Factors Affecting Customer's Intention to Use Self Service Banking: A Case Study in Vietnam

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Abstract: The study conducted the survey data of 268 customers who have access to self-service banking, then analyzed and processed the data through SPSS software, by testing the reliability of the Cronbach's Alpha scale, analyzing the EFA exploratory factor, regression analysis and hypothesis testing. The analysis results show that ease of use has a positive effect on the self-service banking, convenience has a positive impact on the service, safety has a positive effect on the service, service fee has a positive impact on attitude towards the service, service quality has a positive effect on the intention to use. Based on the research findings, the authors make recommendations including promoting marketing activities for self-service banking, increasing security, create reasonable self-service banking fees, and improve the quality of self-service banking services.

Keywords: self-service banking, Vietnam

1. Introduction

Extensive international economic integration has created conditions for domestic banks to penetrate the international market, opening up opportunities for international cooperation in many fields such as monetary policy making, inspection and supervise risk prevention, payment field and develop new banking products and services, especially self-service banking. In Vietnam, the State Bank has submitted to the Prime Minister for approval the Non-cash Payment Scheme, which has been adjusted to suit the economic situation and the development of non-cash payment technology. Over the past time, non-cash payment activities have expanded in both scale and quality, with strong development in modern payment products, services and utilities based on information technology application. Currently, self-service banking is one of the inevitable trends of commercial banks to improve competitiveness among banks. Especially, when the Covid 19 pandemic occurred, digital payment grew even more strongly around the world in general and in Vietnam in particular, the non-cash payment has become a strong trend.

However, the practice of developing self-service banking services in Vietnam still has many limitations and difficulties. The number of customers using self-service banking services is still very small, so finding a solution to develop self-service banking in Vietnam is an urgent and highly practical issue. The authors study the factors affecting the intention of customers to use self-service banking with the desire to contribute to the development of self-service banking in Vietnam in the period of international integration and digital economic development today.

2. Literature Review

2.1 Overview of Self-Service Banking

Self-service banking is a transformation of all traditional banking activities and services into a digital environment (Sousa, 2018). Self-service banking is a highly technologically demanding including innovation in financial services for customers and commercial customers around mobile, digital, AI and

payment strategies, data, block chain, API, distribution channels and technology (Sarma, 2017). In general, self-service banking is an operating model based on a technology platform to exchange information and conduct transactions between banks and customers. This process is done through digital devices which are connected to computer software in the internet environment. Customers do not have to come to physical branches of banks to make transactions and vice versa, banks also do not have to meet with customers to complete transactions (signing documents, and tracking records).

According to Davis (1993) and Venkatesh (2000), the intention to use technology services is the awareness of ability to use services of customers. Customers" intentions to use the service, will be influenced by several motivating factors leading to the intention (Fortes & Rita, 2016). Research on the intention to use technology services service is often anchored on technology acceptance model (TAM) and the various models developed from the TAM model (King & He, 2006). In the TAM model, the intention to use through the lens of theory of rational action and theory of planned behavior is affected by factors such as: ease of use, perceived usefulness, attitude to service (Davis, 1989). In addition, the TAM model has also been extended to include several new factors such as perceived risk, trust and convenience (Fortes & Rita, 2016).

This study is intended to investigate the intention to use self-service banking using the following factors:

a. Ease of use
b. Convenience
c. Safety
d. Service fee
e. Service quality

2.2   Hypotheses

Ease of use is a customer's level of trust in using the service that will bring freedom and comfort (Davis, 1989; 1993). Self-service banking makes it easier for customers to access and use banking services than traditional counter services. Many existing studies show that the ease of using the service affects customers' perceptions of the service's usefulness (Phan & Bui, 2019; Venkatesh, 2000; Venkatesh et al., 2003) and their attitude towards the service (Davis, 1993; Venkatesh, 2000). Therefore, hypothesis is proposed as follows:

H1: Perceived Ease of Use Has a Positive on the Intention to Use the Service.

Convenience improves access to services easily with efficiency equal to or better than other services. Convenience can be demonstrated by saving transaction time and reducing technical errors (Chen et al., 2016; Seiders et al., 2007). There are studies that show how convenient it is to find or access services. Increasing convenience will help increase customers' intention to use the service by minimizing time and reducing errors during transactions (Chang & Polonsky, 2012).

H2: Convenience Has a Positive Impact on the Intention to Use the Service.

Safety of customers is a factor showing that customers feel secure when using the service without having to care about risks or other issues (Gefen et al., 2003; Nguyen et al., 2019). Page and Luding (2003) think that a high level of safety is an important motivation for self-service banking (Page & Luding, 2003). Stewart (2003) also suggests that at a sufficient amount of safety.

H3: Safety Has a Positive Impact on the Intention to Use the Service.

According to Venkatesh et al. (2012), the service fee is customers' comparative perception of the cost that they have to pay to use a new service with the benefits that the service brings. The types of costs that the users often pay when using self-service banking in Vietnam are transfer fees and statement printing fees. According to Liao and Cheung (2002), service fees show that there is a constraint on the actual use of self-service banking. Through self-service banking, customers can take advantage of the reduced transaction time, then the low prices together with price incentives will encourage customers to use self-service banking. Polatoglu and Ekin (2001) also confirm that self-service banking users are significantly satisfied with the cost savings when using this service. Similarly, Migliore et al. (2022) also found evidence of a positive effect of cost savings on the behavioral intention to use self-service banking. Therefore, Hypothesis is stated as follows:

H4: Service Fee Has a Positive Impact on the Intention to Use the Service.

Service quality makes a noticeable difference in the service business. Maintaining a high level of service is a requirement to meet customers' expectations. Customers expect quality service based on their past experiences, word of mouth and advertising services. After the service, customers can compare the services experienced against what they have previously perceived. Good service quality can reduce perceived risk (Chen et al., 2013). Therefore, hypothesis is stated as follows:

H5: Service Quality Has a Positive Impact on the Intention to Use the Service.

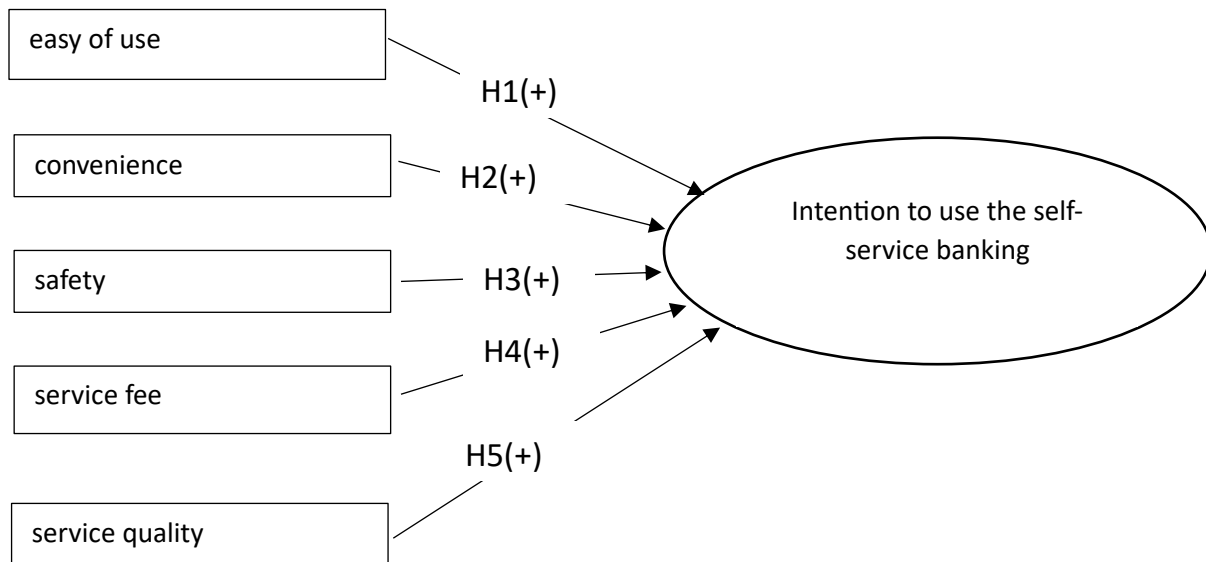Research model and hypothesis are shown in Figure 1.

Figure 1. Research Model

3.   Research Model

3.1   Research Design

The questionnaire (see Table 1) used to measure the factors in the proposed model was referenced from previous studies (Areeba Toor và cộng sự, 2016; Jamil & Ibrahim, 2018). The time during which the survey

was conducted was from 01/2023 to 03/2023. Likert 5-point scale was chosen in which: 1 – strongly disagree and 5- strongly agree.

Table 1. *Questionnaire*

Factors	Contents	Reference
Ease of Use		
	Simple and clear steps to make transactions	Jamil et al. (2018)
	The instructions for using self-service banking are easy to understand	Pikkrainen et al.
	You conduct transactions at the self-service bank regularly successfully	(2004)
	You can easily make transactions according to your needs	
	The use of self-service banking services is completely under control.	
	You find it very easy to learn how to use self-service banking services	
Convenience		
	Transactions are made 24/7	Khaliq Ahmad
	You can save time by using self-service banking services.	(2016) Pikkrainen
	You have many benefits when using self-service banking services	et al. (2004)
	You use self-service banking services to help you perform your job more smoothly	
	You use self-service banking services to increase your life efficiency	
Safety		
	Transactions made through self-service banking services trust-worthy	
	Your personal information is kept confidential	Jamil et al. (2018).
	You feel secure when providing confidential information	Chan & Lu (2004)
	The bank is constantly updating its technology applications modern to increase the confidentiality of customer information	
	You do not see any fraudulent loss of money when using self-service banking services	
Service Fees		
	Self-service banking services with attractive fees	
	Fees when using self-service banking services are competitive compared to over-the-counter transactions	Areeba Toor et al. 2016)
	You are satisfied with the fee commensurate with the service used	Poon (2008)
	Transaction fees of self-service banking services are appropriate	
	You find that the self-service bank offers many free services	
Service Quality		
	Transactions at self-service banks are conducted correctly	
	You conduct transactions at a self-service bank quickly	Areeba Toor et al. (2016)
	Online staff provide enthusiastic support for issues related to transactions at self-service banks	
	When there is an error while using the bank service self-service goods, the bank supports to handle in time	
Intention to Use the Self-Service Banking		
	You will refer others to self-service banking	
	You will continue to use self-service banking.	Fortes & Rita (2016)
	You will use self-service banking services regularly	Clegg (2010)
	You expect to choose to use self-service banking services when there is a need for banking services	

3.2   Sample and Data

The research sample was identified as customers using self-service banking in Vietnam. Convenient sampling methods were then applied to collect data. The official survey results obtained 268 responses. This sample size was demonstrated to reach reliability according to most sampling rules (Tabachnick &

Fidell, 2006). The results show that the number of male customers surveyed is 101, accounting for 37.7% and female with 167, accounting for 62.3%. The highest age group is between 18 and 30 (155 people accounting for 57.8%); and the smallest group is over 55, with 52 people at 19.4%. Young customers tend to use self-service banking more than other age groups. Older customers tend to use less because of lower access to technology. About education, most of the self-service banking users obtain bachelor's degrees (129 people, 48.1%), followed by master degrees (32.5%), and high school (19.4%). Main occupations of respondents were officer worker with 141 people at 52.6%, business 34.3%, students 9%, other occupations accounted for 4.1%. Regarding income, the largest income group from 10 to 20 million with 151 people at 56.3%, followed by the group of over 20 million per month with 70 people at 26.1%. The smallest was the income below 10 million with 47 people at 17.5%.

Table 2. *Descriptive Results*

Demographic description of respondents	Frequency	Percent %
Gender		
Female	167	62.3
Male	101	37.7
Age		
18-30	155	57.8
31-55	61	22.8
>55	52	19.4
Education		
<= High school	52	19.4
Bachelor	129	48.1
Master	87	32.5
Career		
Officer	141	52.6
Student	24	9.0
Business	92	34.3
Others	11	4.1
Income (million/month)		
<10	47	17.5
10-20	151	56.3
>20	70	26.1
Total	268	100

4. Results

4.1 Evaluating Reliability

The Cronbach's Alpha coefficient of this survey were shown in Table 3. The Cronbach's Alpha was calculated to test the reliability of questionnaires. From table 3, The results of scale reliability show that all

of Cronbach's Alpha coefficients are larger than 0.6 and the correlation coefficient of all items is greater than 0.3. In particular, Cronbach's Alpha coefficients of SA, US, CO, QA, FE, SE are 0.847; 0.914; 0.813; 0.820; 0.770 and 0.777 respectively. Therefore, the scale and collected data in this study ensure the reliability of the following analysis. According to the results in Table 3, the scale of independent variables includes: (1) SA, (2) US, (3) CO, (4) QA, and (5) FE with observed variables with Cronbach's system. Alpha > 0.6 and the corresponding coefficients > 0.3, all 25 initially observed variables will be included in the next EFA factor analysis. The scale of measuring the goal of using self-service banking services remains the same with 5 observed variables. Thus, the scale of independent and dependent variables has high reliability.

US: ease of use, CO: convenience, SA: safety, FE: service fee, QA: service quality, SE: intention to use service.

Table 3. *Cronbach Alpha*

Cronbach Alpha	Item	Corrected Item-Total Correlation
SA Cronbach's Alpha = .847	SA1	.625
	SA2	.683
	SA3	.697
	SA4	.659
	SA5	.616
US Cronbach's Alpha = .914	US1	.787
	US2	.774
	US3	.786
	US4	.768
	US5	.783
	US6	.661
CO Cronbach's Alpha = .813	CO1	.606
	CO2	.613
	CO3	.605
	CO4	.582
	CO5	.615
QA Cronbach's Alpha = .820	QA1	.668
	QA2	.766
	QA3	.642
	QA4	.500
FE Cronbach's Alpha = .770	FE1	.478
	FE2	.666
	FE3	.631
	FE4	.569
	FE5	.370
SE Cronbach's Alpha = .777	SE1	.610
	SE2	.694
	SE3	.584
	SE4	.451

4.2   Exploratory Factor Analysis

Based on the research model and hypothesis, the author conducts explore factor analysis for independent and dependent variables. Through the results of the exploratory factor analysis, the KMO and Bartlett's Test coefficients of the scale are quite large at 0.863 value greater than 0.5, with a significance level of 0 (sig=0.000) showing that exploratory factor analysis is very appropriate. 05 factors were extracted with Eigenvalues greater than 1 is equal to 64.952%, showing that the extracted variance is standard (greater than 50%). However, the FE5 and QA4 variables were excluded from the model due to a factor load factor < 0.5. Continue to include the remaining 23 observation variables in the second exploratory factor analysis.

Table 4. *The Result of the Second Exploratory Factor Analysis*

	Factor				
	1	2	3	4	5
US3	.833				
US4	.809				
US2	.799				
US5	.799				
US1	.788				
US6	.775				
SA3		.803			
SA4		.781			
SA2		.779			
SA1		.736			
SA5		.711			
CO2			.771		
CO5			.740		
CO1			.700		
CO3			.660		
CO4			.607		
FE3				.844	
FE2				.804	
FE1				.594	
FE4				.589	
QA2					.784
QA1					.773
QA3					.707
Total Variance Explained	33.637	45.593	56.035	62.033	66.906
Kaiser-Meyer-Olkin			0.857		

As can be seen from Table 4, the KMO test value is 0.857, which is greater than 0 and less than 1, showing that exploratory factor analysis is consistent with the data. The results of Bartlett's test indicate probability or significance value is 0.000, that means the variables are adequately correlated and accommodates an acceptable basis for factor analysis. The results of Exploratory Factor Analysis extracted five factors consistent with the research model originally proposed.

4.3 Multiple Regression Analysis

Table 5. *Regression Model Summary*

Independent Variables (Factors)	Coefficient	t-Statistic	Sig.
(Constant)	.416	1.900	.059
US	.149	3.458	.001
FE	.146	2.595	.010
QA	.271	4.871	.000
CO	.133	2.301	.022
SA	.182	3.869	.000

Note: R-Square = 0.472; Adjusted R-Square = 0.462; F-Value = 46.811; Sig. F= 0.000.
Dependent Variable: intention to use the self-service banking

The regression model is provided below:

Intention to use service = f {easy of use, convenience, safety, service fee, service quality}

The regression results in Table 5 presents Adjusted R^2 value is 0.462, meaning that independent factors explained 46.2% of the variation of the dependent variable Intention to Use Self-Service Banking. Analysis of ANOVA variance showed that F = 46.811 and statistically significant (Sig.= 0.000), proving the regression model is consistent with the data and variables in the analysis model.

Table 5 shows that factors specifically ease of use, service fee, service quality, convenience, safety have significant positive impacts on intention to use service. This leads to the acceptance of 1, 2, 3, 4 and 5 hypotheses. The beta coefficients of each independent variable in this regression show that the extent and direction of change in standard deviation of the dependent variable with a unit change in standard deviation of each independent variable. We can see that the intention to use self-service banking in Vietnam depends mainly on these factors: ease of use, service fee, service quality, convenience, safety. With the standardized correlation coefficient of 0.271 (sig.=$0.000 < 0.05$), service quality has the strongest impact on the intention of customer to use self-service banking in Vietnam; safety ($\beta = 0.182$, sig. = $0,000 < 0.05$) stands in the second place; next to as ease of use ($\beta = 0.149$); service fee ($\beta = 0.146$) and convenience ($\beta = 0.133$).

5.   Conclusion

Based on the research results, the authors affirm the important role of self-service banking in the digital banking development strategy in Vietnam. Research on factors affecting customers' intention to use self-service banking - the case in Vietnam is very important and needs attention to contribute to the development of digital banking in Vietnam. Based on the research findings, in order to develop self-service banking, the authors make recommendations including promoting marketing activities for self-service banking, increasing security confidentiality, create reasonable self-service banking fees and improve service quality.

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