Are unmanned smart hotels *du jour* or are they here forever? Experiential pathway analysis of antecedents of satisfaction and loyalty

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Abstract

Unmanned hotels are regarded as the future of hospitality in a post-Covid 19 world, based upon smart, contactless technologies. The purpose of this research was to determine if unmanned smart hotels create more positive outcomes such as enhanced experiential satisfaction and loyalty. Grounded on Cognitive Appraisal Theory, scholars support the notion that psychological states such as experiential motivation and confidence enhance outcomes. An online survey was conducted with 364 guests of unmanned smart hotels. Structural equation modeling results with partial least squares path analysis indicated that experiential quality, confidence, motivation, and satisfaction were positively associated with loyalty. Several recommendations were provided for the unmanned smart hotel literature and practices with regards to improving the effectiveness of guest experiences.

Keywords: Unmanned smart hotels; experiential quality; motivation; confidence; satisfaction; loyalty

1. Introduction

In 2020 and 2021, the coronavirus pandemic (COVID-19) was the main topic for discussion in traditional and social media across the globe. This pandemic resembled a "Black Swan Event" – an unforeseen event that changes the world (Mazzoleni et al., 2020). To prevent the spread of the COVID-19 virus, national lockdowns and social distancing were implemented worldwide and devastated many aspects of life, including the global economy and social well-being. Of all economic sectors, tourism and hospitality were among the most vulnerable that experienced the greatest negative impact according to UNWTO (2020). The *UNWTO World Tourism Barometer* estimated a loss in tourism export revenues of up to 935 million US dollars (UNWTO, 2020). COVID-19 is affecting the DNA of hospitality at its core (Rivera, 2021). Most hotels experienced catastrophic economic impacts with revenues expected to decline by around 60-65% according to Trip.com's first quarter announcement (Deloitte, 2020). Hence, it became imperative that hoteliers adapt their operations to the "new normal" to revive business levels during COVID-19 while rebuilding traveler confidence.

Kim et al. (2021) suggested that the implementation of smart technologies (STs) including artificial intelligence, robotic butlers, virtual assistants, and image-recognition support systems, will become the greatest enabler in effectively eradicating close contact among travelers post COVID-19. To provide timely and consistent business operations, it is unsurprising that 25% of routine tasks in tourism and hospitality services will be displaced by various STs by 2023 (Ransbotham et al., 2017). Their key purposes are to improve guest satisfaction, provide personalized experiences (Chan and Tung, 2019), sustain competitive advantage, and lower operating costs while maximizing revenues (Jiang and Wen, 2020).

The unmanned smart hotel is a surging trend for serving guests without the direct involvement of staff (Shin and Perdue, 2019). This is a form of "technological interfaces that allow guests to produce a service without the intervention of a direct service employee" (Shin and Perdue, 2019). Worldwide, many hotels have increased investment in and deployment of STs in many routine tasks such as self-checking-in/checking-out systems, robots, adjusting room temperature, offering information, smart speakers, calling room service, and self-service ordering (Shin and Perdue, 2019; Ivanov et al., 2019). Being "unmanned" allows businesses to operate for 24-hours with no human staff throughout the whole operating system (Wu et al., 2019). Some ongoing successes with unmanned smart hotels are the Henn-Na Hotel, the world's first unmanned smart hotel located in Nagasaki, Japan (Zeng et al., 2020), and FlyZoo hotel in Hangzhou, China (Liu and Hung, 2021). Several leading hotel groups including Hilton

Worldwide, InterContinental Hotels Group (IHG), and Marriott International have also introduced these technologies into their operations. Moreover, the COVID-19 pandemic has pushed hoteliers to start implementing “unmanned” hotel services as a risk-reduction approach and potential panacea to alleviate virus spread risks (Shin and Perdue, 2019). Jiang and Wen (2020) confirmed that the pandemic accelerated high-technology and self-service offerings in over 3,000 of China’s hotels since 2020.

Law et al. (2020) pointed out that the digitalization and greater intelligence of STs in hospitality represent a prominent future trend. Specifically, the main purpose of ongoing research studies is to ensure that STs are designed to effectively execute certain tasks. For examples, scholars have examined multisensory cues, anthropomorphism effects, and levels of interactivity (Shin and Perdue, 2019; Murphy et al., 2019). Several studies have examined the determinants that influence perceived value (de Kervenoael et al., 2020), perceived service quality (Choi et al., 2020), adoption intention via the technology acceptance model (TAM), and willingness to accept using the unified theory of acceptance and use of technology (UTAUT) (Shin and Perdue, 2019). Methodologically, most works are based on engineering and experimental approaches, as well as being conceptual in nature (McCartney and McCartney, 2020; Ivanov et al., 2019).

To advance the extant literature, this research examined if guest perceptions of experiences with unmanned smart hotels can be maintained long-term. Tourism and hospitality are experience-based service sectors centered around guest experiences and connection with people (Shin and Perdue, 2019). Kandampully and Solnet (2015) defined experience as the interactions between guests and service providers from pre- to post-consumption. Therefore, experience is more than the consequences of a single meeting, instead, it is influenced by every interaction. Oh et al. (2007) argued that travelers today expect unforgettable experiences that improve the quality of vacations. Academicians and practitioners have increasingly recognized the significant role of experiences in satisfaction and loyalty (Girish and Chen, 2017). However, limited empirical research has provided nuanced reasoning about how unmanned smart hotels can effectively develop long-term relationships with existing and potential guests. The purpose of this research was to fill this gap by examining how experiential outcomes (satisfaction and loyalty) with unmanned smart hotels are formed by a holistic process including perceived innovativeness, experiential quality, and psychological states (motivation and confidence).

As technologies become increasingly innovative, guest demands change and intense market competition makes it crucial for hoteliers to offer exceptional services tailored to guest expectations (Wu et al., 2019). Providing high levels of experience is significant when guests purchase hospitality services with expectations of convenience, trendiness, and fun or entertainment. The ability to satisfy guest expectations is a central component for revenue generation and differentiation of services (Wu and Li, 2017). Also, it is essential to consider guest psychological states when predicting behaviors. Cognitive appraisal theory (CAT) posits that individual evaluations are often the result of the experiences that have gained (Godovykh and Tasci, 2020). Favorable emotions elicited in response to external stimuli can generate significant effects that encourage long-term consumption in hospitality and tourism. This research incorporated psychological state variables (experiential motivation and confidence) as mediating factors causing individual behavior. The findings are expected to provide substantial insights for hoteliers in the development of effective strategies, particularly for managing unmanned smart hotels.

There were two research objectives; first, to fill knowledge gaps by encapsulating the interrelationships of perceived innovation factors, experiential quality, psychological states as well as outcomes from the perspective of CAT. Second, a comprehensive model was proposed delineating the psychological pathways leading to desirable results for unmanned smart hotels, that is experiential quality (experiential loyalty and satisfaction) through the development of psychological states (experiential motivation and confidence). The research was designed to enhance understanding of how external stimuli elicit positive or negative responses (Lazarus, 1991) based on guest experiences with STs in unmanned smart hotels. The findings will assist hoteliers in formulating effective strategies to enrich guest expectations and gain differentiation advantages in the new smart hotel arena.

2. Theoretical foundation

2.1 Cognitive appraisal theory (CAT)

Cognitive appraisal theory (CAT) is a reliable theoretical foundation for explaining why and how people respond to external stimuli from a psychological perspective (Ma et al., 2013). Initially, Arnold (1960) proposed the term "appraisal" to comprehend the elicitation of various emotions. CAT suggests that positive or negative emotions or responses are generally based on individual evaluations and experiences, using various appraisal dimensions (Lazarus, 1991).

Regarding CAT, some scholars have argued that emotions are the dominant factor affecting consumption-related behavior (Li et al., 2015). Others point out that reactions are not automatic responses, but rather the result of subconscious mental assessments that correspond to people's characters (needs, wants, goals, and past knowledge) (Cai et al., 2018). Therefore, the evaluation process can be classified into two different phases. First, a primary appraisal, in which the individual evaluates each stimulus according to the congruence and relevance of the goals. If the stimulus is considered disruptive and incongruent with personal goals, a secondary appraisal involving cognitions and negative emotions will be initiated (Ma et al., 2013; Choi and Choi, 2019). Second, individuals evaluate a variety of coping strategies and adopt the most appropriate ones for their behavioral responses to problems (Manthiou et al., 2017). Thus, individual behavioral intentions are determined based on an assessment process that begins with initial cognition (primary assessment) and progresses through further cognitive and emotional assessments (secondary appraisal) (Cai et al., 2018).

CAT has been applied and validated in various settings including psychology, marketing, hospitality and tourism (Choi and Choi, 2019; Li et al., 2015). Manthiou et al. (2017) suggested a multidimensional model to examine appraisals that trigger repurchase intentions concerning luxury cruise experiences. Ma et al. (2013) studied the determinants influencing tourist delight based on theme park experiences supported by CAT. Rivera et al. (2019) empirically investigated the interrelationship between affective and cognitive dimensions of tourists' positive states of delight.

CAT has the potential to bridge literature gaps related to unmanned smart hotels. First, this theory offers a holistic understanding, incorporating how internal stimuli elicit positive or negative responses (Lazarus, 1991). It is suggested that individual innovativeness might be an internal stimulus affecting guest assessments of unmanned smart hotels. Recent research demonstrates that many technological innovations have transformed how people adapt to new services and suggests individual innovativeness as a theoretical cornerstone to understanding flexibility in the use of services (Ciftci et al., 2021; Tussyadiah, 2020). This innate innovativeness is expected to provide an explanatory basis for understanding how a person assesses the overall performance of innovations (Goldsmith and Hofacker, 1991). Ngo and O'Cass (2013) emphasized that it is important for scholars to propose a theoretical model to investigate non-technical developments and their effects on perceived quality. This research examined perceived innovativeness to advance the unmanned smart hotel literature. It was proposed that three components (trendiness, time-saving, and hedonic-seeking experience) influence perceptions of experiential quality in unmanned smart hotels.

Second, CAT provides an in-depth explanation of how psychological states operate when guests evaluate hospitality experiences based on defined appraisal dimensions (Choi et al., 2011). Arnold (1960) suggested that psychological states are the missing link between external stimuli and behavior when evaluating the performance of products and services. Thus, it is appropriate to include experiential motivation and confidence as mediating the path between experiential quality and outcomes. The psychology literature affirms that human behavior is purposeful and goal-driven, with individuals always performing towards some end (Barbopoulos and Johansson, 2016). Motivations are considered cognitive resources that direct and help people to identify viable means to fulfill active goals (Forster et al., 2007). Motivations may be central to the behavior of guests when responding to unmanned smart hotels. It has been observed that individuals sometimes lack the confidence to make optimal choices, especially related to tourism and hospitality, owing to COVID-19 (Uzuner and Ghosh, 2021). This provides a strong justification to consider "experiential confidence" as part of the psychological states that enhance the linkage between experiential quality and loyalty. Early research has consistently demonstrated that confidence is a cognitive component that triggers an action (loyalty, repurchase intention, satisfaction, etc.), as it is often acquired from positive experiences (D'Souza et al., 2021). People feel more comfortable performing actions when they have more confidence. Therefore, it is believed that experiential confidence reflects subjective evaluations of the ability to create positive experiences as a guest of unmanned smart hotels.

Third, CAT integrates the secondary appraisal stage that enhances explanatory rigor in the understanding of appraisal dimensions (Cai et al., 2018). This is useful because the evaluative process is determined by the characteristics of particular hospitality environments. These complex cognitive events require guests to perform a series of secondary appraisals to determine their next responses (Cai et al., 2018). All three experiential factors (quality, motivation, and confidence) are suggested as potential appraisal dimensions for enhancing experiential loyalty and satisfaction with unmanned smart hotels.

3. Hypotheses formulation

Grounded on CAT, this analysis developed a research framework of guest affect-driven behavior in unmanned smart hotels (Figure 1). In particular, the model attempted to explain how quality is appraised by guests, leading to psychological states and experiential outcomes. Time-saving, hedonic-seeking experiences and trendiness were selected as context-based innovativeness factors determining positive experiential quality (H_1-H_3). While H_4-H_7 reflected the direct impacts among experiential quality, motivation, confidence, satisfaction, and loyalty. Two components of psychological states (experiential motivation and confidence) were treated as sequential mediators affecting the proposed relationships under H_8 and H_9. The rationale for the development of the hypotheses is discussed in the following section.

[Insert Figure 1 here]

3.1 Antecedents of experiential quality

Experiential quality is among the most crucial variables for measuring the affective and behavioral responses of people resulting from travel experiences including hotel stays (Chen and Chen, 2010). This research defined experience quality as the assessment of guest overall experiences over a period of time when staying in unmanned hotels (Moon and Han, 2019).

From the diffusion of innovation theory (Rogers, 2003), individual innovativeness reflects the propensity to use or accept novel products and services. People with high levels of innovativeness are intrinsically curious, enjoy creative exploration, and tend to embrace innovations with pleasure (Choo et al., 2014). Thus, innovativeness is considered a viable characteristic for exploring the successful introduction of cutting-edge products and services in hospitality and tourism (Jin et al., 2016). Technology research has suggested several preliminary attributes of innovativeness that may influence evaluations of new technologies (Kim et al., 2020). As the goals of unmanned smart hotels are to offer trendy, hassle-free, and relaxing experiences, it was conceptualized that guest experiential quality in unmanned smart hotels can be attributed to three factors: time-saving, trendiness, and hedonic-seeking experience. Vandecasteele and Geuens (2010) recommended that hedonic (enjoying the newness of products) and utilitarian (appreciating the functionality and usefulness of products) should be integrated to measure innovativeness. Additionally, it is argued that people tend to use products and services to impress others. The social or symbolic components should not be ignored when considering innovativeness (Rogers, 2003). Simonson and Nowlis (2000) suggested that possessing innovations is a socially accepted way of making unique impressions with others. Therefore, these three components (hedonic, utilitarian, and social) were considered as the underlying reasons that stimulate experiential quality when guests encounter STs in unmanned smart hotels. Trendiness, hedonic-seeking experience, and time-saving reflect the social, hedonic, and utilitarian components, respectively. The detailed explanations of each aspect are as follows:

The utility of time and its effect on individual behavior are recognized in behavioral economics (Becker, 1965). Jacoby et al.'s (1976) study presented three assumptions about the association between time and behavior:

i. Time is limited and therefore precious and valuable.

ii. Time is an intangible resource, and its use can be obtained by trading other resources such as effort or money.

iii. Time can be examined as a cause or effect in behavioral studies.

Given the development of technology, Cho (2004) defined time-saving as a phenomenon in which people require less time to make purchases, visit stores, and navigate through alternative options. The positive impact of smart technologies in time-saving is widely reported in previous studies. Amaro and Duarte (2015) found time-saving as one of the significant factors encouraging intentions to purchase travel online. A decrease in waiting time resulting from using technologies has the potential to enhance guest experiences (Tussyadiah, 2020). Xu et al. (2019) determined time-saving to be a perceived advantage motivating intentions to continue using tourism mobile apps. Time-saving is seen as a value-added component motivating people to share positive word-of-mouth about hospitality and tourism services (Dickinson and Peeters, 2014) while maximizing pleasure during holidays, and providing efficient services (Kim et al., 2020). For unmanned smart hotels, it is reasonable to propose that time-saving acts as a innovativeness factor of enhanced guest perceptions of experiential quality. For example, replacing front desk staff with STs enables guests to check-in and check-out in a more efficient way, meaning they do not need to waste time queueing and can get all the important details instantly. As such, the first hypothesis was proposed as:

H_1. Time-saving is positively related to experiential quality.

Hotels are regarded as places for people to find entertainment and enjoyment (Lo, 2020). Therefore, hospitality scholars have long recognized the existence of a hedonic component throughout the travel consumer journey (Bruwer and Rueger-Muck, 2019). Hedonic-seeking experiences occur when people find that buying actions produce feelings of pleasure, fun, and enjoyment (Tamilmani et al., 2019). It is assumed that hedonic-seeking experiences lead to positive perceptions of hotel quality (Lo, 2020), and heighten loyalty and satisfaction (Lee and Kim, 2018). Past literature has also demonstrated that hedonic-seeking experiences have a significant impact in influencing the quality of travel experiences (Bruwer and Rueger-Muck, 2019).

Accordingly, it is suggested that the perceived experiential quality of staying at unmanned smart hotels is at least partially motivated by hedonic experiences. That is, guests respond favorably because they enjoy using STs and value the unique services provided through STs in unmanned smart hotels. Hence, the association between hedonic-seeking experiences and experiential quality in this context seems a logical proposition, and the second hypothesis was:

H_2. Hedonic-seeking experiences are positively related to experiential quality.

Trendiness refers to the extent to which people view and implement new innovative technologies (Godey et al., 2016). Many people are motivated to use STs to reflect their trendy lifestyles (Shin and Perdue, 2019) whilst experiencing services that fit their expectations and preferences. Relating this to psychology, trendiness is perceived as a core factor triggering sub-motivations including inspiration, knowledge, pre-purchase information, and surveillance (Godey et al., 2016). Inspiration refers to how individuals follow company-related information and obtain new ideas, as a source of afflatus. Knowledge denotes the practical understanding and information people obtain to learn more about particular businesses. Pre-purchase information implies searching and reading content from different sources to make thoughtful decisions. Surveillance is observing and keeping up-to-date on the environment. In the hotel industry, the exploitation of trendiness via STs enables hoteliers to provide guests with novel and pleasant experiences (Lee and Cho, 2017). It is therefore proposed that the presence of trendiness within STs in unmanned smart hotels is an important cue for generating a high degree of experiential quality:

H_3. Trendiness is positively related to experiential quality.

3.2 The Effects of experiential quality

Experiential quality is a requirement for generating cognitive-states gain (motivation and confidence) in hospitality and tourism. Myhill and Bradford (2012) determined that improving quality contributes to building confidence. The provision of impressive services has been found to increase passenger motivation for airlines while generating greater confidence (Deepa and Jayaraman, 2017). Boon-Itt and Rompho (2012) confirmed the positive relationships between perceived quality and psychological states including travel motivation and confidence. Wu et al. (2019) found that individuals are more motivated and confident in using autonomous technologies following superior experiences. Therefore, it is proposed that experiential quality within unmanned smart hotels positively influences guest psychological states:

H_{4a}. Experiential quality is positively related to experiential motivation.
H_{4b}. Experiential quality is positively related to experiential confidence.

Experiential quality is important in stimulating higher travel satisfaction (Wu and Cheng, 2018; Wu and Li, 2017). Guests who perceive high-quality experiences are more likely to have greater confidence in hotels. Conversely, if quality falls below expectations, it is likely to cause dissatisfaction. Jin et al. (2013) determined that experiential quality was an important precursor in determining satisfaction and loyalty with theme parks. This was in line with Douglas and Connor's (2003) conclusion that the ability to evaluate the consequences of quality depended heavily on the efficiency of the industry providing the services desired. Based upon CAT and previous findings, this research postulated that positive experiential quality enhances favorable guest psychological states such as experiential satisfaction and loyalty with unmanned smart hotels:

H_{4c}. Experiential quality is positively related to experiential satisfaction.
H_{4d}. Experiential quality is positively related to experiential loyalty.

3.3 Relationships among psychological states and experiential outcomes

Psychological states are features of human mental activity that persist over time (Godovykh and Tasci, 2020). They are typically regarded as reactive, for example, certain systems of responses to particular circumstances. Experiential motivation and confidence are regarded as part of experiential psychological states that play a role in the activation of positive responses (Wu et al., 2019). In general, motivation is seen as a force that inspires persistence and enthusiasm to achieve certain courses of action (Cook and Artino, 2016). Motivational elements are often viewed as being related to overall experiences of hospitality and, ultimately, to loyalty (Agyeiwaah et al., 2019). Significant positive influences between motivation and satisfaction have been found when people have good experiences with virtual reality tourism (Kim and Hall, 2019). Inherently motivated people are more likely to be loyal to hotels. It was posited that experiential motivation may lead to higher degrees of experiential satisfaction and loyalty for unmanned smart hotels:

H_{5a}. Experiential motivation is positively related to experiential satisfaction.

H_{5b}. Experiential motivation is positively related to experiential loyalty.

Confidence is individual belief in the ability to appropriately evaluate a company's attributes. In hospitality, confidence acts as a key role in predicting behavior (Wu et al., 2018). A person who has great confidence in a hotel will have greater satisfaction. Sarwar et al. (2012) confirmed a linear and positive relationship between confidence and loyalty. This research proposed that hotel guests are more satisfied and loyal to unmanned smart hotels if they feel confident from previous stays:

H_{6a}. Experiential confidence is positively related to experiential satisfaction.
H_{6b}. Experiential confidence is positively related to experiential loyalty.

3.4 Relationship between experiential outcomes

There are several studies highlighting a positive effect between satisfaction and dispositions and loyalty. It has been suggested that identifying experiential satisfaction is relevant for encouraging high levels of experiential loyalty (Wong et al., 2015; Wu and Li, 2019). Moreover, Azis et al. (2020) suggested it is more likely that satisfied people have a deep sense of belongingness and will actively share positive word-of-mouth. In the case of unmanned smart hotels, it is also expected that experiential satisfaction leads positively to loyalty:

H_7: Experiential satisfaction is positively related to experiential loyalty.

3.5 Sequential mediating effects of psychological states

According to the literature on CAT in hospitality and tourism (Manthiou et al., 2017; Rivera et al., 2019), behavior is often complex because there is a system of logical connectors that link to perceptions, emotions, and experiences from previous visits. Consequently, this research asserts that experiential psychological states may exert sequential mediating effects between experiential quality and loyalty for unmanned smart hotels. Hotels with high experiential quality will create memorability that flushes guest emotions with delight and desirable behavior (Agyeiwaah et al., 2019). Several works have validated the mediating role of satisfaction in driving positive behavior, such as loyalty and revisit intentions (Liu and Hung, 2021; Seetanah et al., 2020). Some have found that confidence and motivation play mediating roles in encouraging consumption (Su et al., 2017; Hsu et al., 2010). It is postulated that when guests feel highly confident, motivated, and satisfied to stay in unmanned smart hotels, their experiential loyalty can be increased:

H_8: The path between experiential quality and loyalty is sequentially mediated by motivation and satisfaction.

H_9: The path between experiential quality and loyalty is sequentially mediated by confidence and satisfaction.

4. Research Methodology

4.1 FlyZoo Hotel

The FlyZoo Hotel in Hangzhou, China, was the first unmanned smart hotel designed with futuristic technology from Alibaba's online travel platform, Fliggy. As a future-oriented hotel, FlyZoo incorporates various STs where everything is automated including a self-service kiosk, facial recognition, voice-activated smart assistant – Tmall Genie, and robots to enhance the quality of guests' experiences and convenience. Guests can use the FlyZoo mobile app to book and choose the rooms they prefer. Once they enter the unmanned smart hotel, they can use facial recognition rather than keycards or keys to check into rooms and access all other facilities. Every guest room in FlyZoo is fitted with a Tmall Genie, which assists guests with in-room facilities using voice commands. When they need to check out, guests can pack and leave before the standard check-out time or notify the hotel using the app.

4.2 Data collection procedure

To obtain valid responses, data were gathered using purposive sampling where the respondents were those who had stayed at the FlyZoo Hotel (Kim and Han, 2020). The data were collected in three months (during the January-March 2021), in which domestic travel and staycations were allowed by the authorities in Mainland China. The timing of data collection was deemed appropriate because the post-pandemic situation could significantly influence the experiential pathways for guest behavior, especially during the changing market composition of China's hotel industry (Hao, Xiao and Chon, 2020)

Using an online survey, a questionnaire was created via www.wjx.cn[1] . Before the main survey, a pre-test was carried out with ten hospitality and tourism professors in China to confirm the validity of the measures. During the test, respondents were encouraged to comment on statements that they found unclear, ambiguous, or to which they were unable to respond. A few minor changes such as grammatical errors and sentence structure were made for several questions after finalizing the comments. The revised questionnaire was then pilot tested on 50 target respondents (unmanned smart hotel guests). The result of the reliability analysis showed that all constructs had acceptable reliability.

During three months, 450 respondents completed the survey[2]. Among these, 364 were valid and usable, providing a response rate of 80.9%. The observations from the final data met the optimum sample size criteria suggested by the post hoc power analysis with an effect size of 0.15 and a power level of 80% (Fink, 2017). The majority of the respondents were between the ages of 20 to 30 (75.9%), female (71.7%), single (73.1 %), had completed undergraduate degrees (75.3%), and earned between 80,000-100,000¥ yearly (32.9%) (Table 1).

[Insert Table 1 here]

4.3 Questionnaire design and measurement

The questionnaire was divided into two sections. The first section included questions related to the demographic profile of respondents, while the second section included questions directed to the constructs of interest. All items used were adapted from well-cited literature sources. The three-item scale developed by Vandecasteele and Geuens (2010) was adapted to measure hedonic experience-seeking, while the three-item scale of trendiness was used from the study by Hamari, Malik, Koski, and Johri (2019). Time-saving was measured using three items based on the scale adapted from Davis (1989) and Cho (2004). To measure experiential quality, the three-item scale developed by Wu and Ai (2016) was used. Experiential confidence was measured using the four-item scale suggested by Raciti et al. (2013). Two questions from the work of Raciti et al. (2013) were adopted to assess experiential motivation. The measurements of experiential satisfaction and loyalty were taken from the studies of Wu and Li (2017) and

[1] www.wjx.cn is one of the largest online survey platforms in China.
[2] To ensure a smooth process of data collection, respondents could assess the questionnaire by scanning the QR code generated from the survey platform. A token of appreciation worth RMB10 was credited to the respondent WeChat accounts once they completed the questionnaire.

Wu and Ai (2016), with three items respectively. Like most studies on hospitality (Kim et al., 2020; Shin and Jeong, 2020), a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree) was chosen to measure all items. As all the questions were originally developed in English and translated into Mandarin, the back-to-back translation technique was applied to ensure a high level of precision and consistency (Brislin, 1970).

5. Data analysis

SPSS version 26 was used to perform the frequency analysis and common method bias test. Subsequently, the partial least square path modeling (PLSPM) technique was utilized to analyze the proposed research model. As cited by Cheah et al. (2021) and Hair et al. (2019), PLSPM employs a causal-predictive technique that allows researchers to maximize explanation and prediction, accompanied by meaningful practical implications for hospitality operations. Therefore, the data were analyzed using SmartPLS software and interpreted based on two stages: (i) measurement and (ii) structural model assessments (Hair et al., 2019).

5.1 Common method bias (CMB)

The investigation of common method bias (CMB) is critical for research employing a cross-sectional study. The largest variance explained by the Harman-Single Factor test was 34.99 % (< 40 %) (Fuller et al., 2016). Additionally, using the full collinearity test (FC), the VIF values for all eight constructs were less than 3.3 (Kock and Lynn, 2012) as shown in Table 2. Therefore, it was confirmed that CMB was not an issue, and therefore, the data would not distort the meaning involved in the survey measures.

5.2 Assessment of the measurement model

The loading values for all items exceeded the proposed value of 0.708, suggesting that the measurement model produced satisfactory loading results. Additionally, all the constructs surpassed the suggested value of 0.50 for AVE (Hair et al., 2019), thus confirming the convergent validity of all constructs. The results of Cronbach's alpha, rho_A, and composite reliability met the threshold value of the construct reliability suggested by Hair et al. (2019) (Table 2). Next, this study used the Fornell and Larcker’s (1981) criterion to assessed the discriminant validity. The result in Table 3 shows that the AVE square roots were larger than the correlations among constructs, thus discriminant validity was achieved. To corroborate this finding, the heterotrait–monotrait (HTMT) ratio correlation criteria also confirmed that all constructs achieved good discriminant validity results, with values falling below the 0.85 threshold and the bootstrap inference of the upper bound was less than one (Henseler et al., 2015) (Table 3).

[Insert Table 2 here]

[Insert Table 3 here]

5.3 Assessment of normality test and correlation

Table 4 exhibits the normality and correlation results of the constructs. The distribution of responses was assessed, where the absolute skewness and/or kurtosis values of greater than −1 and +1 indicated highly non-normal data (Hair et al., 2019). Based on Table 4, all constructs were within the acceptable range (-1 to +1), except for the EL, HSE, and TS which were found to be slightly beyond the acceptable range of both skewness and kurtosis. However, this was not an issue with PLS-PM because it can handle non-normal data with the bootstrapping technique (Hair et al., 2019). As for the correlation test, all constructs indicated significant value ($p < 0.05$) results.

[Insert Table 4 here]

5.4 Assessment of structural model

The analysis of the structural model assessment began with examining the collinearity issue using the variance inflation factor (VIF). Table 5 illustrates that the VIF values ranged from 1.000 to a maximum of 2.460 (> 3.33) (Hair et al., 2019), suggesting that collinearity was not a problem.

Second, the proposed structural relationships were tested using the bootstrapping technique. Table 5 shows that all the direct hypotheses were supported, except for H5b (EM on EL) and H6b (EC on EL). Particularly, TS ($\beta = 0.129$), HSE ($\beta = 0.456$), and TREND ($\beta = 0.375$) had positive relationships with EQ with p-values < 0.01, thus H_1 to H_3 were supported. As for the H_{4a} to H_{4d}, the EQ was significantly positively related to EM ($\beta = 0.728$; p-value < 0.01), EC ($\beta = 0.603$; p-value < 0.01), ES ($\beta = 0.212$; p-value < 0.01), and EL ($\beta = 0.152$; p-value < 0.05). The assessment showed that EM (β= 0.201; p-value < 0.01) and EC (β= 0.384; p-value < 0.01) were positively related to ES, thus, H_{5a} and H_{6a} were supported. Additionally, there was a positive relationship of ES on EL (β= 0.262; p-value < 0.01), and H_7 was supported.

Overall, the predictors explained 66.1%, 52.9%, 36.3%, 48.3%, and 21.2% of coefficient determination (R^2) in EQ, EM, EC, ES, and EL, respectively.

Effect sizes (f^2) were evaluated to ascertain the importance of each path (Table 5). The findings revealed that TS (f^2: 0.035) had a small effect size, HSE (f^2: 0.350) had a large effect size, and TREND had a medium effect size (f^2: 0.275) on EQ. With regards to ES, both EQ (f^2: 0.037) and EM (f^2: 0.035) had small effect sizes, while EC (f^2: 0.170) had a medium effect size. Subsequently, ES to EL had a small effect size (f^2: 0.040) but the relationship of EQ, EM, and EC had a trivial effect size (f^2: < 0.02).

To estimate the proposed serial mediation roles, this study followed the recommendations of Nitzl et al. (2016). Table 5 shows that EM and ES mediated the relationship between EQ and EL ($\beta = 0.038$, p-value < 0.05) as well as EC and ES mediated the relationship between EQ and EL ($\beta = 0.061$, p-value < 0.01). Thus, both H8 and H9 were supported via the 'complimentary mediation' condition (Nitzl et al., 2016).

Finally, the Q^2_predict values for the endogenous variables were reported to be larger than zero, ranging from 0.032 to 0.654 (Table 5), indicating that the model possessed a predictive capability on the endogenous variables (Chin et al., 2020; Shmueli et al., 2019). Therefore, the results suggested that the unmanned smart hotel concept has eased many facets of hospitality services and may continue to rise in popularity in the long term because guests are experiencing positive experiential outcomes.

[Insert Table 5 here]

6. Discussion and implications

6.1 Discussion

Similar to many other sectors, the ecosystem of the hospitality industry was significantly affected by the advancement of STs during the COVID-19 pandemic. The implementation of STs in unmanned smart hotels creates opportunities for hoteliers to reduce physical contact, protecting the health of guests and employees. The most immediate and visible change was that it allowed hotel managers to use intelligent management systems to improve operational effectiveness as well as orchestrating better stay experiences (Shin and Jeong, 2020). Using CAT as a theoretical basis, this research empirically tested a research model for understanding guest behavior in unmanned smart hotels. The model incorporated the antecedents and outcomes of experiential perceptions and integrated psychological states as underlying mechanisms.

The perception of individual innovativeness provides a better understanding of the overall assessment of unmanned smart hotels. In line with Amaro and Duarte (2015), time-saving was found to provide fast and seamless access to guests when using travel technologies (H_1 supported). Also, the findings of Bruwer and Rueger-Muck (2019) and Tamilmani et al. (2019) were supported, concerning the positive influence of hedonic-seeking experiences on quality assessment (H_2 supported). This indicated that novel experiences of staying in unmanned smart hotels allowed guests to indulge in hedonic feelings (fun, pleasure, and pleasure), thereby engendering positive quality assessments. Trendiness was another factor that impacted experiential quality positively, which validated the conclusions of Lee and Cho (2017) (H_3 supported). The findings substantiated that the effect of futuristic and trendy STs in unmanned smart hotels such as AI-powered check-in systems, robotic assistance, facial, and voice recognition systems, offers great potential for meeting guest expectations. As such, this research has made a valuable contribution to the emerging literature on the antecedents of experiential quality through the perspective of innovativeness, which has been underexplored to date.

Consistent with the hypotheses, experiential quality was shown to be a significant predictor of motivation, confidence, satisfaction, and loyalty (H_{4a}, H_{4b}, H_{4c}, and H_{4d} supported). When guests experience high-quality stays, they display a high degree of interest in unmanned smart hotels. The findings are consistent with those of recent studies (Deepa and Jayaraman, 2017; Boon-Itt and Rompho, 2012) indicating that individuals respond more positively in terms of emotions and behaviors when receiving reasonable amounts of quality services and value.

Motivation and confidence had significant influences on satisfaction (H_{5a} and H_{6a} supported). Similar to conclusions drawn by Wu et al. (2019), both motivation and confidence were key drivers of experiential satisfaction and are therefore a fundamental factor that must be incorporated into current and future research. Guests are more likely to have satisfying experiences if STs and services in unmanned smart hotels can provide a sense of motivation and confidence. Likewise, the study by Chen and Huang (2021) revealed that guests typically form cognitive and emotional assessments of service performance based on their personal experiences, resulting in satisfaction.

Several studies have confirmed that motivation and confidence are significant drivers that initiate behavior (loyalty) (Kim and Hall, 2019). However, this research yielded contradictory findings. In particular, it was found that integrating only experiential confidence or motivation, did not significantly affect guest loyalty to unmanned smart hotels (H_{5b} and H_{6b} not supported). Interestingly, it was found that the path experiential quality and loyalty were strengthened by adding sequential mediators, i.e., confidence, motivation, and satisfaction (H_8 and H_9 supported). These outcomes aligned with the contentions of Vesci et al. (2020), who stressed the importance of looking into the role of external aspects (individual's perceived quality), especially in understanding how psychological factors relate to post-purchase intentions of infrequently repurchased products. It is generally believed that long-term tourist behavior is complex and formed by sequential processes that include both external (physical characteristics of destinations) and internal aspects (emotions) (Milman et al., 2020). This confirmed that excellent external features and services do not always show substantial results if hotels do not fulfill guest psychological states (i.e., motivation, satisfaction, and trust).

The results revealed that experiential satisfaction is positively related to loyalty which concurs with Wong et al. (2015) and Wu and Li (2017) (H_7 supported). Guests who are very satisfied will show greater loyalty to unmanned smart hotels. Thus, satisfaction plays an indispensable role in generating long-term responses, such as sharing positive word-of-mouth and repeat stays.

6.2. Theoretical implications

Theoretically, this research documented the impact of perceived innovativeness (time-saving, hedonic-seeking experiences, and trendiness) as antecedents that enhance experiential quality in unmanned smart hotels. It adds to the hospitality literature by investigating the effects of experiential quality and psychological states on guest behavior. In addition, this research empirically verified the mechanisms behind the direct effects. The results from the indirect analysis emphasized that experiential motivation, confidence, and satisfaction were intermediary mechanisms significantly mediating the path between quality and loyalty simultaneously and sequentially. These findings support emerging research demonstrating that hotels should focus more on capitalizing on guest psychological factors (experiential motivation and confidence), as well as satisfaction, to induce desired experiential outcomes (Hunneman et al., 2015). By fulfilling psychological states alone, there may not be a significant impact on loyalty behavior, thus this outcome supports the notions of CAT. Essentially, it deepens the understanding of guest behavior in unmanned smart hotels.

6.3. Managerial implications

These findings provide unmanned smart hotel management with valuable information to develop competitive strategies, particularly in three main aspects: (i) the antecedents of experiential quality, (ii) the complex relationships among quality, psychological states, and experiential outcomes, and (iii) sequential mediating effects that evoke higher loyalty.

First, hoteliers must continually work to enhance experiential quality for guests, as this factor results in favorable psychological states and responses, respectively. The initiatives of unmanned smart hotels should be driven by the experience of guests. To this end, it is important to ensure that all STs in unmanned smart hotels, such as robotic butlers, touch-screen kiosks, voice-command technology are time-saving, trendy, and capable of providing hedonic experiences. Hotels can enhance the time-saving benefits by ensuring that ST systems are frequently updated to avoid unnecessary breakdowns that prolong waiting times. To improve efficiency in ST use, hotels should provide short instructional videos to orient guests. Since guests are becoming more tech-savvy, thus, hotels must integrate the latest innovative technologies into unmanned smart hotels to develop highly customized experiences that excite them. It is crucial to prioritize experiential strategies in unmanned smart hotels to attract the attention of those who value hedonic experiences above all else. Thus, the design and interfaces of STs should make them interactive and visually attractive to evoke feelings of pleasure. Hedonic experience can also be heightened by allowing people to engage in discussions with other guests.

Second, hotels are encouraged to develop superior service quality in unmanned smart hotels. Management should increase efforts to offer consistent and reliable stay experiences to meet guest expectations while making them feel like they have received value for money. Hotels may enhance their service to guests by building a good rapport with them, such as by using a good feedback logbook system to both track constructive feedback and reinforce the understanding of guest preferences, while showing sincere interest in their requests. All these strategies are about making customers feel good and building confidence in staying in unmanned smart hotels.

Further, the results provide unmanned smart hotel management with an improved understanding of the dominant effect of satisfaction on loyalty. Satisfied guests play an important role in business growth, as they are more likely to stay longer, spend more, and revisit. Satisfaction in unmanned smart hotels can be improved by the efficiency and effectiveness of the use of STs in managing guest requests and demands. It is also necessary to communicate and offer personalized services to guests, ensuring that everyone has memorable experiences during their stays, which will ultimately improve retention.

In addition to focusing on experiential quality, psychological states and satisfaction should be integrated to form higher levels of loyalty. Management in unmanned smart hotels should realize that motivation and confidence are key to make guests consider revisiting. They should allocate more resources to promote the uniqueness of unmanned smart hotels, such as employing more STs with human-like appearance to accelerate confidence and motivation. Previous works have shown that anthropomorphic design in STs gives the impression that this technology can completely replace human labor (Jia et al., 2021). Also, management should use safety as a key selling point in advertising unmanned smart hotels during a pandemic, because guests can achieve higher levels of physical distancing when compared to conventional hotels.

7. Conclusions and suggestions for future research

The future of hospitality and tourism will depend on digital savviness and state-of-the-art technologies (Shin and Perdue, 2019), which make it ever more critical to understand guest experiences and behavior for unmanned smart hotels. This research has explicated the importance of hoteliers using the unmanned smart hotel concept in establishing experiential quality to gradually influence loyalty. Additionally, as many hotels around the globe are still in the middle of the pandemic and long-term impacts are unknown, learning from hotels that have implemented unmanned smart hotels may be critical to the long-term reduction of pandemic impacts. This investigation provides hoteliers with effective strategies to adopt new offerings based on STs like those implemented in unmanned smart hotels to gradually replace human contact.

As with other studies, this research had several limitations. First, the target respondents were from a specific unmanned smart hotel. Caution should therefore be exercised in generalizing the findings to other sectors of hospitality and tourism. Second, this study only focused on three innovativeness factors (trendiness, time-saving, hedonic experience seeking) as antecedents that influence experience quality in unmanned smart hotels. It is suggested that future studies should look at other potential antecedents. For example, the study by Wu et al. (2018) highlighted five dimensions of experiential value, including interaction, physical environment, outcome, access, and accommodation quality, that would influence perceived experiential quality. In addition, it would be interesting for future studies to take into account the tangible attributes (e.g., interior design, room size, in-room amenities) and intangible attributes (e.g., hotel reputation, accessibility, cleanliness) of unmanned smart hotels to ensure that overall performance and stay experience meet or exceed the expectations (Choi et al., 2020).

Third, this study revealed that one of the endogenous constructs - experiential loyalty - had a low R^2 value (i.e., 21.2%). This limitation was attributed to the data collection period in which the study was conducted during the post-pandemic phase. The long-term recovery hotel industry in Mainland China seems to be promising, yet not without challenges, since the outbreak of COVID-19 (Hao et al., 2020). As emphasized by Kim et al. (2021), many individuals are facing an increased risk of prolonged COVID-19 which might impact negatively on their behavior, especially regarding the hospitality industry. Therefore, this limitation provides a research orientation for scholars to explore further how to strengthen the loyalty of guests to provide the management of unmanned smart hotels with the most effective practices to overcome losses caused by COVID-19.

Moreover, many past studies have shown a mixed perception of safety and privacy related to STs like those within unmanned smart hotels (Liu and Hung, 2021). By incorporating safety and privacy concerns into the theoretical framework, future researchers may better understand guest perceptions of STs in unmanned smart hotels. For instance, if guests are concerned about the safety or privacy of their information, they may feel more relieved and comfortable solving problems themselves rather than relying on service employees. Finally, this research demonstrates one way to examine related questions using a cross-sectional approach. Future studies should integrate other qualitative and quantitative methods, such as interviews, experimental design, and big data analysis to explore this topic.

Data Availability Data will be made available on request.

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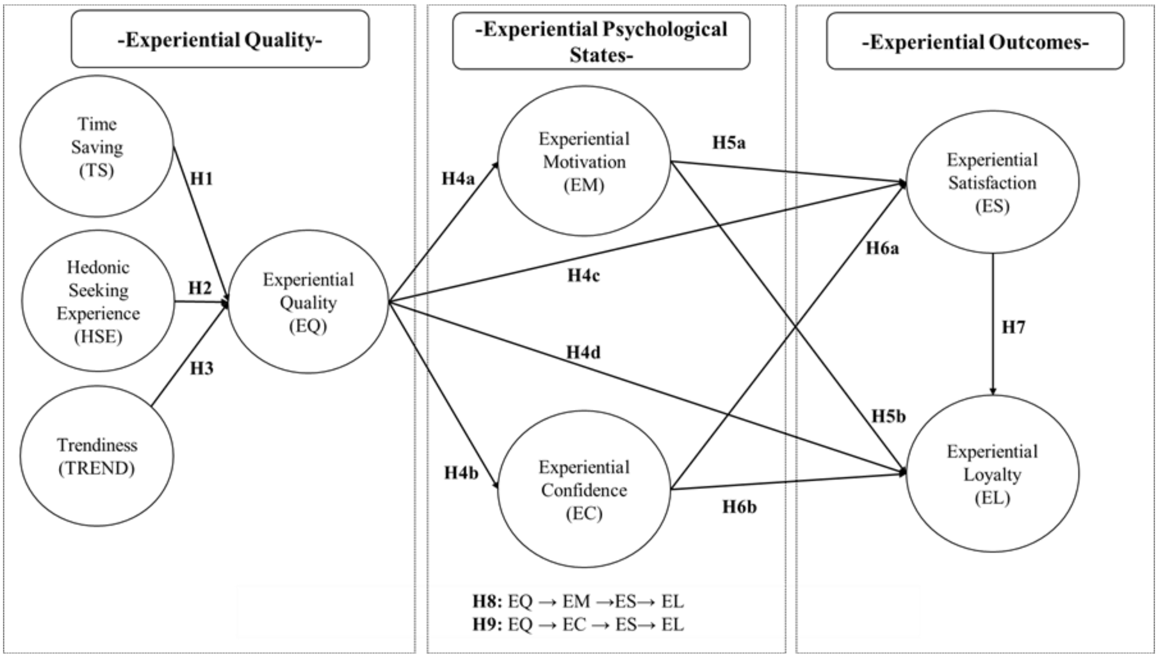

Figure 1. Research Model

Table 1: Demographic Profile

Variable	Category	n =364	%
Gender	Male	103	28.3
	Female	261	71.7
Marital status	Single	266	73.1
	Married	98	26.9
Age	20-30	276	75.9
	31-40	55	15.1
	41-50	33	9.1
Education	Undergraduate degree (B.Sc., B.A, etc.)	274	75.3
	Graduate degree (M.Sc., M.A., MBA, etc.)	65	18.8
	Postgraduate degree (PhD, DBA, etc.)	25	6.9
Annual income	80,000¥ - 100,000¥	120	32.9
	100,001¥ -120,000¥	82	22.5
	120,001¥ - 140,000¥	76	20.9
	140,001¥ – 160,000¥	49	13.5
	160,001¥ and above	37	10.2

Table 2: Assessment of reliability, convergent validity, and full collinearity

Measurement Item	Loading	CA	rho_A	CR	AVE
Time Saving (Full Collinearity: 1.562)					
TS1: Staying in the unmanned smart hotel enables me to complete the process quickly (e.g., check-in).	0.898	0.879	0.883	0.926	0.806
TS2: I can save time by staying in the unmanned smart hotel.	0.914				
TS3: Staying in the unmanned smart hotel takes less time than staying at traditional hotel.	0.880				
Hedonic Seeking Experience (Full Collinearity: 2.861)					
HSE1: Staying in the unmanned smart hotel gives me a sense of personal enjoyment.	0.910	0.864	0.867	0.917	0.786
HSE2: Acquiring new services in the unmanned smart hotel makes me happier.	0.874				
HSE3: I feel good when staying in the unmanned smart hotel.	0.876				
Trendiness (Full Collinearity: 1.978)					
TREND1: Staying in the unmanned smart hotel enables me to look trendy.	0.903	0.903	0.903	0.939	0.838
TREND2: Staying in the unmanned smart hotel enables me to look cool.	0.921				
TREND3: Staying in the unmanned smart hotel enables me to look stylish.	0.922				
Experiential Quality (Full Collinearity: 3.286)					
EQ1: I believe that this unmanned smart hotel is going to provide me with an interesting staying experience.	0.851	0.782	0.787	0.874	0.698
EQ2: The quality of this unmanned smart hotel could be considered superior when compared to other hotels.	0.778				
EQ3: Visiting this unmanned smart hotel is a pleasant experience.	0.875				
Experiential Motivation (Full Collinearity: 2.458)					
EM1: I feel motivated to visit this unmanned smart hotel.	0.929	0.849	0.851	0.930	0.869
EM2: I take a greater interest to stay in this unmanned smart hotel.	0.936				
Experiential Confidence (Full Collinearity: 2.071)					
EC1: I am confident that staying in this unmanned smart hotel can satisfy everything I need.	0.726	0.818	0.823	0.880	0.648
EC2: I am confident that I am good at enjoying the services that this unmanned smart hotel provides.	0.844				
EC3: I know how to use the services in this unmanned smart hotel.	0.786				

EC4: I know what to expect when I enter into this unmanned smart hotel.	0.856				
Experiential Satisfaction (Full Collinearity: 2.133)					
ES1: This unmanned smart hotel goes beyond my expectations.	0.854	0.852	0.855	0.910	0.771
ES2: I really like the stay in this unmanned smart hotel.	0.906				
ES3: It is worthwhile to stay in this unmanned smart hotel.	0.874				
Experiential Loyalty (Full Collinearity: 2.097)					
EL1: I will spread positive word-of-mouth about this unmanned smart hotel.	0.907	0.899	0.902	0.937	0.831
EL2: I will continue staying in this unmanned smart hotel.	0.897				
EL3: Even if my close friends recommended another hotel, my preference for staying in this unmanned smart hotel would not change	0.931				

Table 3: Assessment of Fornell and Larcker's criterion and HTMT criterion

Criterion	Construct	1	2	3	4	5	6	7	8
Fornell & Larcker	1. EC	**0.807**							
	2. EL	0.207	**0.912**						
	3. EM	0.580	0.221	**0.932**					
	4. EQ	0.603	0.270	0.728	**0.835**				
	5. ES	0.629	0.317	0.578	0.590	**0.878**			
	6. HSE	0.525	0.150	0.642	0.739	0.574	**0.887**		
	7. TS	0.488	0.170	0.454	0.513	0.422	0.524	**0.898**	
	8. Trendiness	0.472	0.204	0.557	0.686	0.506	0.573	0.385	**0.915**
HTMT	1. EC								
	2. EL	0.242 [0.107; 0.377]							
	3. EM	0.701 [0.595; 0.783]	0.253 [0.125; 0.380]						
	4. EQ	0.760 [0.650; 0.846]	0.321 [0.172; 0.477]	0.844 [0.755; 0.885]					
	5. ES	0.748 [0.643; 0.826]	0.357 [0.213; 0.500]	0.676 [0.579; 0.757]	0.718 [0.610; 0.808]				
	6. HSE	0.623 [0.497; 0.728]	0.170 [0.047; 0.333]	0.749 [0.663; 0.821]	0.834 [0.772; 0.886]	0.669 [0.565; 0.757]			
	7. TS	0.577 [0.451; 0.680]	0.192 [0.064; 0.339]	0.525 [0.390; 0.644]	0.621 [0.507; 0.725]	0.484 [0.369; 0.595]	0.602 [0.466; 0.719]		
	8. Trendiness	0.548 [0.425; 0.655]	0.226 [0.089; 0.370]	0.630 [0.520; 0.738]	0.814 [0.733; 0.879]	0.575 [0.453; 0.675]	0.647 [0.548; 0.735]	0.432 [0.302; 0.553]	

Note: The square root of the AVE values are represented in bold in Fornell and Larcker's criterion result; the 95% bias-corrected and accelerated confidence intervals derived from bootstrapping with 10,000 samples (no sign change option) are shown in brackets; EQ=Experiential quality, EM=Experiential Motivation, EC=Experiential Confidence, ES=Experiential Satisfaction, EL=Experiential Loyalty, HSE= Hedonic-seeking experience TS=Time-saving

Table 4: Assessment of Normality and Correlation

	Normality		Correlation							
Construct	Kurtosis	Skewness	1	2	3	4	5	6	7	8

1. Experiential Confidence (EC)	0.635	-0.568	1.000							
2. Experiential Loyalty (EL)	1.255	-1.107	0.207**	1.000						
3. Experiential Motivation (EM)	0.140	-0.696	0.580**	0.221**	1.000					
4. Experiential Quality (EQ)	0.984	-0.846	0.603**	0.477**	0.728**	1.000				
5. Experiential Satisfaction (ES)	0.905	-0.742	0.629**	0.577**	0.578**	0.590**	1.000			
6. Hedonic-Seeking Experience (HSE)	1.220	-1.163	0.525**	0.150*	0.642**	0.739**	0.574**	1.000		
7. Time-Saving (TS)	1.251	-1.183	0.488**	0.170*	0.454**	0.513**	0.422**	0.524**	1.000	
8. Trendiness (TREND)	0.291	-0.828	0.472**	0.204**	0.557**	0.686**	0.506**	0.573**	0.385**	1.000

Note: * means $p < .05$; ** means $p < .01$.

Table 5: Assessment of Structural Model

Relationship	Std Beta (Direct Effect)	Std Beta (Indirect Effect)	Std Error	t-value	p-value	BCa 95% CI LB	BCa 95% CI UB	VIF	f^2
H1: Time Saving -> EQ	0.129		0.038	3.390	<0.001	0.062	0.189	1.399	0.035
H2: Hedonic-seeking experience -> EQ	0.456		0.044	10.401	<0.001	0.385	0.528	1.775	0.350

H3: Trendiness -> EQ	0.375		0.044	8.451	<0.001	0.302	0.447	1.511	0.275
H4a: EQ -> EM	0.728		0.033	21.929	<0.001	0.668	0.779	1.000	NA
H4b: EQ -> EC	0.603		0.044	13.755	<0.001	0.525	0.669	1.000	NA
H4c: EQ -> ES	0.212		0.065	3.267	0.001	0.103	0.315	2.373	0.037
H4d: EQ -> EL	0.152		0.086	1.754	0.040	0.011	0.296	2.460	0.011
H5a: EM -> ES	0.201		0.063	3.171	0.001	0.093	0.304	2.277	0.034
H5b: EM -> EL	-0.019		0.067	0.275	0.392	-0.129	0.092	2.355	0.000
H6a: EC -> ES	0.384		0.059	6.565	0.000	0.281	0.473	1.682	0.170
H6b: EC -> EL	-0.038		0.063	0.607	0.272	-0.144	0.064	1.968	0.001
H7: ES -> EL	0.262		0.075	3.505	0.000	0.144	0.389	1.934	0.040
H8: EQ -> EM -> ES -> EL		0.038	0.016	2.329	0.020	0.012	0.080		
H9: EQ -> EC -> ES -> EL		0.061	0.021	2.914	0.004	0.027	0.109		

Construct	R^2	Q^2_predict
EQ	0.661	0.652
EM	0.529	0.462
EC	0.363	0.333
ES	0.483	0.363
EL	0.212	0.032

Note: (i) NA: f^2 is not applicable for only one exogenous predict on an endogenous variable and (ii) EQ=Experiential quality, EM=Experiential Motivation, EC=Experiential Confidence, ES=Experiential Satisfaction, EL=Experiential Loyalty