Journal of Economics, Finance and Management Studies

ISSN (print): 2644-0490, ISSN (online): 2644-0504 Volume 08 Issue 02 February 2025 Article DOI: 10.47191/jefms/v8-i2-56, Impact Factor: 8.317 Page No: 1349-1355

Factors Affecting Customers' Intention to Use E-Banking Services at Vietnam Joint Stock Commercial Bank for Investment and Development



Nguyen Van Hao

Ho Chi Minh University of Banking

ABSTRACT: This study was conducted to evaluate the factors affecting customers' intention to use e-banking services at the Joint Stock Commercial Bank for Investment and Development of Vietnam. Using the methods of assessing the reliability of the scale, exploratory factor analysis (EFA), multiple regression analysis with data of 421 customers at the Joint Stock Commercial Bank for Investment and Development of Vietnam, the research results showed that the intention to use e-banking services of customers is affected by factors including: social influence, brand factor, perceived usefulness, perceived ease of use, technology and security. Based on the research results, the author proposes managerial implications to improve customers' intention to use e-banking services at the Joint Stock Commercial Bank for Investment and Development of Vietnam.

KEYWORDS: e-banking, intention to use, exploratory factor analysis (EFA), multiple regression analysis

I. INTRODUCTION

In recent years, with the rapid advancement of information and communication technology, the banking sector has undergone a significant transformation, adapting to the growing digital landscape. Modern banking services have increasingly been developed on technological platforms to meet customer demands for convenience, security, and efficiency. Among these services, e-banking has emerged as a crucial innovation, playing a vital role in shaping the contemporary banking industry. E-banking provides customers with numerous benefits, including 24/7 access to banking transactions, reduced dependency on physical branches, and improved efficiency in financial management. From a broader perspective, e-banking not only enhances customer experience but also contributes to the national economy by promoting cashless transactions, increasing financial inclusion, and optimizing banking operations.

However, despite its undeniable advantages, the development and widespread adoption of e-banking services depend on multiple factors influencing customers' willingness to use them. Commercial banks must thoroughly understand these factors to implement effective strategies for increasing user adoption and satisfaction. In response to this need, numerous domestic and international studies have been conducted to explore the determinants of customers' intention to use e-banking services (Tran Thi Thang et al., 2022; Tran Thu Thao et al., 2021; Nguyen Ngan Ha, 2019; Pham et al., 2022). These studies have examined various influencing factors, such as social influence, security concerns, perceived usefulness, and ease of use. However, there is still a lack of consensus regarding the key determinants, as different banking institutions operate under diverse regulatory environments, technological infrastructures, and customer demographics. As a result, the factors affecting customers' intentions may vary significantly depending on the characteristics of each bank.

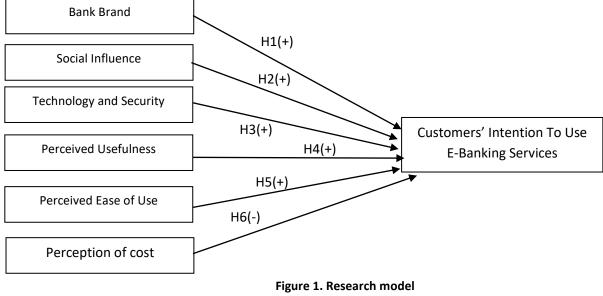
Given these theoretical and practical considerations, the present study aims to identify the most relevant factors influencing customers' intention to use e-banking services in the specific context of BIDV. By addressing gaps in previous research, this study seeks to provide a more comprehensive and contextually relevant analysis of customer behavior towards e-banking adoption. Additionally, we employed research methodologies commonly used in behavioral studies to ensure the reliability and validity of the findings. These include assessing the reliability of the scale, conducting exploratory factor analysis (EFA) to identify underlying relationships among variables, and utilizing multiple regression analysis to measure the impact of different factors on customers' intentions (An & Anh, 2020; Hung et al., 2020; Pham et al., 2022; Pham et al., 2021).

The structure of this paper is as follows: Section 2 introduces the research model and hypotheses development, detailing the theoretical foundation and conceptual framework used in the study. Section 3 presents the research methodology, data

collection process, and analytical techniques applied to test the hypotheses. The results of the study, along with an in-depth discussion, are provided in Section 4. Finally, Section 5 offers policy implications and recommendations for commercial banks to enhance e-banking adoption, followed by concluding remarks.

II. RESEARCH MODEL AND HYPOTHESIS

Based on the developed research hypotheses and related studies by Tran Thi Thang et al. (2022), Tran Thu Thao et al. (2021), Nguyen Ngan Ha (2019), the author proposes a research model of factors affecting customers' intention to use e-banking services at BIDV as follows:



Source: Author's suggestion

Identifying factors influencing customers' intention to use e-banking services is essential for developing these services effectively. According to Tran Thi Thang et al. (2022), the bank brand significantly impacts customers' choices. A strong brand helps build trust and enhances service quality perception (Tran Thu Thao et al., 2021). Additionally, Nguyen Ngan Ha (2019) pointed out that the bank brand contributes to differentiation and attracts customers. This is especially important in the current competitive landscape among commercial banks. Therefore, our study hypothesizes that the bank brand positively affects customers' intention to use e-banking services.

Hypothesis H1: Bank brand has a positive impact on customers' intention to use e-banking services at BIDV.

Social influence plays a crucial role in shaping customer behavior, particularly in the adoption of new technologies. According to Venkatesh et al. (2003), individuals tend to adopt a technology when they perceive that important social groups, such as family, friends, or colleagues, endorse its use. In the context of e-banking, recommendations from peers or societal trends can significantly increase a customer's willingness to use online financial services. Prior research suggests that social norms and subjective norms influence customers' trust and confidence in e-banking (Ajzen, 1991). When individuals observe others benefiting from e-banking services, they are more likely to perceive it as a necessary and advantageous tool. Therefore, social influence positively affects customers' intention to adopt e-banking at BIDV.

Hypothesis H2: Social influence has a positive impact on customers' intention to use e-banking services at BIDV.

Perceived risks related to technology and security can create significant barriers to the adoption of e-banking services. Customers often hesitate to engage in online banking transactions due to concerns about cybersecurity threats, data breaches, and system failures (Yousafzai et al., 2003). Studies indicate that security risks significantly deter individuals from using e-banking, as they fear unauthorized access to personal and financial information (Featherman & Pavlou, 2003). Additionally, inadequate technological infrastructure or frequent service disruptions can negatively impact user experience and trust in the banking system (Lee, 2009). If customers perceive the technology as unreliable or vulnerable to cyberattacks, they are less likely to use e-banking services. Consequently, concerns about technology and security negatively influence customers' intention to use e-banking at BIDV.

Hypothesis H3: Technology and security have a negative impact on customers' intention to use e-banking services at BIDV.

Perceived usefulness refers to the extent to which an individual believes that using a particular system will enhance their performance or convenience (Davis, 1989). In the banking sector, e-banking services provide customers with numerous advantages, such as faster transactions, 24/7 accessibility, and reduced waiting times at physical branches. Studies have confirmed that customers are more likely to adopt e-banking if they perceive that it significantly improves their financial management and banking efficiency (Chong et al., 2010). Moreover, when customers recognize the convenience of features like instant fund transfers, bill payments, and mobile banking, they develop a stronger intention to use the service (Wang et al., 2003). Thus, perceived usefulness plays a critical role in encouraging customers to adopt e-banking services at BIDV.

Hypothesis H4: Perceived usefulness has a positive impact on customers' intention to use e-banking services at BIDV.

Perceived ease of use is a key determinant of technology adoption, as individuals prefer systems that are user-friendly and require minimal effort to operate (Davis, 1989). If customers find e-banking platforms intuitive, with simple navigation and seamless transaction processes, they are more likely to use the service (Pikkarainen et al., 2004). Studies show that technical complexity or difficult-to-understand interfaces discourage customers from adopting digital banking solutions (Gefen et al., 2003). In contrast, clear instructions, responsive customer support, and mobile-friendly interfaces enhance the user experience and foster greater adoption rates (Alalwan et al., 2017). Given that e-banking platforms with high usability encourage more frequent use, perceived ease of use positively influences customers' intention to use e-banking at BIDV.

Hypothesis H5: Perceived ease of use has a positive impact on customers' intention to use e-banking services at BIDV.

Cost perception is a significant factor affecting the adoption of e-banking services, as customers are often sensitive to transaction fees, service charges, and hidden costs. Research has shown that when customers perceive e-banking services as expensive, they are less likely to use them (Laukkanen & Kiviniemi, 2010). High costs associated with online transactions, maintenance fees, or mobile banking subscriptions create financial barriers that discourage adoption (Rahi et al., 2019). In some cases, customers may prefer traditional banking methods if they believe that digital banking incurs additional expenses without significant added value (Zhao et al., 2010). Thus, if BIDV customers perceive e-banking as costly, their intention to use the service will decrease. Consequently, the perception of cost negatively impacts customers' intention to adopt e-banking at BIDV.

Hypothesis H6: Perception of cost has a negative impact on customers' intention to use e-banking services at BIDV.

III. RESEARCH RESULTS

✤ QUALITATIVE RESEARCH RESULTS

The scale of factors in the model is inherited from related studies by Tran Thi Thang et al. (2022), Tran Thu Thao et al. (2021), Nguyen Ngan Ha (2019).

After proposing the model and the scale of factors in the model, the author conducted interviews with experts who are researchers with experience in researching e-banking from universities, research institutes, and department heads at BIDV. The purpose of this work is to calibrate the model and the scale of factors in the model to suit the actual research conditions at BIDV. The author interviewed 10 researchers, the selected researchers were those with a doctorate degree or higher from universities, research institutes and had published scientific works related to e-banking. For department heads, the author interviewed 5 transaction office directors at BIDV, the selected department heads were those with 10 years of working experience in the banking sector. In this step, the author used the seed development method to select experts. Specifically, through researchers and department heads to continue the interviews. The results of the expert interviews showed that most experts agreed with 6 factors affecting the intention to use e-banking services: Bank brand, Social influence, Technology and security, Perceived usefulness, Perceived ease of use, Perception of cost. At the same time, the observed variables in each scale also received high consensus from experts. The observed variables in each scale will be measured using a 5-level Likert scale, specifically: 1 - Completely disagree; 2 - Disagree; 3 - Neutral; 4 - Agree; 5 - Completely agree.

✤ QUANTITATIVE RESEARCH RESULTS

Samples and sample collection methods

Because the number of customers of BIDV changes frequently. Therefore, in this study, the author determines the minimum sample size according to the following formula:

$$n = \frac{Z^2 \times p \times (1-p)}{e^2}$$

Where n is the minimum sample size. Z is the statistical value corresponding to the reliability of the study, p is the probability of successfully interviewing a customer. e is the allowable error of the estimates.

In this study, the author chose a confidence level of 95%, so Z is 1.96. Since the customer interview may be successful or unsuccessful, the author chose the probability of successfully interviewing a customer p as 50%. The acceptable margin of error in this study is 5%. Therefore, the minimum sample size will be:

$$n = \frac{Z^2 \times p \times (1-p)}{e^2} = \frac{(1.96)^2 \times 0.5 \times 0.5}{(5\%)^2} = 384.16$$

In fact, the Author distributed 450 survey forms. The number of survey forms collected was 433. After eliminating 12 survey forms with missing information, the number of survey forms that met the requirements for analysis was 421. Thus, the data for the study included 421 observations. Customers were selected for interviews using a convenient method. Specifically, through counter tellers, the author interviewed customers who came to transact using survey forms or through survey forms encoded in the form of QR codes.

Results of evaluating factors affecting customers' intention to use e-banking services at BIDV

• Assessing the reliability of the scale

The results of the reliability assessment of the scales in the model were performed through the Cronbach's Alpha coefficient and the total item correlation coefficient. The results of the reliability assessment showed that the scales and observed variables in each scale were reliable enough to conduct the analysis.

• Exploratory factor analysis with independent factors

The EFA analysis results extracted 6 independent factors representing 18 observed variables in the scales with Eigenvalues of 1.040 greater than 1. In addition, the total variance extracted was 70.905%, meaning that the 6 representative factors extracted from the EFA analysis explained 70.905% of the variance of 18 observed variables in the scales.

• Exploratory factor analysis with dependent factor

The EFA analysis results extracted 1 dependent factor representing 3 observed variables in the scale of intention to use ebanking services with Eigenvalues of 1.427 greater than 1. In addition, the total variance extracted is 85.516%, meaning that 1 representative factor extracted from EFA analysis explains 85.516% of the variance of 3 observed variables in the scale of intention to use e-banking services.

Multiple regression analysis

To determine the factors affecting customers' intention to use e-banking services at BIDV and draw conclusions about the research hypotheses, the author continues to conduct regression analysis with the following model:

$YD = \beta_0 + \beta_1 \times CP + \beta_2 \times XH + \beta_3 \times TH + \beta_4 \times CNBM + \beta_5 \times HI + \beta_6 \times SD + \varepsilon$

The model estimation results are presented in the table below:

Model		Unstandardized regression coefficients		Standardized regression	t	Sig.	Collinearity statistics	
		Coefficient	Standard error	coefficients			Tolerance	VIF
1	Constant	0.727	0.309		2,354	0.019		
	СР	-0.008	0.032	-0.009	-0.246	0.805	0.987	1,013
	ХН	0.294	0.047	0.239	6.256	0.000	0.848	1,180
	ТН	0.209	0.045	0.175	4,615	0.000	0.867	1,153
	CNBM	-0.192	0.046	-0.164	-4.186	0.000	0.806	1,241
	н	0.165	0.044	0.150	3,716	0.000	0.763	1.311
	SD	0.324	0.047	0.304	6,878	0.000	0.633	1,579

Table 1. Regression coefficients

Source: calculated from SPSS software

The research findings presented in Table 1 provide valuable insights into the key factors influencing customers' intention to use e-banking services at BIDV. The study identifies five significant factors: social influence (XH), bank brand (TH), perceived usefulness (HI), perceived ease of use (SD), and concerns about technology and security (CNBM). Each of these factors has a measurable impact on customers' intention to adopt e-banking, either positively or negatively.

Among these factors, perceived ease of use (SD) has the strongest positive impact, with a coefficient of 0.324. This suggests that when customers perceive e-banking services as easy to use, they are significantly more likely to adopt them. A well-designed, intuitive, and user-friendly interface, along with simplified transaction processes, plays a crucial role in encouraging customers to switch to digital banking. BIDV should prioritize improvements in usability, such as reducing technical complexity, offering step-by-step guidance, and integrating seamless payment methods to further enhance ease of use.

Social influence (XH) follows closely, with a coefficient of 0.294, indicating that the opinions and behaviors of peers, family members, and colleagues have a strong effect on a customer's decision to use e-banking. This highlights the importance of word-of-mouth marketing and social proof in digital banking adoption. BIDV should leverage social media campaigns, influencer endorsements, and customer testimonials to amplify positive perceptions of e-banking. Encouraging referrals and incentivizing existing customers to introduce e-banking services to their social circles could also be an effective strategy.

Bank brand (TH) is another influential factor, with a coefficient of 0.209. This means that customers' trust in BIDV as a reputable and reliable financial institution significantly impacts their intention to use e-banking. A strong brand image fosters confidence in the bank's ability to provide secure and high-quality digital banking services. To strengthen brand perception, BIDV should focus on reinforcing its market position through branding campaigns, superior customer service, and corporate social responsibility initiatives that build customer trust and loyalty.

Perceived usefulness (HI), with a coefficient of 0.165, also has a positive impact, though it is relatively weaker compared to the other factors. This suggests that while customers recognize the benefits of e-banking—such as convenience, speed, and accessibility—this alone is not the primary driving force behind adoption. However, BIDV can further enhance perceived usefulness by offering additional features, such as AI-powered financial planning tools, automated bill payments, and real-time transaction tracking. Highlighting these features through educational marketing campaigns could improve customer perceptions of the service's value.

In contrast, concerns about technology and security (CNBM) negatively impact customers' intention to use e-banking, with a coefficient of -0.192. This indicates that as customers' fear of cyber threats, fraud, or technical issues increases, their willingness to use e-banking declines. Security concerns remain a significant barrier to adoption, making it essential for BIDV to reinforce customer confidence through enhanced cybersecurity measures. Implementing strong encryption, two-factor authentication, fraud detection systems, and clear security policies can help mitigate these concerns. Additionally, providing customers with educational materials on safe online banking practices may reduce anxiety related to digital transactions.

Finally, the study found no statistically significant impact of cost perception on customers' intention to use e-banking services at BIDV. This suggests that factors such as transaction fees or service charges are not primary concerns for customers when deciding whether to adopt e-banking. It is possible that BIDV's fee structures are already competitive or that customers prioritize convenience, security, and usability over cost considerations. However, the bank should continue to monitor customer sentiment regarding pricing strategies to ensure affordability remains a non-issue.

In conclusion, the findings underscore the importance of usability, social influence, brand trust, and security in shaping customer behavior toward e-banking adoption. BIDV should focus on enhancing user experience, leveraging social proof, strengthening brand reputation, and improving security protocols to drive higher adoption rates. By addressing these key factors, the bank can encourage a more widespread transition to digital banking services, fostering long-term customer engagement and satisfaction.

Based on the research results, the author proposes some of the following management implications:

IV. MANAGEMENT IMPLICATIONS

The research findings indicate that customers' intention to use e-banking services at BIDV is significantly influenced by multiple factors, including social influence, the bank's brand, perceived usefulness, perceived ease of use, as well as concerns related to technology and security. These factors play a crucial role in shaping customers' attitudes toward e-banking adoption, highlighting the need for strategic interventions to enhance positive perceptions and mitigate potential barriers. Given the importance of these factors, BIDV should adopt targeted management strategies to improve customers' trust, convenience, and overall user experience with e-banking services.

To strengthen the influence of social factors and the bank's brand, BIDV should intensify its marketing efforts by launching widespread promotional campaigns that emphasize the bank's reputation, reliability, and commitment to digital transformation. Social media engagement, influencer collaborations, and customer success stories can be leveraged to create a strong, positive perception of BIDV's e-banking services. Additionally, organizing financial literacy programs and workshops on the benefits of digital banking could further enhance customers' confidence and willingness to use e-banking.

In terms of perceived usefulness and ease of use, BIDV should focus on refining the user interface of its e-banking platform to provide a seamless and intuitive experience. The online banking website and mobile application should feature a modern, aesthetically pleasing design with clear navigation and easy access to key functionalities. Ensuring a smooth and efficient transaction process by simplifying procedures, reducing processing time, and integrating multiple payment options would enhance customers' perception of e-banking as a convenient and valuable service. Moreover, offering personalized recommendations, interactive customer support, and AI-driven financial management tools could further improve the perceived usefulness of e-banking services.

To address concerns regarding technology and security, BIDV must prioritize the implementation of robust cybersecurity measures and transparent communication about security protocols. Educating customers on fraud prevention, encryption techniques, and secure authentication methods (such as biometric verification and two-factor authentication) can help alleviate fears associated with online banking risks. Additionally, continuous investment in technological infrastructure, real-time fraud monitoring, and prompt customer support for security-related issues would reinforce customers' trust and encourage them to adopt e-banking services with confidence.

By proactively addressing these influencing factors, BIDV can enhance customer perceptions of e-banking, leading to higher adoption rates and long-term customer retention. A combination of effective branding, user-friendly design, security enhancements, and strategic marketing initiatives will ensure that BIDV remains competitive in the digital banking landscape while fostering a more digitally engaged customer base.

REFERENCES

- 1) Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-T
- Alalwan, A. A., Dwivedi, Y. K., Rana, N. P., & Williams, M. D. (2017). Consumer adoption of mobile banking in Jordan: Examining the role of usefulness, ease of use, perceived risk and trust. Journal of Financial Services Marketing, 20(2), 126-141. https://doi.org/10.1057/s41264-017-0032-6
- 3) An, PTH, & Le Hoang Anh, VVT (2020). Factors Affecting Employee Motivation at Commercial Banks in Vietnam. Recuperado En, 15.
- 4) Chong, A. Y. L., Ooi, K. B., Lin, B., & Tan, B. I. (2010). Online banking adoption: An empirical analysis. International Journal of Bank Marketing, 28(4), 267-287. https://doi.org/10.1108/02652321011054963
- 5) Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340. https://doi.org/10.2307/249008
- 6) Featherman, M. S., & Pavlou, P. A. (2003). Predicting e-services adoption: A perceived risk facets perspective. International Journal of Human-Computer Studies, 59(4), 451-474. https://doi.org/10.1016/S1071-5819(03)00111-3
- 7) Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. MIS Quarterly, 27(1), 51-90. https://doi.org/10.2307/30036519
- 8) Hung, N.T., Le Hoang, A., Do Thi Thu, H., & Hang, VTT (2020). A Studying on Factors Affecting Decision to Use Smart Tourism Applications using extended TAM. https://doi.org/10.37394/23207.2020.17.30
- 9) Laukkanen, T., & Kiviniemi, V. (2010). The role of information in mobile banking resistance. International Journal of Bank Marketing, 28(5), 372-388. https://doi.org/10.1108/02652321011064917
- Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. Electronic Commerce Research and Applications, 8(3), 130-141. https://doi.org/10.1016/j.elerap.2008.11.006
- Nguyen Ngan Ha (2019). Research on factors affecting the acceptance of using e-banking services at Vietnam Joint Stock Commercial Bank for Investment and Development, Thanh Hoa branch. Hong Duc University Science Journal, 43, 36-47.

- 12) Pham, AHT, Pham, DX, Thalassinos, EI, & Le, AH (2022). The Application of Sem–Neural Network Method to Determine the Factors Affecting the Intention to Use Online Banking Services in Vietnam. Sustainability, 14 (10), Article 10. https://doi.org/10.3390/issue14106021
- 13) Pham, TTT, Le, HA, & Do, DT (2021). The Factors Affecting Students' Online Learning Outcomes during the COVID-19 Pandemic: A Bayesian Exploratory Factor Analysis. Education Research International , 2021, e2669098. https://doi.org/10.1155/2021/2669098
- 14) Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnila, S. (2004). Consumer acceptance of online banking: An extension of the technology acceptance model. Internet Research, 14(3), 224-235. https://doi.org/10.1108/10662240410542652
- 15) Rahi, S., Ghani, M., & Ngah, A. H. (2019). Integration of UTAUT model in internet banking adoption context. Journal of Research in Interactive Marketing, 13(3), 411-435. https://doi.org/10.1108/JRIM-02-2018-0032
- 16) Tran Thi Thang, Le Danh Luong, Ngo Thi Ngoc Hoa, Pham Thi Huyen (2022). Research on factors affecting the intention to use digital banking services at commercial bank branches in Bac Ninh province. Journal of Banking Science & Training, 240, 66-80.
- 17) Tran Thu Thao, Nguyen Quoc Cuong, Le Thi Nhung (2021). Factors affecting customers' intention to use mobile banking services at Saigon Commercial Joint Stock Bank (SCB). Journal of Science, Technology and Food, 21 (3), 100-114.
- 18) Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425-478. https://doi.org/10.2307/30036540
- 19) Wang, Y. S., Wang, Y. M., Lin, H. H., & Tang, T. I. (2003). Determinants of user acceptance of internet banking: An empirical study. International Journal of Service Industry Management, 14(5), 501-519. https://doi.org/10.1108/09564230310500192
- 20) Yousafzai, S. Y., Pallister, J. G., & Foxall, G. R. (2003). A proposed model of e-trust for electronic banking. Technovation, 23(11), 847-860. https://doi.org/10.1016/S0166-4972(03)00070-5
- 21) Zhao, A. L., Koenig-Lewis, N., Hanmer-Lloyd, S., & Ward, P. (2010). Adoption of internet banking services in China. International Journal of Bank Marketing, 28(1), 7-26. https://doi.org/10.1108/02652321011013562



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0)

(https://creativecommons.org/licenses/by-nc/4.0/), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.