International Journal of Social Science and Economic Research

ISSN: 2455-8834

Volume:09, Issue: 12 "December 2024"

The Factors Affecting the Intention of Using Smart Banking of Students at Hochiminh City, Vietnam

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DOI: 10.46609/IJSSER.2024.v09i12.012 URL: https://doi.org/10.46609/IJSSER.2024.v09i12.012

Received: 14 November 2024 / Accepted: 10 December 2024 / Published: 23 December 2024

ABSTRACT

Digital transformation is becoming a trend in all socio-economic activities. Finance and banking are considered to be industries with a very high level of information technology application. Digital transformation applications have been and are being applied, changing the traditional way of conducting transactions in the banking service. Researching the factors affecting digital transformation, thereby proposing solutions to impact and promote the development of Smart Banking services, plays an important role in the digital transformation activities of banks. This research chooses to survey 310 samples of students in Hochiminh City (Vietnam) and proposes a model of factors affecting customers' intention to use Smart Banking services, thereby recommending solutions for developing Smart Banking services in the area.

Keyword: Smart Banking, Customers' intention, Banking systems.

1. Introduction

The development of socio-economic activities led to the creation and growth of banking systems. As all socio-economic activities transition to digital applications, artificial intelligence, and more, banking services are now being provided and utilised by various entities outside the traditional banking system, such as technology companies (fintech) and finance companies. This has compelled traditional banking operations to adapt to the new technological environment and compete with other players in the economy. According to the State Bank of Vietnam (2023), over the past year, many credit institutions in Vietnam have achieved a transaction rate of over 90% through digital channels. By early 2024, approximately 77.41% of adult Vietnamese had bank accounts, with over 35 million payment accounts, and 90% to 98% of transactions were

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ISSN: 2455-8834

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conducted online. Notably, most students currently possess bank accounts as a requirement of many universities and colleges. The majority of these users belong to Generation Z - the first generation born and raised in the digital age, with early exposure to electronic devices, also known as "digital natives".

In the context of rapid technological development, banks are increasingly providing digital services, leading to intense competition in attracting customers. At the same time, the State Bank of Vietnam has implemented many policies to promote non-cash payments. This requires commercial banks not only to provide high-quality services but also to continuously update new features and optimize service costs. Therefore, Smart Banking plays a crucial role in meeting these requirements. In Vietnam, Smart Banking services are gradually being adopted, thus requiring assessments to be made in order to develop the service more robustly. In Hochiminh City, most bank branches are developing Smart Banking services comprehensively. Most banks provide electronic banking, Internet banking, and Mobile Banking services, but Smart Banking services through mobile apps are not yet fully developed. While some banks have recently introduced these services, customers have not had many experiences with them, and therefore, trust has not yet been established among customers.

This research focuses on analyzing the key factors influencing the intention to use Smart Banking among students in Hochiminh City, such as: usefulness, ease of use, perceived risk, security, bank image, and cost of use. Based on these findings, the study proposes solutions to help commercial banks, financial institutions, and relevant stakeholders better understand the factors affecting users' intention to use Smart Banking services. Additionally, it provides strategies to improve services to meet the needs for convenience, flexibility, and alignment with the trends and expectations of students.

2. Literature review

Casaló et al. (2008) investigated the impact of usage intention on websites, its positive influence on customer loyalty, and the explosion of news related to electronic banking services. The results showed that the intention to use previous links on a banking website had a significant impact on customer loyalty. Additionally, the availability of a website also had a positive impact on user intention.

Ahmed et al. (2010) concluded that providing high-quality services in electronic banking leads to an increase in customer usage intention, thereby increasing revenue by reducing costs. Additionally, the adoption of the internet to provide timely information has significantly contributed to reducing overall costs such as marketing and human resources.

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S. K. Sharma and M. Sharma (2019) examined the impact of trust and quality dimensions on the usage of banking services. The research model was evaluated through a quantitative survey and data analysis using a combination of SEM and neural network models. The study revealed that information quality, service quality, system quality, and trust had a significant influence on customers' intention to use internet banking.

In Vietnam, Nguyen Thanh Cong (2015) suggested that studies on service quality in general and electronic banking services in particular are manifested in two forms: the validation of the SERVQUAL model by Parasuraman (1988) and the comparison of the SERVQUAL model with the Gronroos model (1984) through the adjustment and addition of some service quality measurement scales compared to the original model scales.

Nguyen Hoang Ha (2016) developed a hypothesis system consisting of 5 hypotheses for the research model using the exploratory factor analysis (EFA) method, and regression analysis to identify the main factors and their level of influence on customer intention to use electronic banking services. Trust is also a very important factor affecting customers' intention to use, so that they can trust the bank. Therefore, we need to build a good image of the bank in the minds of customers first.

Do Thanh Tung (2016) conducted both qualitative and quantitative research with a sample of 200 respondents, using SPSS software. The results showed that there were 3 factors affecting users' intention to use Mobile Banking services: perceived suitability for work, perceived convenience, and perceived trustworthiness. These factors had nearly equal impacts on usage intention [10].

Le Thi Khanh Ly and Mai Thi Nhat Quyet (2020) conducted a qualitative and quantitative study on 310 observations. The results showed that customers' intention to use Internet Banking services is influenced by three factors: bank image, perceived value, and trustworthiness. Bank image was found to be the most significant factor influencing customers' usage intention. The survey also revealed that customers highly value the bank's reputation and fair treatment.

Huynh Thanh Truc and Do Van Ly (2023) utilized the SERVPERF model with only 4 components to explain the intention to use e-banking services at ACB: (1) reliability, (2) responsiveness, (3) assurance, and (4) empathy. Among these factors, reliability had the most significant impact.

3. Theoretical basis

3.1 Smart banking

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Sarma (2017) defines digital banking as the complete digitalization of all banking operations and services, allowing transactions to be conducted entirely through a mobile banking app without the need to visit a physical branch. Digital banking requires advanced technology and innovation in service delivery, leveraging mobile, digital, AI, blockchain, and other technologies."

PappuRajan and Saranya (2018) describe smart banking as a service delivery model that leverages digital technologies, mobile applications, and the internet to revolutionize customer experience, providing features that are not limited by time or location. Smart banking offers faster service compared to traditional banking.

Smart banking eliminates the need for physical transactions, making banking a truly digital experience. It automates payments, streamlines processes, and enables customers to access financial services from the comfort of their homes or on the go.

Krishna, Kulin, and Trivedi (2019) point out that smart banking is banking conducted through a digital platform, eliminating paper-based procedures such as checks, payment vouchers, and drafts. This means that all banking services are always available and conducted entirely online. Smart banking provides a convenient customer experience by allowing them to freely access all banking services 24/7 through mobile devices and technology, without having to visit a bank branch.

Characteristics of Smart banking.

Convenience and ease of use:

- Smart Banking allows the user to conduct remote transactions using their smartphone or personal computers
- The interfaces are typically user-friendly, intuitive and easy to use, making it accessible to customers of all ages.

24/7 Service:

- With Smart Banking, customers can conduct transactions whenever they want without the need to adhere to a bank’s operational hours. This feature helps enhance the convenience and flexibility of managing personal finance.

Comprehensive services:

- Smart Banking apps often integrate a wide range of financial services, including money transfers, bill payments, mobile top-ups, deposits, account management, transaction history tracking, and more.

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Robust Security:

- To safeguard customer information and assets, Smart Banking employs advanced security technologies such as data encryption, multi-factor authentication (MFA), biometric authentication (fingerprint, facial recognition), and one-time passwords (OTPs) for critical transactions.

Personalized Experience:

- Smart Banking apps offer customizable features to cater to individual needs, such as SMS or email transaction alerts, expense management, and tailored financial product recommendations based on user behavior.

Contactless Payment Integration:

- Many banks have implemented contactless payment options like QR codes and NFC, enabling quick and convenient payments at stores and services.

Integration with Other Financial Apps:

- Smart Banking allows for linking with external financial services, such as e-wallets, stock exchanges, insurance, or personal finance management applications, creating a comprehensive financial ecosystem for users.

Personal Financial Management (PFM) Features:

- Smart Banking provides financial analysis tools, expense management features, budgeting capabilities, and alerts to help users effectively manage their finances.

3.2 Differentiating between Smart Banking and Digital Banking

Tiong (2020) asserts that Smart Banking is a modern business model based on the digitalization of all banking activities, unlike electronic banking which is merely a supplementary service to traditional banking.

Anh, NT (2021) suggests that Smart Banking is often confused with electronic banking (Ebanking). Accordingly, Smart Banking involves conducting all service provision and customer transactions through technological applications... Meanwhile, electronic banking is a supplementary product of traditional banking, utilizing technology and the internet but originating from traditional services, and its service delivery methods fundamentally retain the characteristics of traditional banking.

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ISSN: 2455-8834

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Smart banking, on the other hand, goes beyond digital banking by leveraging advanced technologies and data analytics to provide personalized and intelligent financial solutions. For example using algorithms to provide customer tailored financial advice and recommend products or services which are best suited for them.

4. Factors affecting the acceptance of Smart Banking services

4.1 Model

Factors affecting the acceptance of using electronic banking services, Internet Banking services, and Smart Banking services have been mentioned in many studies as follows:

- ***Security - SECU***

System quality, focusing on online data access systems, is commonly referred to as a website that users can access through a browser on their personal devices (Luo, Li, Zhang, & Shim, 2010). Delone & Mclean (2021), C. Liu, Arnett Lee, and Chung (2020) assert that system quality is a crucial factor significantly influencing customer satisfaction and trust. Therefore, the application of technology in system operations is essential. According to Abbas et al., (2023), technology service organizations bring numerous benefits, including innovation, improved customer experience, cost reduction, and growth. System quality is measured by four primary factors: ease of use, transaction speed, security, and interface design (Doll & Torkzadeh, 1988; Gable, Sedera, & Chan, 2008; Iivari, 2005; Sedera, Gable, & Chan, 2004; Aladwani & Palvia, 2002; Iivari, 2005; Liao & Cheung, 2002; H. S. Hsu, 2008; Madu & Madu, 2002; X. Liu, He, Gao, & Xie, 2008; Zviran, Glezer, & Avni, 2006). Additionally, banking systems must comply with national and international financial, security, and legal regulations, including requirements for financial reporting, data security, and customer privacy. Finally, the ability to quickly resolve technical issues and meet the high demands for convenience and adaptability is also a crucial aspect of a system to serve a large and diverse customer base.

Hypothesis H1: Security has a positive impact on students' and young adults' intention to use Smart Banking services.

- **Practicality – PRAC:**

According to Ho and Lin (2010), as well as Rotimi, Awodele, and Bamidele (2007), usefulness refers to the diversity and accuracy of the information provided. Usefulness plays a crucial role in service selection and can ensure customer satisfaction and trust in a product. Usefulness is a significant factor that positively influences customers' intention to use E-Banking services (Delone and Mclean (2003); Wati, and Chung (2013)).

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Hypothesis H2: Information quality has a positive impact on students' and young adults' intention to use Smart Banking services.

- ***Ease of usage – USAG***

Ease of use reflects customers' expectations and perceptions after using a service (Parasuraman, 1988). According to Ahmad & Al-Zu'bi (2011), Faroughian et al. (2012), and Rodrigues et al. (2016), when researching online banking service quality, functional quality and interface design are always discussed by users. Therefore, instructions must be clear and easy to follow, and processes must be simple. Moreover, software and hardware requirements should be clearly stated, and a variety of services should be provided (Liao and Cheung, 2002). The most widely used models to measure service quality and customer satisfaction, both in general and specifically in the banking sector, are SERVQUAL and SERVPERF. It can be seen that this is a crucial factor that significantly influences the decision to use Smart Banking. Attentive, prompt, empathetic, and timely service always brings satisfaction to customers. A bank with high-quality service will not only meet customer needs but also create a competitive advantage, attracting and increasing user trust over the long term.

Hypothesis H3: Ease of use has a positive impact on students' intention to use Smart Banking services.

- ***Bank reputation – REPU:***

Brand image is a customer's perception of a bank, influencing their decision to use digital banking services and playing a significant role in customer satisfaction (Le Tan Phat, 2017). Moore and Benbasat (1991) developed an extended IDT model, suggesting that factors influencing an individual's technology acceptance behavior include image. Venkatesh and Davis (2000) expanded the technology acceptance model by adding social influences such as subjective norms, voluntariness, and image. Barbara and Magdalini's research (2006) on customer loyalty to retail banking services also showed that a bank's image impacts customer usage and loyalty to banking services. Based on previous studies, it can be seen that a bank's image will influence the acceptance and use of Smart Banking.

Hypothesis H4: Brand image has a positive impact on students' and young adults' intention to use Smart Banking services.

- ***Cost – COST:***

Price perception is defined as 'customers' evaluation of the average price of a service compared to competitive prices' (Chen et al, 1994). David F.D (1989) stated that 2/3 of the stimuli to our

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ISSN: 2455-8834

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brain is visual, thanks to the contribution of Cognitive Psychology, we know that customers compare product information with personal values and make decisions about whether or not to purchase. Customers' consumption behavior is influenced by their perception of the service price, saving them costs (Homburg, 2010). Although studies on satisfaction only provide a limited view of the impacts of price on customers, Voss (2015) has identified the important role of price in the intention to use banking services

Hypothesis H5: The cost-saving benefits of using the service have a positive impact on students' intention to use Smart Banking services.

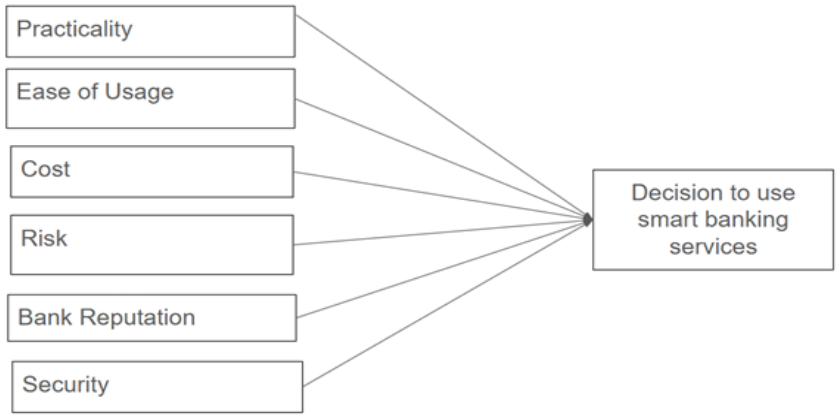
- ***Risk - RISK:***

Cao Hao Thi and Nguyen Thanh Duy (2011) proposed a model for the adoption and use of internet banking in Vietnam, including the following factors: perceived usefulness, compatibility, ease of use, behavioral control, subjective norm, perceived risk, bank image, and legislation. Phu, L.C (2019) identified factors such as perceived usefulness, perceived risk, perceived ease of use, perceived enjoyment, social influence, and bank brand as key factors influencing individual customers' decisions to use internet banking services. According to Giao, H.N.K and Chau, K.T (2020), factors affecting the decision to use Smart Banking services, in descending order of impact, are: perceived risk, perceived trust, perceived usefulness, perceived ease of use, and perceived cost.

Hypothesis H6: Perceived risk has a negative impact on students' intention to use Smart Banking services.

Within the scope and limitations of our research resources, our group proposes a model of the factors influencing the adoption of Smart Banking services by customers as follows:

Figure 1: The factors affecting the adoption/usage of Smart Banking services



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ISSN: 2455-8834

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The regression model is as follows:

$$DU = \beta_0 + \beta_1*PRAC + \beta_2*RISK + \beta_3*COST + \beta_4*USAG + \beta_5*REPU + \beta_6*SECU + u_i$$

3.2. Method

In this study, the authors conducted an online survey (using Google Forms) from September to October 2024 with a sample size of 325 individuals who were students aged 16-22 in Hochiminh City. After removing invalid responses, 310 valid surveys were collected. Additionally, the questionnaire collected information on gender and age to enable a more detailed analysis of each age group and yield more meaningful results.

The research team employed a quantitative research method using Stata software, which involved the following tasks:

1. Cronbach's Alpha was used to assess the internal consistency and inter-item correlation of the observed variables in the research model.
2. Exploratory factor analysis (EFA) was employed to reduce and analyze the groups of highly correlated observed variables into a smaller set of variables.
3. Multiple linear regression was used to evaluate the impact of each factor on students' intention to use Smart Banking services.

4. Results

4.1. Data analysis

- Demographic statistics

Table 1. Demographic statistics of study sample

	Choice	Number	Ratio
Gender	Male	116	37.4%
	Female	194	62.6%

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ISSN: 2455-8834

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Age	From 16-18 years old	64	20.6%
	From 18-22 years old	246	79.4%
Education Level	Highschool	52	16.8%
	Undergraduate students	239	77.1%
	Graduate Students	2	0.6%
	Employed	17	5.5%

(Source: SPSS data analysis results)

Statistical results showed that although there was no gender difference, the number of female participants (62.6%) was higher than that of male participants (37.4%). In terms of age, most participants were aged 18-22, accounting for 79.4%. Regarding educational level, 77.1% of participants were university students, 16.8% were high school students, and the remaining were employed or college students. The survey also showed that the five most chosen banks were MB Bank, BIDV, Vietcombank, Techcombank, and Vietinbank.

4.2. Assessing the reliability of the Cronbach's Alpha scale

To examine the reliability of the observed variables and eliminate unsuitable scales, the author utilized the Cronbach's Alpha reliability assessment method. The measurement results indicated that the Cronbach's Alpha coefficient of the total variable scale exceeded 0.6, meeting the required criteria.

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ISSN: 2455-8834

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Table 2. Results of the measurement of observed variables correlated with the total variable (Cronbach's Alpha)

Notation	Meausrement	Scale mean if item deleted	Scale variance if item deleted	Corrected Item-Total Correlatio	Cronbach's alpha if item deleted
1. Independent Variable					
Cronbach's alpha for the Security (SECU) = 0.900					
SECU 1	I am fully confident in the bank's security system for Smart banking transactions	7.578	7.483	.830	.850
SECU 2	I think Smart banking is a much more secure way to pay than using physical cards in stores	7.622	7.750	.815	.859
SECU 3	I have never encountered any security issues while using Smart banking.	7.262	8.271	.636	.892
SECU 4	I have never encountered any security issues while using Smart banking.	7.778	7.434	.838	.848
SECU 5	I understand that online transactions always involve risks, but I have taken the necessary measures to protect my account	7.785	7.843	.803	.825
Cronbach's alpha for the Ease of usage (USAG) = 0.775					
USAG 1	Learning to use Smart banking is very easy.	7.044	5.616	.698	.654

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USAG 2	It's very easy to make transactions using Smart banking.	7.200	8.328	.667	.603
USAG 3	The guidelines for using Smart banking are straightforward and comprehensible.	7.489	5.458	.769	.615
USAG 4	Overall, I find Smart banking very user-friendly.	7.333	5.492	.762	.620
Cronbach's alpha for the Practicality (PRAC) = 0.848					
PRAC 1	Smart banking transactions are quick and easy, eliminating the need to visit a physical bank branch.	9.422	9.485	.761	.790
PRAC 2	Smart banking allows me to conduct banking transactions anytime (24/7).	9.578	8.660	.873	.760
PRAC 3	Smart banking makes banking transactions more convenient for me than going to the counter.	9.311	9.139	.781	.784
PRAC 4	I find Smart banking more convenient.	9.689	8.823	.801	.778
PRAC 5	Using Smart banking helps me save more money compared to traditional methods.	9.758	8.060	.837	.760
Cronbach's alpha for the Risk (RISK) = 0.867					
RISK 1	I'm worried that if there's an error with my Smart banking transaction, I might lose money from my account	11.111	14.474	.677	.857
RISK 2	I am concerned that providing	11.356	13.815	.663	.861

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	personal information for Smart banking transactions is not secure.				
RISK 3	I'm afraid that hackers might steal my account information and use it if I use Smart banking	11.822	14.864	.762	.836
RISK 4	I'm worried that if I encounter problems with Smart banking and the bank doesn't resolve them satisfactorily	11.467	13.853	.636	.828
Cronbach's alpha for the Bank reputation (REPU) = 0.930					
REPU 1	This bank has a stable and reliable operating history	8.911	9.302	.871	.896
REPU 2	This bank has a professional and reputable brand image	8.591	9.259	.814	.929
REPU 3	I believe that this bank always puts the customer's interests first	8.564	9.716	.771	.915
REPU 4	This bank has a stable and reliable operating history	8.600	9.497	.886	.891
Cronbach's alpha for the Cost (COST) = 0.616					
COST 1	I have benefits from Smart Banking services	5.631	3.445	.604	.542
COST 2	The cost of our Smart Banking service is competitive given the quality of service provided.	5.867	3.324	.632	.599
COST 3	Smart banking offers free transactions such as bill payments	5.467	4.100	.388	.504

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	and transfers.				
COST 4	Our digital banking fees are lower than or comparable to those of other banks.	5.672	3.243	.602	.589
2. Dependent Variable					
Cronbach's Alpha for the Decision to Use Smart Banking Services (DU) = 0.738					
DU1	I am highly motivated to use Smart Banking.	8.644	1.701	.430	.803
DU2	I will use Smart Banking services	8.067	1.506	.741	.471
DU3	I will introduce Smart banking to other people	8.844	1.390	.559	.665

(Source: SPSS data analysis results)

4.3. Exploratory Factor Analysis (EFA)

According to Hair et al. (1998), factor loadings are indicators of the practical significance of EFA. The Kaiser-Meyer-Olkin (KMO) measure should fall within the range of $0.5 < KMO < 1$. Bartlett's test is considered significant when $sig < 0.05$.

The results of the test are as follows:

Table 4. Result of KMO and Bartlett's analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.960
Bartlett's Test of Sphericity	Approx. Chi-Square	6839.747
	Df	351
	Sig.	.000

Source: SPSS data analysis results

The KMO value of 0.960 falls within the acceptable range of 0.5 to 1, indicating that factor analysis is appropriate for this dataset.

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Bartlett's test of sphericity yielded a significant result ($\chi^2 = 6839.747$, $p < 0.001$), rejecting the null hypothesis that the observed variables are uncorrelated in the population. This indicates that the correlation matrix is not an identity matrix, meaning the variables are correlated and thus suitable for factor analysis.

The results of the factor rotation are as follows:

Table 5. Rotation Matrix:

Rotated Component Matrix[a]						
	Component					
	1	2	3	4	5	6
USAG 2	.809					
USAG 4	.758					
USAG 3	.738					
USAG 1	.735					
PRAC 3		.710				
PRAC 4		.687				
PRAC 2		.663				
PRAC 5		.658				
PRAC 1		.647				
SECU 5			.789			
SECU 4			.768			
SECU 3			.709			
SECU 1			.693			

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SECU 2			.625			
REPU 4				.675		
REPU 2				.660		
REPU 1				.645		
REPU 3				.569		
COST 3					.613	
COST 2					.601	
COST 1					.567	
COST 4					.541	
RISK 3						.743
RISK 4						.738
RISK 2						.735
RISK 1						.607

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 7 iterations.

All factor loadings are sufficiently high, exceeding the 0.5 threshold.

4.4. Correlational analysis and regression analysis

A correlation analysis revealed that DU and COST have the strongest correlation, followed by SECU and RISK. However, both COST and USAG exhibited a non-significant correlation ($p > 0.05$), raising concerns about potential multicollinearity in the regression model. The presence of

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ISSN: 2455-8834

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significant correlations among the variables indicates that factor analysis might be a suitable approach.

Regression Model

A regression model with 6 factors was analyzed. The factors PRAC and COST exhibited p-values greater than 0.05, indicating that at a 5% significance level, these two factors did not have a statistically significant impact. To address this, each variable was removed one by one, starting with SI (based on the research team's opinion that COST had a greater influence than PRAC). A regression with 6 factors was then conducted, and all factors were found to be statistically significant with p-values less than 0.05. Subsequent tests on the model's fit revealed: all Variance Inflation Factors (VIF) were less than 2, indicating no multicollinearity; the Durbin-Watson test indicated a probability greater than chi-square and less than 0.05, suggesting the presence of autocorrelation in the residuals; and the Breusch-Pagan test showed a p-value less than 0.05, indicating heteroscedasticity. While autocorrelation and heteroscedasticity do not necessarily bias the model, they can lead to inefficient estimates. Therefore, the research team proceeded to adjust the model.

Table 6: Results from regression model

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.814	.147		5.548	.000		
	USAG	.232	.047	.251	4.916	.000	.453	2.206
	PRAC	.633	.063	.622	10.105	.000	.312	3.206
	REPU	.256	.056	.457	2.532	.047	.432	3.206
	SECU	.543	.088	.834	2.034	.044	.351	3.206
	RISK	-.662	0.77	.473	-2.470	.018	.323	3.206
	COST	-.024	.061	-.024	-.391	.696	.312	3.206

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a. Dependent Variable: DU

Source: Results from SPSS

In this table, the Sig values for variables USAG, PRAC, REPU, SECU, and RISK are all less than 0.05, meaning these variables have a significant impact on the dependent variable DU.

Additionally, the Sig value for the variable group COST is 0.696, which is greater than 0.05, meaning that the variable COST has no significant impact on the dependent variable, which is the decision to use/accept the Smart Banking service among students in Hochiminh City.

In SPSS software, the unstandardized regression coefficient is denoted as 'B', where:

- Unstandardized regression equation:

DU= 0.814 + 0.232*USAG + 0.633*PRAC + 0.256*REPU + 0.543*SECU – 0.662*RISK + ε

5. Discussion

According to the research, perceived risk is the most significant factor influencing students' decisions to use or adopt Smart Banking services. Specifically, students are concerned about personal data breaches, legal risks, and most importantly, financial losses due to recent frequent media reports of money loss through Smart Banking services. Therefore, banks should focus on security and information safety in both technological aspects and risk management skills, as well as providing legal knowledge for their staff.

Secondly, the perceived usefulness factor plays a significant role. Specifically, customers believe that the usefulness of mobile apps and the internet influences their intention to use Smart Banking services.

Next, customers' expectations regarding security are considered. Specifically, customers compare Smart Banking services to traditional banking services, expecting higher security levels, faster transactions, increased work efficiency, and the ability to integrate with various other applications.

The bank's image has a less significant impact on students' adoption of Smart Banking services. They tend to choose larger, more reputable banks for transactions rather than smaller ones.

The perceived ease of use factor suggests that customers believe the mobile app and internet banking interfaces are difficult to navigate and have a steep learning curve, but they are willing to invest time to master the transactions.

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ISSN: 2455-8834

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6. Proposed solutions

Risk management, maintain security

Banks need to ensure the safety and security of their services in two aspects: (i) Investing in technological advancements, with modern digital applications to guarantee customer data security and privacy. (ii) Collaborating with digital technology companies to ensure professionalism, high security, and reduced investment costs. (iii) Banks commit to taking responsibility and fulfilling their commitments in the event of risks, to ensure customer peace of mind when using their services.

Provide user-friendly services

To enhance the convenience of Smart Banking services, banks should focus on two key areas: (i) Designing user-friendly mobile apps with intuitive interfaces, making transactions easier for customers. (ii) Offering a diverse range of products and services integrated into Smart Banking apps. This not only provides customers with more options but also empowers them to better manage their finances, increasing the perceived value of these services.

Elevate the utility of Smart Banking services

Investing in technology equipment and modern applications not only ensures security but also enhances transaction efficiency compared to traditional banking services. This results in smoother, faster, and more accurate transactions.

Integrating the mobile banking app with other services is highly anticipated by customers. They expect to be able to conduct multiple transactions quickly and accurately through the mobile banking app. Therefore, banks can integrate applications such as train ticket purchases, flight bookings, and connect with e-commerce platforms or facilitate payments for insurance, medical bills, and taxes. Increasing the benefits and utility of the service will attract more customers.

Improving bank reputation

A bank's image significantly influences customers' decisions to adopt and use Smart Banking services in three key aspects: brand awareness, bank size, and bank reputation. Therefore, banks can implement the following solutions: (i) Conduct marketing campaigns to widely promote the brand image, increasing brand awareness and visibility. (ii) Expand the bank's scale. With digital banking services, the bank's reach can extend beyond physical branches. Thus, scale is not only reflected in the branch network but also in capital, customer base, and market coverage. Banks can expand their reach to target customers by establishing advisory teams in high schools,

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ISSN: 2455-8834

Volume:09, Issue: 12 "December 2024"

colleges, and universities to introduce banking services, increasing customer reach and expanding the bank's scale.

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