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Factors Influencing University Student Decision to Utilize Mobile Banking in Cambodia: An Extension of UTAUT-2 with SERVQUAL and DIT

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ABSTRACT

Even though mobile banking has become popular in Cambodia, its adoption among university students is still a question. Hence, this study aims to investigate the factors influencing mobile banking adoption among university students in Cambodia. The study extends the Unified Theory of Acceptance and Use of Technology 2 (UTAUT-2) by integrating Service Quality (SERVQUAL) model, and Diffusion of Innovation (DIT) theory to examine factors driving mobile banking adoption. The study uses a questionnaire to collect data from 520 university students. By using structural equation modelling, the study found that compatibility and observability affect intention through performance expectancy and effort expectancy. The study also found that performance expectancy, effort expectancy, hedonic motivation, price value, and habit all had a significant positive effect on the intention to adopt mobile banking. However, social influence and facilitating condition do not have an impact on intention. At the final path, the study found that performance expectancy, responsiveness, tangible, and intention have a positive impact on the students' behavior to use mobile banking.

Keywords: Diffusion of Innovation Theory (DIT); generation Z; mobile banking; Service Quality Model (SERVQUAL); Unified Theory of Acceptance and Use of Technology (UTAUT-2)

INTRODUCTION

The world has witnessed the digitalization of all products and services since Industry 4.0. Similarly, in the banking sector, products and services have constantly developed and improved to best serve their clients (Norng, 2022). With the increase of fintech and blockchain adoption, mobile banking has emerged and is widely used locally, regionally, and globally.

As of 2023, Cambodia's financial sector has contributed to expanding financial inclusion. Mobile and digital transactions have reached 779.5 million transactions, equaling US$182.2 billion. This represents a significant increase of 60.7 percent in transaction volume and 10.6 percent in total value settled compared to 2022 (NBC, 2023). Mobile banking usage has increased in recent years, especially after COVID-19. Users have adopted mobile banking from two top banks in Cambodia (Norng, 2022). ACLEDA Mobile Banking, so-called ACLEDA Mobile, has been increasingly adopted, from 2.99 million users in 2022 to 3.29 million users in 2023 (ACLEDABank, n.d.), whereas the mobile banking of Advanced Bank of Asia Limited, so-called ABA Mobile, has grown in adoption from 2.4 million users in 2022 to 3.1 million users in 2023 (Advanced Bank of Asia Limited, 2023).

Financial institutions in Cambodia have constantly updated their digital services and products, especially mobile banking, to be responsive to customers' needs in Cambodia, especially Generation Z. According to Parker and Igielnik (2020), Generation Z, who is more likely to obtain higher education, adopts technology very fast. The Pew Research Center shows that, in 2018, 95 percent of Generation Z use a smartphone, and 97 percent of them use at least one online platform (Parker & Igielnik, 2020). However,

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mobile banking usage among students in higher education in Cambodia has been a question. Ngam and Norng (2022) found several reasons hindering university students from adopting mobile banking, "namely a lack of retail shop partners, subjective norm, and brand loyalty". Besides these hindering factors, research in Cambodia on university students' decision to utilize mobile banking is limited due to surfing via Google Scholar, Web of Science, ScienceDirect, and Scimago. This research seeks to identify the factors that encourage university students to utilize mobile banking. To investigate these factors, the study builds upon the UTAUT-2 framework, the SERVQUAL model, and the Diffusion of Innovation Theory (DIT).

This study offers a unique conceptual model for comprehending mobile banking usage in Cambodia. The extension of UTAUT-2 with SERVQUAL and DIT provides further insight into the factors driving students to use mobile banking in the Region. The proposed model sheds light on the importance of service quality dimensions, ease of and usefulness of technology adoption, innovative attributes, value, lifestyle, and habit, which influence students' decision to use mobile banking.

Mobile Banking Defined in This Study

To meet the needs of customers, banks have digitalized their products and services to become digital banking (Sharma, 2017). Among the key features of digital banking that has gained popularity in Cambodia is mobile banking. According to Shaikh and Karjaluoto (2015) a financial service that lets users perform financial transactions through a mobile device is mobile banking. Norng (2022) cited that "mobile banking refers to a FinTech application running on a smartphone, which enables customers to do banking transactions anywhere, anytime". Thus, this study defines mobile banking as financial services that are performed via a mobile phone, smartphone, or tablet.

Theory Related to The Technology Adoption

Norng (2022) examine factors influencing mobile banking and found that the model is useful in describing the adoption intention of mobile banking. However, Norng (2022) suggests a future study to focus on a different theoretical framework and different groups of adopters, especially teenagers or young adults.

To examine the use behavior, this study employs the UTAUT-2, which is useful in describing system adoption. UTAUT-2 was developed from the original UTAUT model to enhance its predictive power (Tamilmani et al., 2019). UTAUT-2 added price value, hedonic motivation, and habit as extra variables to the UTAUT model, and used gender, age, and experience to determine technology adoption and usage behavior (Venkatesh et al., 2012). Previous studies have employed UTAUT-2 to analyze the intention and behavior of utilizing mobile banking (Alalwan et al., 2017); (Dhingra & Gupta, 2020); (Gharaibeh et al., 2018). UTAUT-2 is applied to assess the success of new technologies and make adopters aware of a new system (Solihat et al., 2023). Even though thousands of studies apply UTAUT-2, there is still room for future study. (Tamilmani et al., 2021) found that future research can extend UTAUT-2 by adding new exogenous, new endogenous, new mediating, new external, and so forth. For example, (Oliveira et al., 2016) have structured UTAUT-2 with DIT to study mobile payment. Besides this integration, none of the studies have extended UTAUT-2 with DIT and SERVQUAL Model, to examine user behavior to adopt mobile banking. Therefore, these theories are proposed as a conceptual framework to analyze university students' behavior toward adopting mobile banking in Phnom Penh City, Cambodia.

Hypothesis Development

The study proposes fourteen hypotheses and a hypothesized model to analyze reasons that encourage students to utilize mobile banking.

Compatibility

Norng (2022) cited that compatibility refers to "the degree to which mobile banking services are in line with consumer's lifestyles and current needs". It is the assessment of a person on technology usage whether it is a good fit for them personally. Perceived usefulness and performance expectancy are closely related concepts in technology adoption models. Perceived usefulness is defined by Venkatesh et al. (2003) as a person's belief that technology enables them to achieve their goals or improve their performance, while performance expectancy focuses on the specific outcomes or results that a person expects to accomplish by using the technology. It is about the concrete benefits that the technology will deliver. Very few studies examine the effect of compatibility on performance expectancy. Individuals who perceive technology as compatible with their needs, values, and lifestyle are more likely to believe that it will enhance their performance (Venkatesh et al. (2003). If individuals see technology as compatible, they believe it is easier to use (Hubert et al., 2019). Thus, the study raises the first and second hypotheses as follows.

H_1: Compatibility affects performance expectancy of mobile banking usage.

H_2: Compatibility affects effort expectancy of mobile banking usage

Observability

Observability is the ability to determine a system by observing its behavior from the outside (Rogers, 2003). Al-Jabri and Sohail (2012) measure "observability of mobile banking by looking at its service accessibility, queuing, and transactions". As a system is highly observable, users can easily understand its functions and how to interact with it. Observability has been found to significantly affect effort expectancy (Choe & Noh, 2018). Hence, the third hypothesis is developed.

H_3: Observability affects effort expectancy of mobile banking usage.

Performance Expectancy

Performance expectancy is "the degree to which a person believes that using mobile banking services will help them in performing banking transactions" (Savić & Pešterac, 2019). Previous studies found consumer intention is influenced by performance expectancy (Venkatesh et al., 2012). Moreover, Zhou et al. (2010) found performance expectancy influences mobile banking adoption. Thus, the fourth and fifth hypotheses are proposed.

H_4: Performance expectancy influences the adoption intention of mobile banking.

H_5: Performance expectancy influences mobile banking usage.

Effort Expectancy

Venkatesh et al. (2012) refers to "effort expectancy is the degree of ease associated with consumers' use of technology". "When the customer thinks the application is convenient and requires little effort, he or she is more likely to adopt it" (Farzin et al., 2021,p.139). Effort expectancy affects users' intention of mobile banking (Savić & Pešterac, 2019). Therefore, the study raises the sixth hypothesis as follows.

H_6: Effort expectancy influences adoption intention of mobile banking.

Social Influence

(Venkatesh et al., 2012) refers to "social influence as agents who are important to others who believe they should use the new system". This definition shows how perceptions of social pressure from peers,

family, or colleagues can significantly impact system adoption intention (Batucan et al., 2022). Social influence plays a significant role in mobile banking adoption. Previous studies show that social influence determines whether someone tries mobile banking and keeps using it (Angelia et al., 2021); (Dai Thich, 2021). The intention to accept mobile banking is impacted by social influence (Savić & Pešterac, 2019); (Yu, 2012). Thus, the seventh hypothesis is raised.
H_7: Social influence affects users' intention to accept mobile banking.

Facilitating Condition

(Venkatesh et al., 2012) refers to "facilitating condition as consumers' perceptions of the resources and support which are available to perform a behavior". According to Savić & Pešterac (2019) "Mobile banking usage requires the availability of appropriate resources, knowledge, and technology infrastructure; therefore, these conditions have been assumed to depend on the intention of an individual". Facilitating condition affects the intention to use mobile banking (Savić & Pešterac, 2019); (Yu, 2012). Thus, the eighth hypothesis is proposed.
H_8: Facilitating condition affects intention to adopt mobile banking.

Hedonic Motivation

Venkatesh et al. (2012) refer to "hedonic motivation as a person's level of enjoyment obtained from using technology applications". Moreover, Baptista and Oliveira (2015) refers to the pleasure obtained from using mobile banking as hedonic motivation. Adoption intention is influenced by hedonic motivation (Baptista & Oliveira, 2015). Thus, the ninth hypothesis is raised.
H_9: Hedonic motivation affects the intention to adopt mobile banking.

Price Value

Venkatesh et al. (2012) refers to "price value as consumers' cognitive tradeoff between the perceived benefits of the applications and the monetary cost for using them" . It is a perception of worth that a user associates with mobile banking in relation to its cost. This includes "factors such as data service carrier costs on mobile Internet, device costs, service costs, and transaction fees" (Baptista & Oliveira, 2015). Price value is the determinant of adoption intention (Almaiah et al., 2022). Thus, tenth hypothesis is raised.
H_{10}: Price value affects adoption intention of mobile banking.

Habit

Habit is "the extent to which people tend to perform behaviors automatically because of learning" (Venkatesh et al., 2012). It related to the number of results of previous experiences in using mobile banking (Baptista & Oliveira, 2015). In the previous studies, habit affects the adoption intention (Utomo et al., 2021). Thus, the eleventh hypothesis is raised.
H_{11}: Habit affects the adoption intention of mobile banking.

Responsiveness

Responsiveness is the service provider's willingness to assist customers with prompt service (Bhasin, 2023). Responsiveness emphasizes the importance of timely assistance and the readiness of service personnel to address customer needs or inquiries about mobile banking. Responsiveness is more likely a major contributing factor to successful information system adoption (Gefen & Keil, 1998). Moreover, perceived responsiveness influences citizens to adopt SMS-Based e-Government Services (Goodwin, 2010). Thus, the twelfth hypothesis is proposed.
H_{12}: Responsiveness impacts mobile banking usage.

Tangible

Tangible is the feature of the product or service designed by the provider to meet customer expectations (Parasuraman et al., 1988). In the context of mobile banking, tangible is the physical elements that customers can see and interact with, which contribute to their overall perception of service quality. This includes any observable aspects that enhance the user experience and create a sense of reliability and professionalism in the service provided (Santos, 2002). Tangible affects on mobile banking usage (Farzin et al., 2021). Thus, the thirteenth hypothesis is proposed.

H_{13}: Tangible impacts mobile banking usage.

Intention to Adopt Mobile Banking

Norng (2022) cited that "intention is a degree to which individuals are willing to perform a certain behavior". Understanding intention is crucial for organizations and developers seeking to promote adopting and effectively using new technologies. Norng (2022) remarks that intention is the outcome of several predictors and directly affects the adoption.

Use behavior is an ongoing and regular use of technology, indicating its acceptance and integration into the user's daily life or work routine (Venkatesh et al. (2012). This means that adopters actually use mobile banking frequently; for instance, they use it daily, weekly, or monthly. Use behavior is the outcome of the intention to adopt a particular system (Venkatesh et al., 2012); (Baptista & Oliveira, 2015). Thus, the last hypothesis is developed.

H_{14}: Intention affects mobile banking usage.

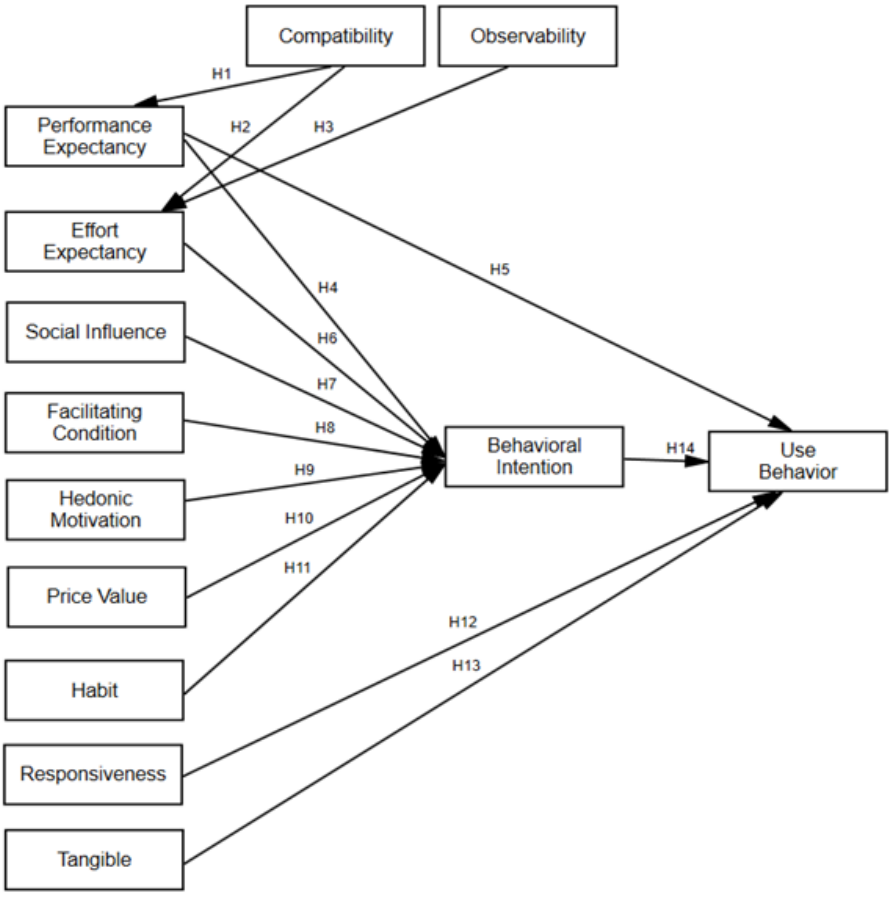

Figure 1. The Hypothetical Model

METHODS, DATA, AND ANALYSIS

Research Design

A causal study, which attempts to check whether there is an influence of one variable on another, was used in this research (Sekaran & Bougie, 2016). The research aimed to investigate the influencing factors on mobile banking usage. At the same time, a cross-sectional study, representing a snapshot of one point at a time in data collection, was also applied (Schindler, 2019).

Sample and Sampling Design

Norng (2022) recommended that a 40-case ratio to one independent variable would be appropriate for running regression; furthermore, Wolf et al. (2013) suggested 460 cases would be appropriate for running SEM. Therefore, the study decided to select 520 respondents as a sample size for predicting mobile banking adoption.

Furthermore, the purposive sampling was used to make sure that the sample could represent the target population in the study (Usman et al., 2024). Stratified and cluster sampling were also used to select the above sample size (Schindler, 2019). In cluster sampling, the study selected three universities in Phnom Penh city; that is, the first university is in the north-west area, the second university is in the middle area, and the third university is in the south-west area of Phnom Penh city. In the stratified sample, the study selected the sample size by dividing the sample into proportionate subgroups, namely gender, age, and year of study.

Research Tool

For a causal study, a survey questionnaire is an appropriate tool for selecting data (Sekaran & Bougie, 2016). Thus, the study designed the questionnaire into four sections. Section one screens respondents who are eligible to answer the questionnaire by following Ali et al. (2023) and determines subgroups such as gender, age, and year of study in section two. In section three, a five-point Likert scale was adopted to measure each construct. In this section, the construct measurements of UTAUT-2 were adapted from (Venkatesh et al., 2012). The study also adopted Norng (2022) for compatibility and observability and Phan and Nham (2015) for responsiveness and tangible. In section four, an open-ended question was designed to seek for comments from the respondents.

The Control of Common Method Bias (CMB)

As cited in Norng (2022), in order to keep a common method bias (CMB) at the minimum, the study adopted procedural and statistical controls adopted (Podsakoff et al., 2003). Before finalizing the questionnaire, the study employed Item-object congruence (IOC) by requesting three experts in the relevant fields to align each item and its construct. Then, a pilot test was analyzed by following the cutoff score of Cronbach's alpha of Nunnally (1994). The study constructed a questionnaire in Khmer and English, to avoid misunderstanding. The study followed Norng (2022) in checking the criteria of model fitness, establishing construct validity, and assessing reliability.

Procedures of Data Collection

The study spent eight weeks, from June to July 2024, to collect data from 520 university students. The researchers designed the questionnaire using a Google Form and turned it into a survey link. The

researchers requested permission from the three universities so that the data could be obtained from the students. Before requesting the students to fill in the survey link, the researchers explained the purpose of collecting data and the privacy of the student's responses. For another process of data collection, the researchers distributed the survey link via a social media platform, namely Messenger, Telegram, and LinkedIn. In this process, the researchers began with a short conversation and requested each student to fill in the link.

Data Analysis

The researchers used AMOS software to run confirmatory factor analysis (CFA) and structure equation modeling (SEM). The study extracted an output from AMOS and ran the AVE, CR, and HTMT ratios in Excel. Finally, the hypothesis testing was performed based on the output from SEM after adjustment.

RESULTS AND DISCUSSION

Screening Question

The study claims to have picked the right target population due to the screening question. Based on the frequency, 50 percent of the university students used mobile banking every day, followed by 30 percent who used it two to three times a week. Another 14 percent used it once a week, while only 6 percent used it less frequently; that is, twice a month or once a month.

Respondent Profile

According to the personal profile, the respondents who use mobile banking were mostly female students, accounting for 77.12 percent compared to their male counterparts. Most of their age bracket was between 17 to 21, comprising 62.9 percent. The majority of them were studying in year 3, consisting of 37.12 percent, followed by Year 1, accounting for 26.15 percent.

Table 1. Demographic factors of the respondents

Item	Categories (N = 520)	Frequency	Percentage
Gender	Male	119	22.88%
	Female	401	77.12%
Age Gap	17 to 21 years old	327	62.9%
	22 to 26 years old	193	37.1%
Usage Frequency	Year-1 student	136	26.15%
	Year-2 student	97	18.65%
	Year-3 student	193	37.12%
	Year-4 student	94	18.08%

Source: Authors' own calculation

Figure 2 shows that ACLEDA Mobile, adopted at 58.27 percent, was the top brand of mobile banking among university students, followed by ABA Mobile, which was adopted at 38.08 percent.

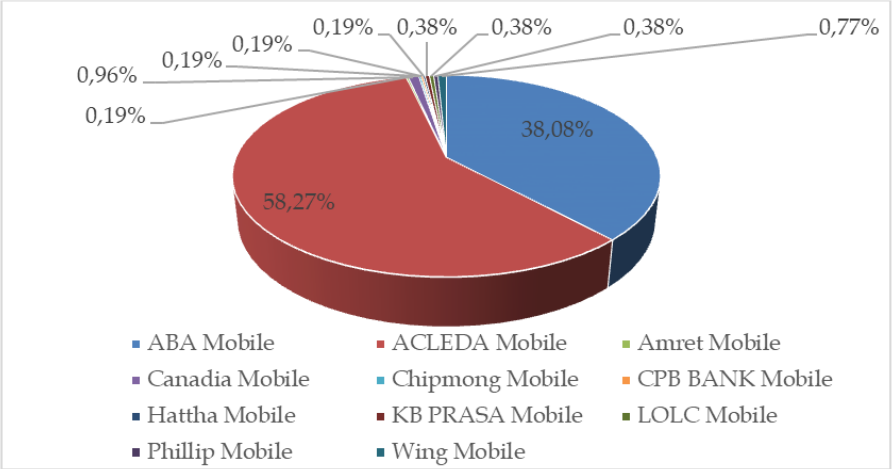

Figure 2. Brands of Mobile Banking

Fitness of The Proposed Model

By using CFA, the study ensured that the model met the criteria of model fit, as suggested by (Schermelleh-Engel et al., 2003). The CMIN/DF equaled 1.617, RMSEA equaled 0.034, NFI equaled 0.972, CFI equaled 0.972, and AGFI equaled 0.906 were regarded as a good fit, respectively, while GFI equal 0.932 was considered as acceptable fit.

Loadings of The Factor

According to Hair et al. (2006), all factor loadings, that were above 0.5, were highly accepted, as shown in Table 2. Therefore, the study used these factor loadings to check the convergent validity.

Convergent Validity

According to Table 2, the value of Cronbach alpha, AVE, and CR met the convergent validity criteria (Hair et al. (2006).

Table 2. Factor Loadings, AVE and CR

Variable	Mean	Std. Deviation	Factors Loading	Cronbach Alpha	AVE	CR
Performance Expectancy (PE)				0.76	0.536	0.774
PE1	4.333	0.632	0.772			
PE2	4.31	0.588	0.806			
PE3	4.3	0.623	0.603			
Effort Expectancy (EE)				0.783	0.648	0.786
EE2	4.24	0.638	0.769			
EE3	4.235	0.588	0.84			
Social Influence (SI)				0.831	0.722	0.838
SI1	3.975	0.748	0.881			
SI2	3.781	0.87	0.817			

Facilitating Condition (FC)				0.772	0.639	0.779
FC1	4.048	0.729	0.867			
FC2	4.139	0.7	0.726			
Hedonic Motivation (HM)				0.831	0.712	0.832
HM1	3.921	0.778	0.847			
HM2	4.027	0.734	0.841			
Price Value (PV)				0.76	0.619	0.765
PV2	3.967	0.791	0.807			
PV3	4.164	0.693	0.766			
Habit (HA)				0.894	0.739	0.894
HA1	3.956	0.833	0.851			
HA2	3.964	0.838	0.87			
HA3	4.048	0.785	0.857			
Compatibility (COM)				0.915	0.783	0.915
COM1	4.048	0.773	0.891			
COM2	4.075	0.765	0.89			
COM3	4.102	0.744	0.873			
Observability (OB)				0.8	0.573	0.8
OB1	4.24	0.746	0.808			
OB2	4.246	0.697	0.743			
OB3	4.167	0.725	0.716			
Tangibility (TAN)				0.741	0.588	0.741
TAN2	4.229	0.724	0.757			
TAN3	4.152	0.687	0.777			
Responsiveness (RES)				0.801	0.669	0.802
RES1	4.125	0.709	0.814			
RES3	4.069	0.749	0.822			
Intention (INT)				0.81	0.588	0.81
INT1	4.027	0.731	0.747			
INT2	4.019	0.737	0.787			
INT3	4.177	0.71	0.765			
Actual Use (USE)				0.875	0.7	0.875
USE1	4.19	0.663	0.85			
USE2	4.158	0.659	0.839			
USE3	4.154	0.654	0.82			

Source: Authors' own calculation

Discriminant Validity of Constructs

According to Phou et al. (2024), HTMT ratio executed discriminant validity well (Voorhees et al., 2016). As shown in Table 3, "the study met the criteria of discriminant validity since the ratio was lower than 0.85" ((Rasoolimanesh, 2022).

Table 3. HTMT Ratio

	USE	INT	TAN	RES	OB	COM	HA	PV	HM	FC	SI	EE	PE
USE													
INT	0.641												
TAN	0.318	0.323											
RES	0.42	0.443	0.363										
OB	0.436	0.452	0.547	0.41									
COM	0.429	0.473	0.275	0.706	0.57								
HA	0.488	0.54	0.261	0.5	0.433	0.631							
PV	0.303	0.426	0.385	0.231	0.253	0.178	0.398						
HM	0.485	0.557	0.297	0.59	0.407	0.628	0.725	0.313					
FC	0.274	0.264	0.275	0.246	0.257	0.212	0.171	0.233	0.298				
SI	0.392	0.479	0.231	0.499	0.31	0.541	0.558	0.254	0.702	0.255			
EE	0.375	0.429	0.279	0.388	0.345	0.397	0.343	0.245	0.364	0.231	0.299		
PE	0.352	0.369	0.326	0.286	0.354	0.349	0.297	0.343	0.358	0.254	0.339	0.44	

Source: Authors' own calculation

Structural Equation Modeling (SEM)

"SEM was performed to validate the proposed hypotheses" (Phou et al. (2024). After adjustment, the model met fitness criteria again; for instance, CMIN/DF equaled 1.771, RMSEA equaled 0.039, CFI equaled 0.963, GFI equaled 0.921, AGFI equaled 0.898, and NFI equaled 0.920.

As shown in Table 4, compatibility (COM) affected performance expectancy (PE) and effort expectancy (EE) with $\beta = 0.412$ and $\beta = 0.308$, respectively. Moreover, observability affected effort expectancy with $\beta = 0.175$.

For the second path analysis, PE, EE, hedonic motivation (HM), price value (PV), and habit (HA) affected mobile banking adoption intention (INT) with $\beta = 0.116$ for PE, $\beta = 0.2$ for EE, $\beta = 0.187$ for HM, $\beta = 0.183$ for PV, and $\beta = 0.19$ for HA, respectively. However, social influence (SI) and facilitating condition (FC) did not affect the adoption intention of mobile banking (INT) since the p-value = 0.159 > 0.05 for SI and p-value = 0.247 > 0.05 for FC.

For the third path analysis, performance expectancy (PE), responsiveness (RES), tangible (TAN), and intention (INT) positively affected actual adoption of mobile banking (USE) with $\beta = 0.124$ for PE, $\beta = 0.131$ for RES, $\beta = 0.119$ for TAN, and $\beta = 0.462$ for INT.

Table 4. Structural Equation Modeling (SEM)

IV	**DV**	**Unstandardized Coefficients**		**Standardized Coefficients**		Sig. (*p*-value)
		B	S.E.	Beta	C.R.	
COM	PE	0.273	0.04	0.412	6.866	0.000***
COM	EE	0.238	0.047	0.308	5.046	0.000***
OB	EE	0.178	0.065	0.175	2.726	0.006**
PE	INT	0.147	0.067	0.116	2.185	0.029*
EE	INT	0.216	0.053	0.2	4.046	0.000***
SI	INT	0.078	0.056	0.098	1.408	0.159

FC	INT	0.063	0.055	0.057	1.157	0.247
HM	INT	0.172	0.085	0.187	2.015	0.044*
PV	INT	0.191	0.056	0.183	3.407	0.000***
HA	INT	0.148	0.059	0.19	2.523	0.012*
PE	USE	0.149	0.065	0.124	2.29	0.022*
RES	USE	0.157	0.077	0.131	2.047	0.041*
TAN	USE	0.205	0.085	0.119	2.424	0.015*
INT	USE	0.439	0.057	0.462	7.701	0.000***

Hypothesis Testing Results

All hypotheses were supported, yet H_7 and H_8 were not supported since the levels of significance were greater than 0.05.

Table 5. Result of Hypothesis Testing

Hypothesis	P-value	Test result
H_1: Compatibility affects performance expectancy of mobile banking usage.	0.000***	Supported
H_2: Compatibility affects effort expectancy of mobile banking usage.	0.000***	Supported
H_3: Observability affects effort expectancy of mobile banking usage.	0.006**	Supported
H_4: Performance expectancy influences the adoption intention of mobile banking.	0.029*	Supported
H_5: Performance expectancy influences mobile banking usage.	0.022*	Supported
H_6: Effort expectancy influences adoption intention of mobile banking.	0.000***	Supported
H_7: Social influence affects users' intention to accept mobile banking.	0.159	Not Supported
H_8: Facilitating condition affects intention to adopt mobile banking.	0.247	Not Supported
H_9: Hedonic motivation affects the intention to adopt mobile banking.	0.044*	Supported
H_{10}: Price value affects adoption intention of mobile banking.	0.000***	Supported
H_{11}: Habit affects the adoption intention of mobile banking.	0.012*	Supported
H_{12}: Responsiveness impacts mobile banking usage.	0.041*	Supported
H_{13}: Tangible impacts mobile banking usage.	0.015*	Supported
H_{14}: Intention affects mobile banking usage.	0.000***	Supported

The result of the proposed model on factors influencing university students' decision to use mobile banking in Cambodia is illustrated in the following figure.

The Proposed Conceptual Model

The results from SEM indicate that the proposed conceptual model explains 18.7 percent for effort expectancy (R^2 = 0.187), 17 percent for performance expectancy (R^2 = 0.17), 44.40 percent for intention (R^2 = 0.444), and 45.6 percent for actual adoption (R^2 = 0.456). The extension of UTAUT-2 with DIT and SERVQUAL explains the students' behavior in using mobile banking is in line with (Chao, 2019); (Farzin et al., 2021). Hence, this proposed model in this study is considered a novelty in UTAUT-2 in understanding the decisions of university students to adopt mobile banking in Cambodia.

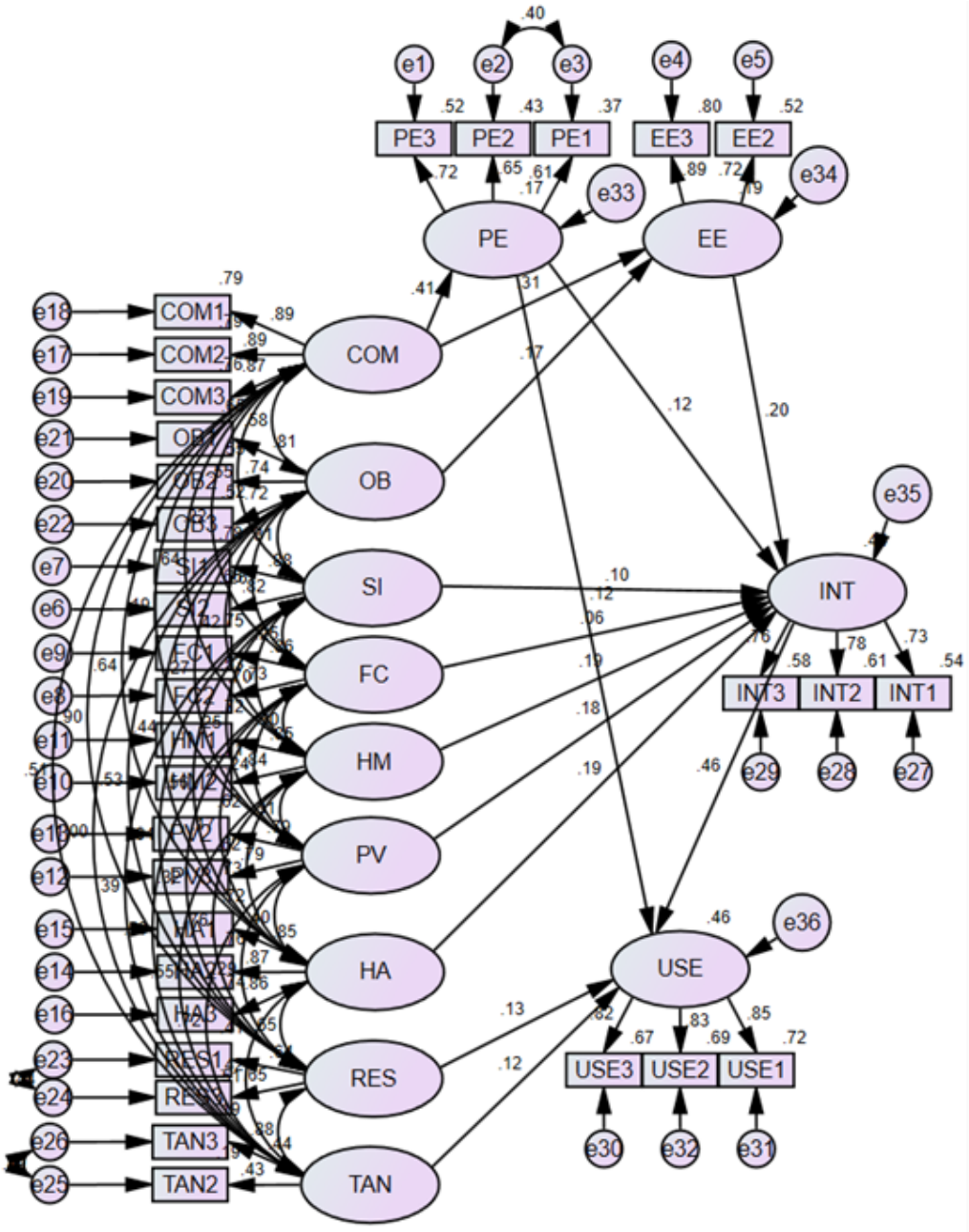

Figure 3. The conceptual model results

Influencing Factors on Adoption Intention and Mobile Banking Usage

For H_1 and H_2, compatibility positively affects performance expectancy at $\beta = 0.412$ and effort expectancy at $\beta = 0.308$. This is in line with (Hubert et al., 2019). It is a novel finding since very few studies focus on this effect. Therefore, this finding shows that university students are willing to use mobile banking if they see it fits with their needs, values, and lifestyles.

For H_3, observability affects effort expectancy at $\beta = 0.175$. This is in line with the study of Choe and Noh (2018). This finding is also a novelty as very few studies address this relationship. In this sense, university students are more likely to adopt mobile banking if they can see the financial transaction immediately on their mobile banking and see others use it effortlessly.

For H_4 and H_5, the study found performance expectancy positively affected mobile banking adoption intention at $\beta = 0.116$ and mobile banking usage at $\beta = 0.124$. These findings are in line with (Iskandar et al., 2020); (Ivanova & Kim, 2022). Hence, university students tend use mobile banking because it improves their everyday settlements better and faster.

For H_6, the study found effort expectancy positively affects adoption intention at $\beta = 0.2$. This finding supports (Alalwan et al., 2017); (Savić & Pešterac, 2019). Thus, university students are willing to adopt mobile banking since they can use it effortlessly. Generation Z wishes to adopt a particular technology that they think it is simple and less complex.

For H_7, social influence does not influence the adoption since the p-value is greater than 0.05. This finding is inconsistent with the study of (Dwiputranti et al., 2019); (Savić & Pešterac, 2019); (Yu, 2012). However, the finding is in line with (Baptista & Oliveira, 2015).

There may be several plausible reasons that social influence does not affect the intention to adopt mobile banking. This suggests that Generation Z may be more likely to adopt mobile banking due to its intrinsic value in their financial lives rather than external influences. Another plausible reason is that mobile banking adoption among this target group is relatively low compared to another group, which needs attention from service providers.

For H_8, the study also found that the facilitating condition does not influence adoption since the p-value is greater than 0.05. This result contradicts (Dwiputranti et al., 2019); (Savić & Pešterac, 2019); (Yu, 2012). Nonetheless, this finding supports (Baptista & Oliveira, 2015); (Solihat et al., 2023). In this sense, the facilitating condition is not the reason that pushes university students to use mobile banking since they are a tech-savvy generation, and they are more accustomed to mobile devices or apps. As Internet connectivity is already in place in Phnom Penh city, university students can adopt mobile banking without the need for appropriate resources and knowledge.

For H_9, the study found hedonic motivation affects mobile banking adoption intention at $\beta = 0.187$. This finding is in line with (Baptista & Oliveira, 2015); (Venkatesh et al., 2012). In this sense, university students intend to use mobile banking, for they can have fun with their peers; for instance, some mobile banking apps offer programs such as cashback, points, or coins that allow students to use these coins to exchange for their game activities.

For H_{10}, the study found price value affects mobile banking adoption intention at $\beta = 0.183$. This finding supports (Almaiah et al., 2022); (Venkatesh et al., 2012). It means that university students use mobile banking because they do not have to pay extra service or annual fee charges. To them, mobile banking is worth using.

For H_{11}, the study found habit positively affected mobile banking usage at $\beta = 0.19$. This result aligns with (Baptista & Oliveira, 2015); (Venkatesh et al., 2012). In this sense, the students intend to use mobile banking because they have become familiar with it. To them, using mobile banking become natural. That's why they use it more frequently, as shown in the frequency of adoption.

For H_{12}, the study found responsiveness positively influenced mobile banking usage at $\beta = 0.131$. This result is congruent with (Gefen & Keil, 1998); (Goodwin, 2010). In this sense, the students use mobile banking because service providers assist them timely and with care upon their requests or complaints.

For H_{13}, the study found tangible affects mobile banking usage at $\beta = 0.119$. This finding agrees with (Farzin et al., 2021); (Santos, 2002). This means that students use mobile banking due to its design and features. Mobile banking consists of several features, including transferring money within one's own e-wallet and out of the e-wallet of others, paying purchases for online and offline shopping, paying bills,

checking balance, linking financial transactions of credit cards, topping up, requesting and paying loans, and so forth (Norng, 2022).

For H_{14}, the study found intention influences mobile banking usage at ($\beta = 0.462$). This result matches (Baptista & Oliveira, 2015); (Venkatesh et al., 2012). The direct impact of adoption intention and use behavior becomes natural in psychological behavior. When individuals intend to do something, they decide or find a way to do it sooner or later (Norng, 2022). Therefore, when students intend to adopt mobile banking, they will use it either immediately or in the future. That is why the students use mobile banking daily, weekly, or monthly.

Implications of The Conceptual Model

The integration of UTAUT-2, SERVQUAL, and Diffusion of Innovation theories (DIT) provides insight into mobile banking adoption. Since social influence and facilitating conditions do not affect intention which contradicts the UTAUT-2 model, this provides a novel understanding of the intention of Generation Z in utilizing mobile banking.

Besides, this proposed model provides a new finding that performance expectancy and effort expectancy play a mediating effect by connecting compatibility and observability to mobile banking adoption intention. Once again, it is a novel contribution to the understanding of mobile banking adoption among university students.

The proposed model, which found hedonic motivation, price value, and habit influence mobile banking adoption intention, also backs up UTAUT-2. These factors complement the UTAUT-2 model and provide a more novel understanding of technology adoption among university students (Generation Z).

Moreover, the finding of this study recognizes the value of the SERVQUAL model, namely responsiveness and tangible, which significantly impact mobile banking adoption. This finding is also a novel contribution to the existing literature that can effectively explain mobile banking adoption among university students and other target groups. Likewise, the proposed model in this study can also be used to determine influencing factors on system usage in other relevant fields.

Managerial implications

The results offer credential information for decision-makers and banks or financial institutions seeking to promote mobile banking adoption among university students:

Focus on Service Quality

As responsiveness and tangible influences the decision of university students to adopt mobile banking, service providers should focus on providing high-tech mobile banking services, particularly in terms of responsiveness and tangible aspects to improve service quality continuously. In this sense, timely customer support and informative information with instant feedback are needed.

Integrate Compatibility and Observability Into The Promotion Strategy

Mobile banking service providers should emphasize the benefits of mobile banking, offer user-friendly interfaces, make its usage visible to students, and make it fit their lifestyles and preferences.

These factors can be integrated into key messages or reviews through marketing campaigns, social media promotions, and showcasing success stories.

There Should Be A Place For Hedonic Motivation, Price Value, and Habit

Since these factors influence mobile banking adoption intention, banks or financial institutions should consider incorporating features that provide enjoyment, value-added services, and user familiarity. This could include gamification elements, personalized experiences, or rewards for using mobile banking, such as cashback rewards, discounts, or loyalty programs. Banks or financial institutions should continuously monitor student preferences and usage patterns to identify areas for improvement and adapt their mobile banking offerings accordingly.

CONCLUSION AND SUGGESTION

Mobile banking has been increasingly adopted in Cambodia during and after Covid-19. Since then, banks and microfinance institutions have constantly improved this fintech service; however, the adoption of this service among university students has been neglected. Their attitude, intention, and behavior toward mobile banking adoption have never been studied. Therefore, this study attempts to investigate influencing factors on mobile banking adoption among university students in Cambodia. The study structured the UTAUT-2, SERVQUAL model, and DIT theory to understand these factors.

By employing CFA, the research tool meets the validity and reliability criteria, and the conceptual model is statistically significant. By using SEM, the study revealed that compatibility and observability are key factors in determining adoption intention through performance and effort expectancy. However, the finding of this study challenges the UTAUT-2 Model on social influence and facilitating conditions. This indicates that Generation Z is less likely influenced by external or social pressures, but they are more motivated by their own drive to use mobile banking. Likewise, the result support UTAUT-2 that performance expectancy, effort expectancy, hedonic motivation, price value, and habit affect adoption intention of mobile banking. These findings suggest banks or financial institutions integrate these factors into promotion strategies to capture the value of this target group. Last but not least, the study found that responsiveness and tangible influence on mobile banking usage.

This study has a certain limitation as the target group is university students who study in Phnom Penh, which does not cover all mobile banking users in Cambodia. Key strategies for promoting mobile banking among this target group have not yet been explored.

The study suggests that the next researchers cover other target groups in other parts of Cambodia and employ a qualitative study to develop strategies to promote mobile banking adoption among university students since they are agents who influence their families, friends, or colleagues to adopt mobile banking.

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