



FACTORS AFFECTING PEOPLE'S E-WALLET USING INTENTION: A CASE STUDY OF BAC NINH PROVINCE

Ha Van Son^{*1} & Nguyen Thi Liem²

^{*1&2}University of Economics Ho Chi Minh City (UEH)

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Abstract

E-wallet service is developing rapidly in major cities of Vietnam but has just deployed in some provinces and cities in the country. This study investigated the factors affecting the intention to use E-wallets of people in Bac Ninh province. The authors surveyed 287 people who have knowledge about E-wallets but have not yet used it, currently living and working in Bac Ninh province. The results showed that four factors affected the intention to use an individual's E-wallet: Expected ease of use; Perceived reliability; Perceived cost; User community, in which Perceived reliability is the most influential factor. Based on the research results, the authors proposed some practical recommendations for E-wallet service providers to plan appropriate strategies to increase the number of E-wallet users.

Introduction

According to Worldpay 2017, cashless payment had become a popular payment method in many developed countries worldwide. The highest growth in transaction volume in the past decade, with an increase of 11.2% during 2014-2015, reached 433.1 billion USD. Most countries have been implementing the reform of modern payment systems to meet the increasing payment needs of the people.

This payment method started appearing in Asia in 2003-2004 in Korea and Japan. In Southeast Asia, the first two countries to convert their card payment systems to EMV (System of Standards by Europay, MasterCard, and Visa) in 2005 were Malaysia and Singapore, followed by Thailand, Indonesia, Philippines, and Vietnam.

This electronic means of payment has made people more flexible in transactions and safer in costs. In 2009, the State Bank of Vietnam granted a pilot license for the first E-wallet in Vietnam. Up to now, in our country, there have been over 20 licensed and operating DTs. Commonly used e-mails such as MoMo, ZaloPay, BankPlus, ViettelPay, Moca...

Although the State of Vietnam and issuers of E-vouchers have set out many policies to promote non-cash payment methods for many years, most people still use cash on daily transactions day. According to the report Digitizing Cash in ASEAN - Implications for Future Consumer and Corporate Capital Managers by Standard Chartered Bank, the proportion of the population (aged 15 years and older) in Vietnam has the lowest bank accounts or credit card countries region. The number of Vietnamese people with a bank account is only 31%, while the percentage of online shoppers who choose to pay cash for purchases is more than 90%.

The issuers of E-wallets know the importance of factors affecting the intention to use E-wallets, the size of the market opportunities of payment service providers via E-wallets why people still do not commonly use this form of payment in daily transactions. However, they bring many conveniences to users and contribute to the development of the national economy. This study aims to determine the factors affecting the intention to use E-wallets in particular and non-cash payment methods in Bac Ninh province. Thus, the authors had the research paper.

Based on the research results obtained, the authors proposed some practical recommendations for businesses providing E-wallet services to plan appropriate strategies to increase E-wallets' number while speeding up the development of non-cash payment methods in Vietnam following the goals set by the State.



Literature review

The concept of E-wallet

According to Decree No. 80/2016/ND-CP amending and supplementing some Decree No. 101/2012/ND-CP articles, an E-wallet service is defined as providing customers with an account. An electronic identifier created by an intermediary payment service provider on information carriers (such as electronic chips, mobile phone sims, computers, etc.), allowing a monetary value to be stored currency is secured by the deposit value equivalent to the amount transferred from the customer's payment account at the bank to the payment guarantee account of the organization providing the E-wallet service at the ratio of 1:1.

According to Vietnam's online financial consulting website, the Bank (thebank.vn) defines an E-wallet as an online account with an online payment function, which helps you pay fees on the Internet such as electricity and water bills telecom charges. You can also buy online from e-commerce sites like Lazada, Tiki... with this wallet. This form of payment is elementary, fast, and saves both time and money."

Functions of E-Wallet

Currently, the majority of E-wallets in Vietnam has four main functions:

Receive and transfer money: after a user successfully registers and activates the registered E-wallet account, they can receive the money transferred to the account in many different ways: an E-wallet provider. Therefore, die and deposit money divided directly into your account. Top up at bank counters associated with E-wallet providers; receive the money transferred from other E-wallet accounts of the same type; online deposit from a bank account; top-up online with scratch cards, etc. And once there is an amount in the E-wallet, the user can transfer money to other E-Wallets of the same type, transfer money to the linked bank account or transfer to other users. Other by post and through bank branches.

- Store money on electronic accounts: E-wallet is an application also known as a digital wallet. This function is an online account that allows users to store money safely and conveniently in the form of electronic money. The amount of money that the user has in the wallet recorded on the E-wallet account is equivalent to the cash value transferred to the wallet.

- Online payment: once you have money in your E-wallet account, you can use this money to pay fees on the Internet, such as electricity, water, telecommunications... or pay for bills - purchase orders on online shopping websites in Vietnam or abroad that support online payment via E-wallet.

- Account query: E-wallet users can manage and update their account by making changes to personal information, password, balance lookup, viewing transaction history in the understanding of an E-wallet account.

In addition to the above functions, currently, E-wallet providers in Vietnam also provide many other features to make it more convenient for users to use E-wallets for payment activities. Some other E-wallets include recharge phone, recharge online game account, pay fees to participate in forums, buy tickets online, pay tuition fees, pay for hotel bookings on the go travel, purchase insurance, etc.

Theory of Reasoned in Action (TRA)

Theory of Reasoned in Action (TRA) was developed by Ajzen and Fishbein in the 1960s and expanded in the 1970s. According to TRA, the intention to perform the behavior is the most critical factor determining human behavior. The behavioral purpose is to perform a particular behavior and is influenced by two factors: a person's attitude about the behavior and subjective norms related to the behavior.

Theory of Planned Behavior (TPB)

The theory of planned behavior (TPB) was developed by Ajzen (1991) based on the view of the Theory of Rational Action of Fishbein and Ajzen (1975) by adding cognitive factors controlling behavior to TRA. After developing the Theory of Reasoned in Action (TRA); In 1991, Ajzen found that the TRA model was limited in predicting and explaining some cases of individual behavior under the control of the will. According to TPB, customers' behavioral intentions are influenced by attitudes, subjective norms, and perceived behavioral control. Perceived behavioral control reflects the ease or difficulty of performing the behavior, depending on resources and opportunities to serve the behavior.



Technology Acceptance Model (TAM)

The emergence of the smartphone trend in recent years can be seen as a new technological breakthrough. The TAM Technology Acceptance Model is considered a valuable tool for explaining the intention to accept a new technology product. This model was developed by Fred D. Davis (1989) based on the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975). In this model, the author has replaced Attitude and Subjective Standards with two new factors affecting Behavioral Intent, Perceived Usefulness, and Perceived Ease of Use.

The Technology Acceptance Model (TAM) has been applied to research usage behavior in many different technology fields with diverse research subjects. In many empirical TAM trials, perceived usefulness is consistently a strong determinant of intention to use, with normalized regression coefficients typically around 0.6. A factor affecting Perceived usefulness will change over time as there is an increase in the experience of using the system. With the model's perceived ease of use factor, many studies applying the model have shown that this factor is less consistent for each study's objective. Many studies have been conducted to model the factors affecting ease of use (Venkatesh and Davis 1996), and for the model on factors affecting the perceived usefulness factor, not mentioned yet.

To limit the disadvantages of the technology acceptance model (TAM), Venkatesh and Davis (2000) have proposed the extended technology acceptance model (TAM2), TAM2 includes additional influencing factors. The researchers had the model consisting of factors related to social influences such as Subjective Norms, Volume, and Image and some aspects related to perceived media use such as Job suitability, output quality, and verifiability of results.

A combined model of TAM and TPB (C-TAM-TPB)

Taylor and Todd (1995) proposed a C-TAM-TPB model by combining the TPB model (Theory of Planned Behavior). Besides, TAM, after finding that the Technology Acceptance Model (TAM) ability to predict behavioral decisions of new technology users and actual usage, has been supported by numerous empirical studies. Still, this model does not have two factors as factors. Numerous studies have shown that social factors and behavioral control significantly influence users' actual use of new technology. The model after combining is called the Decomposed Theory of Planned Behavior because the elements belonging to the belief group are separated in this model.

However, Taylor and Todd (1995) also said that many other factors affect consumers' decisions to use electronic payments and the elements included in these models. Therefore, many studies have extended the combination and development of the above models by adding more factors to these models. Attitude is divided into three aspects: Perceived Usefulness, Perceived Ease of Use and Compatibility; Normative belief factor is divided into peer influence and Superior influence; Control belief factors are classified into Self-efficacy, resource, and resource facilitating conditions and technology enabling conditions.

Motivational model (MM)

In the study of behavior in applying and using information technology, motivation theory is considered as an essential component in supporting the explanation of an individual's behavior. There have been many studies involving Motivation Theory to explore and explain human behavior in many different fields. The motivation theory of Davis et al. (1992) suggested that an individual's behavior is shaped by the individual's internal or external motivations.

Intrinsic and extrinsic motivations have a significant influence on human behavior. The explanation is what causes people to behave or act in a particular situation in a certain way and not in another way.

Extrinsic motivation: is defined as the feeling that the individual wants to perform a behavior because the behavior will help the individual achieve valuable results, such as improved job performance, increased salary, promotion... (Davis et al., 1992, p. 1112). Some typical factors are external motivators such as Perceived usefulness, Perceived Ease of Use, Subjective norm, etc.

Intrinsic motivation: is defined as pleasure, enjoyment, and satisfaction when performing a behavior (Vallerand, 1997). Users complete behavior for nothing other than the process itself (Davis et al., 1992, p. 1112). Some typical factors belong to the group of Intrinsic Motivation: Computer Playfulness, Enjoyment...



Model of personal computer utilization ((Model of PC Utilization)

Triandis (1977) built this model to study human attitudes and behaviors in using computers. Thompson et al. (1991) modified Triandis' model to predict personal computer usage behavior. Behavior is determined by what people want to do (Attitudes), what they think they should do (Social Norms), what they usually do (Habits), and by expected outcomes from their behavior (Thompson et al., 1991, p.126). Critical factors in the model include Job fit; Complexity (Complexity); Long-term consequences; Affect Towards Use; Social Factors (Social Factors), Facilitating Conditions.

Innovation Diffusion Theory (IDT)

The Innovation Diffusion Theory was developed by researcher Everett Rogers, presented in the book. The prevalence of innovation, published in 1962 and added in the second edition in 1983, is one of the most popular theories oldest social science to explain how, why, and how general a new idea and technology is among individuals in a social system. The innovation diffusion theory (IDT) consists of five main elements: relative advantage, compatibility, complexity/simplicity, and trialability) and Observability. IDT theory is applied to studying a wide variety of innovations in various fields, from simple agricultural tools to improving an organization (Tornatzky and Klein, 1982). In the field of information technology, Rogers's Innovation Diffusion Theory (IDT) has been adjusted by Moore and Benbasat (1991) to change the main factors in the model to improve its relevance to apply to research on innovation. Technology acceptance of individuals, including factors: Relative Advantage (Relative Advantage); Ease of use; Image (Image); Visibility; Compatibility (Compatibility); Result Demonstrability; Voluntariness of Use.

Social Cognitive Theory (SCT)

Based on the Social Cognitive Theory (SCT) of Miller and Dollard (1941), Albert Bandura (1986) formulated the Social Cognitive Theory (SCT). This factor showed the interaction between three factors: Environmental factors; Personal factors, and behavioral factors.

In 1995, Compeau and Higgins applied Social Cognitive Theory (SCT) when researching information technology on the behavior of individuals using computers. Compeau and Higgins (1995) adjusted and proposed that the computer use behavior of individuals is affected by the following factors: Performance-Outcome Expectancy, Expected individual results (Personal-Outcome Expectancy), Self-Efficacy, Affection (Affect), and Anxiety (Anxiety).

Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh et al. (2003) found that research models in information technology and computer systems are primarily models built on combining some concepts from many different models. Therefore, Venkatesh and colleagues have synthesized from theories, precursor studies and provided a unified model for research on user acceptance of technology.

Venkatesh et al. (2003) selected and combined the factors that strongly impact technology acceptance behavior in previous models to build a unified theory of technology acceptance and use (UTAUT). The model included four main influencing factors (expected usefulness, expected ease of use, social influence, favorable conditions). Besides, four variables act as control variables (Age, Gender, Experience, Voluntary), the model with the above factors can explain up to 70% of behavioral intention (Venkatesh et al., 2003).

Research hypothesis and research model

Based on previous studies, combined with theories and research models, the author finds that the Unified Theory of Acceptance of Technology Use (UTAUT) is a model that generally covers the factors affecting an individual's Intent to use E-wallet. Venkatesh et al. (2003) demonstrated that the UTAUT model has a higher explanatory level than its eight predecessor models with an adjusted R² coefficient of 70%. In addition, the author conducts research based on the research results of author Nguyen Thi Linh Phuong and operates qualitative research to adjust and change some scales to suit the survey subjects who are people know about E-wallet at the time of the study.



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The authors proposed models and research hypotheses about the factors affecting the intention to use E-wallets as follows:

H1: Perceived usefulness (PE) positively affects the Intent to use E-wallets of individual customers in Bac Ninh province.

Perceived usefulness is the degree to which an individual feels or believes that using technology will help improve job performance, resulting in better results when doing work with new technology than with new technology old technology. In previous studies, Expected Helpfulness has been shown to have an impact on intention to use E-wallets.

H2: Expected ease of use (EE) positively affects using E-wallets of individual customers in Bac Ninh province.

Expected ease of use is the degree of ease that is scheduled when individuals use the new system. In previous studies, Ease of Use Expectation has been shown to impact intention to use E-wallets.

H3: Social influence (SI) positively affects using E-wallet of individual customers in Bac Ninh province.

Social influence is how an individual will be influenced by influencers recommending them to use new technology. In previous studies, Social Influence has been shown to have an impact on intention to use E-wallets.

H4: Favorable conditions (FC) positively affect using E-wallets of individual customers in Bac Ninh province.

Favorable conditions are existing conditions and infrastructure that individuals think can help them accept and use the new system. In previous studies, Facilitation was shown to have an impact on intention to use E-wallet.

H5: Perceived reliability (PCr) has a positive effect on the intention to use E-wallets of individual customers in Bac Ninh province.

Perceived reliability is understood as an individual's assessment of the security and safety of the electronic wallet system (Amin, 2009). In previous studies, perceived trust has been shown to impact intention to use a new system or technology.

H6: Perceived cost (PCo) has a negative impact on the intention to use E-wallets of individual customers in Bac Ninh province.

Perceived cost is an amount that individuals believe they must pay to use the service provided by the new technology. Costs may include transaction costs, service provider's maintenance fees, telephone/internet costs for sending communication traffic, and computer/cell phone costs (Laurn & Lin, 2005). In previous studies, the cost has an impact on intention to use a new system or technology.

H7: Government support (GS) has a positive effect on the intention to use E-wallet of individual customers in Bac Ninh province.

Government support is the Government's investment in infrastructure and setting policies to support users. This factor plays an essential role in the development of e-commerce and the use of E-wallets in Vietnam. In addition to investment in government infrastructure, there should also be policies and regulations to support users using E-wallets (Chong et al., 2010).

H8: User community (UC) has a positive impact on the intention to use E-wallet of individual customers in Bac Ninh province.

Determine an individual's intention to use E-wallet. The user community will influence the user's intention when the user himself realizes that the user community is large, they will have a higher intent to use E-wallet. The User Community factor was included in the model after the author Nguyen Thi Linh Phuong (2013), consulted with industry experts. The study also showed that the User Community factor had the most impact.

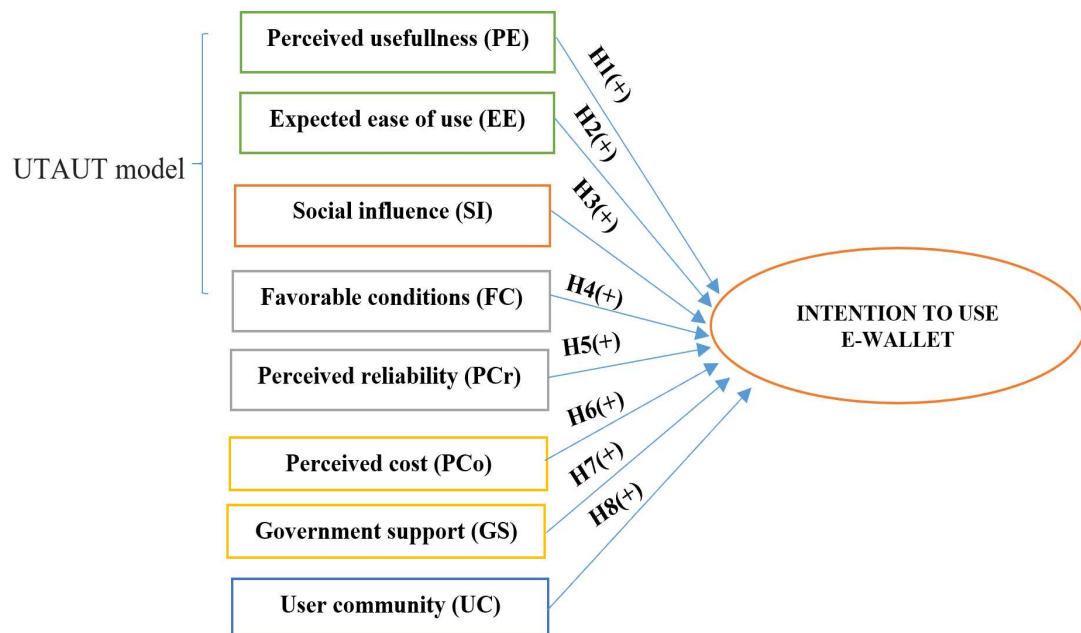


Figure 1: Proposed Model of Factors Affecting Intention To Use E-Wallet

Research methods

This study was conducted in two phases: preliminary qualitative research and formal quantitative research. The qualitative research method was performed to adjust the observed variables of the scales to suit the time, context, and research object. The study was conducted by in-depth discussion and face-to-face interviews with ten people of the research object to check the suitability of the terms and contents of the scale with the survey subjects that the research aimed. The results of the qualitative research process are the survey questionnaires used for formal quantitative analysis. The authors built the survey questionnaire based on previous studies, the proposed research model, and the questionnaire used by Nguyen Thi Linh Phuong (2013).

The authors used the quantitative research method in the official research phase through the adjusted questionnaire and conducted a direct and indirect survey in June 2020. Based on the required sample size and the filtering conditions suitable to the research objectives, the questionnaire was sent to the individuals under the research subjects by direct and indirect interviews currently living and working in Bac Ninh province. After collected, the survey results were synthesized and cleaned, then coded and entered into SPSS 20.0 software to perform scale analysis, theoretical test models, and research hypotheses proposed initially.

Research results

Survey sample characteristics

The survey results showed that the number of people who use technology has knowledge about payment applications but has not yet used it. The authors had 287 survey participants who are currently using smartphones, know about the E-wallet application but have not used it (accounting for 82% of the survey participants). Besides, 49 respondents answered that they are using a smartphone, used, or are currently using E-wallet (accounting for 14%), only three survey respondents used a smartphone. They did not know about E-wallet (accounting for 0.86%). The rest are survey participants who do not currently use smartphones (accounting for 3.14%). Thereby, it can be seen that the market opportunity scale of businesses providing non-cash payment services via phone is relatively large.

All 37 observed variables of all eight independent variables, tested for reliability with Cronbach alpha, are all at 0.68 or higher.

- Perceived usefulness (PE): there are five observed variables. Cronbach alpha reached 0.901;



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- Expected ease of use (EE): there are five observed variables. Cronbach alpha reached 0.882;
- Social influence (SI): there are four observed variables. Cronbach alpha reached 0.893;
- Favorable conditions (FC): there are five observed variables. Cronbach alpha reached 0.873;
- Perceived reliability (PCr): there are four observed variables. Cronbach alpha reached 0.884;
- Perceived cost (PCo): there are four observed variables. Cronbach alpha reached 0.869;
- Government support (GS): there are five observed variables. Cronbach alpha reached 0.887;
- User community (UC): there are five observed variables. Cronbach alpha reaches 0.9;
- Factor Intent to use: there are three observed variables. Cronbach alpha reached 0.684.

The results of the EFA exploratory factor analysis conducted with the principal component extraction method and the Varimax rotation method showed that 37 observed independent variables were grouped into eight factors: Expected usefulness, Expected ease of use, Social Influence, Facilitation, Perceived Trust, Perceived Cost, Government Support and User Community with KMO = 0.926 > 0.5, Bartlett's Sig. = 0.000 < 0.05, the total variance extracted = 72.389% > 50% and the Eigenvalue coefficients are all greater than 1. The questionnaire used in the data collection survey with the Perceived Cost (PCo) scale is the scale in the opposite direction, so the factor loading coefficients of this scale is negative.

Table 1: Factor loading matrix of exploratory factor analysis

Code	Components							
	1	2	3	4	5	6	7	8
PE4	0.800	0.140	0.093	0.087	0.144	0.156	0.131	0.136
PE5	0.785	0.222	0.159	0.098	0.142	0.121	0.127	0.077
PE1	0.759	0.270	0.052	0.199	0.211	0.129	0.110	0.156
PE3	0.718	0.224	0.094	0.154	0.143	0.119	0.006	0.234
PE2	0.664	0.216	0.086	0.091	0.230	0.265	0.104	0.146
EE5	0.283	0.740	0.115	0.169	0.169	0.052	0.136	0.103
EE1	0.224	0.733	0.165	0.087	0.072	0.105	0.041	0.116
EE2	0.189	0.729	0.231	0.083	0.228	0.095	0.099	0.108
EE4	0.126	0.723	0.129	0.267	0.077	0.100	-0.018	0.049
EE3	0.209	0.695	0.140	0.165	0.181	0.127	0.166	0.215
UC4	0.100	0.136	0.816	0.133	0.140	0.168	0.166	0.151
UC3	0.012	0.090	0.744	0.137	0.218	0.098	0.261	0.203
UC1	0.158	0.252	0.728	0.308	0.010	0.032	0.095	0.095
UC5	0.161	0.146	0.725	0.258	0.142	0.092	0.089	0.265
UC2	0.094	0.248	0.702	0.276	0.067	0.131	0.127	0.100
GS4	0.179	0.055	0.232	0.767	0.132	0.191	0.103	0.135
GS2	0.157	0.144	0.239	0.729	0.163	0.086	0.171	0.138
GS5	0.174	0.123	0.212	0.721	0.173	0.186	0.116	0.202
GS3	0.053	0.234	0.203	0.716	0.107	0.171	0.109	0.176
GS1	0.071	0.328	0.169	0.648	0.029	0.007	0.247	0.033
FC5	0.192	-0.004	0.038	0.226	0.776	0.121	0.118	0.121
FC4	0.141	0.098	0.087	0.256	0.729	0.117	0.037	0.254
FC2	0.161	0.165	0.151	-0.049	0.726	0.182	0.167	0.116
FC3	0.158	0.262	0.148	0.108	0.705	0.212	0.088	0.180
FC1	0.227	0.332	0.165	0.067	0.664	0.142	0.208	-0.090
SI4	0.151	0.091	0.071	0.161	0.120	0.814	0.148	0.129
SI1	0.151	0.048	0.150	0.113	0.219	0.783	0.139	0.197
SI2	0.167	0.098	0.108	0.090	0.135	0.780	0.205	0.142



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SI3	0.190	0.196	0.113	0.172	0.186	0.763	0.096	0.058
CPo1	-0.103	-0.155	-0.100	-0.105	-0.089	-0.068	-0.808	-0.114
CPo3	-0.076	-0.098	-0.164	-0.158	-0.133	-0.174	-0.803	-0.052
CPo4	-0.105	-0.089	-0.191	-0.107	-0.131	-0.166	-0.787	-0.153
CPo2	-0.117	0.025	-0.133	-0.221	-0.134	-0.173	-0.700	-0.216
PCr1	0.228	0.239	0.227	0.128	0.180	0.137	0.218	0.703
PCr3	0.150	0.159	0.265	0.162	0.171	0.183	0.209	0.702
PCr4	0.283	0.140	0.199	0.241	0.210	0.179	0.136	0.659
PCr2	0.238	0.122	0.230	0.259	0.122	0.219	0.173	0.653
KMO = 0.926; Bartlett's Sig. = 0.000; Extracted variance: 72.389								

(Source: Researchers processed by SPSS 20.0)

Table 1 showed three observed variables of the dependent variable grouped into 1 factor: Intention to use with KMO index = 0.660 > 0.5, Bartlett's Sig. = 0.000 < 0.05, the total variance extracted = 61.294% > 50% and the Eigenvalue coefficients are also greater than 1. The analysis results show that the factors obtained after the analysis all met the requirements for accuracy convergence and discriminant and were included in the regression analysis.

Test the research hypotheses

After testing the hypotheses of the regression model, compared with the originally proposed model, there are four factors: Expected usefulness, Social influence, Favorable conditions, and Government support out of the model due to violation of the model assumption of constant residual variance. The new research model is used to determine the factors and their impact on using E-wallet. The regression model had performed with the remaining independent variables, including Expected ease of use (EE); Perceived reliability (PCr); Perceived Cost, and User Community. In this regression model, the authors had the implementation method of "Enter". The variables are included in the model at the same time to eliminate the variables with Sig. value. > 0.05 due to violation of hypothesis $\beta = 0$ with 5% significance level.

The adjusted R^2 value = 0.467, which means that the linear regression model fit to the data set is 46.7%. Besides, the F test results show that Sig.<0.05, thus rejecting the hypothesis that all regression coefficients are zero.

Table 2: The results of multiple regression analysis

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Constant	1.823	0.310		5.888	0.000		
Expected ease of use (EE)	0.242	0.053	0.240	4.572	0.000	0.676	1.479
Perceived reliability (PCr)	0.264	0.056	0.280	4.714	0.000	0.529	1.891
Perceived cost (PCo)	-0.167	0.049	-0.176	-3.407	0.001	0.700	1.428
User community (UC)	0.165	0.055	0.175	3.009	0.003	0.554	1.806

Dependent variable: Intent to use E-wallet

(Source: Researchers proposed by SPSS 20.0)

Table 2 showed that the authors had the reliability of the statistical tests. It is necessary to test this regression model through the following evaluations: (1). The residuals satisfy the condition that they are typically distributed, and there is no variation invariance. (2). VIF variance exaggeration factors are all less than 5, so it can be said that multicollinearity does not occur because of the close relationship between the independent variables in the model. (3). Durbin-Watson coefficient is $d = 1.911$ is within the limit (1;3), so according to the rule of experience, we can say that no series correlation occurs in the residuals.



Discuss the results

With the research subjects being people currently living and working in Bac Ninh province, the research data obtained from the convenient sampling process, with 287 subjects participating in the survey with age groups, income, and different income occupations. The research model is inherited from previous studies and adjusted to suit the context and research object to reflect the intention to use the E-wallet of the people through some factors impact.

The research results obtained are the official research model on the intention to use E-wallets of people in Bac Ninh province with four influencing factors: Expected ease of use (EE); Perceived reliability (PCr); Perceived cost (PCo), and User community (UC), in which Perceived reliability ($\beta = 0.280$) and Expected ease of use ($\beta = 0.240$) have the most influence on the intention to use E-wallets of people in Bac Ninh province, followed by Perceived Cost ($\beta = -0.176$) and User Community ($\beta = 0.175$). The whole model shows that young people's intention to use E-wallets is explained by about 46.7% by the above factors.

Conclusion & policy implications

Conclusions

The research aims to clarify why the payment application through the E-wallet application, although bringing many benefits, has not yet attracted people in Bac Ninh. Finding out the Intent factors to use E-wallets helps service providers find the right direction with a potential market. Research results show that two factors strongly influence the decision to use E-wallets: Perceived trust and expected ease of use, which helps E-wallet businesses focus on exploiting these two factors to increase the rate of people using E-wallets.

Policy implications for businesses providing E-wallet services

Create trust for users with information security policies.

According to the research results, the perceived reliability factor has a significant impact on the intention to use E-wallets. Most of the new users participating in the survey do not appreciate the information security level of the applications to use E-wallet. Currently, the issue of information security is always concerned by users when using utility applications on smartphones. Especially for E-wallet applications, when using, users need to declare personal information and link the wallet with the bank account they are using, which when related to the bank account, the user users are often shy, anxious, and have high vigilance. Therefore, businesses should have security policies for users' personal information, constantly upgrade and perfect the application with strict security measures, prevent spyware intrusion, and create trust and peace of mind.

Design apps that are easy to interact with users

According to the results of linear regression analysis, the expected ease of use factor also substantially impacts the intention to use E-wallet applications of users of all ages in general. This result showed that to attract more users, businesses providing E-wallet services should create applications with user-friendly interfaces that are easy to use and make payments through the application to use quickly. For new users, there should be specific instructions on the entire payment process through the application.

User community development

The research results show that the User Community factor is one factor that positively affects the intention to use the E-wallet of people. Therefore, for more and more users to use the E-wallet application, businesses providing E-wallet services should increase the number of locations to receive payments through the application. Along with that, companies providing E-wallets should link and build a convenient payment environment for users. When users use any provider's E-wallet, they can also make payments transfer or pay fees for service providers to cooperate with other E-wallet service providers.

Limiting costs incurred when using E-wallets

Whether or not users accept the use of E-wallets also depends on the costs they have to pay when using E-wallets. In the study, it can be seen that the level of perceived cost factor has a negative impact on intention to use. Therefore, businesses should limit the arising of fees when new users register to use. Besides, with the actual situation of the province, companies should associate with corporations, enterprises providing electricity, water, postal, telecommunications... that people have a lot of demand to use to can develop promotion and discount policies when using E-wallet in payment.

Target groups of users with specific characteristics

As the analysis results show, there is a clear difference in Intent to use payment method through E-wallet between people with different incomes. For factors such as Gender, Occupation, Age, and Education level, there



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is still no difference with the small sample of research subjects. However, service providers also need to pay attention to each new user group's characteristics to develop strategies to attract customers and build applications and user communities.

Limitations and suggestions for further research

Due to time limitations and research conditions, the study still has some limitations as follows:

- With a research sample size of 287, the size is relatively small compared to the actual research subjects at present, so the generality of the current situation of the topic is not high. For further studies, they collect data with a larger sample size to make the data more representative.

- In this study, students were sampled by convenience and non-probability sampling method, so the representativeness of the population was not high. The authors had to make the research results more objective, and it is necessary to implement the stratified sampling method with strict conditions, meeting the research objectives set out.

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