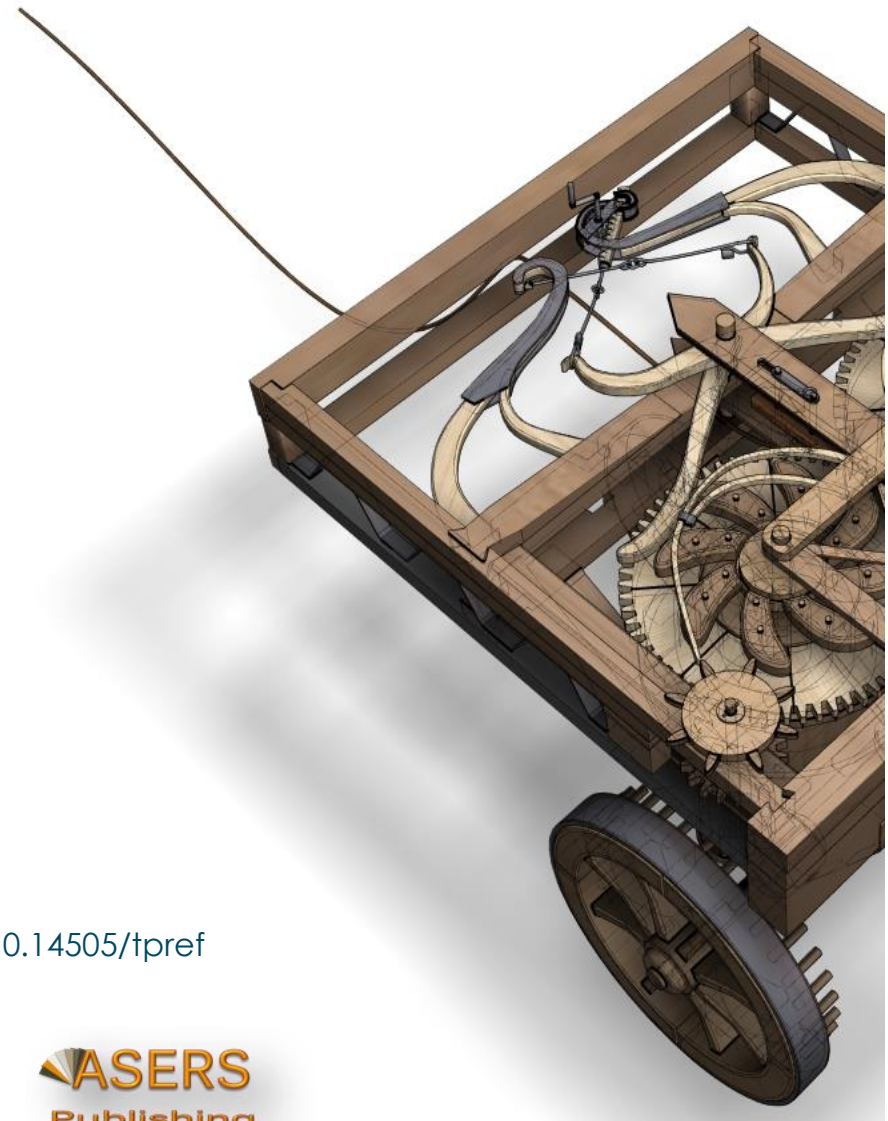
Theoretical and Practical Research in Economic Fields



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Factors Affecting the Intention to Continue Using Online Payment Applications of SMEs at Viet Nam

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Abstract: This study aims to identify the factors influencing the intention to continue using online payment applications among small and medium enterprises (SMEs) in Vietnam. The research employs a mixed-methods approach, combining qualitative and quantitative techniques. A theoretical framework was developed based on existing studies, which was subsequently refined to suit the context of SMEs in Vietnam. Data were collected through a Google Forms survey targeting 388 businesses familiar with online payment technologies such as Banking, Momo, Zalo Pay, AirPay, and ViettelPay. The data were analyzed using Smart PLS 4 software. Findings: The analysis reveals six key factors affecting the intention to continue using online payment applications: privacy security, social influence, perceived risk, perceived usefulness, information technology knowledge, and trust. This study contributes to the limited body of research focusing on SMEs in Vietnam and their adoption of online payment technologies. It provides a context-specific evaluation of factors driving continued usage intentions, offering insights for both academia and practice. The study is limited to SMEs in Vietnam, which may affect the generalizability of the findings to other contexts. Future research could explore these factors across different industries or regions. The study offers management strategies for enhancing SMEs' trust and perceived usefulness of online payment technologies, ultimately fostering continued adoption. The findings can contribute to the broader adoption of digital payment systems, promoting a cashless society and improving economic efficiency in Vietnam.

Keywords: online payment; continuous improvement; financial services; SEMs in Viet Nam.

JEL Classification: O33; M15; L86; G20; C10.

Introduction

After the COVID-19 pandemic, the rate of online payment users in Vietnam has increased. Consumers began shifting from traditional shopping to online shopping to simplify the process. According to the 2021 E-commerce

White Paper published by the E-commerce and Digital Economy Agency (Ministry of Industry and Trade), the size of Vietnam's retail e-commerce market in 2020 reached $11.8 billion. Among this, items such as food accounted for an increasingly higher proportion through online shopping. Statistics show that food is the most purchased item online, accounting for 53%, followed by footwear, clothing, cosmetics, and household items.

According to Visa's 2021 statistics report, in Vietnam, users are currently using several electronic payment methods: contactless cards account for about 7%, contact cards 8%, QR codes 7%, contactless mobile payments 5%, online cards 7%, and online e-wallets 15%.

According to PayNXT360 (2020), internet payments in Vietnam are expected to record a CAGR of 22.8%, reaching $27.6935 billion by 2025. The mobile wallet payment segment, by value, is projected to grow at a CAGR of 23.0% during the 2018-2025 period. Allied Market Research's statistics on electronic payments in Vietnam for the 2020-2027 period show that mobile payments will become a trend, with a CAGR of 30.2% during 2020-2027.

According to a report by Statista (2021) updated in October 2021, Vietnam will have five notable and most rapidly growing types of mobile payments compared to other electronic payment methods during the 2020-2025 period: MoMo, Viettelpay, Airpay, Zalopay, and Grappay. By 2025, it is predicted that the number of Vietnamese people using MoMo will reach about 59 million; Viettelpay will have about 28 million users; Shopee's Airpay will have about 12 million users; Zalopay will have about 6 million users, and Grappay will have about 2 million users. The urgency of continuing online payments at Small and Medium sized Enterprises (SMEs) in Vietnam is critical to their long term recovery. The Central Bank of Vietnam has taken steps to facilitate electronic payments by suspending fees and charges on most electronic money transfers (Policy Tracker 2021). As the digital economy continues to grow, the acceptance of online payments for merchants to use on a daily basis is expected to increase, further reducing the reliance on traditional payment methods. The banking industry outlook for 2024 also predicts a continued shift to e-wallets showing a sustainable trend towards online payment methods (Wade, Tomlinson, Srinivas 2023). Studies on electronic wallets and mobile commerce have also shed light on the factors that influence intention to continue using, focusing on the trend of merchants persistently using e-wallets as a payment system (Tan, Chong, & Ong 2024, Du, Razzaq, & Waqas, 2023). The moderate impact of situational factors on determinants of perceived risks affecting the intention to use online money transfer payment application or shopping further emphasizes the importance of a supportive environment for SMEs to continue to make online payments (Zhao, & Khaliq 2024). As SMEs in Vietnam overcome the challenges of the current economic landscape, it is essential that they embrace online payment options to ensure continued growth and competitiveness (Nguyen & Thi Dao 2024).

The goal of continuing online payments in SMEs at Vietnam is an important aspect of digital transformation in the country. As a developing country, Viet Nam has witnessed an increase in technology adoption, especially among the young population (Hoang, & Le Tan 2023). Factors influencing the intention to continue using online payment methods, such as mobile banking, have been studied in the context of Vietnam (Nguyen, & Dao 2024). In addition, intention to continue using business-to-business (B2B) electronic commerce platforms has been explored, emphasizing the importance of online transactions and payments for SMEs (Hussein *et al.* 2020). The moderation role of the flow experience on mobile commerce in Vietnam has been studied, emphasizing the importance of user experience in shaping the intention to continue using digital payment methods (Nguyen *et al.* 2024). The adoption of digital payments in Asia, including Vietnam, has changed financial behavior in the region, with the expansion of internet networks playing a key role in this change (Susanto *et al.* 2022). The factors influencing intention to continue using electronic wallets have also been examined, highlighting the impact of technology on shaping the future of trade in Vietnam (Kumar *et al.* 2024). Vietnamese consumers' intention to continue using online payment methods such as e-wallets has been influenced by market dominance and convenience in transactions (Nguyen *et al.* 2024). Corporate social responsibility has been identified as a sustainability factor to development of SMEs in emerging countries such as Vietnam (Thanh *et al.* 2021). As the Vietnamese market continues to grow, the intention to continue online payment methods in SMEs will be crucial to promote digital transformation and economic growth in the country. Contributing to that development, the authors surveyed SMEs and consulted experts on "factors influencing the intention to continue online payments in SMEs in Vietnam" with research questions: What are the main factors that influence a SMEs intention to continue using online payments? (question 1) How does the intermediary factor of satisfaction impact SMEs to intention continuing to use online payments? (question 2) In addition to the above influencing factors, the authors also studied external factors of SMEs to measure whether their ability to continue online payments was affected, such as the size of the business or the operating time of the business.

1. Literature Review

1.1. Theoretical Models

Currently, research on the use and acceptance of technology is based on popular models such as The TCT Model, the TAM Model, the Expectation Confirmation Model (ECM), and the UTAUT2 Model. Details are as follows:

The TCT Model was proposed by Liao *et al.* (2009) based on the combination of three models: the TAM Model, the ECM Model, and the Cognitive Model of Satisfaction Decisions (COG). The TCT Model aims to explain the factors that influence consumers' intention to continue using technology applications. The TCT Model includes six factors: Confirmation, Perceived Usefulness, Perceived Ease of Use, Attitude, Satisfaction, and finally, the Intention to Continue Using.

The TAM Model was proposed by Davis (1989) to predict the likelihood of users accepting technology applications. The model also helps determine what modifications need to be made for users to accept these technology applications. This model shows that two factors determine the decision to use a technology application by consumers: Perceived Usefulness and Perceived Ease of Use, and through two intermediary factors: Attitude and Behavioral Intention.

The ECM Model was proposed by Bhattacherjee (2001) to describe users' behavior in continuing to use technology products. The ECM Model indicates that Perceived Usefulness and Confirmation are two factors that influence Consumer Satisfaction. At the same time, Satisfaction is the direct factor that affects users' Intention to Continue Using technology products.

The UTAUT2 Model was developed by Venkatesh *et al.* (2012) to explain the intention to accept and use technology, including four traditional factors: Perceived Usefulness, Perceived Ease of Use, Facilitating Conditions, and Social Influence. Additionally, three other factors were added to the UTAUT2 Model: Hedonic Motivation, Price Value, and Habit.

1.2. Privacy Security (PS)

Consumer perceptions of security refer to their expectation that personal information shared on a seller's website will not be accessed, stored, or altered by unauthorized parties (Chellappa & Pavlou, 2002). Security is a crucial concern for individuals when purchasing online because most transactions occur on the web, where user information is transmitted through potentially insecure environments (Raman & Annamalai, 2011). Security is a key factor that people concern about in using the internet to purchase because most transactions are carried out on the web where information about users is transferred through an insecure environment (Raman & Annamalai, 2011). Perceived security reflects how users evaluate the level of security and protection of personal information when they use mobile payment services (Quynh & Anh, 2021). One of the main barriers to customer acceptance is security, with payment security concerns when shopping online potentially involving both monetary loss and privacy issues (Kwon and Lee, 2003). In online payments, the issue of information loss can occur for both sellers and buyers (Quan, 2021). Many people are reluctant to use mobile payments for online transactions due to concerns about user data security (Kristina and Harris, 2020).

Consumers tend to trust sellers more when they feel their data is handled securely. The level of trust consumers have is directly influenced by the security measures sellers implement (Flavián & Guinalíu, 2006). Security acts as a foundational element of trust, significantly impacting consumer confidence (Hayuningtyas & Widiyanto, 2015). The more robust the security provided by the seller, the greater the consumer's trust (Kim *et al.* 2003).

Junadi (2015) proposed a model based on UTAUT, adding twoadditional factors in measurement that are related to theperception of security; the security thatusers receive is partly explained by the safety of the electronicpayment system and is the same impact on the consumer'sintention to use electronic payment systems. The trust insafety and security when using M-Payment services is animportant factor contributing to increased intent to use theservice, and although the results do not show a significantimpact of this variable on usefulness, there is still a positivecorrelation between safety, security, and usefulness (Liu & Tai, 2016). Basically, the awareness of security will increase the value ofuser trust and with it a parallel impact on the user's intentionto use e-wallets in Indonesia. This result was similarly verified in study of Karim *et al.* (2020) for the Malaysian market. Therefore, the group has proposed the following hypothesis:

H1: Privacy security positively affects the intention to continue using online payment technology.

H2: Privacy Security has a positive effect on trust.

H3: Privacy Security positively affects the perceived usefulness.

1.3. Trust (TRU)

Once individuals have built trust in online payments, they are overshadowed by the benefits that online payments bring (Rahadia *et al.* 2022). Using technology in payments implies that users accept risks, and they are easily susceptible to losing trust due to negative consequences that may occur afterward (Puriwat and Tripopsakul, 2021). Users' trust can be directly influenced by privacy protection issues and indirectly by efforts to protect their information (Thang *et al.* 2022). Based on the existing research, the group has proposed the following hypothesis:

H4: Trust positively affects the intention to continue using online payment technology.

1.4. Perceived Usefulness (PU)

Perceived usefulness refers to individuals' beliefs about whether a new technology can improve the way they conduct business and enhance their performance (Ajzen, 1991; Jahangir and Begum, 2008). Similarly, Davis *et al.* (1989) and Doll *et al.* (1998) have described perceived usefulness as consumers' perceptions of whether the technologies they are using will increase the efficiency and effectiveness of their tasks.

Perceived usefulness can be understood as the degree of confidence users have when they perceive benefits from using mobile payments (Quynh & Anh, 2021). Usefulness is a significant factor that affects the acceptance of the application, and users will only use it when they see the benefits (Quan, 2021). Consumers are interested in payment through internet connections when they shop online because of the benefits the application provides (Kwon & Lee, 2003).

Previous research by Amin *et al.* (2014) demonstrated that perceived usefulness not only positively influences satisfaction but also has a beneficial effect on trust. When customers perceive that a new system or product offers added value, they are more likely to trust it. Similarly, Lee and Jun (2007) found that perceived usefulness positively impacts trust. Horst *et al.* (2007) further identified trust as a key determinant of perceived usefulness. Additionally, Chinomona (2013) confirmed that perceived usefulness positively affects trust.

H5: Perceived usefulness positively affects the intention to continue using online payment technology.

H6: Perceived usefulness positively affects trust

1.5. Perceived Risk (PR)

Perceived risk in online shopping can include various issues such as privacy protection, the level of online payment security, the reliability of internet retailers, and the intangible nature of online shopping - customers cannot touch, feel, or handle the items they intend to purchase (Kwon & Lee, 2003). The risks that occur can directly affect the effectiveness of online payment activities, making users feel hesitant to use the service (Nguyen, 2021). When consumers trust a sales website, they accept the potential risks, and their trust can easily waver when they encounter negative experiences (Thu & Tuyen, 2017).

Perceived risk is negatively related to trust (Eastlick *et al.* 2006; Kimery and McCord, 2002; Swaminathan et al., 1999). Higher levels of trust are likely to reduce perceived risk. For instance, Jarvenpaa *et al.* (1999) suggest that increased trust in online sellers lowers perceived risk, which, in turn, enhances a buyer's willingness to make purchases online. Similarly, Heijden *et al.* (2003) found that reducing perceived risk boosts trust and attitudes towards online purchasing, thereby increasing a buyer's willingness (or intention) to purchase online.

H7: Perceived risk positively affects the intention to continue using online payment technology.

H8: Perceived risk has a negative impact on the trust

1.6. Social Influence (SI)

In the study by Nur (2021), the influence of surrounding relationships, such as relatives and friends, on the adoption of electronic payment services was also mentioned [44]. The greater the social influence, the greater the intention to adopt this technology. Social influence is defined as “the degree to which an individual perceives that other important persons believe he or she should use the system” (Kripanont, 2007). Moreover, it refers to the way other people affect a person’s beliefs, feelings and values (Foon *et al.* 2011, Jaganathana *et al.* 2014). For new users of e-wallets, they are in the stage of just experiencing the service and are considering whether to continue using it. At this time, suggestions from media and shares, reviews from those around them will have a certain influence on their intention to continue. The research by Quynh & Anh (2021) and the study by Rahadi (2021) have demonstrated the positive impact of social influence on the decision to use mobile payment applications.

Varadarajan & Yadav (2002) have defined the e-marketplace as “a networked information system that serves as an enabling infrastructure for buyers and sellers to exchange information, transact, and perform other

activities related to the transaction before, during, and after the transaction". Most of the internet-based services allow their consumers to interactions/ communications among themselves that help to diminish their uncertainties related to online services. Many online shoppers would tend to wait and observe the experiences of others who have tried it before considering adopting it. While this experience could be either positive (successful cases) or negative (bad experiences), here we are more interested in positive experience because it reduces the customers perception regarding risk related issues and thus facilitates internet banking services.

Based on the existing research, the group has proposed the following hypothesis:

H9: Social influence positively affects the intention to continue using online payment technology

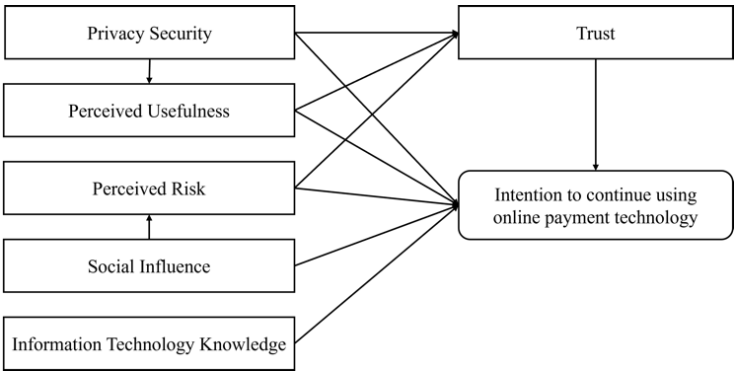
H10: Social influences have a negative and significant impact on perceived risk

1.7. Information Technology Knowledge (ITK)

Mobile payment using facial recognition has increased due to the restrictions of the COVID-19 pandemic. Additionally, QR code-based contactless payment systems have gradually become new and more useful systems after the COVID-19 pandemic (Sang, 2023). Helping users understand the mechanisms of mobile payment, through which they see the differences in each payment method, promotes online payment activities (Nguyen, 2021). If users do not understand the technology, it will be very difficult to process the information and use the system (Kristina and Harris, 2020). Customers tend to adopt technology when they perceive the benefits that technology brings, and conversely, if they find it difficult to use, they will seek a new technology with similar benefits. Based on the existing research, the group has proposed the following hypothesis:

H11: Information technology knowledge positively affects the intention to continue using online payment technology.

Figure 1. Proposed research model



2. Research Methodology

The research employs two main methods: qualitative and quantitative.

Qualitative research is a method that uses non-numerical data to gather information and gain a deeper understanding of a problem or phenomenon. The study examines theoretical foundations from previous research to build models and measurement scales. The next step involves using qualitative methods to focus on the factors influencing the intention to continue using online payment applications. The study explores theoretical bases for factors such as privacy security, social influence, perceived risk, perceived usefulness, IT knowledge, and trust. After that, opinions and feedback are compiled, and a survey is prepared for preliminary research.

Quantitative research is a method that uses numerical data to collect information and test hypotheses. The authors chose to use a convenient sampling method, which saves time, reduces errors, and minimizes costs. To ensure an appropriate sample size for the study, the authors followed the guidelines for exploratory factor analysis (EFA), determining that the minimum sample size should be five times the total number of observed variables (Hair *et al.* 2014). With 29 observed variables, the minimum sample size needed for EFA is 145. For regression analysis, the research team used the formula $N \geq 50 + 8m$ to determine the minimum sample size, where N represents the survey sample size and m represents the number of independent variables (Green and Salkind, 2010).

Since the research model includes 6 independent variables, the minimum sample size required is calculated to be 98. To enhance the accuracy and reliability of the research results, the team decided on a sample size of 388. To collect data quickly and conveniently, the authors employed an online survey method using Google Forms. The data collection period lasted 10 days, from March 15, 2024, to April 5, 2024, and a total

of 388 survey samples were obtained. After a selection process, the authors found that all 208 survey responses met the requirements for analysis and reporting research results. The study uses various methods to analyze the data using Smart PLS software, including descriptive statistical analysis, testing the measurement model, and testing the structural model.

3. Result

3.1 Descriptive Statistics

The group conducted an online survey, resulting in 412 observations. After filtering, the group decided to use 388 samples (n = 388). The sample was evaluated based on the following attributes

Table 1. Demographic demographic variables statistics

		Frequency	Percentage
Company Establishment Time	1 year	219	56.4
	2 years	65	16.7
	3 years	45	11.5
	Over 4 years	59	15.4
Technology Application Time	Occasionally	175	45.2
	Frequently	213	54.8
Enterprise size	Small	172	44.3
	Medium	216	55.7

Establishment Time: Out of the total 388 observations, 45 stores were established 3 years ago, accounting for 11.5%; 65 stores were established 2 years ago, accounting for 16.7%; 59 stores were established more than 4 years ago, accounting for 15.4% of the surveyed stores. Additionally, 219 stores were established 1 year ago, accounting for 56.4%. These results indicate that SMEs at Viet Nam established within a year tend to use online payment methods and have a high intention to continue using the application.

Technology Application Time: The sample size shows that 175 stores occasionally use technology, and 213 stores frequently use it among the total observed samples. Occasionally accounts for 45.2%, and frequently accounts for 54.8%. This indicates that the difference in technology application time among the stores in this study is not significant but rather quite uniform.

Enterprise size: The sample size shows that 172 **enterprises** are small, and 216 **enterprises** are medium sized in the total observed samples. Small **enterprise** account for 44.3%, and medium-sized **enterprise** account for 55.7%. This indicates that the difference in **enterprise** size in this study is not significant but rather quite uniform.

3.1. Testing the Measurement Model

3.1.1. Evaluating Construct Reliability

Although studies can use Cronbach's Alpha coefficient or composite reliability (CR) to test the reliability of the scale, Giao & Vuong (2019) suggest that Cronbach's Alpha might either overestimate or underestimate the reliability of the scale.

Table 2. Composite Reliability and Convergent Validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	Outer loading
CI	0.878	0.925	0.804	0.891 – 0.904
ITK	0.886	0.921	0.746	0.847 – 0.869
PR	0.903	0.932	0.774	0.873 – 0.891
PS	0.882	0.914	0.680	0.800 – 0.834
PU	0.905	0.929	0.725	0.831 – 0.870
SI	0.863	0.907	0.709	0.829 – 0.857
TRU	0.855	0.902	0.697	0.821 – 0.841

Additionally, they argue that composite reliability is more suitable for PLS models than Cronbach's Alpha. The composite reliability index ranges from 0 to 1, with 1 being the perfect level. For exploratory research models, composite reliability should be ≥ 0.6 (Juliandi, 2018). According to the table, the composite reliability of CI is 0.925, ITK is 0.921, PR is 0.932, PS is 0.914, PU is 0.929, SI is 0.907, and TRU is 0.902.

The outer loading coefficient can be used to evaluate the quality of the observed variables of a factor on a scale. According to Hair *et al.* (2013), a good outer loading coefficient is from 0.7 upwards. The table shows that the loadings of the observed variables on the scale are all greater than 0.7, and no observed variable has an unreliable loading. Therefore, the scale has good internal consistency.

3.1.2. Evaluating the Convergent Validity of the Scale

The average variance extracted (AVE) can be used as an index to test convergent validity. AVE reflects the average variance for each latent construct in the research model. The scale achieves convergent validity when AVE > 0.5 (Hair *et al*. 2005). AVE < 0.5 means that the error variance exceeds the explained variance (Giao & Vuong, 2019). The average variance extracted for the constructs is presented in the table: CI = 0.804, ITK = 0.746, PR = 0.774, PS = 0.680, PU = 0.725, SI = 0.709, TRU = 0.697. All constructs have AVE > 0.5, indicating that the scale has good convergent validity.

3.1.3. Discriminant Validity of the Scale

The scale achieves discriminant validity when the square root of the AVE is greater than the variance of any other latent construct (Giao & Vuong, 2019). In Table 3, following the Fornell-Larcker criterion, the square root of the AVE is presented in diagonal cells, and correlations between variables are shown below it. Thus, if the absolute value of the square root of the AVE is greater than any correlation coefficient in the same row and column, the scale has discriminant validity. The Fornell-Larcker table (Table 3) shows the square roots of the AVE. These values are all greater than the values in the same rows and columns, demonstrating good discriminant validity.

Table 3. Fornell - larcker discriminant validity

	CI	ITK	PR	PS	PU	SI	TRU
CI	0.897						
ITK	0.566	0.864					
PR	-0.539	-0.274	0.880				
PS	0.609	0.337	-0.436	0.824			
PU	0.625	0.405	-0.533	0.493	0.851		
SI	0.585	0.294	-0.463	0.500	0.469	0.842	
TRU	0.621	0.308	-0.487	0.528	0.521	0.446	0.835

3.2. Testing the Measurement Model

3.2.1. Evaluating Multicollinearity Issues

Table 4 shows the results of the variance inflation factor (VIF) values for the scale. All observed variables have VIF values less than 3 (Hair & Alamer, 2022). Therefore, it can be concluded that multicollinearity is not present among the observed variables.

Table 4. VIF Values

	CI	PR	PU	TRU
ITK	1.244			
PR	1.619			1.478
PS	1.689		1.000	1.399
PU	1.824			1.582
SI	1.564	1.000		
TRU	1.697			

3.2.2. Evaluating Model Fit

The most commonly used measure for evaluating the structural model's explanatory power is the coefficient of determination (R^2). R^2 measures the variance explained in each dependent variable and is thus a measure of the model's explanatory power (Shmueli & Koppius, 2011). This coefficient represents the amount of variance in the endogenous constructs explained by all exogenous factors linked to it. R^2 is also known as the in-sample predictive power (Rigdon, 2012). According to Table 5, the R^2 coefficients for both CI and TRU are 0.401 and 0.675, respectively. Therefore, the model is well explained.

Table 5. R^2 Values

	R Square	R Square Adjusted
CI	0.675	0.670
PR	0.214	0.212
PU	0.243	0.241
TRU	0.401	0.396

3.2.3. f^2 Values

The f^2 effect size facilitates the assessment of how much an exogenous construct contributes to the R^2 value of a latent predictor variable. The f^2 values of 0.02, 0.15, and 0.35 respectively indicate small, medium, or large effects of the predictor concept on a dependent variable (Cohen, 1988). According to Table 6, the f^2 values of the hypotheses indicate a medium effect (0.019 – 0.321).

Table 6. f^2 Values

	CI	PR	PU	TRU
ITK	0.208			
PR	0.019			0.054
PS	0.056		0.321	0.113
PU	0.046			0.068
SI	0.072	0.273		
TRU	0.087			

3.2.4. Evaluating Out-of-Sample Predictive Power

In PLS-SEM, each component model will have an R^2 value representing the explanatory power of the independent variables on the dependent variable, and a Q^2 value representing the predictive power of the independent variables on the dependent variable. Tenenhaus *et al.* (2005) suggested that Q^2 is considered an indicator of the overall quality of the component model. If all component models have $Q^2 > 0$, the overall structural model of the study also achieves overall quality. Hair *et al.* (2019) provided the levels of Q^2 corresponding to the predictive power of the model as follows:

$0 < Q^2 < 0.25$: low predictive accuracy

$0.25 \leq Q^2 \leq 0.5$: medium predictive accuracy

$Q^2 > 0.5$: high predictive accuracy

According to Table 7, Q^2 for NT = 0.297, indicating medium predictive power for the model; Q^2 for YDTT = 0.570, indicating high predictive power for the model.

Table 7. Q^2 Values

	Q^2_predict
CI	0.570
PR	0.206
PU	0.235
TRU	0.297

3.2.5. Hypothesis Testing

According to the hypothesis testing results in Table 8, the outcomes of the hypotheses and the relationships in the model are interpreted as follows: The analysis results indicate that SI, PS, ITK, PU, and TRU have a positive impact on CI. The impact coefficients are βSI = 0.191, βPS = 0.175, βITK = 0.290, βPU = 0.165, βTRU = 0.220, with all P-values less than 0.05 at a 5% significance level. In addition, PR has a negative impact on CI (βPR = -0.100, PPR = 0.040 < 0.05) at a 5% significance level. Additionally, PS, PU, PR have an impact on TRU. The impact coefficients are 0.308, 0.253, and -0.218, respectively, with P-values < 0.05. Thus, all proposed hypotheses are accepted. PS have an impact on PU and SI have an impact on PR. The impact coefficient are 0.493, -0.463 with P-values < 0.05.

Table 8. Hypothesis Testing

	Original Sample	Standard Deviation	T Statistics	P Values	Result
ITK -> CI	0.290	0.040	7.281	0.000	Accept
PR -> CI	-0.100	0.049	2.058	0.040	Accept
PR -> TRU	-0.218	0.071	3.065	0.002	Accept
PS -> CI	0.175	0.054	3.221	0.001	Accept
PS -> PU	0.493	0.049	10.064	0.000	Accept
PS -> TRU	0.308	0.066	4.670	0.000	Accept
PU -> CI	0.165	0.056	2.962	0.003	Accept
PU -> TRU	0.253	0.067	3.784	0.000	Accept
SI -> CI	0.191	0.052	3.660	0.000	Accept
SI -> PR	-0.463	0.052	8.866	0.000	Accept
TRU -> CI	0.220	0.057	3.832	0.000	Accept

3.2.6. Testing the Mediating Role of TRU

According to Table 9, the results demonstrate the mediating role of TRU in the use of e-wallets between other variables and the dependent variable CI's use of e-wallets as follows: TRU's use of e-wallets plays a mediating role in the relationship between PS and CI use of e-wallets, with an impact coefficient of 0.068 and a P-value of 0.004. Therefore, this mediating role is statistically supported. TRU's use of e-wallets plays a mediating role in the relationship between PU and CI's use of e-wallets, with an impact coefficient of 0.056 and a P-value of 0.005. Therefore, this mediating role is statistically supported. TRU's use of e-wallets plays a mediating role in the relationship between PR and CI's use of e-wallets. In addition, PR mediates the effect of SI on CI and PS mediates the effect of PS on CI with P-values < 0.05

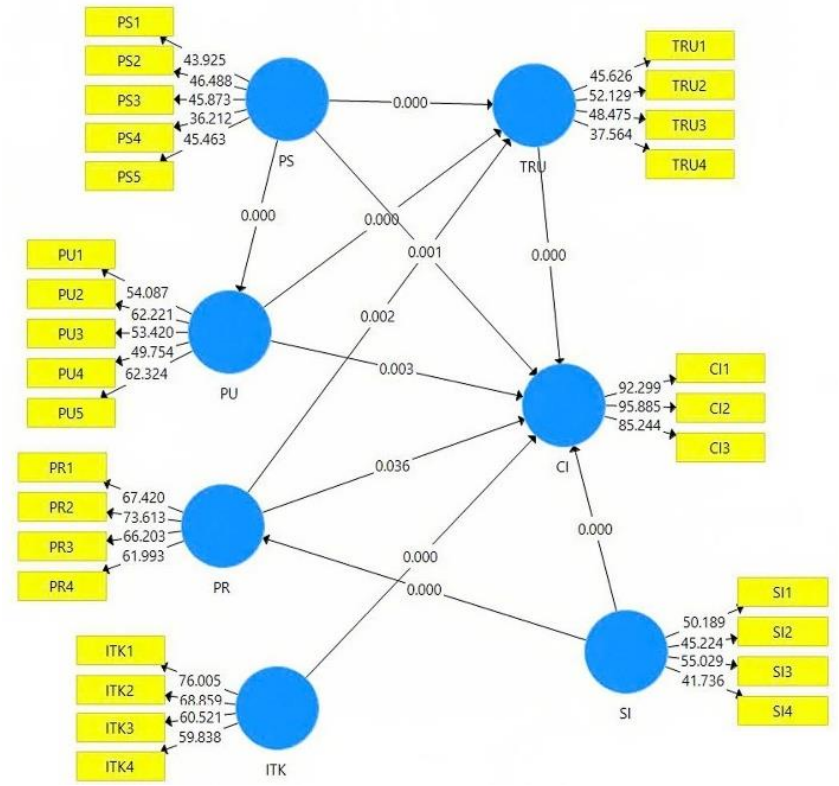
Table 9. Mediation Test for TRU

	Original Sample (O)	T Statistics	P values	Result
SI -> PR -> CI	0.046	1.986	0.047	Accept
PS -> PU -> CI	0.081	2.782	0.005	Accept
PR -> TRU -> CI	-0.048	2.213	0.027	Accept
PS -> TRU -> CI	0.068	2.918	0.004	Accept
PU -> TRU -> CI	0.056	2.801	0.005	Accept
SI -> PR -> TRU	0.101	2.763	0.006	Accept
PS -> PU -> TRU	0.125	3.397	0.001	Accept

3.2.7. PLS – SEM Model

After conducting the tests, the final research model is presented in Figure 2.

Figure 2. PLS-SEM Model



4. Discussion, Managerial Implications, Limitations, Future Research Directions

4.1. Discussion

The rapid development of 4.0 applications has significantly boosted the popularity and attention given to online payments. The research team successfully achieved the main objective of identifying factors influencing the intention to continue using online payment applications among SMEs at Viet Nam. Through the research process, six key factors were identified as having a positive impact on this intention: Social Influence, Trust, Perceived Usefulness, Privacy Security, Perceived Risk, and IT Knowledge.

Based on these findings, the research team proposed several solutions and recommendations for SMEs at Viet Nam to enhance the quality of their online payment services. These suggestions can help shop owners develop new business strategies and increase sales. The study also provides a foundation for these shop owners to assess critical factors and develop strategies that align with their conditions and the current market situation.

4.2. Managerial Implications

4.2.1. For SMEs

To enhance the intention to continue using online payment applications, SMEs should focus on improving their application knowledge by participating in communities that share experiences, thereby enhancing personal experience and quickly updating new features. Additionally, they need to carefully select online payment applications by thoroughly researching the provider to ensure that the application offers strong information security and quick 24/7 risk management. Furthermore, taking advantage of promotional programs from the application providers can help reduce costs and increase profits. These solutions are not only feasible but also offer significant environmental benefits by reducing the need for printed receipts, and social benefits by improving the user experience and attracting more promotions for both SMEs and customers. However, to prevent technical and security risks, SMEs should collaborate with application experts for regular system maintenance and implement strong security measures to counter threats from cyberattacks.

4.2.2. For Businesses Producing Online Payment Technology

To enhance the effectiveness and adoption of online payment applications among small enterprise, a well-structured approach focusing on user interface development, security enhancement, professional customer support, transparency, usability, and risk minimization is essential.

Developing a User-Friendly Interface: A user-friendly interface is crucial for the seamless adoption of online payment applications. The first step in this process is to conduct thorough user research to understand the needs and habits of users. This will be followed by designing and testing the interface with a sample group to gather feedback. Based on the feedback received, the interface will be improved to optimize the user experience. Finally, the updated version with the new interface will be released, and user feedback will be monitored to ensure the interface meets their expectations. The resources required for this initiative include a market research team and UX/UI designers, along with the necessary budget for development and testing. The effectiveness of this solution can be measured by tracking the Customer Satisfaction Score (CSAT) and the User Retention Rate.

Enhancing Security: Security is a significant concern for users of online payment applications. To address this, the first step is to assess the current security system through a comprehensive audit. Next, advanced security measures such as two-factor authentication, data encryption, and protection against cyberattacks will be implemented. Employee training in cybersecurity will further strengthen the overall security posture. Regular security checks and continuous updates to the system will ensure ongoing protection. This initiative will require security experts, an IT team, and a budget for upgrading and maintaining the security system. Effectiveness will be gauged by monitoring the number and severity of security incidents, as well as assessing employee awareness before and after training.

Providing Professional Customer Support: Professional customer support is essential for retaining users and ensuring their satisfaction. 24/7 support system will be established with various contact channels, including online chat, phone, and email. Support staff will undergo training to enhance their customer service skills. Continuous monitoring of customer feedback will allow for ongoing improvements to the support services. The effectiveness of this support can be measured through metrics such as average response time and customer satisfaction scores. This solution will require a dedicated customer support team, training costs, and a Customer Service Management (CSM) system.

Ensuring Transparency: Transparency is key to building trust with users. The first step is to review and update terms of use, service fees, and related costs to ensure they are clear and transparent. This information will be made publicly available on the website and application, with notifications sent to current users. Educational materials will be created to guide users on how to use the app effectively and understand the security measures in place. The effectiveness of these transparency efforts will be evaluated through user feedback, and continuous improvements will be made. Necessary resources include a legal team, communication team, and budget for documentation and communication activities. Effectiveness will be assessed by evaluating users' understanding of terms and policies and the rate of complaints related to transparency.

Improving Usability: Usability plays a vital role in user satisfaction and retention. The first step is to evaluate the current usability of the application through user surveys. Based on the feedback, new features will be developed and integrated into the application. These features will be tested with a sample group, and optimizations will be made based on their feedback. Finally, the updated version will be released, and the effectiveness of the new features will be monitored. The product development team and user research team, along with the budget for feature development and testing, will be required for this initiative. User satisfaction with the new features and the rate of their usage will be key metrics for measuring effectiveness.

Minimizing Risks: Risk management is critical in ensuring the long-term success of online payment applications. The first step is to conduct a thorough risk analysis to identify potential threats. Preventive measures and contingency plans will be developed for identified risks. Employee training programs will be implemented to raise awareness and enhance risk management skills. Regular checks will be conducted to monitor and evaluate the effectiveness of these risk mitigation measures.This initiative will require a risk management team, a training team, and a budget for implementing and maintaining preventive measures. The frequency and severity of risks and employee awareness before and after training will serve as measures of effectiveness.

4.2.3. Social Implications

The government is actively promoting the use of online payment applications through several key policies aimed at integrating digital payments into both business operations and daily life. Notably, Prime Minister's Decision No. 1813/QĐ-TTg, signed on October 28, 2021, outlines a plan for the development of non-cash payments in Vietnam from 2021 to 2025. This initiative is designed to transition traditional payment methods to non-cash options,

thereby facilitating easier access for businesses and consumers. Additionally, the government supports the development and expansion of online payment applications in rural areas, enhancing financial services for residents in remote locations. Specific security requirements for internet banking systems have also been established, including measures such as firewalls, antivirus protection, and safeguards against DDoS attacks, to protect users' personal information and assets. Furthermore, investments in internet infrastructure are being made to improve network quality and coverage, making online payments more accessible and convenient for the general population. These efforts reflect a commitment to modernizing the financial landscape and ensuring that digital payment methods become a seamless part of everyday life.

4.3. Limitations and Future Research Directions

The study encountered several limitations due to time constraints, which inevitably impacted its outcomes. One significant limitation is the narrow scope of the research. The study focused exclusively on small and medium-sized SEMs at Viet Nam, which may not accurately reflect the intentions of similar business owners across Vietnam. A broader scope that includes various industries could offer a more comprehensive understanding of the factors influencing the continuation of online payment applications.

Another limitation stems from the complexity of human behavior and intent. These factors are intricate and often extend beyond individual control and awareness. The use of questionnaires in surveys can only provide a partial prediction of the continuation intentions of small and medium-sized business owners. To improve accuracy, future research should consider incorporating experimental methods that can offer deeper insights into these intentions.

To address these limitations and enhance the robustness of future studies, several directions are proposed. First, expanding the sample size will improve the reliability of the research findings. A larger sample will provide a more accurate representation of the target population. Second, broadening the research scope to include a wider range of industries will contribute to a more reliable and comprehensive understanding of business owners' intentions. Third, future research should explore additional factors that may influence the intention to continue using online payment applications. This exploration will help identify other variables that could impact user behavior. Finally, investigating the continuation intentions of larger-scale business owners will offer a multi-dimensional perspective and a deeper understanding of the usage patterns across different business scales.

By addressing these aspects, future research can provide a more detailed and accurate picture of the factors affecting the use of online payment applications and contribute valuable insights for both businesses and policymakers.

Conclusions

This study sheds light on the key factors influencing the intention of small and medium enterprises (SMEs) in Vietnam to continue using online payment applications. The research reveals that privacy security, trust, perceived risk, perceived usefulness, social influence, and IT knowledge are crucial determinants of this behavior. By addressing these factors, businesses can enhance user experience and satisfaction, thereby fostering a broader adoption of online payment systems. This is particularly vital in the context of Vietnam’s digital transformation and its movement toward a cashless economy.

The findings offer valuable insights for policymakers and online payment service providers to design strategies that encourage sustained use among SMEs. Enhancing security, usability, and trust will not only drive adoption but also contribute to a more inclusive and efficient financial ecosystem.

Future research should explore additional contextual factors, such as industry-specific barriers or cultural influences, that may impact the continuation of online payment adoption. Expanding the study scope beyond SMEs to include larger enterprises or regional comparisons would also provide a more comprehensive understanding of the digital payment landscape.

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Credit Authorship Contribution Statement

Nguyen Thi Phuong Giang: Conceived and developed the research idea, formulated the study objectives, determined the sample size, and contributed to the questionnaire design. Conducted data analysis and

contributed to writing the results and discussion sections. Co-authored the conclusions, limitations, future research directions, and implications.

Thai Dong Tan: Conducted literature review, contributed to theoretical development, and assisted in designing the research model. Participated in data collection and co-authored the conclusions, limitations, future research directions, and implications.

Nguyen Binh Phuong Duy: Worked on the introduction, assisted in developing the questionnaire, and contributed to logical computations. Co-authored the conclusions, limitations, future research directions, and implications.

Le Huu Hung: Provided statistical analysis support, assisted in interpreting results, and contributed to the discussion section. Co-authored the conclusions, limitations, future research directions, and implications.

Le Thi Hong Nhung: Worked on refining the research framework, ensured adherence to methodological standards, and contributed to editing and finalizing the manuscript. Co-authored the conclusions, limitations, future research directions, and implications.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Declaration of use of generative AI and AI-Assisted technologies

The authors declare that they have not used generative AI and AI-assisted technologies in the writing process before submission, but only to improve the language and readability of their paper and with the appropriate disclosure.

References

[1] Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2): 179-211,

[2] Amin, M., Rezaei, S., & Abolghasemi, M. (2014). User satisfaction with mobile websites: the impact of perceived usefulness (PU), perceived ease of use (PEOU) and trust. *Nankai Business Review International*, 5(3): 285-274.

[3] Bhattacherjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS quarterly*, pp. 351-370.

[4] Chellappa, R. K., & Pavlou, P. A. (2002). Perceived information security, financial liability and consumer trust in electronic commerce transactions. *Logistics Information Management*, 15(5/6): 358-368.

[5] Chinomona, R. (2013). The influence of perceived ease of use and perceived usefulness on trust and intention to use mobile social software: technology and innovation. *African Journal for Physical Health Education, Recreation and Dance*, 19(2): 285-273.

[6] Cohen, J. (1988). Statistical power analysis for the behavioral sciences, 2nd ed, Routledge.

[7] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, pp. 319-340.

[8] Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). Technology acceptance model. *J Manag Sci*, 35(8): 982-1003.

[9] Doll, W. J., Hendrickson, A., & Deng, X. (1998). Using Davis's perceived usefulness and ease-of-use instruments for decision making: a confirmatory and multigroup invariance analysis. *Decision sciences*, 29(4): 839-869.

[10] Du, L., Razzaq, A., & Waqas, M. (2023). The impact of COVID-19 on small-and medium-sized enterprises (SMEs): empirical evidence for green economic implications. *Environmental Science and Pollution Research International*, 30(1): 1540-1561.

[11] Eastlick, M. A., Lotz, S. L., & Warrington, P. (2006). Understanding online B-to-C relationships: An integrated model of privacy concerns, trust, and commitment. *Journal of business research*, 59(8): 877-886.

[12] Flavián, C., & Guinalíu, M. (2006). Consumer trust, perceived security and privacy policy: three basic elements of loyalty to a web site. *Industrial management & data Systems*, 106(5): 601-620.

[13] Foon, Y. S., & Fah, B. C. Y. (2011). Internet banking adoption in Kuala Lumpur: an application of UTAUT model. *International Journal of Business and Management*, 6(4): 161-167.

[14] Giao, H. N. K., & Vuong, B. N. (2019). Master's Course in Scientific Research Methods in Business - Updated by SmartPLS. Financial Publishing House. (in Vietnamese)

[15] Green, S. B., & Neil, J. (2010). Salkind. Using SPSS for Windows and Macintosh: Analyzing and understanding data.

[16] Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European business review*, 26(2): 106-121.

[17] Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long range planning*, 6(1-2): 1-12.

[18] Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3).

[19] Hair, J., Anderson, R., Tatham, R., & Black, W. (2005). Multivariate data analysis. NJ: Prentice Hall.

[20] Hayuningtyas, W. H., & Widiyanto, I. (2015). Antecedent kepercayaan dan keputusan pembelian. *Diponegoro Journal of Management*, pp. 639-749.

[21] Hoang, H., & Le Tan, T. (2023). Unveiling digital transformation: Investigating technology adoption in Vietnam's food delivery industry for enhanced customer experience. *Heliyon*, vol. 9, no. 9.

[22] Horst, M., Kuttschreuter, M., & Gutteling, J. M. (2007). Perceived usefulness, personal experiences, risk perception and trust as determinants of adoption of e-government services in The Netherlands. *Computers in human behavior*, 23(4): 1838-1852.

[23] Hussein, L. A., Baharudin, A. S., Kiumarsi, S., & Hilmi, M. F. (2020). Factors Influencing the Intention to Continue using B2B e-Commerce in Manufacturing SMEs. *Engineering, Technology & Applied Science Research*, vol. 10, no. 2.

[24] Jahangir, N., & Begum, N. (2008). The role of perceived usefulness, perceived ease of use, security and privacy, and customer attitude to engender customer adaptation in the context of electronic banking. *African journal of business management*, 2(1): 32-40.

[25] Jarvenpaa, S. L., Tractinsky, N., & Saarinen, L. (1999). Consumer trust in an Internet store: A cross-cultural validation. *Journal of Computer-Mediated Communication*, vol. 5, no. 2.

[26] Juliandi, A. (2018). Structural equatuion model based partial least square (SEM-PLS): Menggunakan SmartPLS. Universitas Batam.

[27] Junadi and Sfenrianto. (2015). A model of factors influencing consumer's intention to use e-payment system in Indonesia. *Procedia Computer Science*, 59: 214 - 220 .

[28] Karim, M. W., Haque, A., Ulfy, M. A., Hossain, M. A., & Anis, M. Z. (2020). Factors influencing the use of E-wallet as a payment method among Malaysian young adults. *Journal of International Business and Management*, 3(2): 1-12.

[29] Kim, D. J., Ferrin, D. L., & Rao, H. R. (2003). Antecedents of consumer trust in B-to-C electronic commerce. Ninth Americas Conference on Information Systems, pp. 157-167.

[30] Kimery, K. M., & McCord, M. (2002). Third party assurances: mapping the road to trust in eretailing. *Journal of Information Technology Theory and Application (JITTA),* vol. 4, no. 2.

[31] Kripanont, N. (2007). *Examining a technology acceptance model of internet usage by academics within Thai business schools*. Doctoral dissertation, Victoria University.

[32] Kristina, N., & Harris, I. (2020). The technology acceptance model of mobile payment usage on generation Z. *Binus Business Review*, 11(3): 149-156.

[33] Kumar, A., Haldar, P., & Chaturvedi, S. (2024). Factors influencing intention to continue use of e-wallet: mediating role of perceived usefulness. *Vilakshan-XIMB Journal of Management*.

[34] Kwon, K. N., & Lee, J. (2003). Concerns about payment security of Internet purchases: a perspective on current on-line shoppers. *Clothing and Textiles Research Journal*, 21(4): 174-184.

[35] Lee, T., & Jun, J. (2007). Contextual perceived value? Investigating the role of contextual marketing for customer relationship management in a mobile commerce context. *Business Process Management Journal*, 13(6): 798-814.

[36] Liao, C., Palvia, P., & Chen, J. L. (2009). Information technology adoption behavior life cycle: Toward a Technology Continuance Theory (TCT). *International Journal of Information Management*, 29(4): 309-320.

[37] Liu, G. S., & Tai, P. T. (2016). A study of factors affecting the intention to use mobile payment services in Vietnam. *Economics World*, 4(6): 249 – 273.

[38] Mike Wade, Neil Tomlinson, Val Srinivas. (2023). 2024 banking and capital markets outlook. Financial Services, 2023. [Online]. Available at: https://www2.deloitte.com/us/en/insights/industry/financial-services/financial-services-industry-outlooks/banking-industry-outlook.html

[39] Nguyen, D.P. (2021). Research on the impact of factors on online payment decisions on e-commerce platforms of young people in Hanoi, *Economy and Forecast*, pp. 11-15. (in Vietnamese)

[40] Nguyen, G. D., & Dao, T. H. T. (2024). Factors influencing continuance intention to use mobile banking: an extended expectation-confirmation model with moderating role of trust. *Humanities and Social Sciences Communications*, 11(1): 1-14.

[41] Nguyen, G. D., & Thi Dao, T. H. (2024). The Moderating Role of Flow Experience on Mobile Commerce Continuance Intention: The Integrative View of User Adaptation, Expectation-Confirmation, and Task-Technology Models. *SAGE Open*, vol. 14, no. 2.

[42] Nguyen, P. T., Phung, M. T., Pham, T. M. L., & Vo, T. L. T. (2024). Factors affecting Vietnamese consumers' intention to continue using e-wallet: A case study of MoMo. *The VMOST Journal of Social Sciences and Humanities*, 66(1): 29-44.

[43] Nur, T., & Panggabean, R. R. (2021). Factors influencing the adoption of mobile payment method among generation Z: the extended UTAUT approach. *Journal of Accounting Research, Organization and Economics*, 4(1): 14-28.

[44] Puriwat, W., & Tripopsakul, S. (2021). Explaining an adoption and continuance intention to use contactless payment technologies: during the COVID-19 pandemic. *Emerging Science Journal*, 5(1): 85-95.

[45] Quan, N.H. (2021). Factors In Online Payment that Affect Purchasing Intention and Payment Decision in B2C E-Commerce: A Case Study in Hanoi. *International Journal Of Management And Economics*, vol. 138.

[46] Quynh, N.T.N. & Anh, P.T.N. (2021). Determinants of behavior of using mobile payment services- The case of Banking University Ho Chi Minh City. *Journal of Banking Science & Training*, 235: 37-51.

[47] Rahadi, R. A. R. A., *et al*. (2022). Towards a cashless society: Use of electronic payment devices among generation z. *International Journal of Data and Network Science*, 6(1): 137-146.

[48] Rahadia, R. A., *et al.* (2022). Determining the factors influencing residential property price: A comparative study between Indonesia and Malaysia. *Decision Science Letters*, 11: 485–496.

[49] Raman, A., & Viswanathan, A. (2011). Web services and e-shopping decisions: A study on malaysian e-consumer. *Wireless Information Networks & Business Information System*, 2(5): 54-60.

[50] Rigdon, E. E. (2012). Rethinking partial least squares path modeling: In praise of simple methods. *Long range planning*, 45(5-6): 341-358.

[51] Sang, N.M. (2023). Factors affecting Gen Z's intention to use QR Pay in Vietnam after Covid-19. *Innovative Marketing*, vol. 19, no. 3.

[52] Shmueli, G., & Koppius, O. R. (2011). Predictive analytics in information systems research. *MIS quarterly*, pp. 553-572.

[53] Susanto, E., Solikin, I., & Purnomo, B. S. (2022). A review of digital payment adoption in Asia. *Advanced International Journal of Business, Entrepreneurship and SMEs*, 4(11): 1-15.

[54] Swaminathan, V., Lepkowska-White, E., & Rao, B. P. (1999). Browsers or buyers in cyberspace? An investigation of factors influencing electronic exchange. *Journal of computer-mediated communication*, vol. 5, no. 2.

[55] Tan, S. H., Chong, L. L., & Ong, H. B. (2024). Continuance usage intention of e-wallets: Insights from merchants. *International Journal of Information Management Data Insights*, vol. 4, no. 2.

[56] Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., & Lauro, C. (2005). PLS path modeling. *Computational statistics & data analysis*, 48(1): 159-205.

[57] Thắng, T. T., Lượng, L.D., Hoa, N. T. N., Huyen, P.T. (2022). Research on factors affecting the intention to use digital banking services at commercial bank branches in Bac Ninh province. *Journal of Banking Science and Training*, 240: 66-80. (in Vietnamese)

[58] Thanh, T. L., Huan, N. Q., Hong, T. T. T., & Foroudi, P. (2021). Effects of corporate social responsibility on SMEs' performance in emerging market. *Cogent Business & Management*, vol. 8, no. 1.

[59] Thu, N.Q. & Tuyen, L.T.K. (2018). The role of social influence factors in the relationship with trust, attitude, risk perception on online purchase intention of consumers in Ho Chi Minh City," *Asian Journal of Economic and Business Research*, vol. 1. (in Vietnamese)

[60] Van der Heijden, H., Verhagen, T. and Creemers, M. (2003). Understanding online purchase intentions: contributions from technology and trust perspectives. *European Journal of Information Systems*, 12(1): 41-48.

[61] Varadarajan, P.R. & Yadav, M.S. (2002). Marketing strategy and the internet: an organizing framework. *Journal of the Academy of Marketing Science*, 30(4): 296-312.

[62] Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS quarterly*, 36(1): 157-178.

[63] Zhao, H., & Khaliq, N. (2024). In quest of perceived risk determinants affecting intention to use fintech: Moderating effects of situational factors. Technological Forecasting and Social Change, vol. 207.

[64] Policy Tracker, "Policy Response to COVID 19," International Monetary Fund (2021).Available at: https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19

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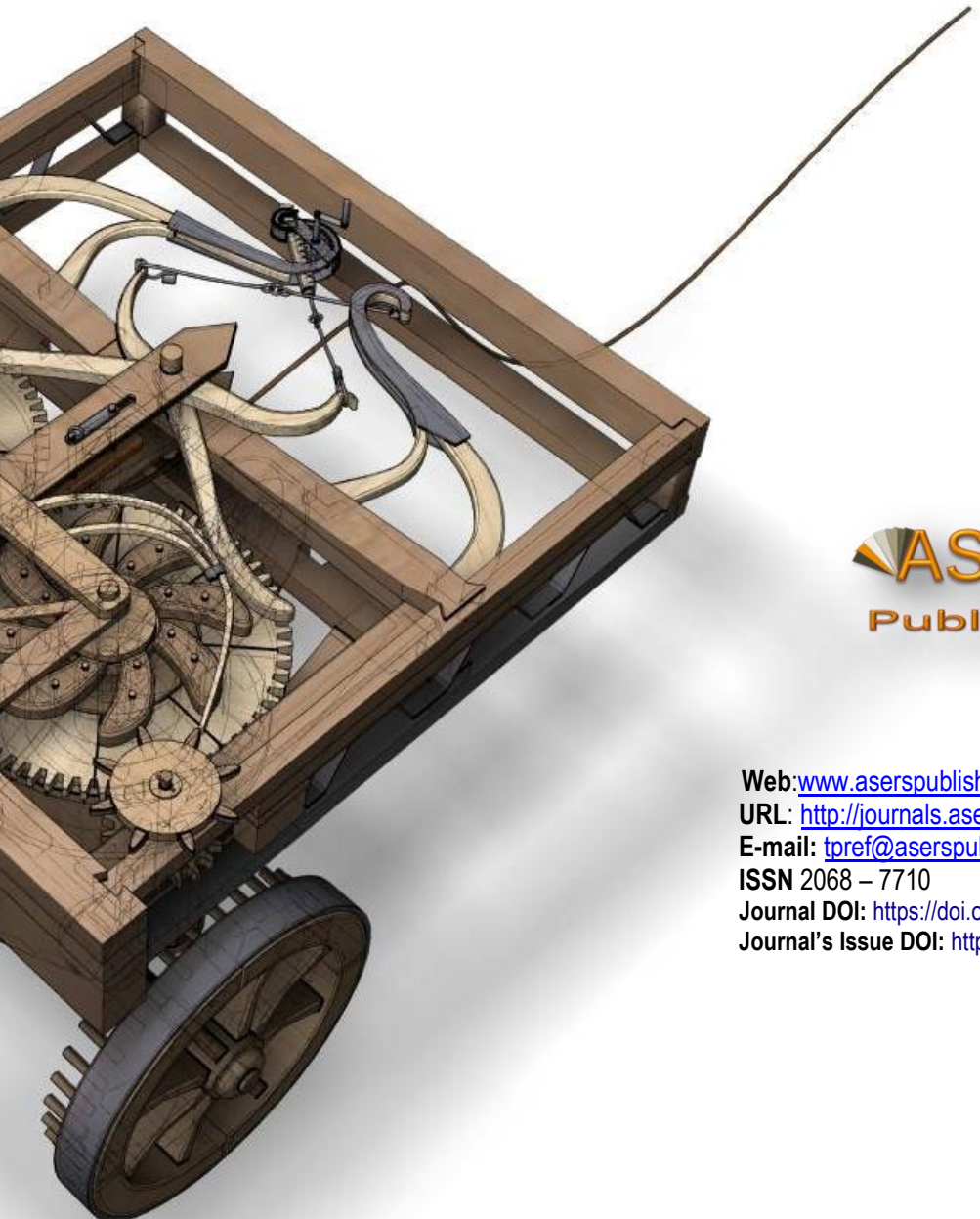

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