

FACTORS AFFECTING THE DECISION TO USE ELECTRONIC BANKING SERVICES OF INDIVIDUAL CUSTOMERS AT COMMERCIAL BANKS IN HO CHI MINH CITY, VIETNAM**Dang Thanh Chien**
Vietnamdangtchien85@gmail.com**ABSTRACT**

Based on the theoretical framework of electronic banking services, the Technology Acceptance Model (TAM), the Theory of Reasoned Action (TRA), the Theory of Planned Behavior (TPB) and previous studies, this paper identifies and analyzes the factors influencing individual customers' decisions to use electronic banking services at commercial banks in Ho Chi Minh City. The study employs both qualitative and quantitative methods, with a multiple linear regression model applied to assess the impact level of each factor. The results reveal six main factors affecting usage decisions, namely: perceived usefulness, security and confidentiality, hedonic motivation, compatibility, reasonable cost and transaction speed. Among these, perceived usefulness is found to have the strongest influence on customers' decisions. Based on the research findings, the paper proposes several policy implications to help commercial banks in Ho Chi Minh City improve the effectiveness of electronic banking service implementation, thereby attracting and retaining individual customers.

Keywords:

Electronic banking; individual customers; usage decision; commercial banks; Ho Chi Minh City, Vietnam.

1. INTRODUCTION

In the context of the Fourth Industrial Revolution and the strong global trend of digital transformation, the Vietnamese banking sector has been continuously innovating to adapt to rapid technological changes and to meet the increasingly diverse needs of customers. One of the most groundbreaking service innovations is electronic banking (e-banking), which includes Internet Banking, Mobile Banking, SMS Banking and other forms of online payment. The emergence and development of e-banking services not only help banks optimize operating costs and expand service coverage but also provide customers with outstanding benefits such as saving transaction time, flexible access to services anytime and anywhere, enhanced security and an improved user experience.

In Vietnam, particularly in Ho Chi Minh City, the largest economic and financial center of the country, e-banking services are playing an increasingly important role in the business strategies of commercial banks. With its dense population, high educational levels and dynamism in adopting new technologies, Ho Chi Minh City represents a highly potential market for the development of e-banking. However, in practice, not all individual customers are ready or proactive in using these services because of barriers such as the habit of using cash, concerns about cybersecurity risks, service costs and limited technological access. Globally, many studies have approached this issue through well-known theoretical models such as the Technology Acceptance Model (TAM), the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB). These theories confirm that customers' decisions to adopt technology are influenced by multiple factors including perceptions, attitudes, trust and social influence. In Vietnam, although there have been research efforts in this field, most remain narrow in scope and have not fully reflected the specific characteristics of Ho Chi Minh City, which has a diverse customer base, different income levels and varying levels of technological access.

From this practical context, the study "Factors Influencing Individual Customers' Decisions to Use Electronic Banking Services at Commercial Banks in Ho Chi Minh City" was conducted with the aim of providing a more comprehensive understanding of customer behavior. The study not only identifies key factors affecting usage decisions but also measures the impact level of each factor, thereby offering managerial implications to help commercial banks improve the quality of e-banking services, enhance customer satisfaction and attract as well as retain customers in an increasingly competitive environment.

2. THEORETICAL FRAMEWORK**2.1. Electronic Banking**

According to Lee (2008), electronic banking (e-banking) refers to banking services provided via the Internet that allow customers to conduct remote transactions such as money transfers, deposits, investments, or savings without visiting bank branches. For e-banking to function effectively, customers must have access to accounts through banking technology and their information must be secured (Patriche & Bajenaru, 2010). Other scholars highlight that e-banking enables customers to manage accounts independently using personal devices with global accessibility and lower costs (Toufaily et al., 2009; Stamoulis, 1999). Thulani and Chitura (2009) emphasize its benefits in reducing transaction time, saving costs and improving information storage. In this study, e-banking is understood as Internet-based services that allow customers to access and manage personal accounts through devices such as smartphones or computers, offering greater convenience compared to traditional banking.

2.2. Customer Decision-Making

2.2.1. Concept

Customer decision-making is defined as the process of evaluating and choosing products or services to satisfy needs and desires (Lewis, 2006; Walsh & Mitchell, 2010). In the banking context, customers decide to adopt e-banking after recognizing its functions, gathering information and evaluating reliability, with trust and perceived safety being key considerations.

2.2.2. Related Theories

Theory of Reasoned Action (TRA): Suggests that customers' attitudes and subjective norms, shaped by personal beliefs and social influence, determine intentions and actual behavior (Fishbein & Ajzen, 1975).

- Technology Acceptance Model (TAM): Extends TRA by emphasizing perceived usefulness and ease of use as drivers of intention and adoption of technology-based services (Davis et al., 1989).
- Theory of Planned Behavior (TPB): Builds on TRA and TAM by adding perceived behavioral control, recognizing that customers' perceived ability to use the service affects their adoption decisions (Ajzen, 1991).
- Consumer Decision-Making Model: Identifies multiple factors influencing decisions, including product quality, brand image, novelty, enjoyment, price-value perception, impulsiveness, choice overload and brand loyalty (Sproles & Kendall, 1986).

3. PROPOSED RESEARCH MODEL

Based on the theoretical foundations of customer decision-making by Kotler (2001) and Fishbein & Ajzen (1975), the decision to use a service can be seen as a rational process. In other words, customers proceed from evaluating information about the product or provider to forming beliefs regarding its usefulness and their ability to use it. This process shapes behavioral intentions, which, combined with stimuli from the provider, result in actual behavior or final decision-making.

After synthesizing relevant theories on e-banking services and customer decision-making in commercial banks, as well as reviewing prior studies, the proposed research model is presented as follows:

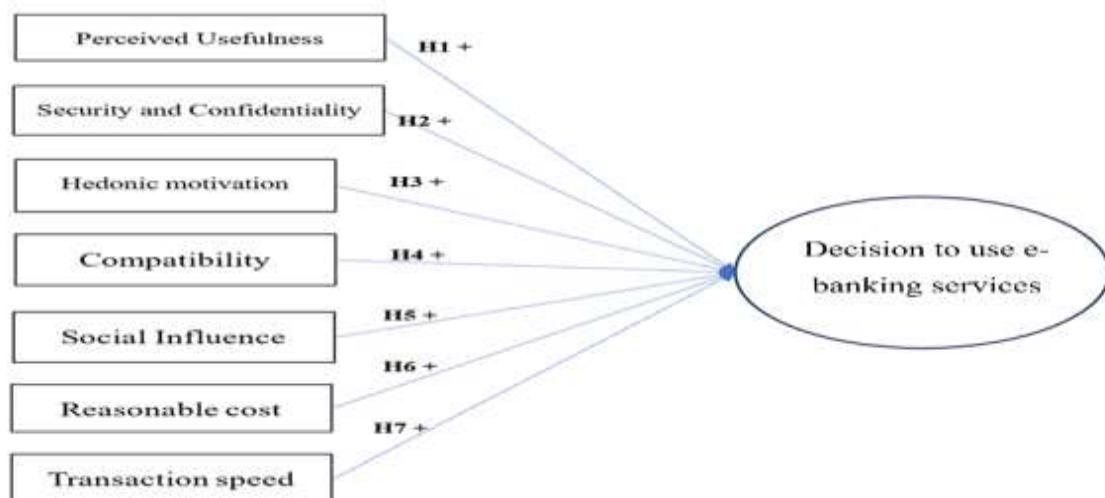


Figure 1. Proposed Research Model (Source: Author's Proposal)

Research Hypotheses include:

- H1: Perceived usefulness has a positive effect on individual customers' decision to use e-banking services at commercial banks in Ho Chi Minh City.
- H2: Security and confidentiality have a positive effect on individual customers' decision to use e-banking services at commercial banks in Ho Chi Minh City.
- H3: Hedonic motivation has a positive effect on individual customers' decision to use e-banking services at commercial banks in Ho Chi Minh City.
- H4: Compatibility has a positive effect on individual customers' decision to use e-banking services at commercial banks in Ho Chi Minh City.
- H5: Social influence has a positive effect on individual customers' decision to use e-banking services at commercial banks in Ho Chi Minh City.
- H6: Reasonable cost has a positive effect on individual customers' decision to use e-banking services at commercial banks in Ho Chi Minh City.
- H7: Transaction speed has a positive effect on individual customers' decision to use e-banking services at commercial banks in Ho Chi Minh City.

Sampling Method

The sample in this study was selected using the convenience sampling method, in which the minimum sample size was estimated to be five times the number of questions in the official questionnaire (Nguyen Dinh Tho, 2013), that is, $5 \times 33 = 165$ observations. Therefore, the author surveyed 300 individual customers, which ensures the minimum required sample size. However, the actual number could be lower due to the elimination of invalid responses. A total of 300 questionnaires were distributed and collected, but after screening, 8 responses were deemed invalid because some customers either chose only one option throughout or left many questions unanswered. Thus, the official sample size consisted of 292 valid responses.

4. RESEARCH RESULTS**4.1. Reliability Test of Scales (Cronbach's Alpha)**

First, the reliability of the scales was tested using Cronbach's Alpha coefficient. This coefficient indicates the level of correlation among the observed variables in the questionnaire and is used to measure the variation of each observed variable and the inter-correlation between them. Specifically, scales are considered acceptable if Cronbach's Alpha > 0.6 and each observed variable has an item-total correlation of at least 0.3.

Table 1: Results of the reliability test of scales for factors influencing the decision to use e-banking services

No.	Scale	Code	No. of items	Cronbach's Alpha	Lowest item-total correlation	Result
1	Perceived usefulness	PU	5	0.870	0.662	Acceptable
2	Security and confidentiality	SC	4	0.851	0.549	Acceptable
3	Hedonic motivation	HM	4	0.772	0.470	Acceptable
4	Compatibility	COM	5	0.891	0.710	Acceptable
5	Social influence	SI	4	0.918	0.667	Acceptable
6	Reasonable cost	RC	4	0.850	0.554	Acceptable
7	Transaction speed	TS	4	0.924	0.819	Acceptable

(Source: Author's analysis results, 2025)

Thus, the scales of the seven factors influencing the decision to use e-banking services all achieved reliability. Therefore, all 30 observed variables of these seven scales satisfy the conditions for exploratory factor analysis (EFA).

4.2. Exploratory Factor Analysis (EFA)

After the reliability test with Cronbach's Alpha, 30 observed variables of the 7 scales measuring factors influencing the decision to use electronic banking services were included in the EFA. The results of the first EFA show that the KMO coefficient is 0.868 and the significance level (Sig.) of Bartlett's test is 0.000, indicating that these variables are correlated and fully suitable for EFA.

The first EFA results reveal that with eigenvalues greater than 1, 7 factors were extracted from the 30

observed variables, with a total variance explained of 72.08% (higher than the required threshold of 50%). This result accounts for 72.08% of the data variability and is considered the final outcome after exploratory factor analysis.

Table 2: Results of Exploratory Factor Analysis (EFA)

Variable	Factor						
	1	2	3	4	5	6	7
KNTT1	.798						
KNTT5	.793						
KNTT4	.761						
KNTT2	.754						
KNTT3	.744						
SHI2		.792					
SHI1		.780					
SHI3		.760					
SHI5		.758					
SHI4		.702					
TDGD2			.859				
TDGD3			.859				
TDGD1			.856				
TDGD4			.853				
AHXH1				.947			
AHXH3				.910			
AHXH2				.875			
AHXH4				.754			
SAT2					.893		
SAT4					.856		
SAT1					.748		
SAT3					.622		
CPHL3						.822	
CPHL2						.793	
CPHL1						.719	
CPHL4						.699	
DLHT3							.752
DLHT2							.742
DLHT1							.702
DLHT4							.688
Eigenvalue	9.231	2.894	2.374	2.015	1.859	1.679	1.571
Variance Explained (%)	30.771	9.647	7.912	6.716	6.198	5.595	5.237
Total Variance Explained (%)	72.08						

(Source: Author's analysis results, 2025)

The EFA results for the dependent variable's observed items show that the KMO coefficient is 0.669 and the significance level (Sig.) of Bartlett's test is 0.000, confirming that the three items are correlated and suitable for EFA. With eigenvalues greater than 1, only one factor was extracted from the three observed variables, with a total variance explained of 65.57%. This indicates that the three observed variables are highly cohesive and together reflect a single dimension: the decision to use electronic banking services by individual customers.

Table 3: Reliability Test Results of Scales Measuring Factors Influencing the Decision to Use Electronic Banking Services by Individual Customers after EFA

No.	Scale	Code	No. of Items	Cronbach's Alpha	Lowest Item-Total Correlation	Result
1	Perceived usefulness	SHI	5	0.870	0.662	Acceptable
2	Security and confidentiality	SAT	4	0.851	0.549	Acceptable
3	Hedonic motivation	DLHT	4	0.772	0.470	Acceptable
4	Compatibility	KNTT	5	0.891	0.710	Acceptable
5	Social influence	AHXH	4	0.918	0.667	Acceptable
6	Reasonable cost	CPHL	4	0.850	0.554	Acceptable
7	Transaction speed	TDGD	4	0.924	0.819	Acceptable
8	Decision to use services	QDSD	3	0.736	0.500	Acceptable

(Source: Author's analysis results, 2025)

Table 3 shows that all measurement scales achieved reliability, with Cronbach's Alpha coefficients ranging from 0.736 to 0.924, exceeding the acceptable threshold of 0.7. Among them, the Transaction Speed (TDGD) scale demonstrated the highest reliability (Alpha = 0.924, lowest item-total correlation = 0.819), indicating strong stability. Other factors such as Social Influence (AHXH), Compatibility (KNTT) and Usefulness (SHI) also reported high coefficients (above 0.87), confirming good scale quality. The remaining factors, including Security Assurance (SAT), Reasonable Cost (CPHL), Hedonic Motivation (DLHT) and Decision to Use (QDSD), all exceeded the minimum threshold, ensuring suitability for further analysis.

4.3. Multiple Linear Regression Model

Based on the results of the correlation analysis, the multiple linear regression model is specified as follows:

$$QDSD = \beta_0 + \beta_1*SHI + \beta_2*SAT + \beta_3*DLHT + \beta_4*KNTT + \beta_5*AHXH + \beta_6*CPHL + \beta_7*TDGD + \epsilon_i$$

Where:

Dependent variable: QDSD (Decision to use e-banking services of individual customers).

Independent variables: SHI (Perceived usefulness); SAT (Security assurance); DLHT (Hedonic motivation); KNTT (Compatibility); AHXH (Social influence); CPHL (Perceived cost); TDGD (Transaction speed).

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$: Regression coefficients.

ϵ_i : Error term.

4.4. Testing Regression Coefficients

The regression results show that five factors are statistically significant at the 1% level (Sig. \leq 0.01), namely: Perceived usefulness, Security assurance, Hedonic motivation, Compatibility and Perceived cost. This means these five factors have a statistically significant linear relationship with the decision to use e-banking services at a 99% confidence level.

One factor is statistically significant at the 5% level ($0.01 < \text{Sig.} \leq 0.05$), which is Transaction speed. This indicates that this factor has a statistically significant linear relationship with the decision to use e-banking services at a 95% confidence level.

The unstandardized regression model is as follows:

$$QDSD = 0.305 + 0.296*SHI + 0.138*SAT + 0.123*DLHT + 0.129*KNTT + 0.040*AHXH + 0.142*CPHL + 0.065*TDGD$$

The standardized regression model, which determines the relative importance of factors influencing individual customers' decision to use e-banking services, is as follows:

$$QDSD = 0.326*SHI + 0.187*CPHL + 0.154*SAT + 0.154*KNTT + 0.135*DLHT + 0.100*TDGD + 0.042*AHXH$$

Table 4: Summary of Hypothesis Testing

Hypothesis	Factor	Sig.	Standardized Coefficient (Beta)	Statistical Significance
H1	Perceived usefulness (SHI)	0.000	0.326	Significant
H2	Security assurance (SAT)	0.002	0.154	Significant
H3	Hedonic motivation (DLHT)	0.005	0.135	Significant
H4	Compatibility (KNTT)	0.003	0.154	Significant
H5	Social influence (AHXH)	0.344	0.042	Not significant
H6	Reasonable cost (CPHL)	0.000	0.187	Significant
H7	Transaction speed (TDGD)	0.037	0.100	Significant

(Source: Author's analysis results, 2025)

The hypothesis testing results indicate that six out of the seven proposed factors significantly influence customers' decision to use e-banking services, including perceived usefulness, security assurance, hedonic motivation, compatibility, reasonable cost and transaction speed. Social influence (AHXH), however, does not show a statistically significant effect (Sig. = 0.344), suggesting that customers' adoption decisions are more strongly driven by functional and experiential aspects rather than external social pressure.

5. DISCUSSION OF RESEARCH RESULTS

The hypothesis testing results reveal that six out of the seven proposed factors significantly influence the decision to use e-banking services. Among them, Perceived usefulness (SHI) has the strongest effect ($\beta = 0.326$, Sig. = 0.000), confirming that customers prioritize efficiency and convenience when adopting e-banking. Reasonable cost (CPHL) also plays a major role ($\beta = 0.187$, Sig. = 0.000), showing that competitive fees and transparent pricing are essential for attracting users. Security assurance (SAT) and Compatibility (KNTT) are equally important (both $\beta = 0.154$), highlighting the need for secure systems that align with customers' digital habits. Hedonic motivation (DLHT) ($\beta = 0.135$, Sig. = 0.005) demonstrates that enjoyment and engagement also encourage adoption, while Transaction speed (TDGD) ($\beta = 0.100$, Sig. = 0.037) indicates that smooth and fast processing enhances user satisfaction. In contrast, Social influence (AHXH) is not statistically significant ($\beta = 0.042$, Sig. = 0.344), suggesting that individual customers' decisions are primarily driven by personal perceptions of service quality and experience, rather than by social or peer pressure.

6. MANAGERIAL IMPLICATIONS

Based on these findings, several managerial implications can be drawn for banks aiming to increase e-banking adoption:

- Focus on SHI (Perceived usefulness): Banks should continuously enhance features that improve efficiency, such as real-time balance tracking, seamless payments and financial management tools.
- Strengthen CPHL (Reasonable cost): Offering transparent, low-cost, or promotional fee structures (e.g., free transfers) can increase customer willingness to adopt e-banking services.
- Enhance SAT (Security assurance): Investment in cybersecurity, advanced authentication and clear communication about security measures will build trust and confidence in e-banking.
- Improve KNTT (Compatibility): Applications should be designed for multi-device accessibility and integration with customers' daily payment systems to ensure convenience.
- Leverage DLHT (Hedonic motivation): Incorporating gamification, intuitive interfaces and rewards can make e-banking more engaging and enjoyable.
- Optimize TDGD (Transaction speed): Ensuring stable, real-time transactions with minimal downtime will improve customer satisfaction and loyalty.
- Reconsider AHXH (Social influence): Since social factors are not significant, banks should prioritize

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improving service quality and functionality rather than heavily relying on social campaigns to drive adoption.

CONCLUSION

This study has examined the key factors influencing individual customers' decisions to use electronic banking services at commercial banks in Ho Chi Minh City, Vietnam. By integrating theoretical foundations from TAM, TRA and TPB with empirical analysis, the research highlights six major determinants: perceived usefulness, security and confidentiality, hedonic motivation, compatibility, reasonable cost and transaction speed. Among these, perceived usefulness emerged as the most influential factor, emphasizing the importance of functional value in driving adoption. The findings suggest that while technological convenience and efficiency play critical roles, trust, security and customer experience also significantly shape customer decisions. Overall, the study provides valuable insights for both academia and practice, contributing to the broader understanding of electronic banking adoption in developing markets. Furthermore, the results offer practical guidance for commercial banks to design effective strategies aimed at enhancing service quality, fostering customer trust and promoting sustainable growth in digital financial services.

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