

Analysis of factors affecting customers's intention to use Momo-E-wallet in Vietnam

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Abstract:

The objective of the study is to build a research model and determine the factors affecting the intention to use Momo e-wallet. The research used the model of acceptance and use of technology (UTAUT) with 7 independent variables: "expected effect (PE)", "expected effort (EE)", "social influence (SI)", "facilitation conditions (FC)", "enjoyment motivation (HM)", "perceived value (PV)", "trust (TT)". The result shows that these factors affected the intention to use Momo e-wallets in different levels.

Keywords : *model, customers, e-wallet, intention.*

I. Introduction:

The whole world nowadays is getting digitalized. The technological advancements have made it necessary for today's consumer to be dependent on mobile since it is faster, easier and handy to do the day to day transactions using their mobile phones. Moreover, the incentives (Reward points and Cash Back) provided to the user, the convenience and safety of this type of payment encourage customer choosing to pay through E-Wallets.

Online Mobile Services Joint Stock Company (abbreviated M_Service) is a FinTech company established in 2007. MoMo E-Wallet is a Smartphone Application with more than 1 million users in Vietnam, providing customers with One Touch Payment experience with more than 100 convenient services, including Money Transfer, Payment Invoices, Buy Air Tickets,

Movie Tickets, Collect and Spend on Mobile...

In particular, MoMo owns a network of more than 4,000 financial transaction points spread across 45 provinces and cities across the country, allowing more than 1.5 million customers in remote areas where banking services and smartphones are still not available.

II. Literature review:

1. Theory of e-wallet

1.1. Concept of E-wallet

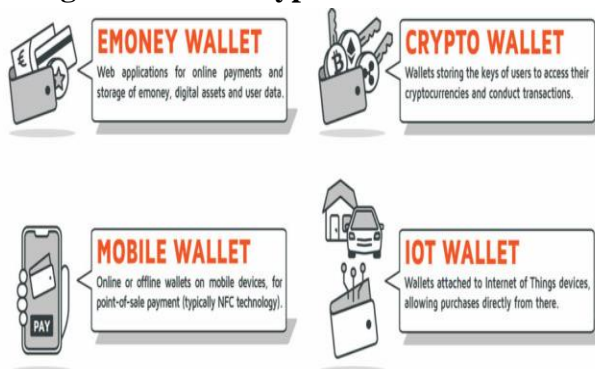
E-wallet is a type of electronic card which is used for transactions made online through a computer or a smartphone. Its utility is same as a credit or debit card. An E-wallet needs to be linked with the individual's bank account to make payments. (Sikri et al., 2019).

Aji & Adawiyah (2021) believe that E-wallet can be defined as a type of electronic

card which can be used for transactions made online through a computer or a Smartphone..

Thus, an E-wallet is not only replaces the physical plastic of cards, but allows those cards to be enhanced by value added services.

Figure 1.1: Four types of E-wallets



Crypto Wallets: Crypto wallets are a unique kind of wallet used to store their cryptocurrency passwords in one central place. Unlike digital wallets, they don't actually hold the currencies, but rather give users the tools to access and use them. Digital crypto wallets are particularly practical as they allow users to manage all their currencies in one place, send and receive money, and even shop at stores that accept crypto.

Mobile Wallets: The term "mobile wallet" is often used to refer to very different wallet applications. We also see "e-wallet", "digital wallet" and "mobile wallet" getting thrown around as synonyms. Certain mobile wallets are able to execute payments at a point-of-sale without an internet connection.

IoT-Based Wallets: Among the more recent variations of e-wallets count those interacting with Internet of Things technology. Some operate with e-money, others with virtual currencies. Some are installed in wearables such as watches, wristbands or jackets, others run on stationary wallet-enabled devices, like

E-wallet also allow users to store and carry an endless amount of cards in their phone.

1.2. Types of e-wallets

There are four types of E-wallets as following:

on their smart fridge or their smart car's computer.

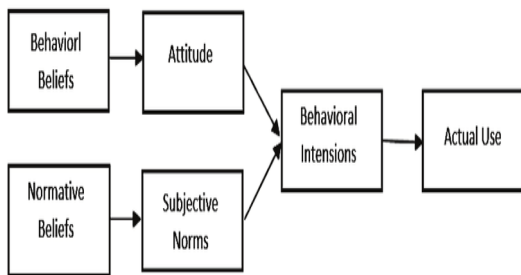
E-money wallets: E-money is money typically stored in a user's account which can be accessed using a card or an electronicdevice and can be used to pay for goods and services.

2. Theoretical models of factors affecting consumer behavioral intention

2.1. Theory of Reasoned Action (TRA)

Theory of Reasoned Action (TRA) was developed by Ajzen and Fishbein in 1975 and is considered a pioneer theory in the field of social psychology research. In this theory, "behavioural intention, is an additive function of factors: personal attitude (positive or negative evaluation when performing a behavior) and subjective norm (image) enjoy the perception that others may have. In general, an increase in attitudes and subjective norms leads a stronger intention to perform the behavior. Accordingly, the individual attitudinal factor is measured by customers' beliefs and their evaluation of product characteristics, while the "subjective norm" is considered as a function of the beliefs that individuals accept consent or disapproval of the behavior".

Figure 2.2: The TRA model

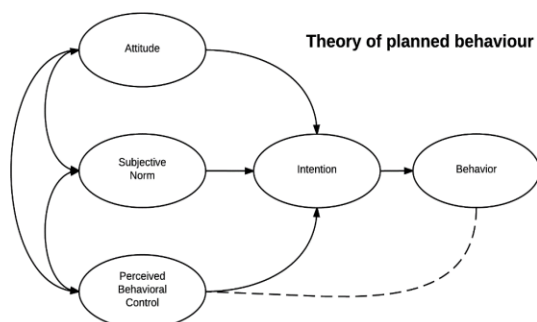


Soure : Ajzen and Fishbein (1975)

2.2. Theory of Planned Behavior (TPB)

In 1991, Ajzen published TPB is based on the theory of rational action TRA comes from the limitation of behavior over which people have little control. The third factor that Ajzen thinks has an influence on people's intentions is the "Perceived Behavioral Control" factor. According to rational action theory, users' "behavioral intentions" are affected by "attitudes", "subjective norms" and "perceived behavioral control". It can be seen that the TPB model is more effective than the TRA model in predicting and explaining consumer behavior in a research content and context, theory and model “TPB is said to be relevant higher and can better explain the effect of changing each factor on behavioral intention”. This is explained by the addition of the "perceived device and can be used to pay for goods and services.

Figure 2.3: The TPB model



Source: Ajzen (1991)

It can be seen that the TPB model is more effective than the TRA model in predicting and explaining consumer behavior

in a research content and context, theory and model “TPB is said to be relevant higher and can better explain the effect of changing each factor on behavioral intention”. This is explained by the addition of the "perceived behavioral control" factor that affects the "behavioral intention".

In addition, the TPB model has some limitations in predicting behavior. “The first is that the determinant of intention is not limited to attitude, subjective norm, perceived behavior control because there are other factors affecting behavior. Second, there is a significant time gap between assessments of behavioral intentions and the actual behavior being assessed because over time an individual's intentions can change. The third limitation is that TPB predicts that an individual's actions are based on certain criteria. However, individuals do not always behave as predicted by those criteria.”

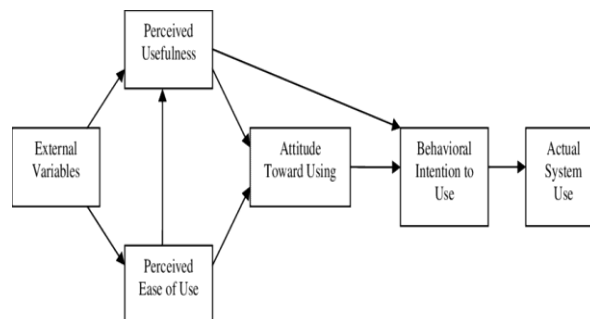
2.3. Technology Acceptance Model (TAM):

To overcome those limitations of models TRA and TPB, the model TAM developed by Davis (1989) includes 5 factors: the technology acceptance model admits that perceived usefulness, and perceived ease of use will affect the attitude to use, and the intention to use as an intermediary for actual behavior.

However, this model only applies to one type of technology at a certain time, the

correlation between the factors in the model is conflicted in studies with different fields and subjects and does not reflect the factors in the model.

Figure 2.4: Technology Acceptance Model

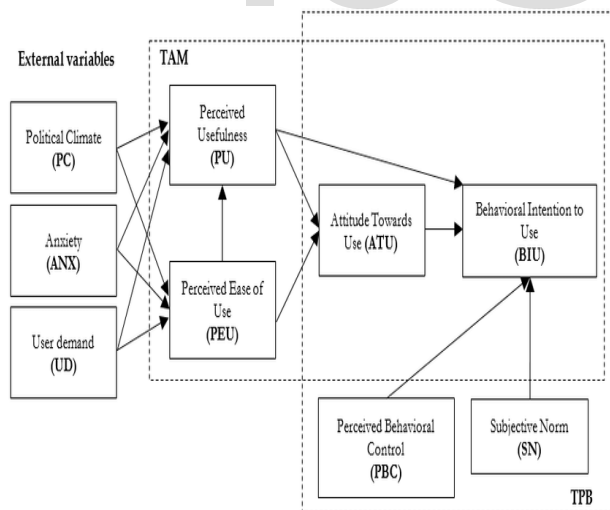


Source: Davis, 1989

2.4. C- TAM-TPB model

Based on the TAM and TPB models, Taylor and Todd (1995) built the C- TAM-TPB model by combining the theory of planned behavior (TPB) with the technology acceptance model (TAM). Their experiments demonstrated that the effect of attitude, subjective norm, and behavioral control on behavioral intention is stronger in the case of more experienced users. In contrast, the impact is attenuated with less experienced users.

Figure 2.5: C- TAM-TPB model



Source: Taylor and Todd, 1995

This model has advantages over the technology acceptance model and the theory of intended behavior because it identifies specific beliefs that can influence the use of

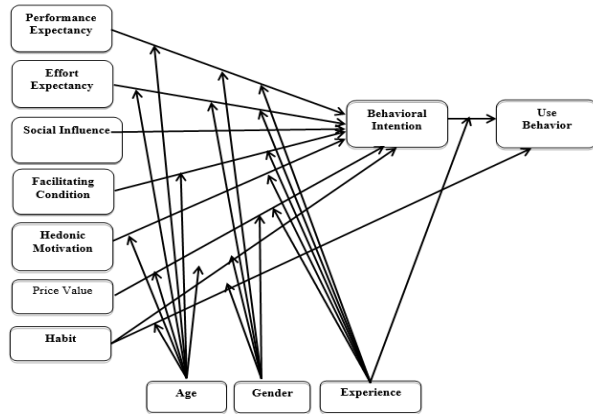
information technology, increasing the ability to explain behavioral decisions. Since this is a Taylor and Todd model of data collection and deployment on an information technology system, the user experience level must be taken into account, as less experienced users will tend to rely on other factors together.

2.6. Model of acceptance and use of technology

Venkatesh et al., (2005) found that researchers in the fields of information technology and computer systems often face a disadvantage when choosing an appropriate research model. Therefore, Venkatesh and colleagues found it necessary to synthesize and provide a unified model to study the technology acceptance of users.

Venkatesh et al., (2005) selected and combined the most influential factors of the previous 8 models to build a model of acceptance and use of technology (UTAUT).

Figure 2.6: Model of acceptance and use of technology



Source: Venkatesh et al., 2005

UTAUT explains a consumer's intention to use an information system and subsequent usage behavior. The theory suggests that there are 4 main constructs: 1) “expected performance”, 2) “expected effort”, 3) “social influence” and 4) “facilitation conditions” influence the “intentions”. determine behavior", thereby indirectly affecting the "behavior of using" the actual product/service.

III. Research methodology:

3.1. Source of Data:

The study are utilized both primary and secondary data. The sources of primary data are collected from potential customers of Momo wallet in Vietnam by doing a survey,

The survey questionnaire includes two sections: In section one, we collected demographic data from respondents, such as gender, age, and major information. The other section is to measuring constructs' items related to factors affecting the decision to use Momo wallet. To ensure validity of the measurement, all questions were obtained from previous studies.

The questionnaire utilized the five point Likert scales because it was easy and simple to understand for the respondents to rate each question.

Table 3.1: Observable variables of the research model

Symbols	Observable variables belonging to the factor “Expected effect”
PE1	I find Momo e-wallet useful in my daily life
PE2	I can save time when using Momo e-wallet in the process of paying for services
PE3	Using Momo e-wallet helps me pay faster than cash
Symbols	Observable variables of the factor “Expected effort”
EE1	Learn how to use Momo e-wallet easy for me
EE2	I find Momo e-wallet easy to use
EE3	I don't need to spend a lot of effort to master Momo e-wallet
Symbols	Observable variables under the factor “Social influence”
SI1	My family and relatives encourage me to use Momo e-wallet
SI2	Friends, colleagues, customers encourage me to use Momo e-wallet
SI2	Where I live, study and work, I recommend using Momo e-wallet
Symbols	Observable variables under the factor “Favorable conditions”
FC1	I have the necessary equipment (phone with wifi connection, bank card with functions such as Internet Banking, E-Commerce, SMS Banking) to activate Momo e-wallet
FC2	Momo e-wallet is similar to other e-wallets that I have used

FC3	Momo switchboard, and many people around and can support me when I have difficulties during use
Symbols	Observable variables under the factor “Motivation to enjoy”
HM1	For me, using Moca e-wallet on Grab app is an interesting experience
HM2	The features of Momo e-wallet to accumulate points, discounts, vouchers, make me excited.
HM3	I will prioritize using Momo e-wallet if I receive points, discounts, vouchers.
HM4	I prefer to make payment transactions via Momo e-wallet instead of cash
Symbols	Observable variables of the factor “Perceived value”
PV1	Can I save money using Momo e-wallet
PV2	Momo e-wallet helps me use money more rationally
PV3	Momo e-wallet offers valuable promotions for me
Symbols	Observable variables of the factor "Usage habits"
HT1	Using Momo e-wallet for service payment has become my habit
HT2	Using Momo e-wallet is something I do without thinking when paying for services
HT3	Paying via Momo e-wallet has become a necessity for me
Symbols	Observable variables of the factor “Intention to use”
BI1	I plan to use Momo e-wallet in the future
BI2	I plan to use Momo e-wallet often.
BI3	My intention is to use Momo e-wallet rather than using other alternatives
BI4	I will encourage others to use the Momo e-wallet.

Source: Venkatesh et al., 2005

3.3.Data Sample

This study includes 8 variables, including 1 dependent variable and 7 independent variables. According to Tabachnick and Fidell (1996), the best minimum sample size to conduct multiple regression analysis is as follows $N=8m+50$ (where N is the sample size, m) is the number of independent variables of the model). For this study, the number of samples is $N \geq 8*7+50=106$ samples. To ensure representativeness and reach the sample size, the author conducted a survey of 210 samples in the form of 80 votes, and through an online survey of 130 samples.

3.4. Model and Hypothesis :

3.4.1. Model:

From the above proposed model, the expected research equation is:

$$BI = \alpha + \beta_1*PE + \beta_2*EE + \beta_3*SI + \beta_4*FC + \beta_5*HM + \beta_6*PV + \beta_7*HT + \epsilon$$

Where: - Dependent variable: BI: intention to use Momo e-wallet

- Independent variable: includes 7 variables: PE, EE, SI, FC, HM, PV and HT

3.4.2. Hypothesis:

H1: Expected usefulness (PE): has a positive effect (+) on the intention to use Momo e-wallet.

H2: Expected effort (EE): has a positive (+) effect on the intention to use Momo e-wallet.

H3: Social influence (SI): has a positive effect (+) on the intention to use Momo e-wallet.

H4: Favorable conditions (FC): have a positive effect (+) on the intention to use Momo e-wallet.

H5: Hedonic motivation (HM): has a positive (+) effect on the intention to use Momo e-wallet.

H6: Perceived value (PV): has a positive (+) effect on the intention to use Momo e-wallet.

H7: Usage habit (HT): has a positive (+) effect on the intention to use Momo e-wallet.

IV. Reasearch Result :

4.1. Descriptive results of the study sample

Table 4.1: Statistics of research samples

Features Rate		Frequency	Accumulation	Rate
Gender	Male	57	27,1	27,1
	Female	153	72,9	100
Age	Under 22 years old	58	27,6	27,6
	From 22 to 34 years old	101	48,1	75,7
	From 34 years old to 46 years old	30	14,3	90,0
	Over 46 years old	21	10,0	100
Qualification	Common	20	9,5	9,5
	Intermediate college	37	17,6	27,1
	University	110	52,4	79,5
	After university	31	14,8	94,3
	Other	12	5,7	100
Job	Manage	31	14,8	14,8
	Officer	85	40,5	55,2
	Student	72	34,4	89,5
	Other	22	10,5	100
Income	Under 10 million	80	38,1	38,1
	From 10 million to less than 20 million VND	74	35,2	73,3

From 20 million to less than 30 million VND	32	15,2	88,6
Over 30 million VND	24	11,4	100

The table 4.1. reports the descriptive statistics of a survey of 210 samples. In this sample, the number of people graduating from university and above is 141, accounting for 67,2%. Regarding to income, there are 130 people with the income above 10 millions VNĐ, accounting for 61,1% .

4.2. Cronbach's Alpha reliability test

The value of the Cronbach's Alpha reliability coefficient must be greater than 0.6 and the adjusted correlation coefficient must be from 0.3 or more to meet the requirements. The results of Table 5.2, 26 observed variables are satisfactory, so they can be used to analyze EFA exploratory factors.

Table 4.2: Cronbach's Alpha reliability score results

Variable	Average of scale if variable type	Scale variance if variable type	Variable correlation	Cronbach's Alpha if variable deleted
Expected effect (Cronbach's Alpha=0.801)				
PE1	7,52	2,902	0,631	0,745
PE2	7,53	2,949	0,614	0,762
PE3	7,49	2,643	0,697	0,674
Expected effort (Cronbach's Alpha=0.870)				
EE1	7,92	2,658	0,749	0,826
EE2	7,80	3,006	0,752	0,817
EE3	7,82	3,029	0,763	0,809
Social influence (Cronbach's Alpha=0.838)				
SI1	6,58	4,217	0,716	0,761
SI2	6,29	4,540	0,703	0,775
SI3	6,28	4,233	0,687	0,791
Favorable conditions (Cronbach's Alpha=0.840)				
FC1	8,24	3,210	0,810	0,670
FC2	8,27	3,842	0,592	0,878
FC3	8,21	3,209	0,720	0,762
Motivation to enjoy (Cronbach's Alpha=0.890)				
HM1	12,57	4,304	0,788	0,847
HM2	12,60	4,338	0,759	0,859
HM3	12,56	4,506	0,748	0,863
HM4	12,50	4,557	0,739	0,866
Perceived value (Cronbach's Alpha=0.763)				
PV1	7,68	3,261	0,570	0,710

PV2	7,63	3,324	0,583	0,696
PV3	7,55	3,129	0,632	0,640
Trust (TT) (Cronbach's Alpha=0.757)				
TT1	7,80	2,929	0,559	0,705
TT2	7,70	2,841	0,601	0,657
TT3	7,75	2,898	0,598	0,661
Intent to Use (BI) (Cronbach's Alpha=0.874)				
BI1	10,68	7,673	0,653	0,868
BI2	10,93	6,819	0,815	0,806
BI3	11,36	6,682	0,742	0,836
BI4	11,08	7,060	0,721	0,843

4.3. Exploratory Factor Analysis

4.3.1. Independent variable factor analysis

The results of the SPSS analysis show that the KMO value = 0.796 > 0.5 shows that the factor analysis is consistent with the research data. Barlett's test result is 2232,370 with significance level Sig = 0.000 < 0.5 observed variables are correlated with each other in the population. At the value of Elgenvalues = 1,210 > 1 representing the variation explained by each factor, the extracted factor has the best information summary significance.

Total variance extracted = 74.977% > 50%. It proves that 74.977% of the variation

of the data is explained by 7 factors and is consistent with the evaluation criteria of the factor extraction method.

Table 4.3. KMO and Barlett's test of independent variables.

KMO		0,796
Barlett's Test	Approx. Chi-Square	2232,370
	Df	231
	Sig.	0,000

Table 4.4: Result of factor analysis with group of independent variables

	Factor composition						
	1	2	3	4	5	6	7
HM4	0,867						
HM1	0,867						
HM3	0,817						
HM2	0,806						
FC1		0,902					
FC3		0,883					
FC2		0,710					
EE1			0,860				

EE3			0,853				
EE2			0,782				
SI3				0,851			
SI1				0,843			
SI2				0,825			
PE3					0,870		
PE2					0,804		
PE1					0,769		
TT2						0,814	
TT3						0,794	
TT1						0,753	
PV2							0,821
PV1							0,814
PV3							0,770

After conducting factor rotation, 26 independent variables were divided into 7 groups of factors, no variables were excluded from the research model.

4.3.2. *Factor analysis of dependent variable*

The results of the SPSS analysis showed that the KMO index = 0.775 > 0.5, showing that the factor analysis is consistent with the research data. The results of Barlett's test is 456,576 with the significance level Sig = 0.000 < 0.5, showing that the observed variables are correlated with each other in the population.

Total variance extracted = 72.829% > 50%. It proves that 72.829% of the variation of the data is explained by the group of factors (BI1, BI2, BI3, BI4) and is consistent with the evaluation criteria of the factor extraction method.

Table 4.5: KMO and Bartlett's test of dependent variables

KMO	0,775
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Barlett's test	Approx. Chi-Square	456,576
	Df	6
	Sig.	0,000

Table 4.6: Result of factor analysis with dependent variable

	Factor composition
	1
BI1	0,906
BI2	0,860
BI3	0,844
BI4	0,800

4.4. Correlation analysis and linear regression

4.4.1. *Correlation coefficient analysis*

With the correlation coefficient at the significance level of 0.01, the results of the correlation analysis show that the Sig between each independent variable and the dependent variable is less than 0.05. It shows that the dependent variable is "Intent to use" and the independent variables are correlated

with each other and linear regression analysis is appropriate. (Table 4.7).

4.4.2. Linear regression analysis

To evaluate the goodness of the model, we use adjusted R2, the results of R2 adjusted 59.2% smaller than R2 60.6%. This shows that this linear regression model fits the sample's data set at 59.2%, that is, the independent variables explain 59.2% of the variation of intention to use Moca wallet on the application Grab

The results of the regression analysis show that the Sig values of the factors "expected effect (PE)", "expected effort

(EE)", "social influence (SI)", "facilitation conditions (FC)", "enjoyment motivation (HM)", "perceived value (PV)", "trust (TT)" are less than 0.05, so it can be confirmed that these factors are significant in the model (Table 4.8)

Table 4.7: Pearson correlation coefficient matrix

		BI	PE	EE	SI	FC	HM	PV	TT
	Pearson	1	,413**	,523**	,579**	,387**	,464**	,355**	,427**
BI	Sig. (2-tailed)		0,000	0,000	0,000	0,000	0,000	0,000	0,000
	N	210	210	210	210	210	210	210	210
	Pearson	,413**	1	,253**	,257**	,051	,178**	,165*	,382**
PE	Sig. (2-tailed)	,000		,000	,000	,464	,010	,017	,000
	N	210	210	210	210	210	210	210	210
	Pearson	,523**	,253**	1	,311**	,428**	,343**	,218**	,263**
EE	Sig. (2-tailed)	,000	,000		,000	,000	,000	,001	,000
	N	210	210	210	210	210	210	210	210
	Pearson	,579**	,257**	,311**	1	,219**	,213**	,230**	,264**
SI	Sig. (2-tailed)	,000	,000	,000		,001	,002	,001	,000
	N	210	210	210	210	210	210	210	210
	Pearson	,387**	,051	,428**	,219**	1	,300**	,144*	,183**
FC	Sig. (2-tailed)	,000	,464	,000	,001		,000	,038	,008
	N	210	210	210	210	210	210	210	210
	Pearson	,464**	,178**	,343**	,213**	,300**	1	,280**	,219**
HM	Sig. (2-tailed)	,000	,010	,000	,002	,000		,000	,001

	N	210	210	210	210	210	210	210	210
	Pearson	,355**	,165*	,218**	,230**	,144*	,280**	1	,141*
PV	Sig. (2-tailed)	,000	,017	,001	,001	,038	,000		,041
	N	210	210	210	210	210	210	210	210
	Pearson	,427**	,382**	,263**	,264**	,183**	,219**	,141*	1
TT	Sig. (2-tailed)	,000	,000	,000	,000	,008	,001	,041	
	N	210	210	210	210	210	210	210	210

Table 4.8: Description of regression analysis results

Model	R	R2	R ² Adjusted	Std. Error estimated	Durbin-Watson
1	0,778 ^a	0,606	0,592	0,554	2,014

Model	Unnormalized Beta coefficient		Normalized Beta coefficient	t	Sig	Multicollinear Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Constant	-1,291	0,320		-4,037	0,000		
PE	0,173	0,054	0,160	3,240	0,001	0,796	1,256
EE	0,205	0,056	0,194	3,679	0,000	0,698	1,433
SI	0,299	0,042	0,345	7,086	0,000	0,823	1,215
FC	0,116	0,049	0,118	2,346	0,020	0,772	1,296
HM	0,248	0,062	0,197	3,982	0,000	0,799	1,252
PV	0,117	0,048	0,115	2,437	0,016	0,879	1,138
TT	0,154	0,054	0,142	2,873	0,005	0,794	1,260

Check regression assumptions:

Assumption of linear relationship: tested by scatter plot for normalized residuals

and normalized prediction values. The obtained results show that the normalized residuals are distributed around the zero line,

so the assumption of linear relationship is not violated.

Multicollinearity phenomenon: The results of the multicollinearity test as shown in Table 5.8 show that the VIF coefficients of the independent variables in the model are all less than 2, thus proving that there is no multicollinearity between the independent variables.

V. Conclusion:

The analysis results show that users are very interested in the possible benefits and utilities of e-wallets. Therefore, to help Momo compete better, the author proposes a number of implications to increase perceived usefulness: increase utility, experience for customers; strengthen links with utility services, banks; build an ecosystem where momo Wallet is an intermediary payment service for customers. Influences from outside the individual, including relationships such as family, friends, colleagues, ... or favorite celebrities will often

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influence that individual's behavior, the also shows that social influences have a positive impact on users' intention to use Momo wallet. Therefore, Momo should promote social influence through communication strategies, marketing and advertising; promotions to attract customers; build a community of Momo e-wallet users; customers are the media for the company. Momo e-wallet is currently being highly appreciated by users, and was voted as the most favorite e-wallet, which shows that Momo has built trust in customers. However, the competition is getting bigger and bigger from competitors as well as manufacturers. Foreign investment will be an obstacle for Momo in the near future. Therefore, the author recommends that administrators continue to maintain, strengthen and enhance the image of Momo brand in the e-wallet market in Vietnam and expand to the region. Tasks such as: improving the security system; Raising the level of customer information data security is necessary.

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