JDI JOURNAL OF DEVELOPMENT AND INTEGRATION

JOURNAL OF DEVELOPMENT AND INTEGRATION
No. 79 (2024) 73-84 | jdi.uef.edu.vn

Factors affecting the decision on using mobile banking of university students: An empirical study in Ho Chi Minh City

Nguyen Thi Thu Trang*, Phan Vu Duy Khang
Ho Chi Minh City University of Banking, Vietnam

KEYWORDS

Decision to use, Factors affecting, Ho Chi Minh City, Mobile Banking, University students.

ABSTRACT

The article studies the factors influencing the decision to use Mobile Banking among university students in Ho Chi Minh City. Through a questionnaire administered to 294 students and utilizing the TAM model as a framework, the authors proposed six factors and constructed a scale comprising 27 observational variables to assess their impact. Throughout various stages including data processing, statistical analysis, scale reliability testing, exploratory factor analysis, and linear regression, the research findings indicate that all six expected factors significantly influence the decision to use Mobile Banking. The impact of these factors decreases in the following order: perceived usefulness, perceived ease of use, social influence, transaction costs, perceived risks and lastly brand image. While most factors have a positive impact, perceived risk is the only factor negatively affecting students' decision to use Mobile Banking. Moreover, the decision to use Mobile Banking shows no significant differences across gender, place of birth, year of study, major and income. Finally, the author proposes practical implications for bank management to enhance customer attraction and offers suggestions for future research directions.

1. Overview of Mobile Banking

1.1. Definition

In this modern days, consumers can install various applications on their smartphones to meet different needs. According to Hanafizadeh et al. (2014), the banking sector has introduced numerous electronic banking channels to supply diverse requirements from customers and a recent addition to these channels is Mobile Banking - which can offer a wide range of financial services to consumers through communication technologies.

Wessels and Drennan (2010) argue that Mobile Banking represents a new dimension of electronic banking, distinct from traditional telephone banking services that offer limited functionalities, it serves as a versatile platform for automated banking and various financial services.

Ngo Duc Chien (2022) defined "Mobile banking is a service offered by banks or other financial institutions that enables their customers to conduct financial

* Corresponding author. Email: trangka.buh@gmail.com

https://doi.org/10.61602/jdi.2024.79.09
Received: 23-Jun-24; Revised: 30-Jul-24; Accepted: 09-Aug-24; Online: 01-Nov-24
ISSN (print): 1859-428X, ISSN (online): 2815-6234

transactions remotely using mobile devices such as smartphones and tablets. Unlike internet banking, it involves the use of software, typically referred to as an app, provided by financial institutions for this purpose. Mobile banking is usually available 24/7."

In summary, in this study, Mobile Banking can be understood as a banking service performed on mobile devices (smartphones or tablets) with an internet connection, enabling customers to conduct a wide range of transactions, fulfilling many customers' needs without the need to visit the bank in person, offering convenience and accessibility anytime, anywhere.

1.2. Benefits of using Mobile Banking

According to Tran Huu Ai and Cao Hung Tan (2020), Mobile Banking has significantly changed the operations of banks, contributing to cost reduction and increased efficiency for customers. The essence of Mobile Banking lies in conducting transactions through portable devices. Mobile banking enables users to perform diverse financial transactions anywhere and anytime, allowing 24/7 financial services, therefore customers can enjoy a wide range of services, including checking balances, transferring funds, paying bills, making purchases through e-wallets, and engaging in online shopping (Tran Huu Ai & Cao Hung Tan, 2020).

Therefore, using Mobile Banking helps customers save time and transportation costs, especially when there is a considerable geographical distance between the bank and the customer. Compared to the traditional approach of traveling to the bank branch, waiting in line for transaction sessions or searching for the nearest ATM for basic financial needs, customers can now fulfill these requirements anytime they want with just a few taps on their portable devices.

On the other hand, for banks, Mobile Banking significantly reduces overhead costs and staff expenses - conducting transactions online shortens processing times, standardizes procedures, and enhances efficiency in document retrieval and

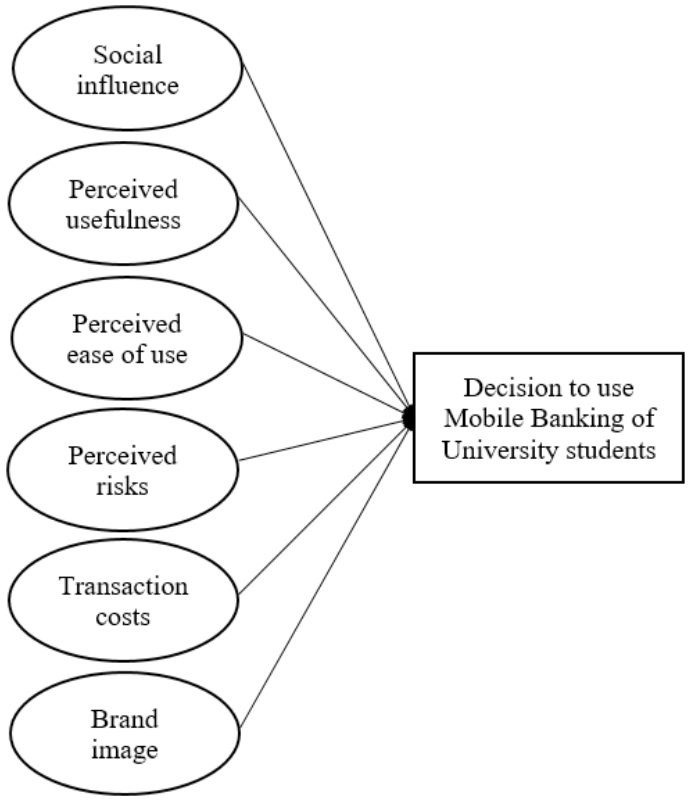

Figure 1. Research model

processing. Consequently, it boosts operational productivity and the bank's revenue (Ngo Duc Chien, 2022).

Furthermore, the data storage feature of Mobile Banking ensures that customers can securely access their transaction history and account information conveniently. This not only deducts paperwork needs but also improves transparency and accountability in financial transactions. Also, by allowing customers to track their savings and loan accounts in real-time, Mobile Banking allows them to make informed financial decisions and manage their finances more effectively.

At the moment, most banks have already deployed and developed Mobile Banking services. For example, Vietcombank offers the VCB Digibank, Standard Chartered with SC Mobile, VietinBank with VietinBank iPay, Sacombank provides Sacombank Pay,…

2. *Research model*

Based on theoretical foundations from theories TRA, TPB, and notably TAM, the author decides to utilize three factors: perceived usefulness, perceived ease of use, and social influence to examine their impact on the decision to use Mobile Banking among students in HCMC. Additionally, drawing from the findings of literature reviews of experimental studies, the author takes in three additional factors - transaction costs, brand image, and perceived risk - into the research model to explore new dimensions of the psychological and behavioral intentions of present-day students. Therefore, the research model is proposed as in Figure 1.

2. Relative empirical studies and research hypothesis and scale construction

2.1. Foreign studies

Mamun et al. (2023) examined the factors affecting Mobile Banking adoption in Bangladesh through the evaluation of 630 people from January-June/2021. Data were processed using Kaiser-Meyer-Olkin (KMO) and Bartlett's tests, reliability tests and EFA. The study confirms that convenience, ease of use, cost and comparative advantage positively affect the decision to use Mobile Banking in Bangladesh, while risk is a factor that has an opposite impact.

Kwateng et al. (2020) examined the factors that influence customers' acceptance and subsequent use of Mobile Banking services in Ghana using the Unified Theory of Acceptance and Use of Technology (UTAUT2) model. The study sampled 300 Mobile Banking service users in Ghana, and the results showed that habits, values and beliefs are the main factors influencing the adoption of Mobile Banking in Ghana.

In a study by Makanyeza (2017), an examination was carried out regarding the factors influencing the adoption of Mobile Banking services in Zimbabwe. The survey involved 232 customers across five banks in Chinhoyi city. The research findings revealed that perceived usefulness, effectiveness, social influence, relative advantage, and compatibility demonstrated a positive influence, whereas perceived risk exhibited a negative impact on customers' inclination to use Mobile Banking services.

In a study by Sitorus et al. (2019), researchers delved into the adoption behavior of mobile banking

Table 1. Summary of hypotheses

Hypothesis	Description	Expected relationship
H_1	Perceived usefulness positively influences the decision to use Mobile Banking among university students in HCMC	+
H_2	Perceived ease of use positively influences the decision to use Mobile Banking among university students in HCMC	+
H_3	Perceived risk negatively influences the decision to use Mobile Banking among university students in HCMC	-
H_4	Social influence positively influences the decision to use Mobile Banking among university students in HCMC	+
H_5	Reasonable transaction costs positively influence the decision to use Mobile Banking among university students in HCMC	+
H_6	Brand image positively influences the decision to use Mobile Banking among university students in HCMC	+

Table 2. Summary of scale

No.	Features	Variable code	Source
	1. Perceived usefulness	PU	Riquelme and Rios (2010), Mamun et al. (2023), Jeong and Yoon (2013), Sakala and Phiri (2019)
1	Mobile Banking helps me deal with financial needs flexibly	PU1	
2	Mobile Banking saves me time and transportation costs	PU2	
3	I have accessed more banking services thanks to Mobile Banking	PU3	
4	Mobile Banking helps me manage my finances efficiently	PU4	
	2. Perceived ease of use	PEU	Ngo Duc Chien (2022), Sitorus et al. (2019), Riquelme and Rios (2010), Ha Nam Khanh Giao (2022)
5	I can quickly install Mobile Banking on my device	PEU1	
6	I find it easy to learn how to use Mobile Banking	PEU2	
7	The use of Mobile Banking are simple to perform	PEU3	
8	I can proficiently use Mobile Banking	PEU4	
	3. Perceived risks	PR	Luo, Li, Zhang, and Shim (2010), Alalwan et al. (2016), Thusi and Maduku (2020), Vo Thi Phuong Lan and Nguyen Thanh Giang (2021), and Mamun et al. (2023)
9	I worry that my personal information may be leaked when using Mobile Banking	PR1	
10	I fear that if I lose my phone with Mobile Banking, I might lose my money as well	PR2	
11	I am concerned about losing money in case of errors during transactions through Mobile Banking	PR3	
12	When using Mobile Banking, I fear the possibility of my account being stolen by hackers/thieves	PR4	
	4. Social influence	SI	Makanyeza (2017), Ngo Duc Chien (2022), and Sitorus et al. (2019)
13	I am encouraged by my family/friends/teachers/… to use Mobile Banking	SI1	
14	I use Mobile Banking because of recommendations from my family/friends/teachers/…	SI2	
15	I feel confident using Mobile Banking when I see everyone around me using it	SI3	
	5. Transaction costs	TC	Awad and Dessouki (2017), Ngo Duc Chien (2022), and Jeong and Yoon (2013)
16	Using Mobile Banking helps me save more costs compared to transactions at the counter	TC1	
17	I am satisfied with the fees associated with Mobile Banking because I receive corresponding benefits	TC2	
18	I am well aware of the fees for using Mobile Banking	TC3	
19	The fees for Mobile Banking are reasonable	TC4	
	6. Brand image	BI	Ngo Duc Chien (2022), Vo Thi Phuong Lan and Nguyen Thanh Giang (2021)
20	I use Mobile Banking because it is a product of a reputable bank	BI1	
21	I am satisfied with the quality of the bank's services	BI2	
22	I am attracted by the favorable policies of the bank	BI3	
23	I receive decent support when transaction issues arise	BI4	
	7. Student's decision	SD	Ngo Duc Chien (2022), Xiao et al. (2017), Lambert et al. (2019), Makanyeza (2017)
24	I feel that Mobile Banking is an essential application	SD1	
25	I will continue to use Mobile Banking services	SD2	
26	I intend to explore more features in the future	SD3	
27	I will recommend people around me to use Mobile Banking	SD4	

Table 3. Demographic statistics of the survey

Characteristic		Frequency	Percentage (%)
Gender	Male	137	46.60
	Female	157	53.40
Come from	Ho Chi Minh City	105	35.71
	Other provinces	189	64.29
Year of study	Freshman	32	10.88
	Sophomore	61	20.75
	Junior	105	35.71
	Senior	96	32.65
Major	Economics	109	37.07
	Technology	46	15.65
	Languages	37	12.59
	Cultures and Arts	31	10.54
	Engineering	50	17.01
	Others	21	7.14
Main income	Part-time jobs	103	35.03
	Family support	191	64.97

Table 4. Results of KMO and Bartlett test (III)

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.834
Bartlett's Test of Sphericity	Approx. Chi-Square	1974.243
	df	210
	Sig.	0.000

in Indonesia. They utilized partial least squares structural equation modeling to test a proposed model, drawing data from 319 respondents. The results supported all hypotheses, indicating that individuals' intention to persist in using mobile banking is significantly influenced by factors including satisfaction, compatibility, perceived usefulness, perceived learnability, and social influence.

2.2. Domestic studies

Vo Thi Phuong Lan and Nguyen Thanh Giang (2021) conducted a study examining the factors influencing the adoption of Mobile Banking among users in Vietnam. By employing the TAM model and analyzing data collected from 420 participants in 2020, their research highlights the influence of brand and social factors on customers' adoption of Mobile Banking. Notably, a stronger brand and higher social influence of a bank positively correlate with increased utilization of services by users. Furthermore, the study indicates that transactional risk exhibits a negative association with the adoption of Mobile Banking.

Ngo Duc Chien (2022) conducted a study on the factors influencing the decision to use Mobile Banking services using data collected from 291 customer responses. The author employed statistical methods, assessed Cronbach's Alpha reliability, conducted EFA, correlation analysis, and linear regression modeling using SPSS software. The results indicated that factors bank image, perceived cost, perceived usefulness, perceived ease of use, and social influence all positively impact customers' decision to use Mobile Banking services, while risk perception impacted negatively.

Le Hoang Ba Huyen and Le Thi Huong Quynh (2018) conducted a study on the factors influencing the decision to use mobile banking, using 300 survey questionnaires. Utilizing and inheriting the theoretical foundations of TAM and UTAUT, the results showed that Perceived Cost had a significant inverse impact with the largest effect coefficient on the intention to use mobile banking. Conversely, among the positively influencing factors, Social Influence had

Table 5. Results of KMO and Bartlett test for Dependent variable

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.791
Bartlett's Test of Sphericity	Approx. Chi-Square	319.023
	df	6
	Sig.	0.000

Table 6. Total Variance Explained for Dependent variable

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.449	61.233	61.233	2.449	61.233	61.233
2	.574	14.344	75.577			
3	.520	13.003	88.580			
4	.457	11.420	100.000			

Extraction Method: Principal Component Analysis.

the strongest impact, followed by Perceived Ease of Use, Compatibility and then Perceived Trust.

Ha Nam Khanh Giao (2022) conducted a study on the impact of security on customers' intention to use Mobile Banking in HCMC. An online survey collected data from 200 respondents. The analysis revealed that perceived usefulness of mobile banking significantly influences users' intention to continue usage, regardless of security concerns. This suggests that as long as the app is user-friendly, users will use it without much concern for security.

The study utilized a Likert scale to investigate students' attitudes towards Mobile Banking, with responses displayed on a 5-point scale: (1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree and (5) Strongly Agree. Through the research process, the author selected appropriate variables related to the topic from existing experimental studies and constructed a scale consisting of 27 explanatory variables for one dependent variable and six independent variables as presented in Table 2.

3. Research results and discussions

Regarding gender, the female respondents a bit outnumber male. Specifically, out of the 294 students surveyed, 157 are female, showing a slight imbalance as the remaining 137 students are male.

In terms of residence, similar to the gender distribution, the two residential groups in the survey are nearly balanced. The group of students from HCMC consists of 105 individuals, equivalent to 35.7% of the total surveyed students, while the group of students from other provinces comprises 189 individuals, representing 64.3% of the surveyed population.

Concerning academic years, fourth-year students outnumber the others, while the first-year student group constitutes a smaller portion. The survey results indicate that out of the total 294 students, 32 are freshmen, 61 are sophomores, 105 are juniors, and 96 are seniors.

In terms of academic majors, for every 10 surveyed students, approximately 3 belong to the Economics. Specifically, the Economics major takes the lead with 37.1% among the 294 students, followed by the Language major with 12.6%, the Technology major with 15.6%, the Engineering major with 17.0%, the Cultures and Arts major with 10.5%, and others with 7.1%.

Concerning the primary source of income, the majority of surveyed students rely on financial

Table 7. Component Matrix[a]

	Component
	1
SD3	.810
SD1	.788
SD2	.784
SD4	.746

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Table 8. Correlations

		SD	PU	PEU	PR	SI	TC	BI
SD	Pearson Correlation	1	.605**	.522**	-.472**	.538**	.509**	.477**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	294	294	294	294	294	294	294
PU	Pearson Correlation	.605**	1	.279**	-.306**	.347**	.330**	.332**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	294	294	294	294	294	294	294
PEU	Pearson Correlation	.522**	.279**	1	-.236**	.252**	.334**	.260**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	294	294	294	294	294	294	294
PR	Pearson Correlation	-.472**	-.306**	-.236**	1	-.305**	-.315**	-.332**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	294	294	294	294	294	294	294
SI	Pearson Correlation	.538**	.347**	.252**	-.305**	1	.305**	.332**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	294	294	294	294	294	294	294
TC	Pearson Correlation	.509**	.330**	.334**	-.315**	.305**	1	.298**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	294	294	294	294	294	294	294
BI	Pearson Correlation	.477**	.332**	.260**	-.332**	.332**	.298**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	294	294	294	294	294	294	294

**. Correlation is significant at the 0.01 level (2-tailed).

support from their families. As shown in Table 3, a total of 191 students receive financial support from their families, equivalent to 65%, while only 103 students sustain their expenses through part-time jobs, representing 35.0%.

Through the reliability testing method using Cronbach's Alpha, all 27 proposed observed variables within the scale are deemed appropriate and meaningfully contribute to effective measurement. These observed variables will be retained for the subsequent analytical methods in the study.

3.1. Exploratory Factor Analysis

The EFA method assists the author in once again screening the observed variables for the model, ensuring meaningful explanatory power for each factor. Retained factors must satisfy specific constraints, including: the Bartlett test being statistically significant, 0 < KMO coefficient < 1, total variance extracted exceeding 50%, Eigenvalue greater than 1, and factor loading greater than 0.5.

The outcome of EFA analysis show a KMO coefficient of 0.834, falling within the range (0.5; 1), signifying the compatibility of this method with the survey data. Additionally, the Bartlett test yields a Sig. coefficient of 0.000, which is below 0.05, indicating with a 5% significance level, the variables in the overall dataset are correlated.

The EFA for the independent variables underwent three performance. Initially, 23 observed variables were taken into the analysis, with the subsequent removal of two variables, PEU4 and BI4, due to non-compliance with the set criteria. Eventually, in the third analysis, all criteria were fulfilled after eliminating the underperforming variables.

Firstly, with a KMO coefficient of 0.791, the sole dependent variable in the model satisfies the first constraint. Furthermore, with a Sig. value of Bartlett's test being 0.000 < 0.05, the null hypothesis of no correlation relationship among the variables is rejected.

Additionally, the Eigenvalue for the factor = 2.449 > 1 is qualified. The cumulative variance extracted reaches 61.233%, indicating that the variation in the dependent variable can explain

Table 9. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.813[a]	.661	.654	.39715	1.956

a. Predictors: (Constant), BI, PEU, PR, SI, TC, PU

b. Dependent Variable: SD

Table 10. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.309	6	14.718	93.315	.000[b]
	Residual	45.267	287	.158		
	Total	133.576	293			

a. Dependent Variable: SD

b. Predictors: (Constant), BI, PEU, PR, SI, TC, PU

61.233% of the data variance.

Simultaneously, the factor loadings of the observed variables SD1, SD2, SD3, SD4 are all > 0.5. From these results, it can be concluded that the Student's decision factor has high reliability. Table 8 illustrates the results of Pearson correlation analysis of variables within the model.

Through Pearson correlation analysis, the author discerns the relationships among variables within the model, particularly the connection between the dependent variable and independent variables. At a 95% confidence level, any two variables are considered to have a significant correlation when the Sig. coefficient < 0.05.

At a 1% significance level, all independent variables in the model exhibit linear relationships with the dependent variable, as indicated by the Sig. coefficient = 0.000 < 0.01. Notably, the correlation coefficients between Student's decision and Perceived risks exhibit an inverse effect. The Pearson correlation coefficients, ranked in descending order, are as follows: between usage decision and Perceived usefulness (0.605), with Social influence (0.538), with Perceived ease of use (0.522), with Transaction costs (0.509), with Brand image (0.477), and finally with Perceived risks (-0.472). The impact between the dependent and independent variables is moderate or stronger; therefore, all independent variables are utilized for regression analysis to ascertain the influence of each factor on student Student's decisions. On the other hand, also exist linear relationships among independent variables at a 99% confidence level.

3.2. Regression analysis

The main purpose of the study is to utilize regression analysis to assess the impact of each expected factor on the decision to use Mobile Banking among students in HCMC. With the reliability testing, EFA and correlation analysis results, the author decides to conduct a regression analysis on one dependent variable and six independent variables. Therefore, the author establishes the regression equation as follows.

$$SD = \beta_0 + \beta_1 PU + \beta_2 PEU + \beta_3 PR + \beta_4 SI + \beta_5 TC + \beta_6 BI + \varepsilon$$

Where SD is the Student's decision on using Mobile Banking, PU is Perceived usefulness, PEU is Perceived ease of use, RR is Perceived risks, SI is Social influence, TC is Transaction costs, BI is Brand image, and ε is the random error.

Firstly, the author will examine the explanatory power of the independent variables in the model through the adjusted R^2 coefficient. Detailed results are presented in Table 9.

The regression results indicate an adjusted R^2 value of 0.654, meaning that 65.4% of the variance in usage decisions is explained by the six independent variables mentioned above, while the remaining 34.6% is influenced by external variables and random error. Additionally, the Durbin-Watson coefficient for the model is 1.956, falling within the range of (1.5; 2.5). Therefore, following Qiao (2011), there is no

Table 11. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	IF
1	(Constant)	.768	.272		2.820	.005		
	PU	.296	.037	.311	7.910	.000	.766	1.306
	PEU	.232	.035	.253	6.697	.000	.829	1.206
	PR	-.145	.037	-.152	-3.949	.000	.795	1.258
	SI	.192	.033	.225	5.795	.000	.780	1.281
	TC	.161	.038	.166	4.230	.000	.768	1.302
	BI	.126	.037	.134	3.426	.001	.777	1.287

a. Dependent Variable: SD

Table 12. Results of testing the research hypothesis

Hypothesis	Content	Result
H1	Perceived usefulness positively influences the decision to use Mobile Banking among university students in HCMC	Accepted
H2	Perceived ease of use positively influences the decision to use Mobile Banking among university students in HCMC	Accepted
H3	Perceived risks negatively influence the decision to use Mobile Banking among university students in HCMC	Accepted
H4	Social influence positively influences the decision to use Mobile Banking among university students in HCMC	Accepted
H5	Reasonable transaction costs positively influence the decision to use Mobile Banking among university students in HCMC	Accepted
H6	Brand image positively influences the decision to use Mobile Banking among university students in HCMC	Accepted

evidence of residual autocorrelation in the model. As a result, it can be tentatively concluded that the regression model is meaningful. Furthermore, the ANOVA table shows a Sig. value for the F-test of 0.000, which is less than 0.05. Hence, at a 5% significance level, the regression model is suitable. For detailed results, refer to Table 10.

The regression coefficients are estimated to assess the impact of each factor on the dependent variable. The strength or weakness of the impact depends on the regression coefficient value of the independent variable in the model. However, the regression coefficient is only significant when the Sig. value is < 0.05. Additionally, the estimation helps the author detect multicollinearity based on the VIF values. The results of the linear regression are presented in Table 11.

Based on Table 11, the Sig. coefficients of the variables in the model range from 0.000 to 0.005, all satisfying the condition of being less than 0.05. Thus, all six independent variables affect the dependent variable, Student's decision, with only the perceived risks variable having a negative impact. In addition, the VIF coefficients for the variables PU, PEU, PR, SI, TC and BI are 1.306, 1.206, 1.258, 1.281, 1.302, 1.287, all less than 2. Therefore, it can be concluded that the model does not experience multicollinearity.

Based on the results, the regression equation is rewritten in descending order of estimated coefficients.

$$SD = 0.311PU + 0.253PEU + 0.225SI + 0.166TC - 0.152PR + 0.134BI + \varepsilon$$

Utilizing the regression results, the author has presented the hypothesis testing results outlined in the initial part of the study. The summarized outcomes are presented in Table 12.

4. Discussions on the results

The research results reveal that the decision to use Mobile Banking among students in HCMC is influenced by six factors ranked in descending order of impact, including Perceived usefulness, Perceived ease of use, Social influence, Transaction costs, Perceived risks, and Brand image.

Perceived usefulness, with a standardized Beta coefficient of 0.311, emerges as the factor exerting the most significant impact on the decision to use Mobile

Banking. It is evident that the usefulness of Mobile Banking is a key aspect of university students in HCMC's concern, explained by the ability of Mobile Banking to help students quickly and conveniently address their daily financial issues. Students no longer need to visit the bank in person to conduct transactions; they can handle everything from their mobile phones. The positive impact of perceived ease of use on the decision to use Mobile Banking has also been substantiated by various studies, including those conducted by Riquelme and Rios (2010), Mamun et al. (2023), Jeong and Yoon (2013), and Sakala and Phiri (2019).

Perceived ease of use is the second most impactful factor among the total of six factors mentioned, with a standardized Beta coefficient of 0.253. Accordingly, students tend to use Mobile Banking more when the interface and operations are simpler. The positive impact of perceived ease of use on the decision to use Mobile Banking has also been demonstrated in various studies by Ngo Duc Chien (2022), Sitorus et al. (2019), Riquelme and Rios (2010), and Ha Nam Khanh Giao (2022).

Social influence is another factor that positively affects the decision of university students, ranking third with a standardized Beta coefficient of 0.225. This implies that advice from family, friends, and the usage behavior of individuals around them are reasons driving students in HCMC to use Mobile Banking. The consistent positive impact of this factor has been confirmed in the studies by Makanyeza (2017), Ngo Duc Chien (2022), and Sitorus et al. (2019).

Transaction costs also have a positive impact on the decision to use Mobile Banking by students, with a standardized Beta coefficient reaching 0.166. Most students only use simple services, so the costs mainly come from transfer fees, service maintenance fees, or fluctuating balance notification fees. They tend to use Mobile Banking when they perceive the fees for the service as reasonable. This result aligns with findings in studies by Awad and Dessouki (2017), Ngo Duc Chien (2022), and Jeong and Yoon (2013).

Perceived risks with a standardized Beta coefficient of -0.152, is the factor unlike other factors - have an inverse relationship with the decision to use this service. Most surveyed students only use Mobile Banking when they perceive it as having a low likelihood of causing financial losses. They are individuals with limited experience in expense management, making risk a noticeable concern. The study's results are consistent with experimental studies by Luo, Li, Zhang, and Shim (2010), Alalwan et al. (2016), Thusi and Maduku (2020), Vo Thi Phuong Lan and Nguyen Thanh Giang (2021), and Mamun et al. (2023).

Brand image also positively influences students' decisions to use Mobile Banking, but with the smallest impact, as the standardized Beta coefficient only reaches 0.134. As new customers in the financial sector, students are often attracted by promotional policies and gifts from banks. Additionally, a reputable bank is a priority criterion for students when choosing to use the service. The positive impact of brand image has also been demonstrated in the research of Vo Thi Phuong Lan and Nguyen Thanh Giang (2021) and Ngo Duc Chien (2022).

Therefore, all the factors expected in the study have an impact on the decision to use Mobile Banking by students in HCMC. Based on the results of data analysis, the hypotheses constructed by the author are all accepted. Furthermore, the research results also indicate that the decision to use Mobile Banking is not influenced by differences in demographic characteristics.

5. Recommendations

5.1. On perceived usefulness

Perceived usefulness is the most impactful factor in the study and plays a significant role in retaining users. On the other hand, the increasing competition with electronic wallets demands that Mobile Banking diversify its features to meet user needs. To enhance the usefulness of the service, the author suggests the following policy implications.

Perceived usefulness is the most impactful factor in user retention. To stay competitive against electronic wallets, Mobile Banking should diversify its features. The author suggests the following:

Tuition Fee Payments: Collaborate with universities in HCMC to enable online tuition payments, saving students time and reducing the risk of handling cash.

Business Collaborations: Partner with e-commerce platforms, supermarkets, and food chains to facilitate QR code payments and offer discounts, attracting student users. The research focuses on the behavior of students, with more than 35% majoring in economics. Therefore, considering their foundational knowledge,

interest and desire for profit, students can potentially become investors. Hence, this feature can be utilized by various customer segments, not just benefical to students.

Stock Brokerage Integration: Develop features for tracking and trading securities to appeal to economics students and potential investors.

Feature Quality: Focus on maintaining and improving key features like transfers and balance checks, with timely notifications for maintenance to avoid disruptions.

5.2. On perceived ease of use

Based on the survey, students find Mobile Banking easy to use, making it the second most significant factor in their decision to use the service. To enhance this advantage, banks can implement the following policies:

App Compatibility: Ensure the application is compatible with various devices by designing it in multiple versions to fit different operating systems and device configurations.

Scientific Interface Design: Organize features into groups (e.g., payments, card services) to help users find what they need easily, especially in urgent situations.

User Guides: Publish articles, images, and tutorial videos to guide customers on new features and changes, helping students overcome technological barriers and use the service confidently.

Feature Updates: Regularly update features based on customer feedback to address dissatisfaction and improve user experience.

5.3. On perceived risks

The research results indicate that perceived risk negatively impacts the decision to use Mobile Banking. Students prefer the service when they see the risk as low. Here are recommendations to reduce barriers and promote usage among students:

Invest in Technology: Continuously upgrade security measures and apply advanced technologies, both domestic and international, to enhance product features.

Increase Safety Awareness: Use multimedia channels to inform users about security methods and how the application operates, alleviating worries about personal information leaks and money loss.

Support Page: Provide an informative support page with FAQs and instructions to help users resolve issues confidently and save on telecommunication costs.

Fraud Alerts: Warn customers about fraudulent behaviors through official information pages, messages, and emails. Prepare response plans to minimize potential losses when detecting abnormalities.

5.4. On social influence

Social influence is the third crucial factor influencing students' decision to use Mobile Banking. To enhance this, banks can take the following actions:

Promote Positive Word-of-Mouth: Improve customer satisfaction to encourage users to share their positive experiences with family and friends, expanding the customer base.

Collaborate with Young Celebrities: Use popular young artists to promote Mobile Banking services, leveraging their fan base to create a positive impression among students.

Promote at Youth Events: Advertise at student gatherings and sponsor competitions at educational institutions to attract attention and stimulate interest in Mobile Banking services.

5.5. On transaction costs

Transaction costs are the fourth significant factor influencing students' decision to use Mobile Banking. To make transaction costs more appealing, banks can employ the following strategies:

Favorable Fee Policies: Attract students by waiving all service fees for the first 3 or 6 months of Mobile Banking usage, offering a free experience to encourage adoption.

Alter Fee Collection: Ease the psychological burden by dividing large fees into smaller, more manageable amounts collected at various intervals, making payments feel less daunting.

Customized Fee Structure: Create tiered fee structures (e.g., silver, gold, diamond) based on transaction volume or account balance, offering reduced or waived fees for higher-ranked customers, motivating students to strive for better benefits.

5.6. On brand image

The research findings indicate that students are more likely to use Mobile Banking when they trust the brand. To enhance brand image and facilitate decision-making, banks can take the following steps:

Enhance Credibility and Market Position: Build a reputable and solid standing by investing in modern, clean, and impressive facilities and maintaining consistent service quality to prevent dissatisfaction from spreading.

Improve Human Resources: Train employees thoroughly to ensure they understand the services and can assist customers effectively, contributing to customer satisfaction and continued service usage.

Strengthen Brand Image: Promote the brand to students through partnerships, awarding annual scholarships, and organizing seminars to introduce corporate culture and demonstrate professionalism, creating a positive impression and stimulating interest in the services.

REFERENCES

Ahmed, E.M. & Phin, G.S. (2016). Factors Influencing the Adoption of Internet Banking in Malaysia. *Journal of Internet Banking and Commerce*, 21(1), 21-164.

Amin, H., Hamid, M. R. A., Lada, S., & Anis, Z. (2008). The adoption of mobile banking in Malaysia: The case of Bank Islam Malaysia Berhad (BIMB). *International Journal of Business and Society*, 9(2), 43.

Awad, T. A., & Dessouki, Y. S. A. (2017). Mobile banking roll-out in Egypt: Antecedences of mobile banking adoption. *International Journal of E-Services and Mobile Applications,* 9(2), 1–22. DOI: https://doi.org/10.4018/IJESMA.2017040101

Hanafizadeh, P., Behboudi, M., Koshksaray, A.A. & Tabar, M.J.S. (2014). Mobile-banking Adoption by Iranian Bank Clients. *Telematics and Informatics,* 31(1), 62–78. DOI: https://doi.org/10.1016/j.tele.2012.11.001

Jeong, B. K., & Yoon, T. E. (2013). An empirical investigation on consumer acceptance of mobile banking services. *Business and management research*, 2(1), 31-40. DOI: https://doi.org/10.5430/bmr.v2n1p31

Lambert, J., McGovern, P., & Verrecchia, M. (2019). Mobile Banking Adoption: An Exploration of The Behavioural Intention of Consumers in Ireland. *Journal of Accounting & Finance,* 19(8). DOI: https://doi.org/10.33423/jaf.v19i8.2614

Luo, X., Li, H., Zhang, J., & Shim, J. P. (2010). Examining multi-dimensional trust and multifaceted risk in initial acceptance of emerging technologies: An empirical study of Mobile banking services, *Decision Support Systems,* 49(2), 222-234. DOI: https://doi.org/10.1016/j.dss.2010.02.008

Makanyeza, C. (2017). Determinants of consumers' intention to adopt mobile banking services in Zimbabwe. International *Journal of Bank Marketing*, 35(6). DOI: https://doi.org/10.1108/IJBM-07-2016-0099

Mamun, M. A., Rana, M., & Islam, M. (2023). Exploring the factors that affecting adoption of mobile banking in Bangladesh. *Journal of Global Business Insights,* 8(1), 66-79. DOI: https://doi.org/10.5038/2640-6489.8.1.1235

Riquelme, H.E. & Rios, R.E. (2010). The Moderating Effect of Gender in the Adoption of Mobile Banking. *International Journal of Bank Marketing,* 28(5), 328-341. DOI: https://doi.org/10.1108/02652321011064872

Sakala, L., & Phiri, J. (2019). Factors Affecting Adoption and Use of Mobile Banking Services in Zambia Based on TAM Model. *Open Journal of Business and Management,* 7(03), 1380. DOI: https://doi.org/10.4236/ojbm.2019.73095

Shaikh, Aijaz A. & Karjaluoto, H. (2015). Mobile banking adoption: A literature review. *Telematics and Informatics,* 32(1), 129-142. DOI: https://doi.org/10.1016/j.tele.2014.05.003

Sitorus, H.M., Govindaraju, R., Wiratmadja, D.I.I.I. & Sudirman, I. (2019). Examining the Role of Usability, Compatibility and Social Influence in Mobile Banking Adoption in Indonesia. *International Journal of Technology*, 10(2), 351-362. DOI: https://doi.org/10.14716/ijtech.v10i2.886

Thusi, P. & Maduku. D.K. (2020). South African millennials' acceptance and use of retail mobile banking apps: An integrated perspective. *Computers in Human Behavior,* 111, 106405. DOI: https://doi.org/10.1016/j.chb.2020.106405

Wessels, L., & Drennan, J. (2010). An investigation of consumer acceptance of Mobile Banking. *International Journal of Bank Marketing,* 28(7), 547-568. DOI: https://doi.org/10.1108/02652321011085194