfaces are more likely to spread germs and recommended more frequent cleaning or additional disinfection in such spaces. Similarly, the Ministry of Education in Korea, in their "Guidance document on school meal management" (Ministry of Education in Korean, 2020), has instructed to regularly disinfect surfaces and objects frequently touched by people. This suggests the importance of recognizing and managing not only airborne transmission but also the risk posed by contaminated surfaces. However, both the United States and Korea lack objective evidence on which surfaces are more hazardous and require more frequent cleaning and disinfection.

Despite the heightened awareness of hygiene and advancements in hygiene management practices in school meal services, concerns regarding large-scale foodborne illness outbreaks persist (FoodsafetyKorea, 2023). Moreover, with climate change contributing to an anticipated increase in foodborne illnesses and the potential emergence of new strains of pathogens, maintaining vigilance and preparedness for hygiene is imperative. (Shin, H.S., et al, 2009; Kim Y.S., et al, 2015; Cae, S.M. et al., 2020)

Research findings indicate that surfaces commonly touched by individuals often contain a substantial amount of bacteria (Otter & French, 2009; Cobrado et al., 2017). Additionally, studies suggest that pathogens deposited on surfaces can persist for hours to several days (Suleyman, G., et al., 2015; Wißmann, J. E., et al., 2021).

This study aims to investigate surfaces prone to contamination due to frequent contact within school cafeterias, with the objective of determining the actual level of contamination.

The specific objectives are as follows:

First, Investigate surfaces with potential hygiene risks through interviews targeting individuals involved in managing, operating, and utilizing school meal services

Second, Conduct observational surveys on the surfaces identified during the interviews, providing a quantitative basis for assessing hygiene risks to get objective contamination levels.

Third, Effective strategies for surface hygiene management are devised, based on the findings from the interviews and observational surveys.

2. Literature Review

2.1. Total Adenylate(ATP+ADP+AMP) Hygiene Monitoring Test
ATP Bioluminescence Assay, which began to be used by NASA in the 1960s for the purpose of finding biological materials, has shown a positive correlation with microbial contamination through previous studies. (Kim et al., 2010; Sanna et al., 2018; Kwan et al 2019; Sogin et al, 2020)

2.2. Bacteria and viruses that survive on surfaces
Surface sanitation has been a focus of research for several years. Depending on the conditions such as temperature and humidity, the results may vary slightly, but it has been reported that common causes of food poisoning pathogens can survive on surfaces for hours to several days. On dry surfaces *Staphylococcus aureus* for 7 days to 5 years, and *E. coli* for 1.5 hours to 16 months (Suleyman, G., et al., 2015). On stainless steel surfaces, *Listeria monocytogenes* can survive up to 91 days, and *salmonella spp*. for over 30 days (Wißmann, J. E., et al., 2021). Viruses are also capable of surviving on surfaces, with research indicating that *norovirus* can survive from 8 days to 2 weeks on dry surfaces (Suleyman, G., et al., 2015), and studies have shown that the *SARS-CoV-2 virus*, the cause of COVID-19, can survive on stainless steel surfaces for 72 hours to 8 days (Wißmann, J. E., et al., 2021).

3. Methodology

3.1 Sampling and data collection
3.1.1. Focus Group Interview (FGI)**:** A focus group interview (FGI) was conducted four times with six nutrition teachers, six cooking staff members, six school staff, and six meal assistants working in elementary schools in Seoul.

3.1.2. Examination survey : Survey was conducted by recruiting 11 schools in Seoul that provide school cafeteria style dining, not in-classroom dining.

3.2 Research measurement
3.2.1. Focus Group Interview (FGI)**:** Researchers conducted interviews in survey format to identify the surfaces within the restaurant that are most prone to contamination due to human contact and proximity.

3.1.2. Examination survey : The measurement is performed according to the manufacturer's manual. Conducted a measurement survey to assess surfaces at risk, Obtained through FGI, repeating measurements twice in larger areas. Samples were sufficiently agitated before being measured three times on the device.

3.3 Data analysis
The data obtained from the three measurements were recorded as the average values. These values were then converted to ATP values per unit area. Subsequently, the measurement values from the 11 schools were compared and analyzed based on the measured surfaces.

4. Expected Outcomes

Firstly, schools, that providing dining services can identify potentially risky surfaces prone to frequent contact through the expertise of specialists.

Secondly, ATP values for each surface can be measured and compared with the opinions of experts.

Thirdly, unexpected or anticipated areas of hygiene concern can be identified, leading to the development of hygiene management strategies.

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Can service authenticity in nostalgic hotels promote brand resonance? The mediator of memorable customer experience

Hui-Chen Hung
Department of Business Administration
National Chiayi University

Chin-Fa Tsai
Department of Business Administration
National Chiayi University

Chih-Hung Wang
Graduate Program of Sustainable Tourism and Recreation Management
National Taichung University of Education

Yi-Xun Lin
Department of Marketing and Tourism Management
National Chiayi University

Hui Chen
Department of Marketing and Tourism Management
National Chiayi University

Abstract:

This study aims to investigate the relationship between service authenticity of nostalgic hotel and customers' brand resonance, as well as the mediator of memorable customer experience (MCE). A survey of 473 nostalgic hotel customers in Taiwan reveal that service authenticity positively affect MCE, which positively affects customers' brand resonance. This research contributes to the literature on service authenticity and provides a valuable theoretical basis for the hotel industry. The findings can provide hotels with strategies for servicescape design and marketing.

Keywords: Service Authenticity, Memorable Experience, Brand Resonance, Nostalgic Hotel

1. Introduction

For the hospitality industry, brand equity is one of the core concepts of brand management and a key factor for a successful brand to gain a competitive advantage in the market (Ishaq & Maria, 2020). Brand equity, an intangible asset, comprises a set of assets and liabilities linked to a brand, its name, and symbol, which can either increase or decrease the value of a product or service to businesses or customers (Aaker, 1991). Keller (1993) introduced the customer-based brand equity model, emphasizing the pivotal role of brand resonance in customer equity. Brand resonance is defined as the intense psychological connection between consumers and a brand, specifically, the extent to which an individual feels in sync with a brand (Keller, 2008). Previous studies have found that brand resonance can enhance customer satisfaction (Tsai et al., 2014), and customer retention (Jang et al., 2021), underscoring its importance in establishing long-term customer relationships. Therefore, effectively fostering customer brand resonance has become an important issue for hospitality operators in achieving competitive advantages.

Nostalgic marketing has emerged as a popular and effective marketing tool in the hospitality industry (Li et al., 2019). Many hotel operators have differentiated themselves from competitors with nostalgic themes, gaining consumer favor. A nostalgic hotel is characterized by its old architecture, decor, and ambiance, offering and evoking positive memories and experiences of past life for its guests (Li et al., 2019). Through tangible and intangible service product elements, creating a historically and culturally rich venue and atmosphere can convey service authenticity, affecting customer cognition and emotional responses (Kim, 2021). Service authenticity, the degree to which service providers offer genuine and sincere services (Song et al., 2022), is crucial in the hospitality industry as perceptions of authenticity determine the reliability of service providers (Kraak & Holmqvist, 2017). Studies have found that service authenticity can promote positive customer emotions (Kim, 2021), value, and behavioral intentions (Kim & Song, 2024). However, service authenticity remains an emerging concept, with limited research exploring its impact on customer attitudes and behavior. Whether nostalgic hotel service authenticity can enhance customer brand resonance remains empirically unexplored.

In the literature on nostalgic service, scholars have explored the mediating role of memorable experiences (Keskin et al., 2024). A memorable customer experience refers to the positive memories and associations formed after customer's encounter (Kim et al., 2012). Mmemorable lodging experiences can create customer happiness, enhancing the willingness to return (Li et al., 2022) and loyalty (Li et al., 2021). When customers experience consistency, tradition, sincerity, authenticity, and honesty in nostalgic hotel services, it fosters ideal authenticity, factual authenticity, and self-authenticity, strengthening the personal memory and connection with the nostalgic hotel, enhancing perceived value (Chen et al., 2020) and positive emotions (Kim, 2021), resulting in a memorable lodging experience. Additionally, de Regt et al. (2021) pointed out that creating memorable experiences could strengthen customer brand perceptions and attitudes. Scholars have found that brand experiences can promote customer brand resonance (e.g., Husain et al., 2022). Natarajan and Veera Raghavan (2023) discovered that memorable experiences could promote customer advocacy behaviors. Memorable experiences can strengthen customers' identification with a company or product as a meaningful social category, generating an emotional connection through self-categorization, thereby promoting brand resonance. It can be seen that nostalgic hotel service authenticity may enhance brand resonance through memorable customer experiences. However, whether memorable customer experiences play a mediating role between service authenticity and brand resonance remains unknown.

The purpose of this study is to explore the relationship between nostalgic hotel service authenticity and brand resonance, further examining the mediating effect of memorable customer experiences. This research can expand the knowledge domain of nostalgia and service authenticity in the hospitality industry. In practical hotel management, understanding the impact of service authenticity on brand resonance and the mediating role of memorable customer experiences can provide nostalgic hotel managers with effective strategies for planning service environments and developing nostalgic marketing strategies, thereby creating memorable customer experiences and enhancing brand resonance.

2. Methodology

2.1. Data collection

The samples for this study are customers of Taiwan nostalgic hotel. We contacted ten managers of well-known nostalgic hotels in Taiwan by phone to request their assistance. A total of six hotels agreed to participate. The questionnaire and a written description of the study (100 copies for each) were delivered to the hotels, who recruited participants and explained that the questionnaire was voluntary. The managers distributed the questionnaires to the customers after their stay. Each copy of the questionnaire included a return envelope. After the customers completed the questionnaires, they sent them back to the researcher. Sampling was from October 1 to December 31, 2022. A total of 580 questionnaires were distributed, and 501 were returned. After 28 incomplete questionnaires were deleted, 473 valid questionnaires remained.

2.2. Measures

This research utilizes the service authenticity scale of Kim (2021), with a total of 21 items. MCE was measured with three items developed by Hwang and Lee (2018). We adopted the brand resonance scale developed by Keller (2013), which comprises 12 items. The 5-point Likert scale is used, and each item receives 1 to 5 points, indicating *strongly disagree* and *strongly agree*, respectively.

3. Results

3.1. Sample characteristics

This study analyzes the 473 valid questionnaires to determine the distribution of the data. A total of 254 (53.7%) participants are female, and 219 (46.3%) are male; 334 (70.6%) are married; 342 (72.3%) have a college degree or above; the majority are aged 51 to 60 years (31.3%).

3.2. Hypothesis testing

The hypotheses were tested using structural equation models. The fit indicators (χ^2 = 1491.47, df = 559, χ^2/df = 2.67, $p < 0.001$, GFI = 0.84, AGFI = 0.81, CFI = 0.95, NFI = 0.92, IFI = 0.95, SRMR = 0.05, and RMSEA = 0.06) support the model fit. The path coefficients from service authenticity to MCE ($\beta = 0.42$, $p < 0.01$), from service authenticity to brand resonance ($\beta = 0.20$, $p < 0.01$), and from MCE to brand resonance ($\beta = 0.52$, $p < 0.01$) indicate a positive relationship, which supports H1, H2, and H3. Furthermore, the mediating effect of MCE was examined using the Sobel test (Preacher et al., 2007). The mediating influence of MCE on the relationship between service authenticity and brand resonance (z = 4.23, $p < 0.01$) was significant, supporting H4.

4. Discussion

4.1. Conclusions

This study investigates the relationships among service authenticity, MCE, and brand resonance. This finding suggests that in the hospitality industry, service authenticity is a driver of MCE and brand resonance. In addition, the results reveal that MCE positively affects brand resonance. This finding demonstrates that service authenticity can enhance customers' brand resonance through MCE.

4.2. Implications

This study can expand the research gap in the field of nostalgic hotel service authenticity and customer brand resonance. The findings of this research offer numerous managerial implications for hotel operations, particularly in the design and planning of the physical service environment. Nostalgic hotel operators should design various cues of service authenticity, such as adopting nostalgic themes in the decor and furniture arrangement in the hotel lobby, and playing songs from nostalgic eras. Integrating local elements to plan different nostalgic theme rooms, and decorating the rooms with collectible artifacts, can convey these nostalgic service characteristics to hotel guests, thereby fostering customer brand resonance. Moreover, nostalgic hotel operators should regularly provide frontline service staff with appropriate educational training courses to ensure that the service personnel can genuinely and sincerely serve customers.

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Application of the UTAUT2 model in online food delivery service: A meta-analytic structural equation modeling

Chiu, Weisheng
Department of Management and Strategy
Hong Kong Metropolitan University

Cho, Heetae
Department of Sport Science
Sungkyunkwan University

Abstract:

The Unified Theory of Acceptance and Use of Technology (UTAUT2) has been widely used to study consumer behavior in online food delivery services. However, previous studies showed inconsistent findings regarding the relationships between the UTAUT2 variables. Therefore, a meta-analytic structural equation modeling (MASEM) was conducted based on 31 studies (N = 13,107). Findings revealed that all antecedents, except effort expectancy, significantly affect behavioral intention. This study contributes to the theoretical advancement of UTAUT2 in online food delivery services.

Keywords: Online food delivery service, hospitality, UTAUT2, meta-analytical structural equation modeling

1. Introduction

Online food delivery (OFD) services have become increasingly popular in the sector of the hospitality industry, offering convenience and flexibility. The COVID-19 pandemic has further accelerated the growth of these services as people are now relying on them more than ever. Therefore, academics and service providers are eager to understand the factors influencing consumers' decision-making and usage behavior. The UTAUT2 has emerged as a valuable framework for understanding the adoption and use of technology-based services (Venkatesh et al., 2012). This model integrates various determinants influencing individuals' behavioral intention and use behavior. In the context of **OFD** services, applying this model can provide insights into what drives consumer adoption and continued usage behaviors with **OFD** services.

UTAUT2 has been widely used in **OFD** services research, but findings from previous studies vary. The relationships between UTAUT 2 variables have not always yielded consistent results. Therefore, this study uses meta-analytical structural equation modeling to analyze and synthesize results from previous studies using the UTAUT2 model. The goal is to provide a comprehensive understanding of factors influencing consumers' intention to use these services based on the UTAUT2 model by aggregating and analyzing multiple study findings.

2. Literature Review

2.1. UTAUT2

The original UTAUT, proposed by Venkatesh et al. (2003), is a theoretical model developed to understand and predict user behaviors related to technology acceptance and usage. UTAUT posits that four key constructs – performance expectancy, effort expectancy, social influence, and facilitating conditions – influence users' intentions and behaviors toward technology. In addition, researchers have extended the original UTAUT model to develop the UTAUT2 model by incorporating additional factors, including hedonic motivation, price value, and habit (Venkatesh et al., 2012). These additional factors in the UTAUT2 model adapt to the changing landscape of technology adoption and provide a more comprehensive understanding of consumers' intentions and behaviors toward technology adoption.

2.2. UTAUT2 in OFD services
The UTAUT 2 has been extensively applied in the context of OFD services. Given the nature of ODF services as a technology-based service, the UTAUT2 model provides a suitable framework for understanding consumers' intentions to use OFD services. Previous studies have shown the effectiveness and applicability of the UTAUT2 model in predicting consumers' intentions to use ODF services. However, there are some variations in findings regarding the impact of the different determinants in the UTAUT2 model on consumers' intentions to use OFD services. For example, some found that effort expectancy affects users' intention to use OFD services (Ramos, 2022; Sorathia & Morosan, 2023), while others found no significant relationship (Abed, 2023; Teng et al., 2023). Therefore, it indicates the need for a meta-analysis to synthesize the findings from these studies and provide a better understanding of the overall relationship between the determinants in the UTAUT2 model and consumers' intentions to use OFD services.

3. Methodology

3.1. Data collection and coding procedure
Following the guidelines of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), a systematic search was conducted in major academic databases (e.g., Scopus, Web of Science, ProQuest, EBSCOhost, and Google Scholar) to identify relevant studies that applied the UTAUT2 model in the context of OFD services. We used the combination of the following keywords: "UTAUT2" and "food delivery" to identify relevant articles. The initial search generated a total of 183 articles. After screening and eligibility evaluation, a total of 31 studies remained for the meta-analysis.

3.2 Data analysis
Meta-analytical structural equation modeling (MASEM) was conducted to examine the relationship between variables within the UTATU2. MASEM involves a two-stage structural equation modeling process (Cheung, 2015). First, the correlation matrix estimated by random effects from the reviewed studies is generated. Subsequently, this correlation matrix is utilized to estimate the path coefficients of the relationships between UTAUT2 variables. The final sample size for MASEM was determined using the harmonic mean of sample sizes due to varying sample sizes for each relationship.

4. Results

4.1. Descriptive characteristics
A total of 31 studies comprised 28 journal articles, 2 proceeding papers, and one book chapter published between 2019 and 2024. As there is one study with two subgroups, 31 studies yielded 32 samples. Overall, each study's sample size ranged from 200 to 1,1118 (M = 409.59, SD = 202.24), and the total sample size of included studies was 13,107.

4.2 MASEM
Table 2 shows the correlation matrix within UTAUT2 variables used for conducting the MASEM, and Figure 1 presents the results of MASEM in UTAUT2. All the paths, except effort

expectancy, in the UTAUT2 model were significant ($p < .05$), and UTAUT2 accounted for 68.5% of the variance in behavioral intention. Specifically, habit (γ = 0.504) was the most influential antecedent of behavioral intention, followed by performance expectancy (γ = 0.215), facilitating conditions (γ = 0.170), price value (γ = 0.135), social influence (γ = 0.046) and hedonic motivation (γ = .036).

Table 2 Correlation matrix

Constructs	1	2	3	4	5	6	7	8
1. PE	1	9,479 (24)	7,910 (20)	5,389 (13)	7,116 (15)	7,276 (10)	7,009 (14)	11,202 (26)
2. EE	0.588	1	7,910 (20)	5,389 (13)	5,587 (13)	3,981 (9)	4,875 (11)	9,479 (24)
3. SI	0.492	0.505	1	4,827 (12)	4,623 (11)	3,919 (10)	4,463 (11)	8,380 (22)
4. FC	0.515	0.691	0.48	1	4,851 (11)	3,725 (8)	3,934 (8)	5,798 (14)
5. HM	0.519	0.507	0.54	0.503	1	4,045 (9)	5,258 (10)	7,025 (15)
6. PV	0.483	0.472	0.501	0.485	0.582	1	3,995 (9)	4771 (12)
7. HA	0.487	0.418	0.638	0.382	0.555	0.509	1	7,477 (16)
8. INT	0.606	0.548	0.607	0.53	0.587	0.688	0.669	1

Notes: Values below the diagonal denote correlations based on the meta-analysis. Values above the diagonal present the sample size of correlation and the number of studies in parentheses. Harmonic mean of N = 5,514

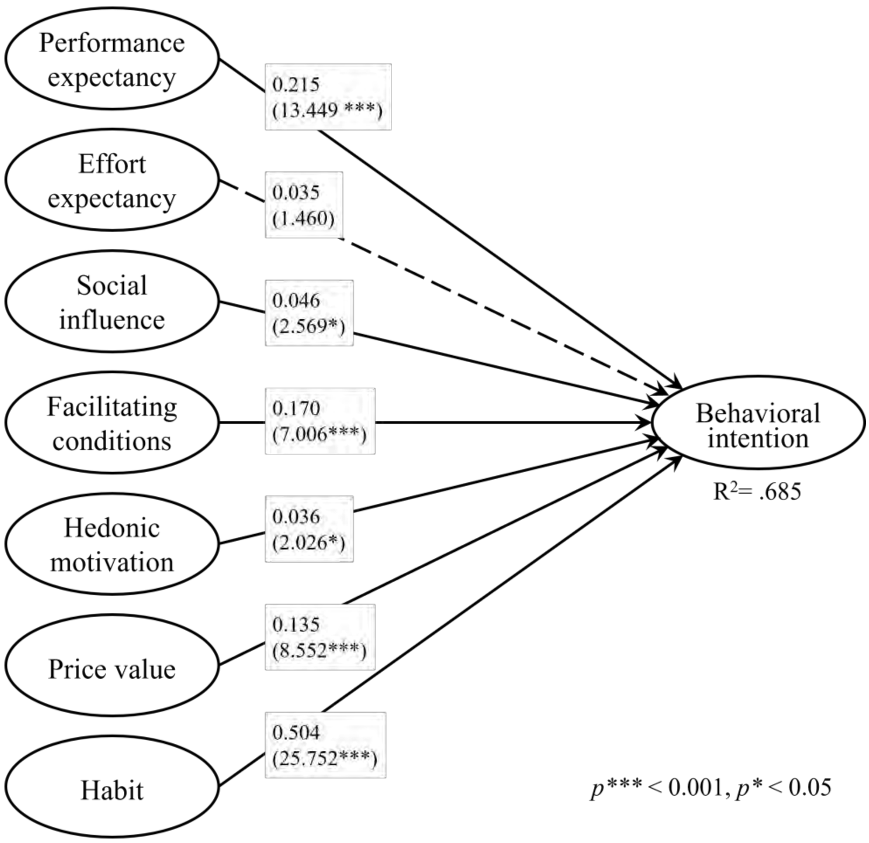

Figure 1 MASEM results

5. Discussion and Conclusion

5.1. Discussion

This study provides strong evidence for the relationships among the UTAUT2 determinants and behavioral intention. This finding underscores the importance of UTAUT 2 determinants, except effort expectancy, in shaping consumers' intentions to use OFD services. Specifically, habit was the most influential factor in predicting behavioral intention in the context of OFD services. These profound insights into the complex dynamics of technology adoption not only contribute to the refinement of the UTAUT2 model but also provide a foundation for future research exploring consumer behavior in other digital service domains.

5.2 Theoretical and practical implications

The findings not only contribute to the refinement of the UTAUT2 in the context of OFD services but also provide a foundation for future research exploring consumer behavior in other digital service domains. From a practical standpoint, businesses operating in the OFD industry can leverage these insights to design more effective marketing strategies and user experiences that cater to these critical antecedents. By focusing on enhancing factors like habit and performance expectancy, companies can potentially increase consumer adoption and retention rates.

5.3. Conclusion

This study reaffirms the applicability and relevance of the UTAUT2 model in the context of OFD. The findings demonstrate the importance of habit, performance expectancy, facilitating conditions, price value, social influence, and hedonic motivation in influencing users' behavioral intention in the context of OFD services.

5.3. Limitations of this study and suggestions for future studies

This study only includes UTAUT2 variables for the MASEM. Some studies have recently extended the UTAUT2 model by adding other variables, such as information quality, trust, and satisfaction. Future meta-analytical studies should consider the variables frequently integrated into the UTAUT2 and examine how these variables improve the predictivity of UTAUT2.

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Factors Affecting Tourists' Length of Stay: A Comparative Analysis of pre-COVID-19 and post-COVID-19

Tay, Kai Xin
Faculty of Business, Economics and Accountancy
Universiti Malaysia Sabah

Abstract:

This study assesses the impact of the COVID-19 pandemic on tourists' length of stay (LOS) in Sabah, comparing pre-COVID-19 and post-COVID-19 data. Employing survival analysis for examining LOS variations based on socio-demographic and travel characteristics. Pre-COVID-19, LOS positively correlated with age, education, income, travel distance, 1–3-star hotels, and visits to friends and family, and increased travel expenditure. Negative associations were found with familiarity and travel partners. In the post-COVID-19 era, leisure travel and various travel motives significantly decreased LOS. These findings reveal a transformation in factors influencing LOS, providing valuable insights into the changed dynamics of travel behaviour post-pandemic.

Keywords: Length of stay, socio-demographic, travel characteristics, survival analysis, Sabah

1. Introduction

Tourists who stay in one destination with a longer duration could contribute to the generation of businesses (especially the accommodation sector) at a particular tourism destination. Hence, reducing the length of stay (LOS) could adversely affect the economic benefits derived from tourist activity and discourage future investment interest in the sector (Almeida et al., 2021). In the case of Sabah, with a daily average spending of 149 USD, a reduction of one day in the LOS signifies a loss of 149 USD per tourist. For a more detailed illustration, consider a destination like Sabah, with a tourist arrival of 1,727,740 in 2022 (Department of Statistics Malaysia, 2023). In this context, an income loss of 149 USD per stay per tourist translates to an annual revenue decrease of 256 million USD. Consequently, amidst the current landscape of escalating external shocks and challenges in meeting expenditure targets, it becomes crucial to either sustain or elevate existing figures by prioritising the LOS in tourism as a fundamental component of demand management.

The prevailing trend, characterised by a reduction in the average LOS at destinations in favour of more frequent shorter trips throughout the year, as highlighted by Alén et al. (2014), finds support from the preferences of business travellers (Yang & Liu, 2003) and the influence of low-cost flights (Martínez-Garcia & Raya, 2008). Martínez-Garcia and Raya (2008) note that in Spain, the shift towards shorter lengths of stay was associated with a decrease in tourists' expenditure. The average LOS Alén et al. (2014) recommend a thorough analysis of this phenomenon to identify the determining factors influencing the LOS. Such an examination is crucial for destination planning and management, providing insights to attract travellers for more extended stays at the destination.

Previous literature has extensively investigated the determinants of tourist expenditure at destinations, as evidenced by study conducted by researchers (Almeida & Garrod, 2022). Despite this attention to financial aspects, there has been a growing emphasis on the LOS at destinations in recent studies (Alén et al., 2014; Tay et al., 2022). Notably, there exists a gap in the literature, as limited studies have investigated the impact of COVID-19 on the LOS. To address this gap, this study contributes by comparing datasets collected in 2017 (pre-COVID-19) and 2023 (post-COVID-19).

As per author's current knowledge, a singular study (Baños-Pino et al., 2023) has previously investigated the LOS at the individual level resulting from the outbreak of the COVID-19 disease, comparing data between the summer periods of 2019 (pre-pandemic) and 2020 (post-pandemic outbreak). However, it is crucial to highlight that this study diverges by examining the years at the mid of 2017 and early 2023, representing a substantial 5.5-year gap. Notably, on October 10, 2021, travel restrictions were completely lifted for vaccinated travellers (Lim, 2021), and the data was collected 15 months after the full lifting of travel restrictions, providing a unique temporal context. While Baños-Pino et al. (2023) utilised regression adjustment, inverse probability weighting regression, and propensity score matching to assess the impact of COVID-19 on the LOS, this study seeks to delve deeper. Specifically, this research goes beyond examining the overall impact of COVID-19 on LOS; instead, author meticulously investigate the individual determinant factors (sociodemographic and travel characteristics) influencing LOS over time, employing Survival analysis. This approach enables a comprehensive understanding of how sociodemographic and travel patterns intricately shape the LOS in both the pre- and post-pandemic eras.

In an ideal scenario, the research would involve a meticulous scrutiny of the behaviour of specific tourists both before and after the onset of COVID-19, allowing for a direct evaluation of any changes (Baños-Pino et al., 2023). However, the practical challenges in securing longitudinal datasets for individual tourists at specific destinations are formidable. Longitudinal datasets typically necessitate tracking the same individual over time, but these become complex when trips encompass distinct destinations (Bala, 2020). In response to this limitation, this study adopts a strategic approach, embracing a counterfactual framework (Baños-Pino et al., 2023; Rubin, 1974). This framework involves creating a hypothetical scenario representing what might have occurred in the absence of the pandemic (pre-COVID- 19). By establishing this counterfactual baseline, author aims to provide a benchmark for comparison, allowing us to disentangle the effects directly attributable to the pandemic (post- COVID-19). This approach not only addresses the challenges posed by the unavailability of direct longitudinal data but also enriches our understanding of the true impact of the pandemic on tourist behaviour.

2. Literature Review

1.1. The impact of COVID-19 on length of stay

The duration of a travel stands as a pivotal factor in the decision-making process of tourists (Decrop & Snelders, 2004; Gokovali et al., 2007). Previously, holiday decision-making involved a careful consideration of the benefits offered by various vacation alternatives, with tourists weighing financial and time constraints (Alegre et al., 2011; Alegre & Pou, 2006). Factors such as the cost of each alternative and the LOS they could afford were crucial considerations. However, the emergence of COVID-19 has introduced a paradigm shift in tourists' travel patterns, with a heightened emphasis on safety and hygiene factors (Aziz & Long, 2022). Despite this transformation, the impact of altered travel patterns on the decision- making process regarding the number of days to stay remains an understudied aspect in the current literature. Understanding how these evolving travel patterns influence the choice of stay duration is essential for comprehending the shifts in tourist behaviour precipitated by the ongoing global health crisis.

In previous studies, the variable LOS has often been grounded in the consumer behaviour theory developed by Lancaster (1966). Notably, studies by Alegre et al. (2011) and Barros and Machado (2010) have applied this theoretical lens to investigate the determinants of LOS in tourism. The economic theory of consumer behaviour (Varian, 2014), forms the basis for understanding consumption decisions made by individuals aiming to maximise utility within financial constraints, with a focus on price and income considerations. In this study, these theoretical underpinnings guide the exploration of sociodemographic and travel characteristics as independent variables influencing the dependent variable, LOS.

1.2. Social-demographical factors

Socio-demographic factors play a significant role in shaping tourists' LOS, encompassing variables such as age, gender, marital status, education, and income. Notably, studies by Martínez-Garcia and Raya (2008) and Thrane and Farstad (2011) consistently highlight the importance of age as a crucial determinant. Older tourists, free from time and financial constraints, tend to opt for longer trips (Alén et al., 2014). The relationship between age and LOS is influenced by various factors, including work responsibilities, with individuals in managerial roles potentially opting for shorter stays until retirement (Almeida et al., 2021). However, health conditions can reverse this relationship, leading to a negative correlation (Fleischer & Pizam, 2002).

Gender differences also play a role in LOS, with men generally staying longer than women (Barros & Machado, 2010). Marital status contributes to variations in LOS, as single individuals may have more flexibility and could be inclined to stay longer, while married couples may face shorter stays influenced by family considerations (Tay et al., 2022; De Menezes et al., 2008). Educational level is another influencing factor, with higher education correlating with a greater interest in exploring destinations, participating in educational activities, and, consequently, opting for longer stays (Barros & Machado, 2010). However, variations exist, as some well-educated individuals may prefer shorter, more frequent trips (Aguilar & Díaz, 2019).

In the context of the COVID-19 pandemic, these socio-demographic factors may undergo shifts in their influence on LOS. For instance, health considerations may play an even more significant role, potentially impacting the previously established relationships. Additionally, changes in work patterns, travel preferences, and risk perceptions could interact with these socio-demographic factors, necessitating an exploration of their evolving roles in determining tourists' LOS (Samdin et al., 2021). Consequently, hypotheses regarding the influence of age, gender, marital status, education, and income on LOS need to be re-evaluated within the altered landscape created by the COVID-19 pandemic. Hence, the following hypothesis is proposed:
H1: The outbreak of COVID-19 moderates the relationship between sociodemographic factors (age, gender, marital status, education, and income) and international tourists' LOS in Sabah,

influencing the nature or strength of these associations.

1.3. Travel characteristics factors

Drawing from experiences in previous health crises, such as SARS, individuals tend to adopt coping strategies favouring cautious travel behaviour over complete avoidance (Cai, 2003). With the ongoing pandemic, there is a clear trend towards independent short-distance trips (Zheng et al., 2021). This shift in travel behaviour indicates that people are now choosing shorter-distance trips over longer ones, thereby challenging the traditional link between longer travel distances and extended LOS driven by fixed transportation costs. (Lee et al., 2012).

First-time visitors typically express a heightened desire to explore new destinations, while those with specific purposes for choosing a destination are expected to intend to stay longer (Brida et al., 2013). Repeated visits enhance familiarity, prompting travellers to extend their stay to engage in various activities (Gokovali et al., 2007). Accommodation choice significantly influences LOS, with non-hotel options linked to longer stays due to lower costs (Aguilar & Díaz, 2019). The chosen purpose of travel, whether motivated by the desire to visit friends and family or for business, significantly affects the LOS (Almeida et al., 2021). Tourists who are sensitive to risks prefer mountains instead of seas destinations (Osti & Nava, 2020). Increased outdoor activities in green spaces during the post-pandemic (Derks et al., 2020). Nature-based tourism, known for psychotherapeutic benefits, is expected to be crucial in the post-COVID- 19 (Buckley & Westaway, 2020), aligning with Sabah's emphasis on nature and outdoor destinations.

Solo travellers tend to prolong their stay at a destination, while family visitors might have a shorter LOS due to higher travel expenses and potential inflexibility associated with larger groups (Alegre et al., 2011). However, growing concerns about hygiene have led people to avoid crowded environments (Park et al., 2021). Preferences now lean towards private space in dining area (Kim & Lee, 2020) and accommodations with limited interaction (Shin & Kang, 2020). Travel mode also plays a role, with tourists choosing 'all-inclusive' packages less likely to stay longer than those opting for 'half-board' accommodations (Gokovali et al., 2007). Independent travellers are more likely to extend their stay compared to those using tour packages (Alén et al., 2014). However, Alegre et al. (2011) argued that booking a full-board tour significantly increased LOS by alleviating the need for tourists to plan their itinerary.

The positive correlation between travel expenditure and LOS indicates that with each additional day or night spent on the trip, expenditures will consistently increase, irrespective of the overall duration of the trip (Thrane & Farstad, 2011). However, during the pandemic, tourists displaying risk aversion tend to experience more negative emotional responses when faced with disadvantaged price inequality, paying more than pre-COVID-19, thereby intensifying their perception of price unfairness (Zhang et al., 2020). As a results of all these characteristics shifts, tourists are likely to change their decision on LOS in Sabah. Therefore, this study proposes:
H2: The outbreak of COVID-19 moderates the relationship between travel characteristics (travel distance, familiarity, accommodation type, motives, traveling partner, travel mode and travel expenditure) and international tourists' LOS in Sabah, influencing the nature or strength of these associations.

3. Methodology

The dataset for 2017 was retrieved from the author's PhD thesis, utilising a self-administered survey questionnaire. The survey instrument underwent pilot testing and refinement before actual data collection. The measurement items that included in questionnaire are presented in Table 1. The data collection for both 2017 and 2023 targeted long- and medium-haul international tourists, employing stratified random sampling at Kota Kinabalu International Airport (KKIA) from May 25 to June 2, 2017. A total of 255 questionnaires were analysed. In 2023, data collection took place from January 30 to Feb 3, with the same questionnaire and data collection approach used, and a total of 152 international tourists were analysed. Formal approval was secured from the airports to conduct the survey at departure halls. Surveying at the boarding gate aimed to minimise sample bias by ensuring respondents had completed their trip. The primary data from the questionnaire survey underwent descriptive analysis and survival analysis using Generalised Structural Equation Modelling (GSEM) for LOS in Stata 17 software.

This study utilised survival analysis to compare the LOS in Sabah, employing the time until the event of completing the trip and leaving Sabah as the measure (Gokovali et al., 2007). Survival analysis is suitable for modelling such event durations (Tay et al., 2022). The study addressed three key considerations in survival modelling: (1) the nature of the dataset (cross- sectional questionnaire data 2017 and 2023); (2) handling censored data (not applicable here as respondents completed their trip); and (3) addressing population heterogeneity (five models for parameter estimation). After comparison among the five survival parametric models, the loglogistic is the best fitted due to the lowest AIC and BIC. The result is not displayed due to the word limit. The loglogistic regression model suggests a scenario where the LOS initially increases, peaks at some point, and then decreases. Applied to the context of tourists' LOS, this could mean that initially, there is an increasing likelihood of tourists leaving, reaching a maximum, and then declining.

4. Results

The descriptive analysis is presented in Table 1. In 2017, the Average LOS was 10.26 days and increased slightly to 10.83 days in 2023. Table 2 illustrates the results of GSEM Loglogistic survival model. In the analysis of demographic factors, it was observed that age had a significant positive association with the LOS in 2017. Additionally, educational background and average monthly income were significant positive influences on LOS in the pre-COVID- 19 period. None of the sociodemographic factors were observed to have statistical significance in relation to LOS in the post-COVID-19 period.

Regarding travel characteristics, the impact of travel distance on LOS was significant positive in 2017 but not in 2023. Familiarity showed a significant but negative effect on international tourists' LOS in Sabah in 2017, with no significant impact in 2023. Results indicate a statistically significant positive relationship between 1–3-star hotels and LOS in 2017. Notably, motives such as leisure/holiday, visiting friends and families/back to hometown, and education/teaching/training demonstrated significant associations with LOS in the post-COVID-19 period, all having a negative correlation. Conversely, the travel purpose of education/teaching/training was found to be significantly and positively related to LOS in 2017. The presence of a spouse or partner was negatively influential on LOS in 2023, while traveling with family/relative(s), friend(s), and business associate/colleague(s) showed significant negative effects on LOS in 2017. Travel mode did not exhibit a significant association with LOS in both 2017 and 2023. Finally, travel expenditure demonstrated a significant and positive association with LOS in 2017 but had no significant impact in 2023.

Table 1: Measurement Items

		2017					2023				
Variables	Label	N	Min	Max	Feq/**Mean**	%/**SD**	N	Min	Max	Feq/**Mean**	%/**SD**
Demographic											
LOS in Sabah (days)	LOI	255	2	68	**10.26**	**8.04**	152	1	180	**10.83**	**22.56**
Age (years old)	Age	255	18	81	**35.74**	**13.58**	152	18	60	**36.97**	**9.94**
Gender	Gender	255	1	2			152	1	2		
1. Male					95	37.25				70	46.05
2. Female					160	62.75				82	53.95
Marital Status	MS	255	1	3			152	1	3		
1. Single					122	47.84				84	55.26
2. Married					124	48.63				55	36.18
3. Widowed or divorcee					9	3.53				13	8.55
Level of education	LOE	255	1	3			152	1	5		
1. Higher Degree – Master/PhD					169	66.27				22	14.47
2. Tertiary Education –					52	20.39				98	64.47
Diploma/Degree					34	13.33				30	19.74
3. Secondary/High School										1	.66
Education										1	.66
4. Primary/Elementary Education											
5. No Formal Education											
Average monthly income (USD)	AMI	170	101.09	83208.31	**5093.26**	**5093.2**	142	64.8	10800	**2045.35**	**1644.01**
Travel Characteristics											
Travel Distance	TD	255	1	2			152	1	2		
1. Medium-haul					133	52.16				132	86.84
2. Long-haul					122	47.85				20	13.16
Familiarity	FRT	255	0	1			152	0	1		
0. First time					186	72.94				119	78.29
1. Repeated Trip					69	27.06				33	21.71

Number of trips	NOTP	63	2	50	**3.75**	**6.28**	33	1	30	**5.58**	**6.09**
Accommodation 0. No 1. Yes	ACC				*(Yes)*					*(Yes)*	
4- or 5-stars hotel	ACC1	255	0	1	152	59.61	152	0	1	54	35.53
3 stars hotel	ACC2	255	0	1	71	27.84	152	0	1	65	42.76
Guesthouse or 1- or 2-stars hotel	ACC3	255	0	1	64	25.10	152	0	1	37	24.34
Rented house or apartment (Airbnb)	ACC4	255	0	1	24	9.41	152	0	1	55	36.18
Friend or relative's house	ACC5	255	0	1	5	1.96	152	0	1	26	17.11
Motivation 0. No 1. Yes	MOTIVE				*(Yes)*					*(Yes)*	
Leisure / holiday	MOTIVE1	255	0	1	248	97.25	152	0	1	115	75.66
Business	MOTIVE2	255	0	1	6	2.35	152	0	1	13	8.55
Visiting friends and families/back to hometown	MOTIVE3	255	0	1	4	1.57	152	0	1	13	8.55
Education/teaching/training	MOTIVE4	255	0	1	3	1.18	152	0	1	8	5.26
Travelling partner 0. No 1. Yes	PAR				*(Yes)*					*(Yes)*	
Alone	PAR1	255	0	1	21	8.24	152	0	1	26	17.11
Spouse/partner	PAR2	255	0	1	112	43.92	152	0	1	59	38.82
Family/relative(s)	PAR3	255	0	1	49	19.22	152	0	1	54	35.53
Friend(s)	PAR4	255	0	1	89	34.90	152	0	1	55	36.18
Business associate/colleague(s)	PAR5	255	0	1	11	4.31	152	0	1	8	5.26
Travel mode 0. No 1. Yes	TM				*(Yes)*					*(Yes)*	
I purchase full board tour package	TM1	255	0	1	72	28.24	152	0	1	67	44.08
Fully independent travel/ on my own	TM2	255	0	1	151	59.22	152	0	1	72	47.37
I purchase accommodation only via agent	TM3	255	0	1	29	11.37	152	0	1	17	11.18
I purchase air flight only via agent	TM4	255	0	1	31	12.16	152	0	1	21	13.82
Travel expenditure	TE	227	64.8	35650.96	**1600.06**	**2716.60**	152	151.2	6480	**1164.73**	**1014.74**

Table 1: Results of GSEM Survival Analysis

N=725	2017		2023	
Label (>LOS)	β	SD	β	SD
Demographic				
Age	0.01**	0.00	0.00	0.00
Gender	-0.07	0.05	-0.14	0.10
MS	0.02	0.06	0.06	0.08
LOE	0.10*	0.05	-0.03	0.08
AMI	0.00**	0.00	-0.00	0.00
Travel Characteristics				
TD	0.01**	0.14	0.01	0.14
FRT	-0.20**	0.08	-0.06	0.12
NOTP	-0.00	0.01	0.02	0.02
ACC1	0.06	0.09	0.00	0.11
ACC2	0.22**	0.09	-0.04	0.10
ACC3	0.54**	0.08	-0.10	0.11
ACC4	-0.01	0.11	0.05	0.11
ACC5	-0.25	0.31	0.13	0.15
MOTIVE1	0.68	0.36	-0.97*	0.46
MOTIVE2	0.39	0.35	-0.78	0.49
MOTIVE3	0.26	0.42	-1.02*	0.48
MOTIVE4	1.53**	0.37	-1.13*	0.50
PAR1	-0.25	0.16	0.10	0.18
PAR2	-0.12	0.11	-0.26*	0.12
PAR3	-0.24*	0.12	0.04	0.12
PAR4	-0.31**	0.11	0.02	0.13
PAR5	-0.51**	0.15	-0.02	0.21
TM1	0.33	0.17	-0.05	0.18
TM2	0.27	0.16	-0.05	0.17
TM3	-0.10	0.16	0.19	0.19
TM4	0.12	0.14	0.17	0.18
TE	0.00**	0.00	0.00	0.00

2. Discussion and Conclusion

2.1. Discussion and implications

Despite a notable decrease in international tourist arrivals from 2017 (1,235,178) to 2023 (727,210), the findings indicate a slight increase in the Average LOS from 10.26 nights (2017) to 10.83 nights (2023) in Sabah. This shift could be attributed to changes in tourists' travel patterns, moving from frequent short stays to less frequent but longer stays. Individuals were more inclined to prolong their stay at second homes by either relocating, working remotely, or commuting to work (Czarnecki et al., 2023). Additionally, the availability of post-COVID-19 promotional packages and the impact of social media may have played a role. The pandemic prompted tour operators to shift their advertising strategies from offline to online, leveraging social media platforms for promotional activities (Do et al., 2022).

The observed significant positive association between age and LOS in 2017 aligns with findings from Martínez-Garcia and Raya (2008) and Thrane and Farstad (2011). Older tourists, being free from time and financial constraints, are inclined to undertake longer trips (Alén et al., 2014). However, age no longer maintains statistical significance with LOS in 2023. The positive relationship between age and LOS may be due to work responsibilities (Almeida et al., 2021). The current trend of transitioning from traditional office-based work to remote work scenarios (Sahut & Lissillour, 2023).

In the pre-COVID-19 era, educational background and average monthly income were identified as significant positive factors influencing LOS. Various studies, including those by Barros et al. (2010) and Barros and Machado (2010), supported the idea that educated tourists tended to prolong their stays. The absence of influence on LOS for both educational background and average monthly income in the post-pandemic scenario could be attributed to heightened health concerns and perceived risks shaping tourists' decisions on LOS (Hanafiah et al., 2022). Given the diverse outcomes observed regarding the sociodemographic factors influencing LOS, it can be concluded that H1 has found support.

In 2017, the positive impact was linked to the notion that longer distances incur higher transportation costs, encouraging tourists to extend their stay to offset fixed expenses (Crouch, 1994). However, post-pandemic, changes in travel behaviour emerged as safety concerns and a preference for shorter distances became more prominent (Moya Calderón et al., 2021). The pandemic brought about health considerations, travel restrictions, and a desire for localised experiences (Kim et al., 2022), diminishing the influence of travel distance on LOS. Factors like technology advancements (Rauscher et al., 2020) and remote work trends (Sahut & Lissillour, 2023) may have further contributed to tourists' flexibility in trip decision-making, thereby reducing the significance of travel distance in determining their LOS.

First time travellers were likely to stay longer in Sabah was found in 2017, the finding aligns with the typical behaviour where first-time visitors express a higher desire to explore new destinations, leading to longer stays (Park et al., 2020). But its absence of significance in 2023, can be understood in the context of shifting travel patterns and preferences, possibly influenced by the COVID-19 pandemic. The significant positive relationship between 1–3-star hotels and LOS in 2017 aligns with findings by Aguilar & Díaz (2019). However, in 2023, none of the accommodation types showed a significant association with LOS, resembling results reported by Martínez-Garcia & Raya (2008), where specific hotel categories (3-, 4-, or 5-star) did not significantly affect LOS. The shift in significance may be attributed to evolving travel preferences, changes in the hospitality industry, or altered consumer behaviours post-pandemic (Ghazali & Ishak, 2021).

The results indicate a notable shift in the relationship between travel purposes and LOS from 2017 to 2023. In 2017, individuals traveling for educational purposes tended to have longer stays. This finding aligns with the idea that educational activities might require an extended duration of stay (Dale & Ritchie, 2020). Visitors motivated by the desire to visit friends and family traditionally opt for longer stays, often staying at relatives' or friends' places to save on accommodation costs (Santos et al., 2015). However, the negative correlation in the post-COVID-19 period suggests that factors like health concerns, travel restrictions, or altered priorities may have led to a reduction in the LOS for these travel purposes.

The observed change in the influence of travel companions on LOS from significant negative effects for those traveling with family, friends, or business associates/colleagues in 2017 to a negative influence for the presence of a spouse or partner in 2023. Travel dynamics have evolved, and individuals may now prioritise more intimate and flexible travel arrangements, such as solo or partner travel, over larger group trips (Perić et al., 2021). The pandemic's impact on travel behaviours, safety concerns, and a desire for more personalised experiences may contribute to these changes in the influence of travel companions on LOS.

The shift in the significance of travel expenditure on LOS from a significant positive association in 2017 to non-significant impact in 2023 may be influenced by various factors, particularly the aftermath of the COVID-19 pandemic. In the post-pandemic period, tourists may prioritise different aspects of their trips, such as safety, experience, and flexibility (Aziz & Long, 2022), over the traditional association between expenditure and LOS. Economic uncertainties, changes in spending patterns, and a focus on cost-effective travel may contribute to the diminishing impact of travel expenditure on LOS in 2023 (Mirzaei et al., 2023). The evolving landscape of global tourism and altered consumer preferences post-pandemic could account for this observed shift. The study provides evidence of a shift in travel characteristics affecting LOS, thus supporting the acceptance of H2.

5.2 limitations and future study

Limitations of the study include the relatively small sample sizes for 2017 (255) and 2023 (152). Future studies could enhance the robustness of comparisons by employing larger sample sizes for more comprehensive analyses. The data utilised for the research is drawn from the available sources in 2017 and 2023. While these years provide valuable insights into the determinants of length of stay in Malaysia, a more comprehensive understanding could have been achieved with data spanning multiple years, both before and after the pandemic. The comparison between 2017 and 2023 was chosen due to the significance of examining the changes in tourist behaviour in the post-COVID-19 era. However, the inclusion of data from additional years would have allowed for a more robust analysis of trends and fluctuations over a more extended timeframe.Future research incorporating data from multiple years to capture the dynamic nature of tourism trends, especially considering the evolving global landscape and its impact on travel behaviour. In addition, this study suggests that sociodemographic factors may no longer be as influential in determining LOS after the pandemic. The research advocates for future studies to explore the factors such as psychological distance (Hateftabar, 2021), marketing efforts, and the theory of planned behaviour (Tay, 2018) on LOS in Sabah to gain a comprehensive understanding of post-pandemic travel behaviour.

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Adventurous mother tourists may have preferred micro-tourism during the COVID-19 pandemic: comparative survey analysis of mother tourist behavior in west Japan

Maeno, Kanako
Graduate School of Management
Kyoto University

Wakabayashi, Naoki
Graduate School of Management
Kyoto University

Abstract:

During the COVID-19 Pandemic, parents had to limit their travel despite their young children still enjoying going out. This study investigates how mothers raising children tended to travel during the pandemic according to their personality, gender, and parenting status. Using Plog's model of tourist behavior, we surveyed the tourism behavior of mothers raising children during and after the COVID-19 pandemic in West Japan. We found that mothers raising children show differential tourism behavioral patterns according to their personality, gender, and parenting status. Moreover, allocentric mother tourists raising children preferred shorter travel destinations with sports and active leisure.

Keywords: Mother tourists, Tourist behavior, Allocentric attitude, Psychocentric attitude, Survey analysis, Micro-tourism

1. Introduction

Impact of the COVID-19 Pandemic and Mother Tourists
During the lockdowns caused by the COVID-19 pandemic from 2020 to 2022, mother tourists raising children were required to restrain their family travels for tourism purposes. In Japan, the self-refraining mandates and interregional travel restrictions imposed by the government have indeed led to a substantial decline in tourism demand. Even after the easing of the travel restrictions in May 2023, the national tourism industry continued to face a lack of inbound demand, relying on domestic demand, and being supported by governmental travel support initiatives.

The pandemic has also led to lifestyle shifts that gave rise to new trends in the Japanese tourism industry. Examples include the emergence of "micro-tourism," focusing on short-distance travels within 1-2 hours location, and "staycations," in which the accommodation itself becomes the primary purpose of travel. These new trends have maintained themselves even after May 2023, when all aforementioned travel restrictions were completely removed in Japan.

As for the impact of the tourism industry, the Ministry of Economy, Trade, and Industry in Japan reports as follows; Compared to the period before the COVID-19 pandemic in December 2019, it has recovered to about 90% in early 2023. On the other hand, international tourism demand recovered faster than in Japan. According to UNWTO, more than 900 million tourists traveled abroad in 2022, double the number in 2021, but still 37% less than in 2019. UNWTO also expected that tourists choose to travel close to home considering the challenging economic environment after the COVID-19 pandemic.

In the context of general consumer behavior patterns, many women, especially those between the ages of 20 and 45 years, getting married, and with young children, tend to have relatively high spending on traveling for leisure and social networking. However, during the COVID-19 pandemic, mothers with young children tended to avoid traveling for various reasons, such as caring for or worrying about their children's health. Despite these shifts, researchers have yet to conduct examinations comparing tourism attitudes and behaviors of these mothers with other sociodemographic characteristics.

2. Literature Review

2.1. Tourism Behavior and Personalities

Researchers have paid much attention to the relationships between tourism behavior, personality, and attitudes (Cohen, 1984), and to the association of travelers and their psychological factors. Pearce (1982) concluded that understanding traveler motivation should not be a simplistic and short-term process, but rather an evaluation that encompasses both immediate traveler satisfaction and the causes of travel behavior. Meanwhile, Plog (1973) suggested the need for investigating travelers' personalities through interviews, to unveil their common behavioral patterns and psychological features related to tourism. Plog believed that this could then reveal the mechanisms behind the popularity fluctuations of travel destinations.

They argue that tourist travel behavior is linked to specific tourism motivations and personality types, which in turn influence travel destination popularity. Accordingly, in this survey-based study, we used a questionnaire from Plog's model of tourist behavior (1993) to prove how mothers raising children tended to travel during the COVID-19 pandemic according to attitudes, gender, and age. While multiple perspectives exist for classifying travelers' personality types, this study adopted a three-category classification, as follows; psychocentric, mid-centric, and allocentric personalities.

In Japan, Tamura et al. (2012) mentioned about necessity that study of the tourist types in Japan, to understand tourist behavior in Japan, since tourism is a situation in which human needs and desires are more directly expressed than other consumption behavior.

2.2. Conceptualization of Travel Decision-making Process

There are various major travel destination decision-making models. Cohen et al. (2014), review the decision-making process focusing on values, motivations, self-concept and personality expectations, attitudes, and perceptions. satisfaction, trust, and loyalty. Furthermore, they mentioned many researchers argue that models are difficult to cover the complexity of decision-making in tourism. Horner and Swarbrooke (2016) identified four criteria for marketing segmentation: demographic, geographical, psychographic, and behavioristic.

This study uses the pleasure travel destination model proposed by Um and Crompton (1990), wherein travel destination decision-making progresses through a cognitive set and an affective set to culminate in the final travel choice and elaborate that the process is influenced by both external and internal inputs, shedding light on the intricate interplay that occurs between various factors during cognitive and affective evaluations that lead to the travel decision.

2.3 Gender and Life-stage Differences in Consumption Patterns

According to OECD (2020), gender dimension has key features in consumption patterns. Estimates data provided by Canadian companies demonstrate that women influence more than 80% of consumer purchasing decisions, encompassing various aspects of consumption. (Yaccato, 2007). Choi et al. (2011) show the importance of the family lifecycle regarding the criteria of marketing segmentation in tourism. They found that couples with young children showed little loyalty to products, as well as low emotional attachment, satisfaction with service, treatment of employees, and perception of monetary value. Collins and Tisdell (2002) study that gender and travel purpose are important factors to consider when forecasting travel demands by the survey of Australian outbound travel. Their research divides the Australian outbound travel market into segments according to gender and travel purpose, examining potential gender disparities within the cross-sectional travel cycle. Thus, Gender and life stage are important indicators of consumer behavior in tourism. Especially in Japan, there are few similar studies, and it would be useful to consider them.

3. Methodology

3.1. Measurement

As shown in Figure 1, we modified Um and Crompton's (1990) pleasure travel destination model. The original model consists of five processes (1.4.Belief Formation, 2. Initiation of Choice, 3. Evolution of an Evoked Set, and 5. Destination Selection) and three different concepts (External inputs. Internal Inputs, and Cognitive Constructs). Internal inputs are described as a socio-psychological set and external inputs are described as stimuli display. We added the effects of the external factors of disasters and the internal factors of gender and life stage. It enables a greater focus to be placed on Both External and Internal inputs that affect cognitive constructs in this model.

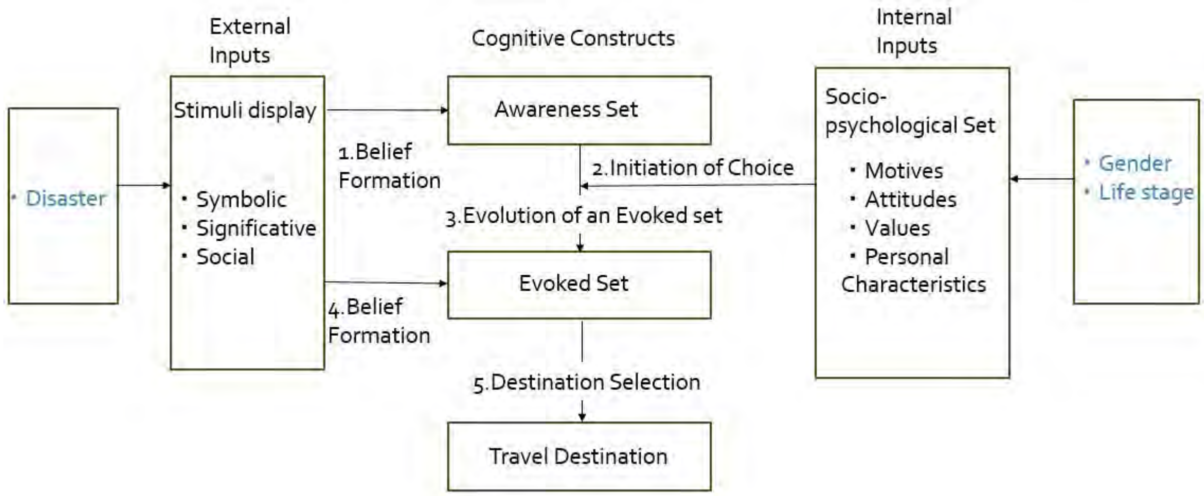

Figure 1. Modified Pleasure Travel Destination Model. Modifications made by the author to the original model proposed by Um and Crompton (1990).

3.2. Research Hypothesis

Regarding tourism behavior and intention decision-making, both gender and life stage may be influencing factors. Specifically, the tourism behavior of mothers raising (vs. men and women with older children or without children) tends to be more restrained and more negative as they are more likely to pay attention to the health and safety of their children. Furthermore, compared with psychocentric mothers raising children, allocentric mothers raising children may choose to travel to nearer destinations where their children can more frequently engage in sports or active leisure activities. These descriptions lead to hypothesis 1 (H1):

H1: During the COVID-19 pandemic, allocentric mother tourists raising children were more likely to travel more frequently to nearer tourist destinations than psychologic mother tourists raising children.

3.3 Survey Design and Distribution

A survey was conducted using an online questionnaire. We corrected the data from the internet survey company, Macromill, Inc. The survey was made on 13–15 November 2023, with the inclusion criteria for participants being divided into three categories, as follows: 1, men aged 20–60 years; 2, women raising children aged 20–45 years; 3, women aged 20–60 years who do not fit Category 2. For each category, 103 participants were recruited, resulting in a total sample of 309 participants.

Regarding the survey, we corrected data from residents from those living in Osaka Prefecture. We focused travel distance of Osaka residents Osaka's nominal gross prefectural product in FY2020 will be 39,720.3 billion Japanese yen, accounting for 7.4% of Japan's gross domestic product.

The 25-item questionnaire used in this study included items exploring details about participants' travel which was held after June 2023, tourism motivations, and travel intentions during the

COVID-19 pandemic, and Plog's psychological scales(1993). Although there are several psychological scales developed by Plog, the validity study of the Plog psychological scale by Oliver (2023) led to the adoption of Plog (1993) in this study. In addition, the three types are set as allocentric, midcentric, and psychocentric conducted data analysis using SPSS ver.29.

4. Results

4.1. General Survey Results

The survey respondents consisted of 103 males (33%) and 206 females (67%), with an average age of 43 years. From the results, we observed trends that travel destinations are focused on the Kinki region(Osaka, Kyoto, Hyogo, Nara, Mie, Shiga, and Wakayama), a high proportion of respondents using private vehicles as their mode of transportation, and Top distribution of travel frequency is only once. As personality type using Plog's psychographic scale(1993), The breakdown of each attribute is stated in Figure 2; We found that high percentage of midcentric and psycocentric in all attributes.

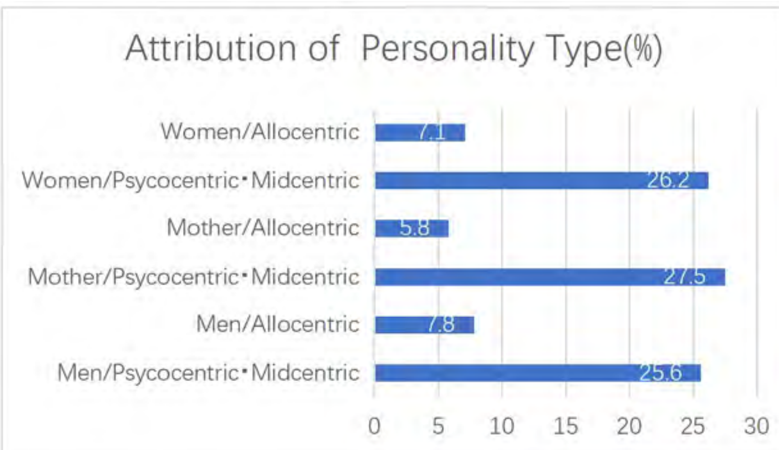

Figure 2. Attribution of Personality Type

4.2. Tourist Motivation for Post-COVID19

A factor analysis following the maximum likelihood method with Promax rotation was conducted with the 13 questions related to tourism motivations. This led to the identification of three sub-factors; Motivation Sub-factor 1 was labeled as "External Factor Influence," Motivation Sub-factor 2 as "Travel Lover," and Motivation Sub-factor 3 as "Traveling with Children." The reliability coefficient was not calculated because there was only one item in Motivation Sub-factor 3. Subsequently, the Z-scores for each sub-factor were derived from the scores of each sub-factor; for each participant, the sub-factor with the highest score was considered as the tourist motivation type. Figure 3 shows the average and standard deviation of the calculated sub-factor scores.

Factor analysis of tourist motivation

	Factor			
	1	2	3	Commonality
Because many people around me go on vacation.	**0.855**	-0.127	0.074	0.755
Because of good reviews on SNS or the Internet	**0.642**	0.121	0.028	0.483
Because I was able to make arrangements at a low price due to a sale, poi	**0.502**	0.035	-0.095	0.225
Because the new coronavirus has been moved to category 5	**0.501**	0.067	0.034	0.29
Alpha coefficient = .72				
Because it was a long vacation such as summer vacation	0.446	-0.116	0.413	0.51
Because it was a place where I could go as soon as I thought of it	0.425	0.15	-0.256	0.181
Because I like to plan trips	0.112	**0.689**	-0.131	0.488
Because the destination was attractive	-0.145	**0.683**	0.225	0.527
Because I had already checked the destination before.	0.127	**0.679**	-0.038	0.504
Alpha coefficient = .73				
Because the accommodation was attractive	0.032	0.425	0.213	0.279
Because I want to make my child happy and give him/her a variety of expe	-0.153	0.05	**0.694**	0.42
Because it was my companion's wish	0.058	0.114	0.407	0.227
Factor Contribution	2.499	1.944	1.62	
Factor contribution	23.76%	11.37%	5.64%	

Factor extraction method: Maximum Likelihood, Rotation method: Promax method with Kaiser's normalization

Figure 3. **Factor Analysis of Tourist Motivation**

4.3 Travel Attitude During the Covid-19 Pandemic

Hierarchical Cluster analysis using the Ward method was conducted with 7 questions on travel attitudes during the COVID-19 pandemic. It was conducted multiple times, and three cluster classifications were selected from the dendrogram. The breakdown of the number of people in each cluster is as follows. 45 in the first cluster, 166 in the second cluster, and 33 in the third cluster. A chi-square test was performed to confirm the bias of the headcount ratios. (χ^2=71.437, df= 2, p<.001) Also, we summarize the characteristics of the three clusters based on the mean values. The first cluster is characterized by high scores for the number of trips to the COVID-19 and future travel intentions. This group was designated as the "strong travel intention" group. The second cluster is characterized by low scores for both the number of trips taken due to the COVID-19 pandemic and future travel intentions and is therefore designated as the "reluctant" group. The third cluster had high scores for the number of trips and the amount of travel expenditures compared to last year. The third cluster was designated as the "rebound demand group" because of its high scores for both the number of trips taken and the amount spent compared to last year and its high scores for future travel intentions. Figure 4 shows the breakdown by each attribute.

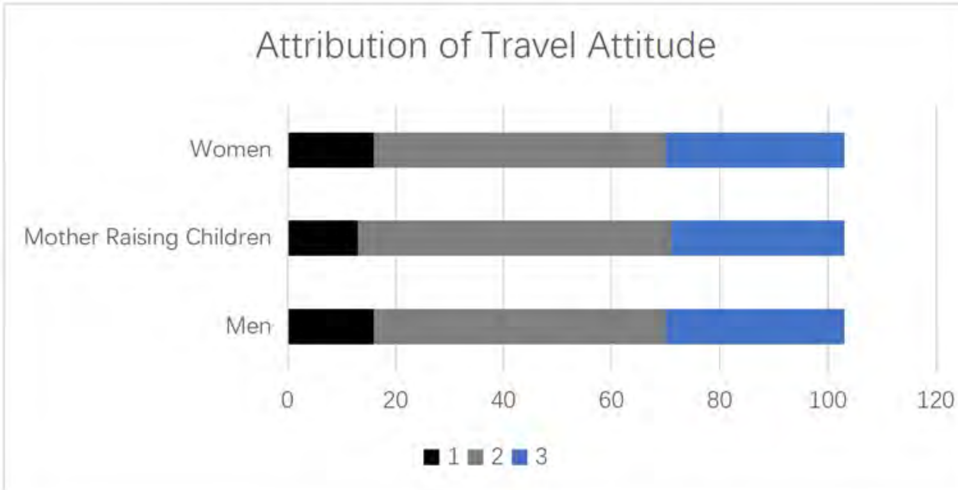

Figure 4. Attribution of Travel Attitude During the COVID-19 Pandemic

4.4. Tourism Behavior Characteristics by Sociodemographic Characteristics

Figures 5.1 and 5.2 show tourism behavior characteristics by sociodemographic characteristics and include the sub-factors developed through the factor analysis. Compared with mid-centric, psychocentric mothers raising children, allocentric mothers raising children showed a preference for shorter-distance travel and a higher frequency of travel. Allocentric mothers tended toward choosing travel destinations with sports and active leisure. In summary, allocentric mothers seemed to value short-distance travel destinations with sports and active leisure and to engage in related travels frequently during the COVID-19 pandemic.

Meanwhile, compared with allocentric mothers raising children, mid-centric and psychocentric mothers raising children exhibited relatively less travel frequency and placed a higher value on the “Traveling with Children” sub-factor. This suggests the presence of a positively inclined subgroup of mothers, which was coined the “Potential Positive Segment,” within these groups. Therefore, travel destinations with enhanced family-oriented travel experiences may be more appealing to mothers in the “Potential Positive Segment” subgroup, and finding novel ways to deliver such experiences could allow stakeholders to tap into this tourist subgroup.

We conducted a Chi-square test about the “Number of trips” and “Purpose of travel” and the results revealed significant differences among conditions as Figure 5.1 shows. Furthermore, ANOVA analysis confirmed a significant difference in the motivation factor” Travelling with Children”. ($F(5,303) = 50.29$, $p = <.001$) This result shows children are the motivation for travel, and this is more likely to be the case for psycocentric. mid-centric mothers. No significance was found for distance to destination. However, the shorter distance for allocentric mothers raising children is noticeable compared to other attributes with the same personality types.

Personality types	Allocentric			Midcentric / Psycocentric			
Categories	Men	Mothers raising their children	Women	Men	Mothers raising their children	Women	
Number of People	n=24	n=18	n=22	n=79	n=85	n=81	χ^2
Number of trips	2.29	2.3	2.09	1.58	1.47	1.74	df=20* 32.94
Purpose of travel	Sightseeing 58%	Sports/Activity28% Sightseeing 28%	Sightseeing 64%	Sightseeing 58%	Sightseeing 53%	Sightseeing 62%	df=25* 42.95
						p * <.05 p ** <.01	

Figure 5.1. Tourism Behavior Characteristics by Attribute

Personality types	Allocentric			Midcentric / Psycocentric			
Categories	Men	Mothers raising their children	Women	Men	Mothers raising their children	Women	
Number of People	n=24	n=18	n=22	n=79	n=85	n=81	ANOVA
Destination Distance	362.9km	192.83km	361.98 km	320.2km	298.03km	278.6km	*n.s*
External Factor Influence	4.15pt	3.83pt	4.1pt	3.98pt	4.09pt	3.90pt	*n.s*
Travel lover	5.53pt	5.11pt	5.47pt	5.31pt	5.46pt	5.21pt	*n.s*
Traveling with Children	2.00pt	4.94pt	1.14pt	3.25pt	5.88pt	1.58pt	$p < .001$

Figure 5.2. Tourism Behavior Characteristics by Attribute (Average)

5. Discussion and Conclusion

5.1. Discussion and implications

In this study, we found special tourism behavior patterns among Japanese mothers raising children during the COVID-19 pandemic. During the pandemic, mothers raising children were more reluctant to travel for leisure compared with women who are in other life stages. Our findings notably show that personality differs with travel behavior even if gender and life stage are matched.

As a result, the impact of the pandemic made allocentric mothers raising children prefer short-distance travel destinations with sports and active leisure activities, also known as “micro-tourism”. Underlying this kind of behavior can be considered with both to let off their children’s stress because of the pandemic-related restrictions and interests of women raising children themselves. Behind it, we consider two factors; Firstly, the primary purpose of travel being sports and activities demonstrates that travelers' focus on these activities makes long-distance journeys unnecessary. Secondly, according to UNWTO research findings, household considerations may have influenced their preference for short-distance travel.

5.2. Conclusion

During the COVID-19 pandemic, mothers raising children show differential tourism behavioral patterns according to their personality, gender, and parenting status. We found that allocentric mother tourists raising children (vs. psychocentric) displayed a distinctive tourism travel behavioral pattern characterized by traveling with higher frequency, nearer destinations, and a preference for destinations with sports and active leisure activities. The traditional models of tourism behavior and travel decision-making tend to ignore the influences of external disasters and tourist gender, personality, and parenting status. Further studies should consider the combined effects of these factors. Understanding traveler characteristics can provide useful insights for tourism marketing.

5.3. Limitations of this study and suggestions for future studies

This study conducted a cross-sectional survey with participants from West Japan. Future surveys should encompass a wider sample of mother tourists. **Furthermore, the surveys considering** seasons may influence the results. Since this study was conducted right after the COVID-19 Pandemic, it provides valuable insights that can benefit future research efforts. Overall, we should acknowledge potential gender and cultural differences in mother's travel behaviors, as Japanese mothers may be more reluctant to travel under the context of a pandemic than mothers from other regions worldwide. Future cross-cultural survey-based studies with mother tourists are warranted.

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Exploring glamping tourism in Batangas through the lens of Filipino enthusiasts: motivations, demands, and challenges

Trinidad, Ma. Cristina Q
College of Tourism, Hospitality, & Transportation Management
Polytechnic University of the Philippines

Tugade, Luzviminda O
College of Tourism, Hospitality, & Transportation Management
Polytechnic University of the Philippines

Abstract:

This research paper investigates glampers' characteristics, motivations, wants, and limitations in Batangas, Philippines. Glamping is a new trend in camping; however, limited information exists on glampers.
The study applied qualitative design, interviews with 15 glampers, and an observation checklist to evaluate the Isle of Man standards for glamping sites.
Results from the interview showed that they aimed at relaxation, novelty, social media influence, and environmental connection; therefore, their needs included high-quality goods and services and staff interactions meeting these objectives in a well-maintained environment. Additionally, a few constraints did not significantly affect their experience.

Keywords: Glamping, Travel Motivations, Tourism, Challenges, Demands, Polytechnic University of the Philippines

1. Introduction

The COVID-19 pandemic profoundly altered individuals' preferences for leisure activities, particularly favoring outdoor pursuits in expansive natural settings due to a desire to avoid crowded indoor spaces post-restrictions (Meng, 2021). For outdoor enthusiasts, immersing oneself in nature offers unparalleled joy and rejuvenation. Over recent decades, camping has surged in popularity within the outdoor hospitality industry (Sommer & Kristina, 2020). Even before the pandemic, there was a notable interest in camping among seasoned campers and novices (CCG, 2019). However, camping has evolved beyond its traditional roots into a more luxurious experience, with increased demand for upscale amenities and larger accommodations prompting the emergence of "glamping" – glamorous camping (Hrgovi et al., 2018, pp. 773-785). This trend has gained significant traction, especially in countries like the Philippines, renowned for their natural beauty (Anonymous, 2018).

The term "glamping" entered mainstream consciousness around 2004 and denotes a fusion of "glamorous" and "camping," representing a modern approach to outdoor lodging (Brochado & Brochado, 2019; Lyu et al., 2020; Craig, 2021). Glamping offers the comforts of a hotel or resort within natural settings, featuring various accommodation options such as cabins, tree houses, and tents (Brochado & Brochado, 2019; Lyu et al., 2020; Craig, 2021). While the roots of glamping can be traced back to lavish tent-like mansions in the Ottoman Empire and opulent accommodations during African safaris in the 1990s (Budiasa et al., 2019), its contemporary appeal lies in providing a high level of comfort and sophistication in nature-based tourism (Ahn & Lee, 2015).

However, glamping has sparked mixed opinions, with some lauding its blend of luxury and nature while others critiquing it for diluting the authentic experience of traditional camping (Ahn & Lee, 2015; Sommer, 2020). Glampers, distinct from traditional campers, often prioritize privacy over social interactions, seeking a fairytale-like immersion in nature rather than adventurous engagement (Ahn & Lee, 2015; Sommer, 2020). Despite its growing popularity, glamping remains relatively understudied compared to other forms of tourism, particularly regarding consumer perspectives and motivations (Hrgović et al., 2018; Scheegans, 2022; Frederick, 2022).

Recognizing this research gap, this study aims to investigate the profile, travel motivations, demands, and constraints of Filipino glampers in Batangas, Philippines. By analyzing the perspectives of glamping enthusiasts, this study seeks to provide valuable insights for glamping site owners and managers to tailor their offerings and enhance customer satisfaction. Additionally, this research will contribute to the broader understanding of glamping in the Philippines and serve as a resource for future studies.

2. Literature Review

2.1. Glamping Tourism

Glamping tourism has surged in popularity recently, appealing to individuals seeking respite from urban life while immersing themselves in nature. This emerging trend represents a departure from conventional tourism strategies, offering a novel experience that combines the allure of camping with the comfort of luxury accommodation (Göktaş et al., 2017).

Modern travelers increasingly prioritize high-quality services, unique adventures, and serene natural environments. Glamping tourism has emerged as a response to these evolving preferences, providing an alternative that caters to the desires of contemporary visitors (Bahar & Tatar, 2017). By capitalizing on the availability of diverse entertainment options in rural areas, glamping facilities offer luxurious outdoor experiences that resonate with current trends (Brochado & Pereira, 2017).

Defined by Sakáová (2013) and Yildirim & Erkilic (2019), glamping tourism is characterized by its focus on pristine natural beauty and sustainability. Sustainable glamping practices include efficient energy utilization, waste reduction, and natural resource preservation (Comino & Walter; Ergüven et al., 2015; 2019). Çelik et al. (2017) further define glamping tourism as a type of travel that blends nature-related activities with comfort and luxury, providing visitors with extraordinary vacation experiences.

Building upon these definitions, Yildirim and Erkilic (2019) characterize glamping tourism as a niche form of travel that caters to unique interests. It offers camping comfort and luxury through diverse accommodation options while seamlessly integrating with the natural environment without compromising its integrity. Moreover, glamping tourism prioritizes visitor safety, ensuring a secure and enjoyable experience amidst nature's splendors.

2.2. Tourists' Motivations for Engaging in Glamping Activities

Understanding tourists' motivations is paramount as it catalyzes embarking on a journey. While tourists may not always be consciously aware of their motivations, they play a crucial role in shaping travel decisions. Motivations stem from personal preferences, past experiences, and acquired information (Kusumaningrum & Wachyuni, 2020). According to Schneegans (2020), comprehending travel motivations is instrumental for marketing firms and management teams, enabling them to tailor tourist products and services to meet customer demands. Researchers seek to uncover tourists' motivations to establish profiles based on specific selection criteria, recognizing that tourism motivation is the driving force behind visits to tourist destinations (Dagustani et al., 2018).

While the desire for exploration remains a significant motivating factor globally, regional nuances exist. For Filipinos, travel embodies peace of mind, authenticity, relaxation, and a reprieve from the pressures of daily life (Nepomuceno, 2019). The literature distinguishes between push factors that compel individuals to vacation and pull factors that entice visitors to specific destinations. According to Petrusa and Vlahov (2019), a primary motivation for engaging in glamping activities is to immerse oneself in breathtaking natural landscapes while experiencing a unique connection with nature. Travel motivations vary widely, reflecting the diverse interests and preferences of travelers. A common underlying motive is taking a break from the routine to gain fresh perspectives (MindTheTravel, 2022). Furthermore, regional differences in motivational factors have been observed, with tourists from around the world exhibiting varying inclinations towards social engagement during travel (Kim et al., 2017).

Motivations significantly influence tourists' decision-making processes and subsequent behavior at tourist destinations. Motivated travellers are more likely to participate in activities actively and fully immerse themselves in the destination experience, contributing to their overall satisfaction (Fan & Luo, 2022). Ultimately, motivations are deeply intertwined with the individual traveller and their chosen destination, shaping their travel experiences and perceptions (Richard & Morrill, 2019).

2.3. Tourists' Demands in Glamping Sites

The emergence of the glamping trend can be attributed to the growing demand among tourists for comfort and luxury within nature-based tourism settings (Juniata P. et al., 2022). Glamping appeals to guests who have an affinity for nature but seek accommodations that offer elevated levels of comfort and service quality (Milohnić I. et al., 2019). Unlike traditional camping, glamping allows travellers to immerse themselves in outdoor experiences without the hassle of bringing their equipment while still enjoying the luxurious amenities and services typically associated with hotels (Dangel et al., 2020). Glamping provides an authentic connection with nature while offering the convenience and comforts of a hotel or private vacation home, making it an increasingly well-like and preferred activity for travellers seeking unique and memorable experiences (Kolar, 2022).

The evolution of glamping in the 21st century has been shaped by the convergence of camping trends with the desire for home-like comforts in outdoor settings (Alkonda & Shetty, 2022). As glamping offerings and demand continue to grow, there is a need for specific methods to measure service quality in these unique accommodations (Liberato et al., 2018). Travelers increasingly seek well-maintained resorts offering comfort and natural beauty, with amenities comparable to those in traditional hotels (Cveli-Bonifai et al., 2017). Camping grounds are adapting to meet the evolving demands of their clientele, incorporating amenities such as wellness facilities and sports activities to enhance the overall guest experience (Sommer, 2020).

The sustained demand for glamping across Europe underscores its significance as a distinct segment within the camping industry, attracting a diverse range of customers who may not typically engage in traditional camping activities (Sommer, 2020). This surge in domestic demand presents new opportunities for camping ground operators and the broader camping industry to capitalize on the popularity of glamping and expand their offerings to cater to evolving consumer preferences.

2.4. Tourists' Constraints in Glamping

While camping and glamping offer unique experiences and opportunities for relaxation and escapism, various constraints or obstacles can hinder the enjoyment of glampers during their trips (Katja Frederick, 2022). As defined by J. Destin et al. (2020), travel constraints impede individuals from traveling, affecting the frequency and quality of their travel experiences. These constraints do not necessarily prevent individuals from traveling altogether but can alter how they travel (Karl M. et al., 2020).

Cost emerges as a significant constraint for tourists considering glamping activities, as highlighted in the study by Filipe et al. (2018). The high cost associated with glamping, attributed to the need for high-quality amenities and spacious accommodations in limited glamping sites, dissuades some individuals from pursuing this activity (Bob, 2022). While some may view glamping as a unique occasion, affordability remains a concern for many potential glampers. Moreover, factors such as lack of knowledge about available offerings, limited options, and concerns about the authenticity of the nature experience can further deter individuals from engaging in glamping (Filipe et al., 2018). Glamping may diminish the essence of camping by minimizing opportunities for socializing with others and limiting authentic interactions with nature.

Furthermore, glamping experiences can be intrapersonal and interpersonal constraints, varying according to individuals' preferences and perspectives (Filipe et al., 2018). People may perceive and navigate these constraints differently, impacting their decision-making regarding glamping participation.

In summary, while glamping offers a luxurious outdoor experience, various constraints, such as cost, limited knowledge, and concerns about authenticity and socialization, can hinder individuals' ability or willingness to engage in glamping activities. Understanding and addressing these constraints are essential for promoting inclusivity and accessibility within the glamping industry.

3. Methodology

Qualitative research was utilized to explore the profiles, travel motivations, demands, and constraints of Filipino glampers in Batangas, Philippines, and assess selected regional glamping sites' existing products, services, and facilities. Qualitative descriptive design narrates a phenomenon, including who is involved, where and when, and why it happens (Pacific Rim International Journal of Nursing Research, 2017).

Data collection involved interviews with fifteen Filipino glampers using a questionnaire developed by the proponents. The questionnaire covered demographic profiles, travel motivations, demands, and constraints related to glamping experiences. Additionally, observational checklists were utilized to evaluate the products, services, and facilities of three selected glamping sites in Batangas based on the standards set by Visit Isle of Man.

To address ethical considerations, the questionnaire was designed to avoid overly personal inquiries, and participants' identities and responses were kept confidential. The locale of the study, Batangas, Philippines, was chosen for its proximity to Metro Manila and its popularity as a destination for leisure travellers seeking respite from urban life (Cebeda, 2022).

Purposive sampling, or judgment sampling, was employed to select participants who met specific criteria relevant to the study's objectives. This approach facilitated the acquisition of detailed insights into the phenomenon under investigation (Nikolopoulou, 2022).

Analysis of data involved ensuring the validity of the research instrument through content validity, wherein three experts in the tourism industry provided feedback on the interview questions to ensure their relevance and appropriateness. Research patterns and themes were attained through analysis of themes of the qualitative data collected through interviews and observational checklists (Braun & Clarke, 2006). This involved familiarizing the data, coding, theme generation, themes review, definition and naming themes, and writing up the findings (Delve et al., 2020). Qualitative data can be best proven through thematic analysis, which allows for a comprehensive understanding of the participants' experiences and perspectives (Kiger & Varpio, 2020).

4. Results

All participants' motivations, demands, and constraints significantly impacted the study's success. Figure 1 presents the responses of the Filipino Glampers to illustrate this interplay and its connection to glamping tourism in Batangas, Philippines.

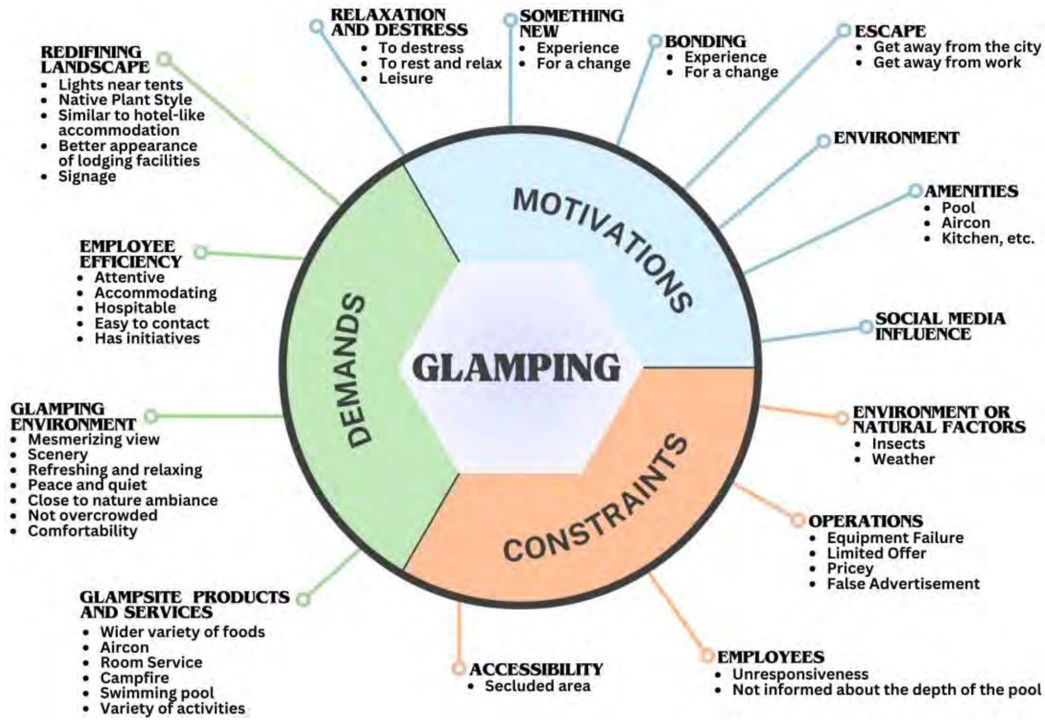

Figure 1. The Motivations, Demands, and Constraints of Filipino Glampers

4.1. Demographic Profile

Understanding the participants' demographic profile is crucial, as their responses are the cornerstone of this data analysis. Table 1 presents this information, which will be used to explore the factors influencing the overall glamping experience of Filipino glampers.

Table 1: Demographic Profile of the Participants

	Demographic Profile	Frequency (N = 15)	Percentage
Gender	Male	5	33.3
	Female	9	60
	LGBTQIA+	1	6.7
Age	18-26	5	33.3
	27-42	8	53.3
	43-58	2	13.3
	59-68	0	0
	69-77	0	0
Employment	Government	0	0
	Private Employee	11	73.3
	Self Employed	3	20
	Student	1	6.7
	Unemployed	0	0
Monthly Salary	Less than ₱12,082	2	13.3
	₱12,082 - ₱24,165	0	0
	₱24,165 - ₱48,329	5	33.3
	₱48,329 - ₱84,575	2	13.3
	₱84,575 - ₱144,985	4	26.7
	₱144,985 - ₱241,640	2	13.3
	₱241,641 and above	0	0
Fund	Savings	12	80
	Credit	1	6.7
	Money provided by parents	1	6.7
	Salary	1	6.7
Engagement	1st timer	10	66.7
	Repeater	5	33.3
Companions	Solo	0	0
	Couple	8	53.3
	Family	4	26.7
	Friends	3	20

Most participants were female (60%), aligning with studies showing greater female interest in glamping (Frederick, 2022). Most fell between 27 and 42 years old, reflecting the prevalence of Millennials among glampers (KOA, 2019; Ma, 2023). Private employees with a monthly salary of ₱24,165 to ₱48,329 dominated (73.33%), as income often influences outdoor activities (Lee et al., 2001). Most (80%) used savings to finance their glamping trip, suggesting they prioritize this unique experience (Cvelić-Bonifačić et al., 2017; French, 2023). Interestingly, over half (66.7%) were first-time glampers, highlighting the growing popularity of glamping (Gitnux, 2023). Couples (53.3%) were the most common travel companions, followed by families (26.7%) and friends (20%), potentially due to glamping's appeal to young couples (McPhee, 2019).

4.2. Motivation

Motivation, the driving force behind our actions (Moutinho, 2011; Wijaya, 2019), plays a crucial role in tourism decisions. Glamping's motivations extend beyond just visiting a location; they encompass the desire to engage in specific activities. This study analyzes interview data to explore the themes that underlie Filipino glampers' motivations for choosing glamping (Mook, 1996; Li & Cai, 2013). Figure 2 illustrates the conceptual framework that emerged from this analysis.

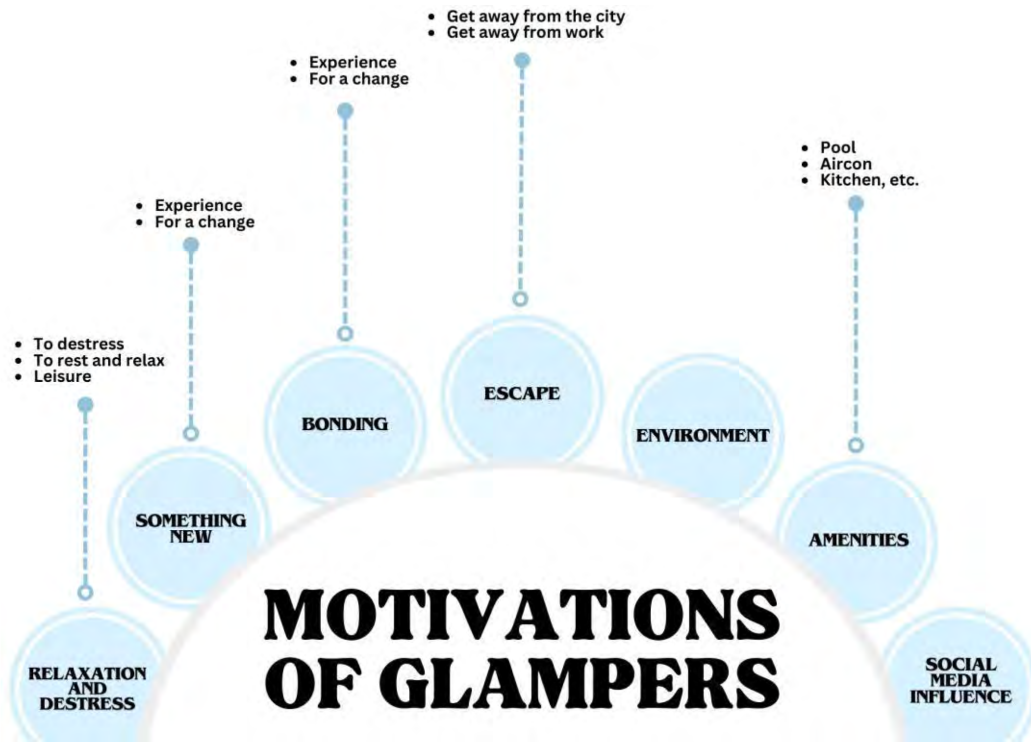

Figure 2. Motivations of Filipino Glampers

Theme 1: Relaxation and Destress

The primary motivation for Filipino glampers was relaxation and stress relief. Participants sought refuge from their stressful city lives, desiring a peaceful environment to recharge. This aligns with findings by Leci Sakáčová & Sommer (2022), who identified the need for rest and relaxation as a critical glamping motivator.

Theme 2: Try Something New

The novelty of glamping fueled another theme: trying something new. As a relatively new trend in the Philippines (Alves et al., 2021), glamping piqued participants' curiosity and desire for fresh experiences.

Theme 3: Bonding

Glamping offered dual motivations: bonding and privacy. Participants sought to connect with friends and family, aligning with findings by Van Heerden (2020), Schneegans (2022), and Sakacova (2013). However, private accommodations for glamping also appealed to some, reflecting the value placed on privacy by glampers (Filipe et al., 2018; Adamovich et al., 2021).

Theme 4: Escape

Escape from routine emerged as another motivation, mirroring findings by Filipe et al. (2018) and Adamovich et al. (2021). Participants sought a break from their daily lives, desiring to recharge and disconnect from work pressures.

Theme 5: Environment

Connecting with nature was another key motivator. Glamping offers an escape into nature's restorative environment, potentially promoting well-being and reducing stress (Robbins, 2020). Like Filipe et al. (2018), participants were drawn to the accessibility of nature that glamping provides.

Theme 6: Amenities

Participants prioritized glamping's amenities for their vacation, valuing comfort over traditional camping's self-reliance. This aligns with Sun & Huang's (2023) view of glamping: it merges aesthetics, desired comfort levels, and unique tourist experiences.

Theme 7: Social Media Influence

Social media heavily influences travel planning today. It is a prime information source (Roque & Raposo, 2016; Mantiki-Manyevere & Kruger, 2019), particularly for new travelers who rely on it for decision-making (Zivkovic et al., 2017; Mantiki-Manyevere & Kruger, 2019). This study reflects this trend, with participants mentioning social media as their inspiration for glamping.

4.3. Demands

Glamping caters to those who crave the beauty of nature but also desire comfort and upscale experiences. This unique accommodation style would not exist without the demand for plush amenities, professional service, and a personalized touch (Sakáčová, 2013; Petruša & Vlahov, 2019). Luxury goes beyond just the accommodation itself; it encompasses attentive staff, high-quality service at all levels, and a focus on making guests feel special.

However, glamping's appeal extends beyond just luxury. It fulfills a variety of travel motivations. People seek escapism, relaxation, and a chance to focus on personal wellness (Brooker & Joppe, 2013; Milohnić et al., 2019). Glamping also satisfies the curiosity for unique accommodation and the desire for adventure and social connection (Boscoboinik & Bourquard, 2012; Petruša & Vlahov, 2019).

Figure 3. Demands of Filipino Glampers

Theme 1: Redefining Landscape

Exceptional glamping hinges on thoughtful site design. It caters to the desire for a luxurious nature connection, offering modern comforts without sacrificing wilderness immersion (Twose & Perkins, 2017). Studies reveal that Filipino glampers prioritize landscape enhancements, seeking better lodging facilities focusing on comfort and aesthetics (Twose & Perkins, 2017). This aligns with a 2019 Croatian survey where guests valued an appealing natural environment and glamping site location most, followed closely by comfort (Altexsoft, 2022). These findings highlight the importance of designing glamping sites that seamlessly integrate with the surrounding landscape, prioritizing aesthetics, and comfort.

Theme 2: Glamping Environment

Glamping offers a welcome escape from the daily grind, enticing travelers with stunning scenery and a stark contrast to the urban rush (Brochado, 2019). Filipino glampers, particularly those in Batangas, seek luxury and an immersive natural experience with breathtaking scenery and a peaceful ambiance (reference study needed). Studies by Sakáčová (2013) and Petruša (2019) further emphasize the desire for complete relaxation and a tranquil environment. Glampers crave privacy, a connection with nature, and the chance to engage in outdoor activities surrounded by a serene, uncrowded atmosphere. This escape to nature ultimately leads to mental refreshment and rejuvenation, fulfilling critical aspects of a satisfying glamping experience.

Theme 3: Employees Efficiency

Glamping success hinges on exceptional staff. Frontline employees play a critical role, like those in the broader tourism industry (Akarsu et al., 2022). They must consistently provide friendly, compassionate service, going the extra mile to fulfill guest needs. As Kristina Evey of AmazingServiceGuy highlights, emotions heavily influence customer satisfaction (Zendesk, 2022). Guests gravitate towards staff who are welcoming, approachable, and radiate positive energy.

Another key ingredient is the initiative. Guests appreciate proactive staff who anticipate and address their needs, minimizing the need for frequent requests (Akarsu et al., 2022). Attentiveness further elevates the experience, ensuring guests have a truly memorable glamping stay.

Theme 4: Glamping Sites' Products and Services

While luxurious accommodations in a peaceful setting are essential, glamping sites must extend their offerings to attract guests. Various products and services significantly influence glamping site selection (Exceltur, 2015; Losada et al., 2017). Studies show that a broader range of activities increases guest satisfaction and longer stays (Lado-Sestayo et al., 2016). Filipino glampers seek diverse experiences beyond just comfortable lodging (reference study needed). Like hotel guests who appreciate room service (Xenia, 2023), some Filipino glampers value the convenience of on- site dining options.

Understanding guest expectations regarding services and amenities is crucial for developing products that cater to their desires (Hrgovic, 2019). Glamping thrives on providing everything for a comfortable stay, including air conditioning and other desired amenities. However, to truly stand out, glamping sites must go beyond basic comfort and offer various experiences catering to guest interests.

4.4. Constraints

Filipino glampers identified several constraints that impacted their glamping experiences.

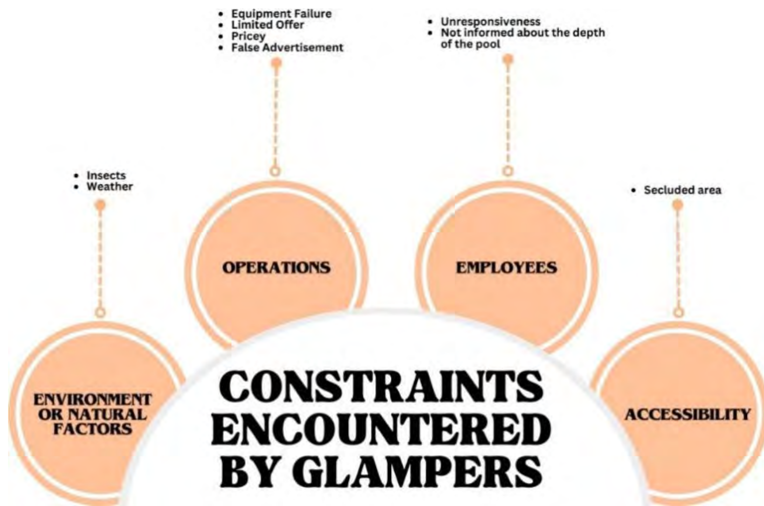

Figure 4. Constraints Encountered by Filipino Glampers

Theme 1: Environment/Natural Factor

Filipino glampers highlighted two key environmental constraints:

Mosquitos: Some participants were concerned about mosquitos, which are expected in natural settings with abundant vegetation. However, glamping sites often mitigate this by providing insect repellent, minimizing the impact on the overall experience.

Weather: Unfavorable weather like rain could disrupt planned activities like bonfires or outdoor photography. Fortunately, glamping sites typically offer alternative indoor activities or experiences that allow guests to enjoy the rain from the comfort of their accommodations.

These examples demonstrate that while environmental factors can present challenges, glamping sites can often implement solutions to minimize their impact and ensure a positive guest experience.

Theme 2: Employees

Filipino glampers identified two areas where employee performance could be improved:

Limited Online Booking Support: Relying solely on automated responses on the glamping site's online platform can frustrate guests seeking personalized assistance. Providing clear channels for inquiries and ensuring timely responses from human representatives would enhance the booking experience.

Incomplete Information Sharing: Some participants were concerned about omissions regarding safety details, such as pool depth. Glamping sites should ensure all essential information, including safety precautions and facility details, is readily available to guests through booking materials and staff communication. This promotes a more informed and secure glamping experience.

Theme 3: Operations

Filipino glampers identified several constraints that could limit the broader appeal of glamping:

High Cost: Eremic (2020) points out that glamping's luxurious nature can be a barrier for some social classes. The cost may not be accessible to everyone, potentially hindering broader participation.

Misleading Online Advertising: Inaccurate online portrayals can create unrealistic expectations. Participants mentioned photos that significantly misrepresented the glamping site's qualities, leading to disappointment upon arrival. This highlights the need for truthful and transparent advertising practices within the glamping industry.

Limited On-Site Amenities: The remote locations of some glamping sites can restrict access to necessities. Participants suggested that glamping sites consider offering a more comprehensive range of on-site amenities to cater to guests who may not have personal vehicles. This could enhance convenience and address potential limitations associated with remoteness.

These constraints offer valuable insights for glamping operators. Addressing affordability concerns, ensuring honest advertising, and expanding on-site amenities can broaden glamping's appeal and attract a more diverse clientele.

Theme 4: Accessibility

Accessibility emerged as a critical constraint for Filipino glampers, particularly regarding remote glamping sites. Here's a breakdown of the challenges and how some addressed them:
Remote Locations, Limited Signage: The secluded nature of some glamping sites presented difficulties. Limited signage and a lack of alternative routes on access roads could frustrate guests.

Navigation Assistance: Some participants fortunately received help from locals who guided them on alternate routes. This highlights the potential value of glamping sites partnering with local communities to improve accessibility and signage.

Positive Experiences Outweigh Challenges: While some participants encountered accessibility issues, others enjoyed problem-free experiences at their chosen glamping sites. This suggests that exceptional service and beautiful locations can outweigh specific logistical challenges.
Overall, these experiences highlight the importance of clear signage and potentially forging partnerships with local communities to enhance accessibility for glampers venturing into remote locations.

Additional Constraints:
While not universally experienced, some participants mentioned weather and cost as constraints. However, the positive aspects of glamping often outweighed these concerns. The weather is a natural occurrence, and the price became justifiable after experiencing the unique benefits of glamping.

Observational Checklist

The researchers utilized an observational checklist to gather detailed data on the products and services offered by the three glamping sites in Batangas, Philippines. A table summarizing these offerings is presented in Table 2.

Table 2: Product and Services Offerings of the Selected Glamping Sites

	Glamping Site		
	A	B	C
A. Code of Conduct			
A.1 Employees			
Provides directions and information about points of interest around the site	✓	✓	✓
Answer inquiries politely and with accurate information	✓	✓	✓
Provide guests with consistent and high standards of courtesy and hospitality	✓	✓	✓
Offers extra service without having the guest ask for it		✓	✓
B. Accommodation, Amenities, and Services			
B.1 Room			
Comfortable and clean beds, mattresses, and pillows with fresh linen are provided	✓	✓	✓
One pillow with a cover is provided for each guest	✓	✓	✓
Provide suitable and sufficient lighting that can be used at all times	✓	✓	✓
The room door is built with a lock		✓	✓
Power sockets are readily available	✓	✓	✓
The room has proper ventilation (Air Conditioner, Electric Fan, etc.)	✓	✓	✓
Features a cabinet, dresser, or clothes hooks			
The kitchen is well presented with ample space and storage and easy-to-use equipment (if applicable)		✓	✓
B. 2 Bathroom			
Present a clean toilet and bath with an adequate supply of clean water	✓	✓	✓
Comes with high-quality or locally-made toiletries	✓	✓	✓
Have something unconventional and experiential such as a bathtub under the stars or an outdoor shower	✓		
Have separate, clean, presentable, and properly functioning restrooms for males, females, and LGBTQIA +			

Shared facilities with lighting at all times	✓	✓	✓
Equipped with a hot and cold shower	✓		
B. 3 Food and Beverage			
Offers dining facilities such as restaurants and cafes	✓	✓	✓
Offers farm produce and serves breakfast	✓		
Integrates a proper and clean way of presenting foods	✓	✓	✓
C. Exterior			
Established with suitable and sufficient lighting	✓	✓	✓
Features pathways and signages leading guests to attractions	✓		✓
Landscape and attraction are well maintained	✓	✓	
Offers free and fast internet to guests	✓	✓	
Provide free parking for guests	✓	✓	✓
Present aesthetic and easy to the eyes decoration	✓	✓	✓
The location of the glamping site is easily accessible from the main highway	✓		
D. Activities			
A swimming pool that the guests have access to	✓		✓
Features a campfire area	✓	✓	✓
Offers outdoor recreation activities such as hiking, fishing, kawa hot bath, etc.			
Provide a perfect spot for stargazing	✓	✓	✓
Offers various adventurous activities such as zipline, wall climbing, banana boat, island hopping, etc.			
E. Safety Measures			
A readily accessible and well-stocked first aid kit with complete medical supplies is provided on the site	✓	✓	✓
If the Glamping site is situated near a lake, river, or sea, suitable life-saving equipment is provided			
Equipped with clean and non-slippery floors	✓	✓	✓
Guests are advised by notice of any other identified hazards/risks specific to the site (e.g., flood risk, overhead cables, etc.)			
Emergency evacuation or fire exit plan is posted in each guest's room			
Fire extinguishers are installed in strategic areas	✓	✓	✓
F. Cost			
Make clear to visitors exactly what is included in all prices quoted for accommodation, meals and refreshments, including cancellation charges or taxes	✓	✓	✓
Details of charges, if any, for additional services or facilities available are made clear, also if payment is to be made in advance	✓	✓	✓
Prices provided are at reasonable price and affordable for all walks of life			
Guest experiences are factual to the price given	✓	✓	✓

Glamping Sites Evaluated for DOT Accreditation

This study assessed three glamping sites in Batangas, Philippines, currently seeking accreditation from the Department of Tourism (DOT). The researchers employed the Isle of Man's "Glamping Commons Standards" to evaluate the following aspects offered by each site:

Code of Conduct

Accommodation (tent type, cabin style, etc.) Amenities and Services

Exterior Design Activities Safety Measures Cost

Glamping Site Descriptions

Glamping Site A (Balayan, Batangas): Offers luxurious bell tents, providing a premium hotel experience amidst nature.

Glamping Site B (Nasugbu, Batangas): Features tranquility-inspired bahay kubo-inspired triangle cabins for a serene vacation.

Glamping Site C (Batangas): Provides dome accommodations surrounded by nature, complete with private pools, creating an intimate oasis.

These glamping sites fulfilled the researchers' criteria and granted permission for on-site observations.

5. Discussion and Conclusion

5.1. Discussion and Implications

This study explored the growing trend of glamping in the Philippines, focusing on Filipino glampers' profiles, motivations, preferences, and challenges. Here are the essential findings and their implications:

Glamper Profile: Filipino glampers are well-educated, employed professionals, with millennials and females being the most active participants. This suggests the potential for targeting specific demographics with marketing campaigns.

Motivations: The primary motivation for Filipino glampers is reconnecting with nature in a luxurious setting. This highlights the importance of natural environments and upscale amenities for glamping sites.

Preferences: Glampers seek upgrades in facilities, staff service, activity options, and a desire for the glamping experience to enhance their overall well-being. Glamping businesses should prioritize these aspects to optimize customer satisfaction.

Challenges: While equipment failures, limited information, and logistical issues were encountered, most glampers viewed them as part of the experience and did not significantly impact their enjoyment. However, addressing these constraints can further improve the glamping experience.

5.2. Conclusion

Glamping offers a unique travel option for Filipinos seeking a luxurious, nature-focused experience. Understanding Filipino glampers' profiles, motivations, and preferences allows glamping businesses to tailor their offerings and marketing strategies for a more prosperous future.

5.3. Limitations of this Study and Suggestions for Future Studies

This study focused on Filipino glampers in Batangas. Future research could: Investigate the profile and motivations of foreign glampers in the Philippines.

Analyze the profile of glamping businesses in the Philippines and their service offerings.

Explore the use of existing tourism behavior models to understand glamper motivations more deeply.

Research glamping constraints using established frameworks to gain richer data.

By addressing these limitations, future studies can contribute to a more comprehensive understanding of the glamping phenomenon in the Philippines.

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Leisure capital: Conceptualization and scale development

Chang-Hua Yen
Department of Leisure and Recreation Management
National Taichung University of Science and Technology

Cheng-Hsien Tsai
Department of Leisure and Recreation Management
National Taichung University of Science and Technology

Cheng-Shiung Wu
Department of Hotel and Restaurant Management
Chia Nan University of Pharmacy & Science

Shu-Chin Wu
PhD Program in Strategy and Development of Emerging Industries
National Chi Nan University

Xin-Qiao Lee
Department of Marketing and Tourism Management
National Chiayi University

Abstract:

This research aims to conceptualize leisure capital, and develop a scale for leisure capital. A focus group and content analysis were used to generate preliminary items. Subsequently, two surveys were administered, one after the other. The first and second surveys involved 343 and 387 respondents who participated in serious leisure and the public, respectively. The items were then subjected to purification and analysis. This procedure resulted in a reliable and valid leisure capital scale comprising six dimensions and 24 items.

Keywords: Capital, Leisure Capital, Conceptualization, Scale Development

1. Introduction

Bixler and Morris (1998) were among the first to apply the concept of capital to the leisure domain and defined outdoor capital as the accumulation of outdoor experiences within social groups. Additionally, cultural capital and social capital are more frequently discussed by leisure scholars (Griffin & Glover, 2023; Horolets et al., 2019). Cultural capital refers to an individual's preferences and tastes for specific cultural practices, possessing and appropriately applying the necessary abilities and knowledge about different cultural goods (Taheri et al., 2014). Social capital, on the other hand, represents the resources and benefits accrued and accumulated through social networks in leisure activities, aimed at pursuing specific interests or goals (Forsell et al., 2020). Cultural capital mainly involves cultural goods and activities (Bixler & Morris, 1998), whereas social capital primarily resides in the social networks associated with the leisure activity contexts (Forsell et al., 2020). Both concepts relate to the types of activities or leisure contexts engaged in, but cannot be generalized to all leisure activities.

Bradford and McNamara (2007) posited that leisure capital includes an individual's knowledge, skills, and capacities. Roberts (2012) highlighted that leisure capital encompasses skills, tastes, and interests—three types of assets foundational to constructing one's leisure life. Backlund and Kuentzel (2013) argued that leisure capital, encompassing the skills, commitments, and social networks required throughout a leisure career, can be stored for future use as one's leisure career progresses. This underscores the significant impact of leisure capital on an individual's participation in leisure activities and the development of their leisure career. However, scholars have not delved further into the concept of leisure capital, leaving its conceptual definition and content somewhat undefined.

In addition, Pitas et al. (2020) focused on the social capital in community health centers, measuring it through components such as center-based social leverage, center-based social support, and center-based bridging social capital. Forsell et al. (2020) examined the social capital in recreation and sport club settings, including aspects like friendly acceptance, norms of behaviors, trusting reciprocity, and governance. However, the scales developed by Pitas et al. (2020) and Forsell et al. (2020) are from the perspective of the leisure context, measuring the social resources and benefits an individual can obtain from participating in social networks, rather than originating from the participants themselves. Furthermore, the leisure capital an individual needs and accumulates involves a broader spectrum of capitals, including technical, psychological, economic, cultural, and social aspects.

Reviewing the literature, although scholars have proposed measuring instruments for capitals related to leisure activities (Forsell et al., 2020; Pitas et al., 2020), these scales mainly focus on cultural and social capitals, yet the scope of leisure capital is much broader. This indicates that past leisure field scholars' developed capital scales might not effectively and comprehensively measure leisure capital. Additionally, previous measurement tools primarily originated from the perspective of leisure activity contexts, not the participants themselves. Therefore, the purpose of this study is to develop the concept and scale of leisure capital. The findings of this study can contribute to the knowledge domain of leisure and recreation and provide practical implications for future leisure activity choices and arrangements, leisure activity planning and design, promotion of health through leisure activities, and the formulation of government leisure policies.

2. Methodology

2.1. Focus group interviews

This study selected 30 serious leisure participants from activities such as ball sports, fitness, mountaineering, cycling, diving, dance, flower arranging, fishing, photography, and volunteering as interviewees. Among the general population, residents over 18 years old from Taipei, Taichung, and Kaohsiung were chosen as subjects for in-depth interviews, with 10 individuals selected from each city, totaling 30 participants. We organized six focus groups, each comprising 6 to 8 individuals. The interviews lasted approximately one and a half to two hours and were conducted from June 2022 to August 2022. Following the conclusion of the focus group interviews, the recorded audio was transcribed into textual data, amassing a total of 385 pages of transcribed data. The data obtained from the focus group interviews were then organized and analyzed using content analysis, yielding 248 analytical units. Based on the principles of content analysis, these 248 units were categorized and named, further dividing them into 25 preliminary items.

2.2. Data collection (one) and purification of measures

Following the content analysis of the initial 25 items, a preliminary leisure capital questionnaire was designed using a Likert five-point scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The first survey (Sample 1) and item refinement process were conducted among serious leisure participants in mountaineering, cycling, and diving, with 150 questionnaires distributed for each activity type. The first round of sample collection took place from October 1 to December 31, 2022, with a total of 450 questionnaires distributed. A total of 386 questionnaires were collected, of which 343 were deemed valid. The sample consisted of female, accounting for 55.4%, and married individuals, at 61.5%. The age group with the highest representation was 46-55 years, accounting for 30.6%, followed by 36-45 years, at 17.5%. The majority of respondents had an educational background of university or college, representing 59.8%.

The data were subjected to exploratory factor analysis, which resulted in six factors with eigenvalues greater than 1. The Kaiser-Meyer-Olkin (KMO) measure was 0.94, and the Chi-square statistic was 6969.92, significant at the $p<0.01$ level. The initial 25 items were reduced to 24 items with greater explanatory power. Based on the naming process of the items under each factor, the six factors identified were cultural capital (5 items), social capital (5 items), economic capital (3 items), technical capital (3 items), psychological capital (5 items), and physical capital (3 items). Cultural capital refers to an individual's knowledge and taste, tangible items or cultural goods possessed, and educational achievements and credentials. Social capital pertains to the interpersonal relationships and social networks constructed by leisure participants, from which relevant resources and benefits can be obtained and accumulated. Economic capital includes the income, property, or assets possessed by an individual engaging in leisure activities, as well as the equipment or materials required for participation. Technical capital refers to the techniques and skills possessed by an individual in leisure activities. Psychological capital denotes the positive psychological qualities or states developed through participation in leisure activities. Physical capital relates to the physical condition and functions of an individual engaging in leisure activities.

2.3. Data collection (two) and reanalysis of measures

To enhance the generalizability of the scale developed from the first study phase and make it applicable to participants of all types of leisure activities, this research targeted the general population aged 18 and above from the three metropolitan cities of Taipei, Kaohsiung, and Taichung. Using quota sampling, 150 individuals from each city were selected for the questionnaire survey. The second sample collection occurred from February 1 to April 30, 2023, with 450 questionnaires distributed, 412 collected, and 387 validated. The sample consisted of female (52.2%) and married individuals (51.7%), with the largest age group being 46-55 years (25.3%), followed by 36-45 years (19.9%); the majority of respondents had attained university or college education levels (48.2%).

In the six-factor model of leisure capital, the 24 items showed a Cronbach's alpha range of 0.81 to 0.93, and the composite reliability (CR) values ranged from 0.81 to 0.93, exceeding the recommended threshold of 0.70 (Bagozzi & Yi, 1988). Model fit indicators were as follows: χ^2=751.157, df=217, $\chi2$/df=3.46, $p<0.001$, GFI=0.92, AGFI=0.90, SRMR=0.05, RMSEA=0.08, NFI=0.92, CFI=0.94, IFI=0.94, all above the standards recommended by Hair et al. (2010). Additionally, the average variance extracted (AVE) values for each dimension exceeded the standard value of 0.5, indicating convergent validity of the scale. The square roots of the AVE values ranged from 0.80 to 0.84, all higher than the correlations between dimensions (Fornell & Larcker, 1981), showing the scale has good discriminant validity. The leisure capital scale's six dimensions and 24 items were confirmed as a formal questionnaire for measuring leisure capital. This scale has been named the "Leisure Capital Scale".

3. Discussion

3.1. Conclusions

Through a rigorous process, this study has developed a reliable and valid Leisure Capital Scale, encompassing six dimensions: cultural capital, social capital, economic capital, technical capital, psychological capital, and physical capital, with a total of 24 items. This scale serves as an effective tool for measuring the leisure capital of participants. The study extends the conceptual and theoretical foundation of leisure capital proposed by Backlund and Kuentzel (2013), offering a comprehensive understanding and content of leisure capital. This addresses gaps in the existing knowledge domain of leisure management (e.g., Forsell et al., 2020; Pitas et al., 2020) and provides a valuable theoretical basis for the field of leisure capital. The developed Leisure Capital Scale can facilitate future quantitative research by scholars investigating participants in leisure activities, providing a theoretical foundation for subsequent studies on causal relationships within the domain of leisure capital.

3.2. Implications

The Leisure Capital Scale developed in this study offers a means for participants in leisure activities to conduct self-assessment and evaluation. By inventorying their leisure capital, individuals can choose the types of leisure activities that suit them best. Leisure participants can use the results of the assessment to adjust their leisure activities, methods, and frequency based on the leisure resources and assets needed for long-term engagement, facilitating the development of their personal leisure careers. Moreover, leisure service providers can utilize the Leisure Capital Scale to conduct surveys among participants, gauging their levels of leisure capital. By using the scores from this scale, providers can categorize participants and offer leisure activities tailored to the different levels of leisure capital, enhancing the fit between participants and activities, thereby increasing leisure satisfaction and benefits. This scale can also assist governmental agencies in examining the state of national leisure capital, thereby improving the overall quality of leisure life for citizens and formulating appropriate leisure policies to build a comprehensive support system for leisure.

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