Factors Affecting The Decision On The Use Of Electronic Wallet By People In Danang City

Le Tan Trinh Business Department FPT University Danang, Vietnam Tantl2@fe.edu.vn

Kim Mai Thy Huynh Business Department FPT University Danang, Vietnam Thyhkmds150042@fpt.edu.vn Kim Minh Khoi Nguyen Business Department FPT University Danang, Vietnam Khoinkmds150155@fpt.edu.vn

Ngoc Trinh Ho Business Department FPT University Danang, Vietnam Trinhhnds150057@fpt.edu.vn Thi Tuyet Chi Chau Business Department FPT University Danang, Vietnam Chicttds150048@fpt.edu.vn

Vu Luan Nguyen Business Department FPT University Danang, Vietnam Luannvds150094@fpt.edu.vn

Abstract—The trend of non-cash payments is increasing in popularity; yet, the limited number of e-wallet users in Danang City is due to numerous barriers. This study intends to identify the elements that affect people's behavioral intentions to use ewallet in Danang. The research employed both qualitative and quantitative methodologies. For qualitative study, we utilized grounded theory, which is comprised of seventy prior studies; for quantitative research, 204 respondents in Danang City, who are users of the e-wallet program, responded to the structured questionnaire. Perceived simplicity, perceived usefulness, perceived security, social impact, attitude, and enabling conditions are all put to the test. Intentions to use an electronic wallet are heavily influenced by five factors: simplicity of use, security, usefulness, social impact, and enabling conditions. The study explores potential variables that influence e-wallet usage intentions and presents an integrated framework for this aspect. Thus, it becomes a reliable resource for future research. The findings of this study will help e-wallet providers increase ewallet usage.

Index Terms—e-wallet, digital wallet, intention to use, online payment, cashless transaction.

I. INTRODUCTION

Along with the evolution and development of technology, the need for cashless transactions and online payments has increased at the speed of light [1]. Many facets of life are affected by the rapid development of e-Commerce in recent years, particularly the improvement in how individuals manage themselves financially and non-financially in numerous transactions [2]. In order to give the best service possible, businesses continue to develop and collaborate in response to the expansion of technology and smartphone usage. One of the services offered, namely the digital wallet (e-wallet) application [3]. It was speculated that the proliferation of mobile phone services could pave the way for the development of the next generation of new payment services, providing expansion possibilities for the market's players. Mobile subscribers have surpassed fixed subscribers in a large number of countries. In 2017, mobile commerce accounted for 48% of global e-commerce sales; by 2022, it is expected to account for 70%, or \$4.6 trillion. [4]. Unsurprisingly, developing countries have emerged as the largest market for digital payment services. The World Bank reports that 90%

of daily transactions in many developed countries are now completed without the use of currency. At least half of urban Vietnamese households will adopt electronic payment methods by 2020. In 2021, Vietnam will have the third-highest rate of mobile payment use in Asia, at 29.1 percent. Vietnam has 13 million functional e-wallet accounts by the end of the first quarter of 2020, with a total wallet balance of about 1.36 trillion dongs and as many as 225 million transactions. [5].

E-wallets have taken center stage in Vietnam's burgeoning financial industry. As is well-known, Covid-19 can be easily transmitted if droplets are dropped on inanimate things near an infected person and then are touched by other people [6]. Physical currency can serve as a vector for the virus if it is contacted by an infected individual. Therefore, the WHO recommended the use of digital currency whenever practicable [7]. The COVID- 19 epidemic makes it impossible for individuals to access products and services in the conventional manner. Urban centers have been encouraging cashless transactions, and QR codes assist companies in accepting cashless payments [8].

In addition to payment methods like as card banking, Internet banking, mobile payment, etc., e-wallets are progressively making a comeback to become a vital tool for consumers [9]. There is a policy in place in Vietnam that will limit cash transactions to less than 10% of the total market by 2020[10]. This means that at least 70% of businesses including those providing water service, selling electronics, and providing telecommunications services will accept cashless payments from customers. Furthermore, by 2020, at least half of all Vietnamese households are projected to make daily transactions using electronic payments [11]. Over 918.8 million mobile phone payment transactions were conducted as of the end of October 2020, with a total value of over 9.6 trillion VND (an increase of 123.9% in volume and 125.4% in value compared to the same time in 2019). Nearly 374 million online payment transactions worth over 22.2 trillion VND were conducted (an increase of 8.3% in volume and 25.5% in value compared to the same period in 2019).

Based on the preceding research and our own views, the use of electronic wallets remains problematic. The majority of Vietnamese consumers still choose to pay in cash due to their purchasing and selling practices, fear of fraud, and inability to link a bank account to a wallet. Numerous e-wallets are currently available on the market, but the number of wallets associated with retail chains is still limited, creating a situation in which customers must download numerous applications that are extremely inconvenient. Users anticipate the eventual consolidation of payment, lending, and investment services into a single mobile application. Currently, users are required to have at least one bank account linked to their e-wallet in order to add funds to their e-wallet, which restricts their use. used because many people lack a bank account with internet banking access [12]. In 2021, however, up to 69% of Vietnam's population will not have access to financial services or a bank account, and approximately 26% of transactions will be conducted in cash, while the Internet penetration rate of Vietnamese people will reach up to 66% [13]. Our research will investigate the elements that influence the behavior of Danang city residents who use electronic wallets. The results then contribute to the promotion of e-wallets in Danang.

II. LITERATURE REVIEW

A. E-Wallet

A sort of Fintech (Financial Technology) that employs Internet-based media as an alternative payment mechanism is the e-wallet, sometimes known as an electronic wallet. Electronic wallets (or "e-wallets") have the potential to revolutionize the way people interact with cash by eliminating the need to carry large amounts of cash around, shortening the time it takes to calculate transactions and speeding up payments, making transactions more secure, decreasing the likelihood of loss due to theft, and protecting the privacy of sensitive user data. E-wallets have made plastic credit and debit cards obsolete. [14].

To be able to completely examine the elements influencing Danang residents' inclination to use e-wallets, we reviewed a total of 70 publications and researched which six factors are pertinent to the case study in Danang. This study uses two theoretical models, UTAUT and TAM, as the foundation for research on the adoption of new technologies, as these two models have been utilized to design the majority of recommended studies. In example, the UTAUT model is commonly used to assess the desire to utilize e-wallet. The seven criteria are perceived usefulness, perceived ease of use, perceived safety, conducive circumstances, social influence, and attitude.

B. Perceived usefulness

Perceived usefulness is "the extent to which a person believes that using a certain system would enhance his or her job performance" [15]. Perceived usefulness, when discussing e-wallets, refers to the extent to which consumers believe that making use of an e-wallet will facilitate and facilitate transactions with regards to swiftness, low cost, and convenience[16]. Moreover, because the e-wallet would record all transactions, it will be relatively simple for indi-

viduals to track their spending and budget more effectively [17]. The TAM framework postulates that perceived usefulness predicts the direct association between behavioral intention and technological use. [18]. Perceived utility is the TAM element that has the greatest influence on behavioral intention [15]. In addition, numerous prior studies have demonstrated that perceived usefulness constructs have a positive and important effect on the user's intention to use an e-wallet [1], [19] - [21]. According to the research [19], the e-wallet payment service system provides significantly more utility than cash payments, such as paying a real minimal amount and completing a transaction quickly. The utility of e-wallet services includes facilitating transactions and transfers for consumers. Consequently, the greater the awareness, the greater the desire to utilize e-wallet services. Consequently, the first hypothesis is advanced:

H1: Perceived usefulness positively affects users' intention to use e-wallet.

C. Perceived ease of use

A user's perception of a system's ease of use is the extent to which that user anticipates having little difficulty learning and making full use of the system [15]. Another definition is a system that requires little to no formal education to operate effectively[16]. A person will utilize an e-wallet application more frequently if he or she considers it easy or not too difficult to use [22]. The greater the perceived simplicity of a transaction, the more frequently consumers use the application service [19]. This is consistent with the findings of studies [23] and [24], which indicate that a person's smartphone usage increases if his smartphone application includes additional capabilities. According to earlier studies [1], [19], [22], and [25], perceived ease of use has a positive and statistically significant effect on the user's propensity to use an e-wallet. However, research [26] indicates that the perception of ease of use has no substantial effect on the user's intention. Nonetheless, the mechanisms involved in e-wallet services require a certain amount of expertise, knowledge, and effort; hence, perceived ease of use might play a crucial part in assessing customers' intents to utilize this payment platform [27]. The second proposed hypothesis is:

H2: Perceived ease of use positively affects users' intention to use e-wallet.

D. Perceived security

Perceived security means being aware of the protection against the risk involved in digital transactions, particularly the loss of sensitive data that results in monetary losses [28]. Threats to security, such as denial of service, illegal access, theft, and fraud, exist for users of the e-payment system [29]. The more rapidly e-commerce develops, the more organizations and clients are concerned about security problems; security is one of the primary reasons why individuals attempt to avoid e-payment activities [2]. Customers' continued use of an e-wallet is influenced by an increase in their perception of security [30], [31]. The greater the behavioral desire to embrace an electronic wallet, the smaller the perceived risk [32]. Previous research indicates that perceived security has a substantial effect on the intention to use an ewallet [27, 31, 33, and 35]. While some authors find no strong correlation between perceived security and intention to use [36–38], this is not the consensus. Consequently, the third hypothesis is presented to explore this aspect in greater detail:

H3: Perceived security positively affects users' intention to use e-wallet.

E. Facilitating conditions

Facilitating conditions are the extent to which a managerial and technological infrastructure exists to enable the system's utilization [39]. Using mobile banking requires resources such as smartphones, the Internet, and mobile Internet services; clients cannot use mobile banking without these resources [40]. Technically speaking, e-wallet applications are smartphone software that cannot work without an Internet connection. Several prior studies demonstrate that conducive settings have a considerable and direct effect on intention to use [27, 32, 36, 41–44]. According to the study [45], conducive conditions also had the greatest impact on other parameters and user intent. In addition, training users how to safely and successfully use e-wallet and the availability of customer service when users encounter issues have a significant impact on their purpose [40]. Nonetheless, a number of studies have concluded that the link between enabling situations and behavioral intentions is insignificant [25, 46, 47]. Consequently, hypothesis H4 is formulated to examine the association between facilitating conditions and the intent to use an e-wallet:

H4: Facilitating conditions positively affect users' intention to use e-wallet.

F. Social influence

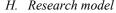
Social impact (SI) can be understood as the degree to which a person believes that others believe they should use a new technology [39]. Social influence refers to the phenomenon in which individuals modify their conduct in response to the influence of others [48]. Social influence mentions the extent to which clients are influenced to use a particular technology by influential people in their life, such as colleague, life partner, friends and family [25]. Numerous academics are drawn to the very applicable concept of social influence analysis. By analyzing the mode of influence spread and the mode of influence among users, we can answer social influence-related questions such as "Who can be affected?" and "Who can influence whom?" [48]. Social impact has a substantial effect on clients' intent to use e-wallet [39]. In the case of young customers, social influence is viewed as the most influential factor in the acceptance of new technologies such as e-wallets [43]. Social influence (SI) has been shown to have a positive effect on the adoption of new technologies, specifically e-wallets [9], [36], [39], [45], and [49]. Other research [40, 46] have indicated, however, that social influence has little effect on the intention to use an electronic wallet. In light of the foregoing dispute, the following idea can be proposed:

H5: Social influence positively affects users' intention to use e-wallet.

G. Attitude

Attitude is described as a person's optimistic or pessimistic toward a specific conduct [50]. Fundamental to the utilization of mobile payment systems is one's attitude [49]. It plays an important role in the individual's intention to perform the underlying behavior, particularly during the initial stages of technology adoption [45]. Numerous investigations on non-cash payment supported the correlation between attitude and behavioral purpose [49, [51], and [53]. Although some theories characterize the role of attitude in terms of attitude, the UTAUT model removes this variable [45]. The following hypothesis is conceivable:

H6: Attitude positively affects users' intention to use ewallet.



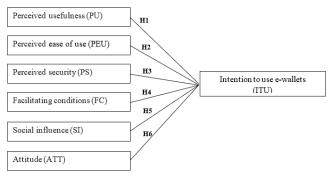
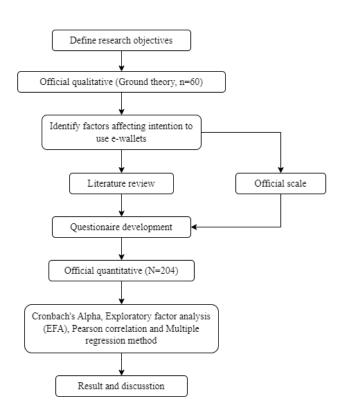


Fig. 1. Proposed research model.







A. Research method

This study's objective is to determine the elements influencing the behavior and intent to use e-wallets. The following research methodology will be employed:

		TABLE I. Official Scale	
Factor	Code	Statement	Sou
Perceived	PU1	E-wallets are very useful in my daily life.	[27]
usefulness (PU)	PU2	To increase my chances of achieving my goal, I use a digital wallet.	
	PU3	To finish things faster, I use an e-wallet.	
	PU4	To increase my productivity, I use an e-wallet.	
Perceived ease of	PEU1	In my opinion, exploring the way to use the digital wallet is very easy.	[27]
use (PEU)	PEU2	My interaction with the e-wallet is obvious and comprehensible.	
	PEU3	I would find the e-wallet easy to use.	
	PEU4	It would be easy for me to be an expert at using the e-wallet.	[39]
Perceived	PS1	The risk of an unauthorized party meddling in the e-wallet payment process is low.	[34]
security (PS)	PS2	When using e-wallets, the risk of revealing usage information (e.g., personal information, names of receivers) is low.	
-	PS3	When using e-wallets, the risk of revealing transaction information (e.g., bank account numbers, debit card numbers) is low.	
-	PS4	I rely that electronic wallet service providers always have a plan to deal with the risk of leaking sensitive information.	[54]
Facilitating	FC1	I have essential resources (e.g., smartphone, Internet connection) to use e-wallets for payment.	[39]
conditions (FC)	FC2	Other technologies I use (e.g., credit card, Internet banking) are compatible with e-wallets.	
	FC3	I can get assistance from other people when I have trouble in using an e-wallet.	
	FC4	E-wallet service providers have provided me with complete and clear instructions on how to use the system.	
Social influence	SI1	People close to me suppose that I should use an e-wallet.	[49]
(SI)	SI2	I do not use an e-wallet because people around tell me that I should not use it.	
	SI3	Around me, people who do not use e-wallets have less credibility than those who use e-wallets.	[39]
	SI4	My decision to use an e-wallet is influenced by people who are important to me.	[49]
Attitude (ATT)	ATT1	It is a wise idea when using digital payment.	[45]
Ī	ATT2	Mobile wallet is advantageous in every domain of transactions.	[49]
ľ	ATT3	Using an e-wallet is an interesting and good experience.	
Ī	ATT4	E-wallet provides convenience and comfort.	
Intention to use	ITU1	In the future, I will continue to use e-wallets.	[27]
(ITU)	ITU2	I will always use e-wallets in my daily transactions.	
	ITU3	I plan to continue to use the electronic wallet regularly.	
F	ITU4	If the cost and time of using an e-wallet are reasonable for me, I will continue to use it.	[25]

TABLE I. OFFICIAL SCALE

In the first phase of this study, qualitative research techniques are employed to obtain an overview of documents pertaining to e-wallet behavior and intention. We reviewed 70 articles and journals from platforms such as PubMed, Google Scholar, etc. to explore the elements influencing acquisition behavior and intention to use e-wallet. These data will be analyzed, compiled, and aggregated to determine the underlying factors influencing e-wallet adoption intent.

In the subsequent phase, we used a quantitative approach and conducted an online survey using a Google form questionnaire on the Danang citizen focus group. The survey included demographic questionnaires and research-related questions measured on the five points Likert scale. We contacted potential respondents in Danang who use electronic wallets. As targets, only users with e-wallet usage were selected and asked to complete the questionnaire. SPSS software will be used to perform descriptive statistical analysis on the collected data. From there, we can evaluate the situation and propose strategies to raise the number of e-wallet users.

B. Research method

This study's participants are Danang residents who utilize the e-wallet payment system. Google Form will be used to distribute online questionnaires for data collection. The quantitative method is the primary method of the research, and non-probability sampling will be used for sampling.

The study employs the EFA and Multiple Regression analysis methods, so the minimum sample size is determined using EFA. According to [55], the minimum number of observations should be at least five times the number of variables to be analyzed. In this study, the authors employ 27 measurement questions; consequently, the minimum sample size based on the above formula will be 27*5 = 135samples.

IV. Result

A. Descriptive information about respondents

We distributed a Google form to residents of Danang city. We collected 225 responses from participants of various ages and occupations. However, after sorting the responses, we were left with 204 valid responses. Below is a table of descriptive statistics.

B. Checking the Trustworthiness of the Scale (using Cronbach's Alpha)

Variables with Cronbach's alpha coefficients more than 0.6 and correlation coefficients more than 0.4 were identified by the results. The subsequent EFA analysis employs variables.

C. An EFA is an Exploratory Factor Analysis

We investigate the EFA factor using the Principal component method and the Varimax rotation for a total of 24 independent variables. Barlett test derived with Sig. = 0.000, which is less than 0.005 in this investigation. The KMO coefficient of 0.839 exceeds 0.5. For Eigen Values > 1, the total variance retrieved was 83.265% greater than 50%, indicating that 83.265% of the data variances could be explained. This shows that the observed variables are sufficiently correlated for EFA analysis. Finally, 24 independent factors were categorized into the six groups below. The findings of the analysis indicate that the variables do not

		Frequency	Percentage (%)
Gender	Male	96	47.1
	Female	108	52.9
	Total	204	100.0
Age	Under 18 years old	5	2.5
	From 18 years old to 24 years old	136	66.7
	From 25 years old to 39 years old	39	19.1
	From 40 years old to 54 years old	17	8.3
	Above 54 years old	7	3.4
	Total	204	100.0
Occupation	Student	122	59.8
	State employees	20	9.8
	Worker	29	14.2
	Business man	20	9.8
	Pension recipient	5	2.5
	Unemployment	5	2.5
	Other	3	1.5
	Total	204	100.0
Average Monthly Income (VND)	Under 3 million	94	46.1
	From 3 million to 5 million	27	13.2
	From 5 million to 8 million	33	16.2
	From 8 million to 10 million	21	10.3
	From 10 million to 15 million	16	7.8
	From 15 million to 20 million	4	2.0
	From 20 million to 25 million	4	2.0
	Above 25 million	5	2.5
Smart phone	Total	204	100
	Android	97	47.5
	IOS	100	49
	Window mobile	7	3.4
	Total	204	100.0

TABLE II. DESCRIPTIVE STATISTICS OF DEMOGRAPHIC FACTORS

TABLE III. CRONBACH'S ALPHA	COEFFICIENTS OF THE	E SCALES: A SUMMARY	Table
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No	Items	N of Items	N of Items Satisfying	Cronbach's Alpha (a)
1	PU	4	4	0.959
2	PEU	4	4	0.923
3	PS	4	4	0.955
4	FC	4	4	0.883
5	SI	4	4	0.930
6	ATT	4	4	0.924
7	ITU	4	4	0.683

TABLE IV. EFA ANALYSIS OUTCOMES BASED ON MULTIPLE INDEPENDENT OBSERVATIONAL METRICS

Item	Factors loading									
	1	2	3	4	5	6				
PU3	0.937									
PU4	0.936									
PU2	0.934									
PU1	0.927									
PS4		0.947								
PS1		0.938								
PS3		0.922								
PS2		0.921								
PEU4			0.921							
PEU2			0.897							
PEU3			0.895							
PEU1			0.887							
SI3				0.912						
SI2				0.905						
SI4				0.885						
SI1				0.884						
ATT1					0.906					
ATT2					0.869					
ATT3					0.867					
ATT4					0.857					
FC4						0.882				
FC3						0.878				
FC2						0.856				
FC1						0.807				
Those conditions ar	e met by the coeffic	ients.	ł.		L	ŀ				
Cronbach's Alpha	0.959	0.955	0.923	0.930	0.924	0.883				
Eigenvalue	4.886	3.853	3.66	3.118	2.719	1.748				
Cumulative %	83.265		•							
КМО	0.839									
Barlett's Test	Sig. = 0.000									

cross over into other groupings of variables. All factor loadings are found to be more than 0.5. The cumulative index exceeded 50%, indicating that the Exploratory Factor Analysis is adequate. KMO and Bartlett's Test Table: 0.5 KMO=0.839 < 1; accordingly, six components accounted for 83.265% of the observed variation in variables. On the investigation data set, the authors executed factor evaluation. Bartlett's Test = 0.000 < 0.05, given that factor analysis is suitable.

D. Correlation matrix

In this investigation, a Pearson correlation analysis was performed. Table 6 displays the outcome of the correlation

TABLE V. RESULTS OF THE DEPENDENT VARIABLES EFA ANALYSIS

ITUI	0.714
ITU2	0.790
ITU3	0.71
ITU4	0.645
The coefficients satisfy the conditions	
Cronbach's Alpha	0.683
Eigenvalue	2.053
Cumulative %	51.332%
КМО	0.624
Barlett's Test	Sig. = 0.000

		ITU	PU	PS	PEU	SI	ATT	FC
	Pearson Correlation	1	0.322**	0.333**	0.378**	0.343**	0.130	0.217*
ITU	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.063	0.002
	N	204	204	204	204	204	204	204
DU	Pearson Correlation	0.322**	1	0.001	-0.093	-0.064	-0.214**	0.060
PU	Sig. (2-tailed)	0.000		0.986	0.187	0.363	0.002	0.391
	N	204	204	204	204	204	204	204
D.C.	Pearson Correlation	0.333**	0.001	1	-0.003	0.117	0.101	-0.084
PS	Sig. (2-tailed)	0.000	0.986		0.969	0.095	0.150	0.230
	N	204	204	204	204	204	204	204
PEU	Pearson Correlation	0.378**	-0.093	-0.003	1	0.022	-0.203**	-0.056
TEC	Sig. (2-tailed)	0.000	0.187	0.969		0.751	0.004	0.430
	N	204	204	204	204	204	204	204
	Pearson Correlation	0.343**	-0.064	0.117	0.022	1	0.239**	0.037
SI	Sig. (2-tailed)	0.000	0.363	0.095	0.751		0.001	0.602
	N	204	204	204	204	204	204	204
	Pearson Correlation	0.130	-0.214**	0.101	-0.203**	0.239**	1	-0.040
ATT	Sig. (2-tailed)	0.063	0.002	0.150	0.004	0.001		0.570
	N	204	204	204	204	204	204	204
	Pearson Correlation	0.217**	0.060	-0.084	-0.056	0.037	-0.040	1
FC	Sig. (2-tailed)	0.002	0.391	0.230	0.430	0.602	0.570	
	N	204	204	204	204	204	204	204

** Correlation is significant at the 0.01 level (2-tailed).

analysis. The significance level between the independent variables PU, PS, PEU, SI, and FC and the dependent variable ITU is less than 0.05, indicating that there is a linear association between independent variables and the independent variable. The correlation between FC and ITU is the smallest (r = 0.217), whilst the association between PEU and ITU is the largest (r = 0.378)). The ATT variable will be eliminated from the upcoming analysis because no linear relationships exist between ATT and ITU (the significance level for ATT and ITU = 0.063 > 0.05).

E. Multiple Regression Analysis

It can be seen that the regression model is appropriate for the data set because the F statistic, which was calculated using an ANOVA test, was 46,420 and was statistically significant at the $p = 0.000 \ 0.05$ level. In the absence of first-order autocorrelation, the Durbin-Watson coefficient = 1.491 is greater than 1 and less than 3, indicating that there is no autocorrelation. All VIF coefficients of independent variables are less than 2, so multicollinearity disappears.

The dependent variable has been predicted using regression analysis and five independent variables. It has been stated that the independent variable has a considerable con-

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
odel	В	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	0.066	0.202		0.328	0.743		
PU	0.209	0.028	0.366	7.535	0.000	0.984	1.016
PS	0.183	0.028	0.317	6.510	0.000	0.978	1.022
PEU	0.288	0.033	0.419	8.642	0.000	0.988	1.012
SI	0.202	0.032	0.311	6.382	0.000	0.979	1.021
FC	0.170	0.035	0.234	4.809	0.000	0.984	1.016
	PU PS PEU SI	B 0.066 PU 0.209 PS 0.183 PEU 0.288 SI 0.202	B Std. Error (Constant) 0.066 0.202 PU 0.209 0.028 PS 0.183 0.028 PEU 0.288 0.033 SI 0.202 0.032	B Std. Error Beta (Constant) 0.066 0.202 PU 0.209 0.028 0.366 PS 0.183 0.028 0.317 PEU 0.202 0.033 0.419 SI 0.202 0.032 0.311	B Std. Error Beta t (Constant) 0.066 0.202 0.328 PU 0.209 0.028 0.366 7.535 PS 0.183 0.028 0.317 6.510 PEU 0.288 0.033 0.419 8.642 SI 0.202 0.032 0.311 6.382	B Std. Error Beta t Sig. (Constant) 0.066 0.202 0.328 0.743 PU 0.209 0.028 0.366 7.535 0.000 PS 0.183 0.028 0.317 6.510 0.000 PEU 0.288 0.033 0.419 8.642 0.000 SI 0.202 0.032 0.311 6.382 0.000	B Std. Error Beta t Sig. Tolerance (Constant) 0.066 0.202 0.328 0.743 0.000 0.984 PU 0.209 0.028 0.366 7.535 0.000 0.984 PS 0.183 0.028 0.317 6.510 0.000 0.978 PEU 0.288 0.033 0.419 8.642 0.000 0.979 SI 0.202 0.032 0.311 6.382 0.000 0.979

TABLE VII. TO CALCULATE THE MODEL'S ALPHA COEFFICIENT USING THE ENTER METHOD, WE NEED TO

a Dependent Variable: ITU; Adjusted R Square = 0.528; F (ANOVA) = 46.420; Sig.(ANOVA) = 0.000; Durbin – Watson = 1.491.

sequence on the dependent variable if the p-value is lower than 0.05. According to the table VII analysis results, all five independent variables are significant predictors of the outcome variable, which is the using e-wallets intention. Adjusted R square equals 0.528 denoting five proposed explanatory variables that explain 52.8% of the outcome variable, the remaining 47.2% is caused by external variables and random variation.

The standardized regression equation:

ITU = 0.419*PEU + 0.366*PU + 0.317*PS + 0.311*SI + 0.234*FC.

F. The Model's Conformity Checking Procedure

According to the histogram, the mean is close to 0 and the standard deviation is close to 1, hence the residual distribution is approximately normal. In the P-P plot, the percentiles of the residual distribution are nearly concentrated along a diagonal, indicating that the assumption of a normal distribution for the residuals is not broken. Regarding the scatterplot, the normalized residuals distribute symmetrically around the zero line and change significantly within the +/-3 range, confirming the linearity assumption. The first hypothesis explores the relation between perceived usefulness and the using an e-wallet intent. With the estimated result = 0.366 and p = 0.000 0.05, H1 is acceptable. The second hypothesis specifies the connection between perceived ease of use and the using an e-wallet intention. With the predicted result = 0.419, p = $0.000 \ 0.05$, H2 is acceptable. The third hypothesis reveals the influence of perceived security on the intention of users to use an e-wallet. With the predicted result = 0.317, p = $0.000 \ 0.05$, H3 is acceptable. The fourth hypothesis examines the link among facilitating conditions and the intention of e-wallet users. With the projected result = 0.234, p = 0.000 0.05, H4 is acceptable. The fifth hypothesis examines the effect of social influence on the intention to use e-wallets. With the projected result = 0.311, p = 0.0000.05, H5 is accepted. The sixth hypothesis explore the result of attitude on the intention of e-wallet users. H6 is eliminated because p = 0.063 > 0.05 in the Pearson correlation analysis. Therefore, significant correlation between attitude and e-wallet adoption intent does not exist.

V. CONCLUSION AND DISCUSSION

A. Conclusion

E-wallets are no longer a novel form of payment in Danang; however, the amount of people who literally use them is low. In this study, the authors investigated five of the six variables that may impact the using e-wallets intention. E-wallet providers should prioritize perceived usability, perceived utility, perceived security, social influence, and enabling conditions. From this analysis, we can identify and explain the elements that affect the of Danang city residents' using e-wallets behavior. In contrast, the study is constrained by time constraints and a little sample size in order to pave the way for future research.

B. Discussion

In the conclusion, we addressed the elements that affect using e-wallet intention and the survey-based criteria in the study paper to demonstrate the extent to which it influences the using e-wallet intention. Here are some research-based suggestions for promoting the e-wallets usage in Danang. First, the e-wallets using desire is substantially affected by perceived ease of use. It specifies that e-wallet providers should develop user-favorable mobile applications to increase consumer confidence in utilizing them for payment [56]. An additional online training package for the apps could be given so that users can view a description or receive the necessary assistance to utilize the system [45]. Appropriate resources made available to consumers for the usage of mobile applications facilitate the system's operation and boost their desire to use the applications [45]. In addition, service providers can devote more expedients to instructing users in order to help them familiarize with e-wallet systems [57]. Second, because perceived utility is a component that influences the e-wallets using desire, e-wallet development businesses should push developers to create a system that exceeds customers' expectations and is based on their experience [45]. In addition to concentrating on the system's functionality, they should also furnish value to its use [58]. In addition, their marketing communications should emphasize the utility of mobile payment to attract more customers [56]. Thirdly, because using an e-wallet intention is influenced by perceived security, e-wallet developers must ensure that e-wallets are safe for users and continuously upgrade the system to make it more secure [59]. In addition, users should pay strong consideration to terms and

rules prior to using because network security is currently rather sophisticated. Consumers' accounts can be violated at any time, particularly in the Vietnamese context, where the issue of electronic security is continually disregarded [45]. Fourthly, the impact of social influence on the using an ewallet intention suggests that e-wallet providers should assign resources and attempts toward a more efficient application to encourage consumers' behavioral intents. Mobile services providers should promote and stimulate the use of their products through famous people such as celebrities and role models with large fan bases, so that customers would believe their endorsements and begin utilizing such systems [45]. In addition, e-wallet providers can encourage interpersonal word-of-mouth communication by reinforcing their usage of social media in order to accelerate customer adoption of e-wallet applications [60]. Lastly, users of e-wallets paid attention to conditions that facilitated transactions. Organizations interested in the development of the e-wallet should invest in organizational and technical infrastructure to increase the e-efficiency wallet's and productivity [42, 53]. The services of e-wallets become more appealing if customer care is able to promptly and effectively resolve client issues [40]. Additionally, the compatibility of e-wallet applications with other mobile applications or other technologies widely used by customers must be considered [59].

C. Limitation

Although the research has recognized the elements that affect the use intent of e-wallets, there are still some limitations that must be noted. Initially, the study was founded on primary data acquired from 204 participants via an online survey. The sample size is not large, and the study sample is comprised of varied demographic groupings, which may have a disproportionate effect on the study's findings. In addition, the study is limited to Danang city, making it impossible to extrapolate the findings to other locations in Vietnam. Moreover, this research paper is limited to analyzing the influence of six major aspects chosen from previous research, ignoring other important aspects and factors affecting the using an e- wallet intention, such as habit, enjoyment, hedonic motivation, etc. Further research can expand the scope of future research, sample size, and research space, improve the research process, and standardize appropriate scales for a better understanding of the e-wallet's intended behavior.

REFERENCES

- H. L. T. Lan, H. T. Thi Van, and H. T. T. Phuong, "Factors Influencing the Intention to Choose E-Wallet in Shopping Online: Case Study of Ha Noi Citizens," in *Management for Sustainable and Inclusive Development in a Transforming Asia*, H. Shioji, D. R. Adhikari, F. Yoshino, and T. Hayashi, Eds. Singapore: Springer Singapore, 2021, pp. 311–326. doi: 10.1007/978-981-15-8195-3_18.
- [2] F. Nizam, H. J. Hwang, and N. Valaei, "Measuring the Effectiveness of E-Wallet in Malaysia," in *Big Data, Cloud Computing, Data Science & Engineering*, vol. 786, R. Lee, Ed. Cham: Springer International Publishing, 2019, pp. 59–69. doi: 10.1007/978-3-319-96803-2_5.
- [3] W. I. Mahwadha, "Behavioral intention of young consumers towards E-Wallet adoption: an empirical study among Indonesian users," *Russian Journal of Agricultural and Socio-Economic Sciences*, vol. 85, no. 1, 2019.
- Bansal, Bruno, Denecker, and Niederkorn, "Global payments trends: Expansive growth, targeted opportunities | McKinsey," 2017.

https://www.mckinsey.com/industries/financial-services/our-insights/ global-payments-expansive-growth-targeted-opportunities (accessed Dec. 03, 2021).

- [5] "Vietnam | Data." https://data.worldbank.org/country/vietnam? view=chart (accessed Dec. 04, 2021).
- [6] A. Ather, B. Patel, N. B. Ruparel, A. Diogenes, and K. M. Hargreaves, "Coronavirus Disease 19 (COVID-19): Implications for Clinical Dental Care," *Journal of Endodontics*, vol. 46, no. 5, pp. 584–595, May 2020, doi: 10.1016/j.joen.2020.03.008.
- [7] D. Brown, "Can cash carry coronavirus? World Health Organization says use digital payments when possible," USA TODAY, 2020. https://www.usatoday.com/story/money/2020/03/06/coronaviruscovid-19-concerns-over-using-cash/4973975002/ (accessed Dec. 03, 2021).
- [8] "Toàn cảnh ngành Ví điện tử (E-wallet) tại Việt Nam 2021," *Tomorrow Marketers*, Sep. 16, 2021. https://blog.tomorrowmarketers. org/toan-canh-nganh-vi-dien-tu-e-wallet-viet-nam-2021/ (accessed Nov. 20, 2021).
- [9] Đào T. T. H., "Mô hình chấp nhận sử dụng ví điện tử trong thanh toán của khách hàng cá nhân – trường hợp tại TP. Đà Nẵng," Nhà xuất bản Đà Nẵng, Working Paper, 2019. Accessed: Nov. 14, 2021. [Online]. Available: http://thuvien.vku.udn.vn//handle/123456789/997
- [10] "Quyết định 2545/QĐ-TTg Đề án phát triển thanh toán không dùng tiền mặt 2016 2020," 2016. https://thuvienphapluat.vn/van-ban/Tiente-Ngan-hang/Quyet-dinh-2545-QD-TTg-De-an-phat-trien-thanhtoan-khong-dung-tien-mat-2016-2020-336430.aspx (accessed Dec. 03, 2021).
- [11] H. Hoang, "The Cashless Economy in Vietnam The Situation and Policy Implications," *Journal of Reviews on Global Economics*, vol. 9, pp. 216–223, Jun. 2020, doi: 10.6000/1929-7092.2020.09.20.
- [12] "Sự tăng trưởng của ví điện tử trong tiêu dùng Việt Nam," 2019. http://consosukien.vn/su-tang-truong-cua-vi-dien-tu-trong-tieu-dungviet-nam.htm? fbclid=IwAR3Lg2KLUDjB3T8paQFceFHjWK4rPhB4amgAr1IJEom wXN06wrcVrclkvd0 (accessed Dec. 03, 2021).
- [13] Lan Huong, "Việt Nam xếp thứ 2 thế giới về số người dân chưa tiếp cận dịch vụ ngân hàng," 2021. https://laodong.vn/kinh-te/viet-namxep-thu-2-the-gioi-ve-so-nguoi-dan-chua-tiep-can-dich-vu-ngan-hang-927446.ldo (accessed Dec. 03, 2021).
- [14] L.-Y. Leong, T.-S. Hew, G. W.-H. Tan, and K.-B. Ooi, "Predicting the determinants of the NFC-enabled mobile credit card acceptance: A neural networks approach," *Expert Systems with Applications*, vol. 40, no. 14, pp. 5604–5620, 2013.
- [15] F. D. Davis, "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology," *MIS Quarterly*, vol. 13, no. 3, p. 319, Sep. 1989, doi: 10.2307/249008.
- [16] Junadi and Sfenrianto, "A Model of Factors Influencing Consumer's Intention To Use E-payment System in Indonesia," *Procedia Computer Science*, vol. 59, pp. 214–220, 2015, doi: 10.1016/j.procs. 2015.07.557.
- [17] N. Ramya, D. Sivasakthi, and M. Nandhini, "Cashless transaction: Modes, advantages and disadvantages," *International Journal of Applied Research*, vol. 3, no. 1, pp. 122–125, 2017.
- [18] N. Park, M. Rhoads, J. Hou, and K. M. Lee, "Understanding the acceptance of teleconferencing systems among employees: An extension of the technology acceptance model," *Computers in Human Behavior*, vol. 39, pp. 118–127, Oct. 2014, doi: 10.1016/j.chb. 2014.05.048.
- [19] A. S. Kustono, A. Y. A. Nanggala, and I. Mas'ud, "Determinants of the Use of E-Wallet for Transaction Payment among College Students," *JEBAV*, vol. 23, no. 1, Jul. 2020, doi: 10.14414/ jebav.v23i1.2245.
- [20] P. C. Lai, "The Literature Review Of Technology Adoption Models And Theories For The Novelty Technology," *JISTEM J.Inf.Syst. Technol. Manag.*, vol. 14, pp. 21–38, Apr. 2017, doi: 10.4301/S1807-17752017000100002.
- [21] F. Muñoz-Leiva, S. Climent-Climent, and F. Liébana-Cabanillas, "Determinants of intention to use the mobile banking apps: An extension of the classic TAM model," *Spanish Journal of Marketing -ESIC*, vol. 21, no. 1, pp. 25–38, Feb. 2017, doi: 10.1016/j.sjme. 2016.12.001.
- [22] A. T. To and T. H. M. Trinh, "Understanding behavioral intention to use mobile wallets in vietnam: Extending the tam model with trust and enjoyment," *Cogent Business & Management*, vol. 8, no. 1, p. 1891661, Jan. 2021, doi: 10.1080/23311975.2021.1891661.
- [23] Y. Wang, Q. Zhao, and D. Zheng, "Bottlenecks in production networks: An overview," *J. Syst. Sci. Syst. Eng.*, vol. 14, no. 3, pp. 347–363, Sep. 2005, doi: 10.1007/s11518-006-0198-3.

- [24] S. Liao, J.-C. Hong, M.-H. Wen, Y.-C. Pan, and Y.- Wu, "Applying Technology Acceptance Model (TAM) to explore Users' Behavioral Intention to Adopt a Performance Assessment System for E-book Production," *EURASIA J Math Sci Tech Ed*, vol. 14, no. 10, p. em1601, Jul. 2018, doi: 10.29333/ejmste/93575.
- [25] M. Yang, A. A. Mamun, M. Mohiuddin, N. C. Nawi, and N. R. Zainol, "Cashless Transactions: A Study on Intention and Adoption of e-Wallets," *Sustainability*, vol. 13, no. 2, p. 831, Jan. 2021, doi: 10.3390/su13020831.
- [26] İ. Daştan and C. Gürler, "Factors Affecting the Adoption of Mobile Payment Systems: An Empirical Analysis," *emaj*, vol. 6, no. 1, pp. 17–24, Feb. 2016, doi: 10.5195/EMAJ.2016.95.
- [27] V. Soodan and A. Rana, "Modeling Customers' Intention to Use E-Wallet in a Developing Nation: Extending UTAUT2 With Security, Privacy and Savings," *JECO*, vol. 18, no. 1, pp. 89–114, Jan. 2020, doi: 10.4018/JECO.2020010105.
- [28] K.-B. Ooi and G. W.-H. Tan, "Mobile technology acceptance model: An investigation using mobile users to explore smartphone credit card," *Expert Systems with Applications*, vol. 59, pp. 33–46, Oct. 2016, doi: 10.1016/j.eswa.2016.04.015.
- [29] S. M. K and D. S. R, "The Study of E-Commerce Security Issues and Solutions," *International Journal of Engineering Research & Technology*, vol. 4, no. 27, Apr. 2018, Accessed: Nov. 16, 2021. [Online]. Available: https://www.ijert.org/research/the-study-of-ecommerce-security-issues-and-solutions-IJERTCONV4IS27016.pdf, https://www.ijert.org/the-study-of-e-commerce-security-issues-andsolutions
- [30] A. Kumar, A. Adlakaha, and K. Mukherjee, "The effect of perceived security and grievance redressal on continuance intention to use Mwallets in a developing country," *IJBM*, vol. 36, no. 7, pp. 1170–1189, Sep. 2018, doi: 10.1108/IJBM-04-2017-0077.
- [31] N. N. D. Phuong, L. T. Luan, V. V. Dong, and N. L. N. Khanh, "Examining Customers' Continuance Intentions towards E-wallet Usage: The Emergence of Mobile Payment Acceptance in Vietnam," *The Journal of Asian Finance, Economics and Business*, vol. 7, no. 9, pp. 505–516, 2020, doi: 10.13106/jafeb.2020.vol7.no9.505.
- [32] K. Madan and R. Yadav, "Behavioural intention to adopt mobile wallet: a developing country perspective," *JIBR*, vol. 8, no. 3, pp. 227–244, Aug. 2016, doi: 10.1108/JIBR-10-2015-0112.
- [33] M. Karim, A. Haque, M. Ulfy, M. Hossain, and M. Anis, "Factors Influencing the Use of E-wallet as a Payment Method among Malaysian Young Adults," *JIBM*, vol. 3, no. 2, pp. 1–12, Mar. 2020, doi: 10.37227/jibm-2020-2-21/.
- [34] F. Liébana-Cabanillas, V. Marinkovic, I. Ramos de Luna, and Z. Kalinic, "Predicting the determinants of mobile payment acceptance: A hybrid SEM-neural network approach," *Technological Forecasting and Social Change*, vol. 129, pp. 117–130, Apr. 2018, doi: 10.1016/j.techfore.2017.12.015.
- [35] D. S. Soegoto and M. P. Tampubolon, "E-Wallet as a Payment Instrument in the Millennial Era," *IOP Conf. Ser.: Mater. Sci. Eng.*, vol. 879, p. 012139, Aug. 2020, doi: 10.1088/1757-899X/879/1/ 012139.
- [36] N. Abdullah, F. Redzuan, and N. A. Daud, "E-wallet: factors influencing user acceptance towards cashless society in Malaysia among public universities," *Indonesian Journal of Electrical Engineering and Computer Science*, vol. 20, no. 1, Art. no. 1, Oct. 2020, doi: 10.11591/ijeecs.v20.i1.pp67-74.
- [37] A. Taufan and R. Yuwono, "Analysis of Factors That Affect Intention to Use e-Wallet through the Technology Acceptance Model Approach (Case Study: GO-PAY)," *International Journal of Science and Research*, vol. 8, no. 7, pp. 413–419, Aug. 2019, doi: 10.21275/ ART2020219.
- [38] S. Undale, A. Kulkarni, and H. Patil, "Perceived eWallet security: impact of COVID-19 pandemic," *XJM*, vol. 18, no. 1, pp. 89–104, Mar. 2021, doi: 10.1108/XJM-07-2020-0022.
- [39] Venkatesh, Morris, Davis, and Davis, "User Acceptance of Information Technology: Toward a Unified View," *MIS Quarterly*, vol. 27, no. 3, p. 425, 2003, doi: 10.2307/30036540.
- [40] A. M. Baabdullah, A. A. Alalwan, N. P. Rana, H. Kizgin, and P. Patil, "Consumer use of mobile banking (M-Banking) in Saudi Arabia: Towards an integrated model," *International Journal of Information Management*, vol. 44, pp. 38–52, Feb. 2019, doi: 10.1016/j.ijinfomgt. 2018.09.002.
- [41] S. Khanra, A. Dhir, P. Kaur, and R. P. Joseph, "Factors influencing the adoption postponement of mobile payment services in the hospitality sector during a pandemic," *Journal of Hospitality and Tourism Management*, vol. 46, pp. 26–39, Mar. 2021, doi: 10.1016/ j.jhtm.2020.11.004.

- [42] E. Laywilla, J. Singh, and B. Yin-Fah, "Drivers of Intention to Adopt Mobile Wallet: A Quantitative Study Among Females in Jakarta," *International Journal of Research in Business and Social Science* (2147-4478), vol. 10, pp. 804–820, Nov. 2020, doi: 10.6007/ IJARBSS/v10-i11/8061.
- [43] K. Tan *et al.*, "E-Wallet Acceptance among Undergraduates in Malaysia," Jun. 2020.
- [44] M. Widodo, M. I. Irawan, and R. Ambarwati Sukmono, "Extending UTAUT2 to Explore Digital Wallet Adoption in Indonesia," in 2019 International Conference on Information and Communications Technology (ICOIACT), Yogyakarta, Indonesia, Jul. 2019, pp. 878– 883. doi: 10.1109/ICOIACT46704.2019.8938415.
- [45] P. Patil, K. Tamilmani, N. P. Rana, and V. Raghavan, "Understanding consumer adoption of mobile payment in India: Extending Meta-UTAUT model with personal innovativeness, anxiety, trust, and grievance redressal," *International Journal of Information Management*, vol. 54, p. 102144, Oct. 2020, doi: 10.1016/j.ijinfomgt. 2020.102144.
- [46] P. Intarot and C. Beikhaimook, "Influencing Factor in E-Wallet Acceptant and Use," *Int. j. bus. adm. stud*, vol. 4, no. 4, pp. 167–175, 2018, doi: 10.20469/ijbas.4.10004-4.
- [47] S. Megadewandanu, Suyoto, and Pranowo, "Exploring mobile wallet adoption in Indonesia using UTAUT2: An approach from consumer perspective," in 2016 2nd International Conference on Science and Technology-Computer (ICST), Yogyakarta, Indonesia, Oct. 2016, pp. 11–16. doi: 10.1109/ICSTC.2016.7877340.
- [48] S. Peng, A. Yang, L. Cao, S. Yu, and D. Xie, "Social influence modeling using information theory in mobile social networks," *Information Sciences*, vol. 379, pp. 146–159, Feb. 2017, doi: 10.1016/ j.ins.2016.08.023.
- [49] N. Singh, N. Sinha, and F. J. Liébana-Cabanillas, "Determining factors in the adoption and recommendation of mobile wallet services in India: Analysis of the effect of innovativeness, stress to use and social influence," *International Journal of Information Management*, vol. 50, pp. 191–205, Feb. 2020, doi: 10.1016/j.ijinfomgt.2019.05. 022.
- [50] Y. K. Dwivedi, N. P. Rana, M. Janssen, B. Lal, M. D. Williams, and M. Clement, "An empirical validation of a unified model of electronic government adoption (UMEGA)," *Government Information Quarterly*, vol. 34, no. 2, pp. 211–230, Apr. 2017, doi: 10.1016/j.giq. 2017.03.001.
- [51] O. S. Fadairo, N. S. Olutegbe, and A. M. Tijani, "Attitude of crop farmers towards e-wallet platform of the Growth Enhancement Support Scheme for input delivery in Oke-Ogun area of Oyo state," *Journal of Agricultural Informatics*, vol. 6, no. 2, Art. no. 2, Jun. 2015, doi: 10.17700/jai.2015.6.2.184.
- [52] D. Lestari, "Measuring e-commerce adoption behaviour among gen-Z in Jakarta, Indonesia," *Economic Analysis and Policy*, vol. 64, pp. 103–115, Dec. 2019, doi: 10.1016/j.eap.2019.08.004.
- [53] T. T. Nguyen, H. T. Nguyen, H. T. Mai, and T. T. M. Tran, "Determinants of Digital Banking Services in Vietnam: Applying UTAUT2 Model," *Asian Economic and Financial Review*, vol. 10, no. 6, Art. no. 6, Jun. 2020, doi: 10.18488/journal.aefr.2020.106.680.697.
- [54] T. N. Phan, T. V. Ho, and P. V. Le-Hoang, "Factors Affecting the Behavioral Intention and Behavior of Using E-Wallets of Youth in Vietnam," *The Journal of Asian Finance, Economics and Business*, vol. 7, no. 10, pp. 295–302, 2020, doi: 10.13106/jafeb.2020.vol7.n10. 295.
- [55] J. Hair, W. Black, B. Babin, and R. Anderson, *Multivariate Data Analysis: Global Edition*, 7th ed. Pearson, 2014. Accessed: Nov. 25, 2021. [Online]. Available: https://www.pearson.com/uk/educators/higher-education-educators/program/Hair-Multivariate-Data-Analysis-Global-Edition-7th-Edition/PGM916641.html
- [56] A. A. Bailey, I. Pentina, A. S. Mishra, and M. S. B. Mimoun, "Mobile payments adoption by US consumers: an extended TAM," *International Journal of Retail & Distribution Management*, 2017.
- [57] V. Venkatesh and H. Bala, "Technology Acceptance Model 3 and a Research Agenda on Interventions," *Decision Sciences*, vol. 39, no. 2, pp. 273–315, 2008, doi: 10.1111/j.1540-5915.2008.00192.x.
- [58] P. G. Schierz, O. Schilke, and B. W. Wirtz, "Understanding consumer acceptance of mobile payment services: An empirical analysis," *Electronic commerce research and applications*, vol. 9, no. 3, pp. 209–216, 2010.
- [59] O. Alaeddin, A. Rana, Z. Zainudin, and F. Kamarudin, "From physical to digital: Investigating consumer behaviour of switching to mobile wallet," *Polish Journal of Management Studies*, vol. 17, no. 2, pp. 18– 30, 2018.

[60] E. L. Slade, Y. K. Dwivedi, N. C. Piercy, and M. D. Williams, "Modeling consumers' adoption intentions of remote mobile payments in the United Kingdom: extending UTAUT with innovativeness, risk, and trust," *Psychology & Marketing*, vol. 32, no. 8, pp. 860–873, 2015.