

The acceptance of mobile applications for accommodation booking in Vietnam: Case of gen Z**Duy-Tran Ba^a, Hoa-Vu Dinh^{a*}, Quang-Phan Duy^a, Duong-Pham Dai^a and Tuan-Ngo Anh^a**^a*Faculty of Tourism Studies, PHENIKAA University, Hanoi 12116, Vietnam***CHRONICLE***Article history:*

Received: February 20, 2023

Received in revised format: April 12, 2023

Accepted: June 8, 2023

Available online: June 8, 2023

*Keywords:**Mobile apps**Accommodation**Gen Z**UTAUT2**Vietnam***ABSTRACT**

The development of technology and smart mobile devices such as phones and tablets has changed the behavior of tourists when booking tourism services. Based on the technology acceptance model, this study aims to explore the factors influencing the intention to use mobile applications for accommodation booking among GENZ in Vietnam. The analysis of 218 users revealed that four factors influence the behavior of using mobile applications for booking: performance expectancy, effort expectancy, social influence, and hedonic motivation. In addition to identifying the factors affecting usage intention, this study also proposes implications to assist developers and providers in improving their applications and developing suitable product strategies for the future.

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1. Introduction

The tourism industry has been greatly impacted by information and communication technology, offering unique opportunities for growth and development (Lu et al., 2015). With the widespread use of smartphones and tablets, consumers now have access to a variety of tools that aid in the decision-making, planning, and execution of travel plans. The prevalence of mobile devices has also allowed for the revolutionization of various aspects of society, as evidenced by the increasing number of smartphone users worldwide. Statista (2023a) predicts that smartphone usage will continue to rise, with an estimated 7.49 billion users by 2025. The rapid development of smart mobile devices has made the mobile applications (apps) market one of the fastest-growing outlets in consumer technology. There were 230 billion apps downloads in 2021 (Statista, 2023b). Within the mobile apps business, travel apps are the seventh most popular category of apps being downloaded. With the use of tourism apps in smartphones, travelers can easily access information about their destination, with approximately 63% of mobile device users using their devices to make bookings while traveling, including 58% for accommodations (Freer, 2021).

Generation Z individuals who were born between 1996 and 2009, also known as the Post-millennial generation (Sladek & Grabinger, 2014), grew up during the most rapid and extensive technological advancement in human history. In fact, on average, Generation Z spends 3 hours and 38 minutes online on their smartphones, nearly 50 minutes longer than the average internet user (GlobalWeb Index, 2016). Having 24/7 access to global information through a mobile device helps Generation Z solve problems quickly and efficiently. Gen Z is recognized as a critical group within the tourism industry, and they can be classified as both drifter and explorer tourists. They prefer traveling to new destinations, even if those locations have limited facilities, as they value independent and unrestricted travel experiences over those structured by travel agents (Pham & Hwang, 2021). This inclination may be attributed to the fact that Gen Z has had greater exposure to, and appreciation of the benefits and convenience offered by technological advancements compared to other generations. In Vietnam, Generation Z

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ISSN 2561-8156 (Online) - ISSN 2561-8148 (Print)

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doi: 10.5267/j.ijds.2023.6.005

currently represents the highest and fastest-growing percentage, increasing from 41.4% in 2015 to 45.0% in 2018 (GSO, 2019). They are the primary customer group for Vietnam's tourism industry in the future, capable of adapting to and using technology at a high level.

Numerous studies have identified factors influencing the intention to use booking apps, such as performance expectancy, effort expectancy, trust, social influence, and more. However, previous literature has mainly focused on the acceptance and usage of mobile accommodation bookings in developed countries, while not much has been explored in developing countries (Park & Huang, 2017). Therefore, there is still a significant gap in research on the factors affecting the intention to use booking apps in a developing country like Vietnam. To address the research gaps, the objectives of this study are as follows:

- To develop a predictive model of the intention to use GENZ's mobile booking application for customers in developing countries.
- To explore the factors influencing the intention to use GENZ's mobile booking application in Vietnam.
- To propose implications to assist businesses in improving their applications to attract more users and develop appropriate product strategies for the future.

2. Theoretical Foundation

2.1. Mobile Applications in Tourism and Usage Intention

Smartphones have revolutionized the tourism industry by providing a wide range of services, as mobile technology offers exceptional flexibility beyond being a mere information channel (Oh et al., 2009). Tourism mobile applications encompass all apps downloaded and installed on mobile devices such as smartphones and iPads, which are used to search for information or make travel-related bookings. It includes information about tourist attractions, travel itineraries, hotels, restaurants, eateries, and transportation options, before and during the travel (Tan et al., 2017). According to Dickinson et al. (2014), mobile travel applications are end-user software designed for smartphones or mobile internet devices. These applications offer various tourism services, including booking tickets, hotels, accommodation, restaurants, and searching for travel information. According to Hubspot (2019), 64% of travelers use a tourism app to search for a flight/accommodation, and 52% book flights/accommodation. The unique characteristics of mobile tourism applications make them an innovative product in the tourism industry, providing customers with added value due to their mobile functions (Xu et al., 2019). Tourism mobile apps offer greater convenience than online tourism services (J. H. Wu & Wang, 2005). Additionally, mobile tourism applications provide significant benefits over conventional travel or tourist product booking channels, such as time savings, cost savings, and convenience (Wu & Wang, 2005; Xu et al., 2019).

Intention is a factor used to assess an individual's ability to perform a behavior. According to Ajzen (1991), intention refers to the conscious effort an individual puts into following through with their approved behavior; it is one of the motivational components of behavior. Intention to perform a behavior often precedes the actual behavior. It indicates a person's readiness to engage in a specific behavior based on attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). Researchers unanimously agree that the intention to use mobile applications represents the users' likelihood of using apps regularly and consistently on mobile devices in the future (Davis, 1989; Webster et al., 1993; Venkatesh & Davis, 2000). Studying the intention to use mobile applications in the context of travel booking can provide valuable predictions for the behavior of booking accommodation through mobile apps on smart devices.

2.2. The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)

To explain user behavior in technology adoption, theories have been developed to predict users' intention to accept technology. Prominent theories include the Diffusion of Innovation theory (DOI) (Rogers, 1995), the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980), the Theory of Planned Behavior (TPB) (Ajzen, 1991), the Technology Acceptance Model (TAM) (Davis, 1989), and the Unified Theory of Acceptance and Use of Technology (UTAUT and UTAUT2) (Venkatesh et al., 2003, 2012). In order to comprehensively understand the factors influencing the intention to use technology, this study is based on the UTAUT2 theory proposed by Venkatesh and colleagues (2012).

The Unified Theory of Acceptance and Use of Technology (UTAUT) consists of performance expectancy (refers to the level of conviction an individual holds in the system's ability to assist them in achieving advancements in job performance), effort expectancy (refers to the level of ease or difficulty individual associates with utilizing the system), social influence (refers to the extent to which an individual believes that influential people in their social circle consider it necessary for them to apply the new system), and facilitating conditions (refer to an individual's perception of the presence and adequacy of organizational and technical infrastructure that is available to support the use of the system) that impact the individual's intention to use a particular technology and their actual use of it. As per the UTAUT framework, the factors of performance expectancy, effort expectancy, and social influence are anticipated to shape the individual's intention to use technology. Meanwhile, the individual's intention to use technology and the presence of facilitating conditions are responsible for determining actual technology use. In addition, intermediate factors such as gender, age, experience, and voluntary use indirectly influence behavioral

intention and actual usage through the main factors. According to Venkatesh et al (2012), UTAUT2 (extending of UTAUT) added three elements that influenced the intention to use, including hedonic motivation (refers to the degree of enjoyment or pleasure an individual derives from utilizing a technology.), price (refers to the cognitive evaluation made by consumers, which involves weighing the perceived benefits of using an application against the monetary cost required to access and use it) and habit (refers to a perceptual concept that represents the outcomes of past experiences). UTAUT2 has eliminated the moderating effect of the variable "voluntariness" and introduced a linkage between facilitating conditions and behavioral intention to use. With the proposed extensions in UTAUT2, significant improvements have been achieved, specifically in the variance explained in behavioral intention (74%) and technology usage (52%), compared to the basic UTAUT, which only explains 56% and 40% of the variance, respectively, in intention and technology usage (Venkatesh et al., 2012).

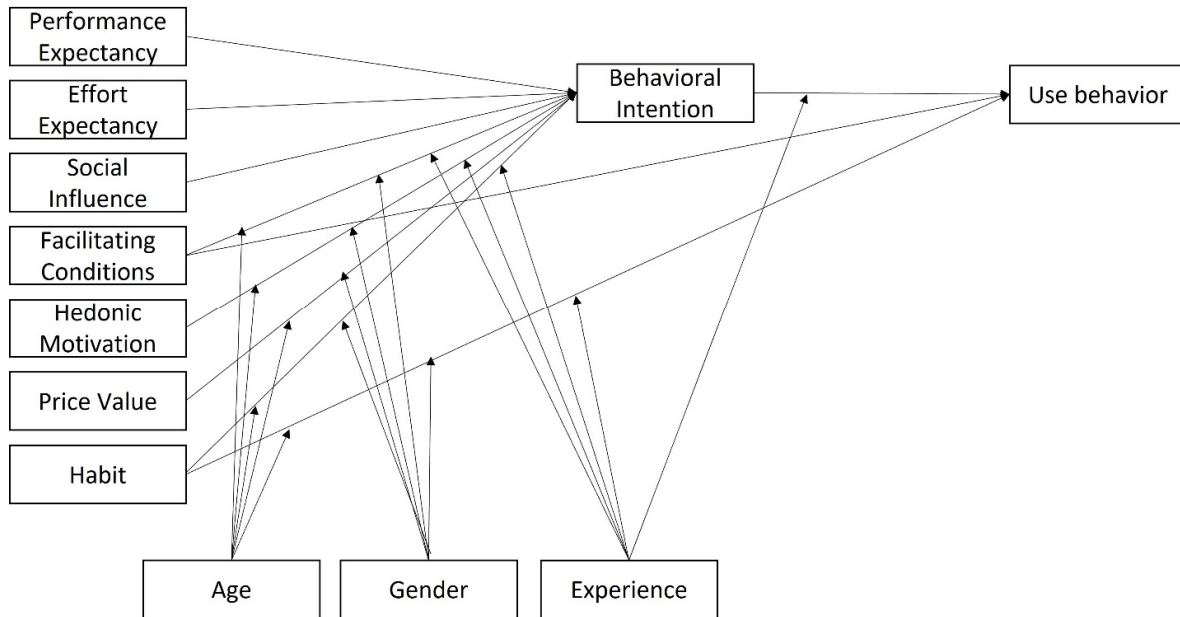


Fig. 1. UTAUT2 model. (Venkatesh et al. 2012)

3. Research models

Based on the UTAUT2 model in the context of the development of information technology, the practice of developing and using mobile apps for accommodation booking of Gen Z in Vietnam. The author proposes the following specific research hypotheses:

3.1 Performance expectancy

“Performance expectancy was defined as the degree to which using a technology will provide benefits to consumers in performing certain activities” (Venkatesh et al., 2012, p.159). In the present study, performance expectancy refers to the individual's recognition of the benefits associated with using mobile applications for accommodation booking. According to Wu & Chen (2014), mobile applications have the capacity to offer valuable features to individuals who utilize mobile devices, and the utilization of these applications can lead to cost and time savings, as well as access to a diverse range of services (Davis, 1993; Erkan & Evans, 2016). Chong (2013) and Escobar-Rodríguez & Carvajal-Trujillo, (2013) proved that performance expectancy has a significant positive impact on Behavioral Intention to utilize m-commerce. In the research on mobile booking applications across various domains within the hospitality industry, Morosan (2014) determined that performance expectation is positively correlated with the Intention to use mobile apps. Choi et al. (2011) confirmed that when users perceive mobile applications to be useful, they are more likely to have a favorable attitude toward the application, which can ultimately result in increased utilization. Therefore, the study proposes the following hypothesis:

H₁: Performance expectancy positively affects the intentions of Gen Z in Vietnam to use mobile applications for accommodation booking.

3.2 Effort expectancy

Venkatesh et al. (2012, p.159) defined “Effort expectancy as the degree of ease associated with the use of the system”. This definition is comparable to the definition of perceived ease of use offered by Davis et al. (1989), which describes it as the degree to which a person believes that utilizing a specific system would be effortless. In the field of information technology, effort expectancy encompasses the user's perception of the system's flexibility, ease of operation, usability, and clarity of

interface when interacting with the system (Venkatesh & Davis, 2000). Vlachos & Vrechopoulos (2008) have conducted research to examine the impact of external variables on technology usage, user beliefs, and perceived ease of use. Venkatesh et al (2003) discovered that effort expectancy, which is derived from perceived ease of use, is a significant predictor of IT usage. Consequently, Venkatesh et al (2003) have concluded that effort expectancy significantly influences behavioral intention to use technology and it is one of the most critical factors affecting technology acceptance. Davis et al. (1989) have also noted that people are more likely to accept an application that they perceive as easy to use. In this study, effort expectancy refers to the expected level of ease and accessibility associated with using mobile apps for accommodation booking. According to Morosan (2014) and Fortes and Rita (2016), effort expectancy has a positive impact on perceptions and intentions to use mobile applications. Hence, the following hypothesis is proposed:

H₂: *Effort expectancy positively affects the intentions of Gen Z in Vietnam to use mobile applications for accommodation booking*

3.3 Social Influence

“Social influence is the extent to which consumers perceive that important others (e.g., family and friends) believe they should use a particular technology” (Venkatesh et al., 2012, p.159). Rogers (1995) indicated that Social influence has two types: mass media influence and interpersonal influence. Interpersonal influence is usually exerted by people such as peers, friends, and family members (Park et al., 2007; Rao & Troshani, 2007). The current research defines social influence as the impact that other people have on an individual's perception, which ultimately affects the intention to use mobile apps for booking accommodation. According to Fan et al (2005), users are more likely to recommend a service to others if they are satisfied with it. Similarly, Singh et al (2010) found that friends and family members have a significant influence on an individual's decision to use a service. Chong (2013) also affirmed that social influence plays a critical role in shaping behavioral intention in m-commerce, as users often try to encourage others to use the apps. Other studies have shown that social influence is a critical factor in the adoption of mobile apps, with users often being influenced by those around them (Chong, 2013; Hew et al., 2015; Tan & Leby Lau, 2016). Thus, the study proposes the following hypothesis:

H₃: *Social influence positively affects the intentions of Gen Z in Vietnam to use mobile applications for accommodation booking.*

3.4 Facilitating Conditions

The “facilitating conditions” in this study is based on Venkatesh et al. (2012) definition, which involves how consumers perceive the availability of resources and support to carry out a behavior. Venkatesh et al. (2012) introduced a direct association between facilitating conditions and usage intentions within the UTAUT-2 framework. Some existing studies showed that facilitating conditions have considerable effects on behavioral intentions and were validated among users of app-based mobile tour guides by Lai, (2015), mapping apps (Gupta & Dogra, 2017), Restaurant apps (Palau-Saumell et al., 2019), and room-sharing apps (Dinh & Ngoc, 2021). However, similar connections have not been established in other investigations, including the study of users of online purchase systems (San Martín & Herrero, 2012), and the study of users of diet food apps (Okumus et al., 2018). Gallivan et al. (2005) suggest that adequate facilitating conditions are crucial for the adoption of information communication technologies (ICTs), while Lewis et al. (2013) contend that people typically seek support when they encounter new technologies. Therefore, the study proposes the hypothesis:

H₄: *Facilitating conditions positively affect the intentions of Gen Z in Vietnam to use mobile applications for accommodation booking.*

3.5 Hedonic Motivation

Hedonic motivation refers to the enjoyment or pleasure that a person experiences while using technology (Brown et al., 2005), and many studies have demonstrated its significance in influencing the acceptance and utilization of technology (Venkatesh et al., 2012). Davis et al. (1992) proposed that individuals are motivated to adopt new technology based on their desire for enjoyment, even if they do not anticipate any performance benefits from its use. Furthermore, the role of hedonic motivation in driving technology adoption has been established in previous studies, as it can create positive attitudes toward the technology among users (Poong et al., 2017). However, there have been some exceptions, such as there is no effect of hedonic motivation found among users and learning management systems (Ain et al., 2016). Nonetheless, various studies that have applied the UTAUT-2 framework have consistently demonstrated that hedonic motivation is a strong predictor of technology adoption in a variety of contexts, including mobile banking (Alalwan et al., 2017), mapping apps (Gupta & Dogra, 2017), e-learning systems (El-Masri & Tarhini, 2017), NFC mobile payments (Morosan & DeFranco, 2016), and room sharing apps (Dinh & Ngoc, 2021). Thus, based on the previous discussion, the following hypotheses are proposed:

H₅: *Hedonic motivation positively affects the intentions of Gen Z in Vietnam to use mobile applications for accommodation booking.*

The research model is formed based on the developed hypotheses, as shown in Fig. 2.

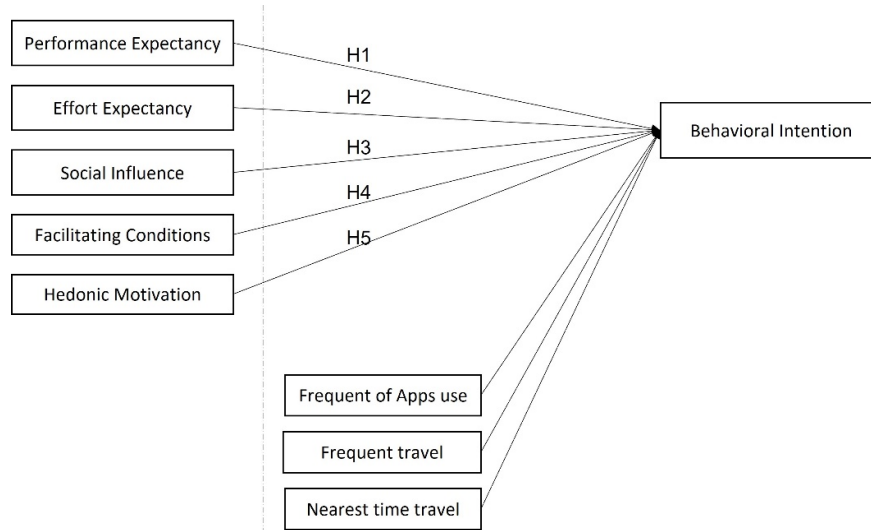


Fig. 2. Research model

Source: Proposed Research

4. Methodology

The data collection for this research was conducted in Hanoi, Vietnam, between December 28th, 2022 and January 30th, 2023. Participants were requested to identify the constructs that have an impact on their intentions to utilize accommodation booking apps based on UTAUT2 (Venkatesh et al., 2012). The indicators were evaluated using a 5-point Likert scale, with responses ranging from "Strongly Disagree" (1) to "Strongly Agree" (5). Furthermore, demographic information, including travel frequency, gender, year of birth, and marital status, was also included in the questionnaire. After completion of the survey, all responses were categorized, scaled, and entered into Statistical Package for the Social Sciences (SPSS) 26.0 and Analysis of Moment Structure (AMOS) 24.0 for statistical analysis.

5. Results

5.1. Profile of participant

Table 1 presents a summary of the demographic characteristics of the 218 participants. The descriptive statistics indicate that 30.3% of the respondents were male, while 69.7% were female. Most participants (87.5%) were between 18 to 20 years old, while the remaining participants were over the age of 20 (12.5%). Only 4 participants (1.8%) reported being married, and roughly 33% of respondents reported traveling 2 to 3 times in the last 12 months. Additionally, around 38% of participants reported having a monthly household income of between 10 to 20 million VND.

Table 1
Participants' Profile (n=218)

	Characteristics	Frequency	Percent
Gender	Male	66	30.3
	Female	152	69.7
Age	18 - 20 years old	191	87.5
	Over 20 years old	27	12.5
Marital status	Married	4	1.8
	Single	214	98.2
Monthly household income	Under 10 mills VND	14	6.5
	10- 20 mills VND	83	38.0
	21 - 30 mills VND	43	19.8
	31 - 40 mills VND	30	13.9
	Over 41 mills VND	48	21.8
Travel in last 12 months	Under 2 times	67	30.8
	2- 3 times	72	33.0
	4-5 times	45	20.6
	More than 5 times	34	15.6

(Survey results, 2022)

5.2. Validity and reliability of measurements

The measurement model describes the assessment of latent variables and the reliability and validity of observed variables in relation to these latent variables (Bagozzi & Yi, 1988; Hair et al., 2006). Previous studies were used to test all the

measurements, and a maximum likelihood estimation approach was employed along with CFA to confirm measurement accuracy. The CFA results indicated a satisfactory fit, as evidenced by a significant chi-square (χ^2) value of 315.050 and a significance level of .000. These results suggest that the measurement fits the data well. Other model fit indices, including χ^2/df ($315.050/253$) = 1.245, under the threshold less than 3 for acceptable criteria; the comparative fit index (CFI) = .981, incremental fit index (IFI) = .981; Tucker–Lewis index (TLI) = .975; the root mean square error of approximation (RMSEA) = .034, and the Standardized root mean square residual (SRMR) = .053, were also used to assess the model fit. These indices exceeded the recommended cut-off values, indicating a strong overall fit between the tested measurement model and the data (DiStefano & Hess, 2005; Hair et al., 2006). Table 2 lists the factor loadings, average variance extracted (AVE), and the measurement variables' composite reliability (CR). Factor loading of 26 items was higher than .5, and all the CR values exceeded .80, much higher than the .60 cut-off value, demonstrating a high internal consistency for the latent variables. 'Facilitating Conditions' has the lowest AVE values compared to other constructs (AVE = .515), which means the variance captured by this construct was over 50%. As Fornell & Larcker, (1981) mentioned, AVE is a more conservative measure than CR. When CR values were higher than .60, the convergent validity was eligible, even though more than 50% of the variance was due to errors. Therefore, the convergent validity of the scale was sufficient.

Table 2
The confirmatory factor analysis result

Constructs and items	Factor loading	SMC (R ²)	CR	AVE
Performance Expectancy (PE)			.841	.516
I find mobile accommodation booking apps very useful for tourism purposes.	.721	.520		
Using accommodation booking apps increases my chances of achieving essential things to me on the journey.	.727	.529		
Using accommodation booking apps helps me to accomplish things more quickly when on a journey.	.781	.610		
Using mobile accommodation booking apps optimize cost benefits	.634	.402		
I can save time when I use tourism apps on a journey.	.719	.517		
Effort Expectancy (EE)			.868	.568
I find learning how to use accommodation booking apps easy for me.	.732	.535		
My interaction with mobile accommodation booking apps is clear and understandable.	.758	.575		
I find mobile accommodation booking apps easy to use.	.744	.554		
The mobile accommodation booking apps have a simple and user-friendly interface.	.776	.602		
I can easily become skillful at using mobile accommodation booking apps.	.757	.573		
Social Influence (SI)			.865	.616
Most people who are important to me think I should use mobile accommodation booking apps.	.813	.661		
Most people who influence my behavior think that I should use mobile accommodation booking apps.	.858	.736		
Most people around me influence my behavior in using mobile accommodation booking apps.	.716	.513		
Most people around me appreciate the use of mobile accommodation booking apps.	.746	.556		
Facilitating Conditions (FC)			.806	.515
I have the resources necessary to use mobile accommodation booking apps.	.588	.346		
I have the necessary knowledge to use mobile accommodation booking apps.	.782	.611		
Mobile accommodation booking apps are compatible with other technologies that I use.	.836	.698		
I can get support from others when I have difficulties using mobile accommodation booking apps.	.636	.405		
Hedonic Motivation (HM)			.892	.678
Using mobile accommodation booking apps is fun.	.927	.859		
Using mobile accommodation booking apps is enjoyable.	.895	.800		
Using mobile accommodation booking apps is very entertaining.	.811	.658		
Using mobile accommodation booking apps is very satisfying.	.630	.397		
Intention to use (IU)			.871	.628
I intend to use mobile accommodation booking apps in future travel.	.740	.548		
I intend to continue using mobile accommodation booking apps in the future.	.788	.622		
I intend to use mobile accommodation booking apps in the long term and frequency.	.824	.679		
I will encourage friends and relatives to join and use mobile accommodation booking apps.	.814	.663		

$\chi^2 = 315.050$; $df = 253$; $\chi^2/df = 1.245$; CFI = .981; TLI = .975; IFI = .981; RMSEA = .034; SRMR = .053

(Survey results, 2022)

On the other hand, AVE was primarily utilized to assess discriminant validity. Discriminant validity is established when the square root of AVE for a particular factor is greater than the correlations between that factor and all other factors (Fornell & Larcker, 1981). The findings presented in Table 3 demonstrate that the square roots of the AVEs were greater than the off-diagonal elements in the corresponding rows and columns, indicating an acceptable level of discriminant validity.

Table 3
Discriminant validity

	PE	EE	SI	FC	HM	IU
PE	.718					
EE	.698	.735				
SI	.482	.572	.785			
FC	.542	.546	.479	.718		
HM	.395	.483	.548	.372	.824	
IU	.692	.682	.649	.536	.521	.792

Note: The bold diagonal elements are the squared root of AVE for each construct. Elements below the hold diagonal are the estimated correlation between constructs. (Survey results, 2022)

Hypothesis Test

The hierarchical approach was taken to test the significance of the add-on effects of Gen Z' 'Frequent of Apps use', 'Frequent travel', and 'Nearest travel time' on their intention to use accommodation booking apps. Furthermore, the variance inflation factor (VIF) was evaluated to check multicollinearity. The Durbin-Watson test was also conducted to confirm autocorrelation among residuals. Intention to use accommodation booking apps was set as the dependent variable. In the first model, five constructs of UTAUT2 were set as independent variables. After that, 'Frequent of Apps' use', 'Frequent travel', and 'Nearest travel time' variables were added to the second model. There is no multicollinearity symptom in these seven independent variables because the VIF value was obtained between 1 and 10. It can be concluded that all these variables were suitable for multiple regression analysis (Lin, 2008). The Durbin-Watson (DW) test was also performed to detect autocorrelation in the residuals from a regression analysis. In model 2, the DW value was 2.068, indicating weak autocorrelation in residuals from regression analysis (Chatterjee & Hadi, 2006; Rutledge & Barros, 2002).

Table 4

The predictive model of Gen Z's intention to use accommodation booking apps

Independent Variable	Model 1		Model 2		VIF
	β	t-value	β	t-value	
Gender	-.042	-.623	-.032	-.656	1.018
Age	.111	1.635	.053	.994	1.252
Income	.090	1.336	.032	.669	1.021
UTAUT2					
Performance Expectancy			.304	4.690***	1.821
Effort Expectancy			.174	2.558**	2.001
Social Influence			.207	3.333**	1.675
Facilitating Conditions			.086	1.486	1.459
Hedonic Motivation			.153	1.730**	1.520
Frequent of Apps use			.032	.606	1.203
Frequent travel			-.045	-.900	1.108
Nearest travel time			-.092	-1.874*	1.041
R ²		.008		.501	
F-value (sig.)		1.565		20.797***	
ΔR^2 (sig.)				.505***	

*p<0.1, **p<0.05, ***p<0.01 (Durbin-Watson: 2.068)

(Survey results, 2022)

By adding 'Frequent of Apps' use', 'Frequent travel', and 'Nearest travel time' in Model 2, the explanatory power of the predictive model was improved by 5.05%, which was statistically significant ($\Delta F=27.429$; sig. =.000). As seen in Table 4, Model 2, which included seven constructs of UTAUT2 accounted about 50.5% of the variance in 'intention to use' ($F=20.797$, sig =.000), with 'Performance Expectancy' ($\beta=.304$; sig=.000) and 'Social Influence' ($\beta=.207$, sig=.001) being strongest predictors. Besides that, 'Effort Expectancy' ($\beta=.174$; sig=.011) and 'Hedonic Motivation' ($\beta=.153$, sig=.010) are also predictors. Among these seven constructs, only 'Facilitation Conditions' ($\beta=.086$, sig=.139) did not significantly influence the intention to use accommodation booking apps of Gen Z in Vietnam. In addition, the effects of 'Frequent of Apps' use', 'Frequent travel', and 'Nearest travel time' did not significantly impact. Therefore, among seven hypotheses, H1, H2, H3, and H5 were supported, but only H4 was not supported.

The Independent Samples T-Test was employed to examine whether there are differences in the intention to use mobile applications for making accommodation bookings between male and female tourists, as well as across different income levels. The T-test results consistently indicated, with a confidence level of 95%, that the Sig T-test values were more significant than 0.05. Therefore, there is no significant difference in the intention to use mobile applications for accommodation bookings between male and female tourists, and income levels.

6. Discussion and implications

The empirical results of this study demonstrate that the factors influencing individuals' intentions to utilize accommodation booking apps, ranked by their significance, are as follows: performance expectancy, social influence, effort expectancy, and hedonic motivation. These findings primarily indicate that travelers and tourists are inclined to adopt accommodation booking apps when they perceive them to be enjoyable, entertaining, user-friendly, and useful for finding lodging. Essentially, individuals are more likely to have positive intentions towards using these apps due to the necessity of finding accommodation, as long as they perceive that the apps are fun, entertaining, and easy to use, and useful. This discovery has significant implications not only for accommodation booking engines, but also for online travel agencies (OTAs), hotel aggregators, and mobile app developers to reach potential Gen Z customers, who are the fastest-growing consumer segment and expected to be the dominant force in the future of consumption.

Performance expectancy stands out as a crucial predictor influencing consumers' behavioral intentions. When consumers perceive mobile tourism apps as helpful tools that facilitate quick and efficient tourism experiences, their intention to continue

using these apps increases. Previous studies have yielded similar findings (Dinh & Ngoc, 2021; Gupta & Dogra, 2017; Morosan, 2014). These results imply that booking platforms need to utilize the advantages of mobile apps to enhance the reservation experience. According to Sahu (2022), mobile apps are optimized for personalizing user experiences based on their preferences and characteristics. Meanwhile, Francis and Hoefel (2018) emphasized that Gen Z is a generation eager to express their individual identity, so they have a greater demand for personalized products and services that emphasize their personality. Thus, booking app developers should utilize smartphone functions to identify users' ages, interests, and trends to deliver recommendations on products and services that suit the users. In addition, an advantage of mobile apps over other methods is the ability to connect to mobile payment gateways such as e-wallets and banking apps while Gen Z users are becoming more comfortable with digital and mobile payment (Forrester Consulting, 2017). Therefore, it is critical for accommodation booking platforms to diversify payment methods with a focus on popular mobile payment apps.

Effort expectancy emerges as a significant factor in this research, with tourists placing importance on the user-friendly aspects of the technology. This study aligns with previous findings from Chong (2013), Fortes & Rita (2016), and Morosan (2014), which highlight the ease of use as a primary driver for tourists' adoption of such technologies. Therefore, mobile device-based application platforms require special attention to usability. This can be achieved by starting with a simple and intuitive design since users may not have the patience or time to navigate complex functions. Besides, developers should also strive to make their application visually appealing and engaging which match the characteristics of Gen Z users' preference. According to a report by Forrester Consulting (2017), 23% of Gen Z users would be likely to drop a brand if its mobile features are poorly designed. Last but not least, the platforms should make the registration and login process as simple and straightforward as possible. Young users may not have the patience for lengthy registration or login processes, so it's important to keep these steps concise. Social media login should be considered as an option in this stage.

Social influence, a fundamental construct of UTAUT, has been extensively examined within the mobile context, and its impact on intentions to use has received substantial empirical backing (Chong, 2013; Hew et al., 2015; Tan & Leby Lau, 2016). These findings align with a study conducted by a group Spanish researcher, which revealed that users are highly susceptible to the influence of friends and colleagues when it comes to the adoption of restaurant mobile apps (Palau-Saumell et al., 2019). Therefore, booking platforms should develop marketing programs targeting Gen Z audiences to increase social influence on the use of mobile apps for lodging booking. Two effective methods for this are influencer marketing and word-of-mouth marketing. The former method involves inviting key opinion leaders (KOLs) to try out products and promote them to their followers. Meanwhile, word-of-mouth marketing focuses on creating good experiences for concurrent customers, who would then recommend the products to acquaintances in their network. Weinswig (2016) noted that Gen Z consumers pay close attention to celebrities on social media and often replicate their choice of products and services. Furthermore, the rise of social networks and user-generated content has increased Gen Z's desire to have experiences similar to those of their peers. Therefore, companies operating mobile booking applications should strengthen their public relations activities to attract more young customers.

The examination of hedonic motivation within the mobile application context has been relatively limited, with the exception of a study by Venkatesh et al. (2012), which focused on mobile technology in general. However, it has been found that hedonic motivation significantly influences intentions to use, thereby corroborating the findings of Venkatesh et al. (2012). Furthermore, this relationship appears to be stronger than in previous applications of UTAUT2, such as online ticket purchasing (Escobar-Rodríguez & Carvajal-Trujillo, 2014), mobile banking (Alalwan et al., 2017), mapping apps (Gupta & Dogra, 2017), NFC mobile payments (Morosan & DeFranco, 2016), and room sharing apps (Dinh & Ngoc, 2021). These findings indicate that users perceive mobile applications positively when they are perceived as enjoyable, entertaining, and fun to use. There could be several features that booking engines can embed on their platforms to make them more appealing to this demographic. For example, there are gamification and in-app chat functions. In addition, young users are becoming more likely to seek a sense of community or belonging in cyberspace (Smith et al., 2021). Therefore, incorporating features that allow users to interact with each other and create their own communities within the app can go a long way in attracting and retaining young users.

7. Conclusion

This study affirms the significance of the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model as suitable for explaining the intention to use mobile accommodation booking applications among GENZ in Vietnam. Based on this model, we have adopted and modified the UTAUT2 model to fit the conditions of mobile room reservation applications on smart devices and the characteristics of GENZ in Vietnam, including five factors: Performance expectancy, Effort expectancy, Social influence, Facilitating conditions, and Hedonic motivation. The research results indicate four factors influencing the intention to use intelligent device-based accommodation booking applications among GENZ in Vietnam, in descending order of impact: performance expectancy, social influence, effort expectancy, and hedonic motivation. In addition to its theoretical significance, these findings can be helpful for accommodation businesses and companies providing innovative device-based accommodation booking platforms, offering a comprehensive understanding of GENZ tourists' preferences for booking accommodation services through mobile applications. Moreover, identifying the influencing factors on the intention to use

mobile applications for accommodation booking allows for developing and improving portable accommodation booking applications and implementing effective development strategies in the future.

Acknowledgments

This research is funded by Phenikaa University under grant number PU2022-1-C-02

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