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Factors affecting individual customers' intention to use NFC mobile payment services in Ho Chi Minh City

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Abstract: This study aims to identify the key factors influencing the intention to adopt mobile payments using NFC technology among individual users in Ho Chi Minh City. The research design includes two phases: qualitative and quantitative. The qualitative phase was conducted through expert consultation to refine the scales, ensuring their relevance and understandability. The quantitative phase used an online questionnaire, based on validated scales from previous studies, to survey 385 people aged 18 to 55 who were technologically savvy and familiar with digital financial services. Data analysis focused on six factors: trust, perceived ease of use, perceived usefulness, social influence, technology readiness, and service quality. The results showed that all of these factors had a positive and significant impact on the intention to use NFC technology, with trust and social influence being the two most influential factors. The study provides important practical implications for businesses, financial institutions, and policymakers in developing strategies to promote digital payments in Vietnam.

Keywords: *Factor analysis, Ho Chi Minh City, Individual consumers, NFC mobile payments.*

1. Introduction

The development of digital technologies has fundamentally reshaped financial services, driving a global transition from conventional cash-based transactions to digital alternatives, including mobile and contactless payment solutions. Among these innovations, NFC technology has emerged as a significant enabler of secure, rapid, and seamless short-range transactions [1]. In Vietnam, the momentum of digital transformation is particularly noticeable in urban centers like Ho Chi Minh City. This trend has been further propelled by governmental efforts to promote digital finance and enhance financial accessibility. Despite these developments, NFC mobile payment uptake remains limited. Concerns over data security and privacy, particularly among digitally less literate populations, contribute to consumer hesitation [2]. Technological unfamiliarity, especially among older users and lower-income groups, also acts as a barrier [3]. Furthermore, traditional preferences for cash persist due to cultural habits and trust issues, especially in rural areas [4]. On the infrastructure side, insufficient investment in NFC-compatible systems across retail and service sectors impedes widespread usage [5]. In addition to technical readiness, social dynamics significantly influence user behavior. In Vietnamese society, adoption of new technologies is often shaped by peer influence, word-of-mouth, and social norms [6]. Therefore, the explanation of NFC adoption needs a holistic approach to consider not just technological and economic factors but also infrastructural, cultural, and psychological aspects.

2. Literature Review

2.1. Overview of NFC Mobile Payment Technology

NFC has emerged as a prominent enabler of contactless financial transactions, driven by its fast, secure, and user-friendly attributes. This short-range wireless communication protocol facilitates bidirectional data exchange between compatible devices within a 4 cm radius, distinguishing it from

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one-way systems like RFID [7]. NFC's capacity to operate without internet connectivity or complex pairing enhances its utility in regions with limited digital infrastructure [8].

In Vietnam, the implementation of NFC technology into domestic digital payment systems such as MoMo and VNPay has been very important and is considered a strategic tool. This technological innovation has increasingly played a role in bridging the digital divide among various population segments and enhancing the efficiency of financial access in the framework of a robust digital change [9]. However, several structural and behavioral barriers continue to restrict the broader adoption of NFC payments. Gaps in digital literacy especially among older populations and the high cost of deploying compatible infrastructure present key challenges [10]. For small businesses, the lack of standardized technical frameworks hinders system compatibility and increases implementation complexity [11]. Although consumer interest is growing, widespread NFC use is still constrained by a mix of user skepticism and uneven technological infrastructure [12].

2.2. Adoption Trends of NFC Payment in Ho Chi Minh City

Vietnam's growing digital economy spurred by national policy reforms, has accelerated the adoption of mobile payments using NFC for payment transactions. By late 2023, the total of personal payment accounts surpassed 182 million, marking a 21.8% increase year-on-year [13]. While QR code payments currently dominate the landscape, NFC is rapidly gaining popularity, especially among digitally literate youth. The launch of Apple Pay in Vietnam in mid-2023, for instance, led to a 7% adoption rate within months, underscoring growing user interest [14].

Financial institutions have also taken steps to promote NFC adoption. The "Tap to Phone" service deployed by Vietcombank has transformed smartphones into mobile payment terminals, thereby democratizing access to digital transactions. This solution not only simplifies the payment process for SMEs, but also expands integration with global payment ecosystems, thereby promoting flexibility and inclusivity in the digital financial ecosystem in Vietnam [15]. Despite this progress, challenges persist. Traditional markets and older users remain loyal to cash payments, and many small retailers are hesitant to adopt contactless POS systems due to cost concerns. Disparities in network infrastructure, especially in suburban and peri-urban areas, further limit the scalability of NFC services.

To address these obstacles, Ho Chi Minh City's digital transformation roadmap includes expanding 5G coverage and enhancing broadband access. The municipal government aims to ensure that by 2025, over 80% of residents aged 15 and older will own and actively use electronic payment accounts. Strategic integration of digital payments into public sectors like transportation and healthcare is also expected to improve public trust and usage rates.

2.3. Behavioral Intention

The combination of technology, human behavior and the environment in which the technology is introduced is the mobile payment system based on NFC technology. In this study, we will study and explore two very important theories, which are the TAM and UTAUT model theories. In studies on technology acceptance, behavioral intention plays a vital role in predicting users' actual behavior. Theories on technology such as the TAM by Davis [16] and the UTAUT introduced by Venkatesh, et al. [17] have affirmed that the behavioral intention affected by factors such as the willingness to accept changes related to technology of users. These factors create a complex landscape in which social factors, along with the context of use, are likely to influence users' choices in adopting new technologies. Technology readiness, which includes criteria such as users' level of digital literacy and ability to embrace innovation, is a key driver of adoption and speed [18]. Finally, service quality reflected in system reliability, customer support effectiveness, and transaction efficiency directly affects users' satisfaction and trust in the technology. When the system operates stably, supports promptly, and transactions are fast, users tend to trust and continue using the technology [19].

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2.4. Trust

Trust serves as a critical antecedent in the adoption of digital financial technologies, particularly within ecosystems characterized by heightened sensitivity to data privacy and the proliferation of cyber threats. Users have confidence in the platform's ability to process transactions in a secure and dependable manner, while conforming to rigorous standards of data confidentiality, system integrity, and regulatory compliance [20]. Without a sufficient level of perceived trust, users are likely to resist engaging with such technologies, regardless of their functionality or convenience. For Vietnamese consumers, trust is crucial due to heightened sensitivity around unauthorized access and fraud [21]. Empirical studies have shown that when individuals perceive NFC platforms as dependable and secure, their willingness to adopt and use such services significantly increases. Therefore, strengthening consumer trust through transparent practices and robust cybersecurity measures is essential for broadening adoption.

H_1: Trust has a linear correlation with IUNFC.

2.5. Perceived Ease of Use

PEU is an integral element of the TAM which was created by Davis [16]. PEU is essentially a reflection of the perceptions of users regarding the ease, accessibility, and absence of obstacles when using technology. The users will be less likely to face psychological barriers or feasibility issues in implementing it. Therefore, PEU not only directly affects users' attitudes towards technology, but also plays the role of a mediator in facilitating perceived usefulness and stimulating behavioral intentions to adopt and utilize that technology system in practice. As a cognitive assessment, PEU influences users' intentions and behavioral perceptions by minimizing psychological resistance and making it easier to integrate the technology into everyday life. Systems that are thought to be user-friendly will evoke favorable reactions from users, thus increasing the possibilities of adoption and long-term utilization over time. This construct encapsulates users' assessments of the system's functional simplicity, user interface intuitiveness, and overall navigability. In this context, PEU operates not merely as a predictor of behavioral intention, but also as a catalyst for increasing user confidence, lowering learning costs, and fostering long-term engagement with technological innovations. In NFC payment contexts, ease of use is reflected through streamlined processes such as simple registration, minimal input during transactions, and intuitive interface designs. The "tap-and-go" functionality of NFC minimizes procedural complexity and enhances user satisfaction [22]. Particularly in urban areas like Ho Chi Minh City, where digital adoption varies by age and education, a user-friendly system can significantly lower psychological and technical barriers, especially for less tech-savvy populations [23]. Enhancing system simplicity can therefore foster greater user engagement.

H_2: Perceived ease of use has a linear correlation with IUNFC.

2.6. Perceived Usefulness

Within the TAM framework, PU asserts that it is not just a question of convenience, but rather a question of the user's perception that the technology has an instrumental role to play in the realization of professional or personal objectives. Where users perceive that a system greatly improves their capacity by automating tasks, reducing errors, or enabling enhanced quality results, they are inclined to form a favorable behavioral attitude towards its usage and adoption. Thus, Perceived Usefulness (PU) is a key evaluative metric in rational choice decision models as a mediating construct between users' assessments of technological value and their intention to adopt and utilize digital innovations at both organizational and individual levels. Meanwhile, Perceived Value is an essential mental measure. The perceived usefulness is closely associated with faster transaction execution, improved convenience, and better control over personal finances, all of which contribute to a more efficient and user-friendly payment experience. By eliminating the need for physical cash handling and reducing manual steps like card insertion or PIN entry, NFC technology significantly streamlines the payment process [22]. The

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incorporation of security measures such as biometric verification, tokenization, and encryption is a main influencer of perceived usefulness by making sure fraud risk is evaded [24].

H_5: Perceived usefulness has a linear correlation with IUNFC.

2.7. Social Influence

Social influence, taken from TAM2 and UTAUT, represents the impact of peers, family, and the broader social networks on individuals' adoption decisions for technology [17]. In collectivist Vietnamese society, where interpersonal relationships and social norms are highly valued, adoption of digital tools will more likely be determined by perceived social acceptance by the immediate social circle [15]. Peer suggestions and opinions of opinion leaders shared via social media platforms like Facebook and TikTok are strong influencers. Public advertising campaigns and partnerships with other businesses also assist in attaining societal acceptance. Seeing others use NFC technology in a secure setting lessens users' fear and boosts their confidence.

H_4: Social influence has a linear correlation with IUNFC.

2.8. Technological Readiness

Technological readiness is one's predisposition and propensity to adopt new technologies, psychological characteristics and technical skill [25]. Optimism, innovativeness, discomfort, and insecurity form technological readiness. Those who are digitally more-savvy are inclined to be enthusiastic about trying out new tools and have greater adaptability in learning digital systems [18]. Those who are digitally less-savvy or anxious are more resistant. Vietnam's readiness is not generic the younger and urban dwellers are more apt to be receptive than the older or rural communities [26]. Focused online training and intuitive interfaces can increase the readiness level and ease adoption.

H_3: Technological readiness has a linear correlation with IUNFC.

2.9. Service Quality

Service quality significantly influences users' satisfaction and behavioral intentions in digital payment systems. Elements like responsiveness, reliability, and system efficiency enhance user trust and experience, thereby encouraging continued use and long-term adoption. Key components of service quality include system reliability, speed, security, user support, and transparency of information [27]. In mobile payment contexts, users expect seamless functionality and quick resolution of technical issues. Failure in any of these aspects can undermine user trust and discourage repeat use [3]. Effective customer service through real-time chat, clear user instructions, and error handling can enhance satisfaction and promote loyalty [8]. Robust security features also reinforce confidence, which is critical in encouraging sustained adoption.

H_6: Service quality has a linear correlation with IUNFC.

2.10. Proposed Research Model

Grounded in an extensive examination of past research, extensive consultations with stakeholders involved, and a consistent fit with the research emphasis, this study develops an extended conceptual model. Founded on the TAM pillars, the model is adapted to address the situational specifics of the study context. The proposed model, titled "Factors affecting individual consumers' intention to use NFC mobile payment services in Ho Chi Minh City," comprises six core constructs: (1) Trust (TR), (2) Perceived Ease of Use (PEU), (3) Perceived Usefulness (PU), (4) Social Influence (SI), (5) Technological Readiness (TR), and (6) Service Quality (SQ). The theoretical relationships between the variables are presented in the following figure.

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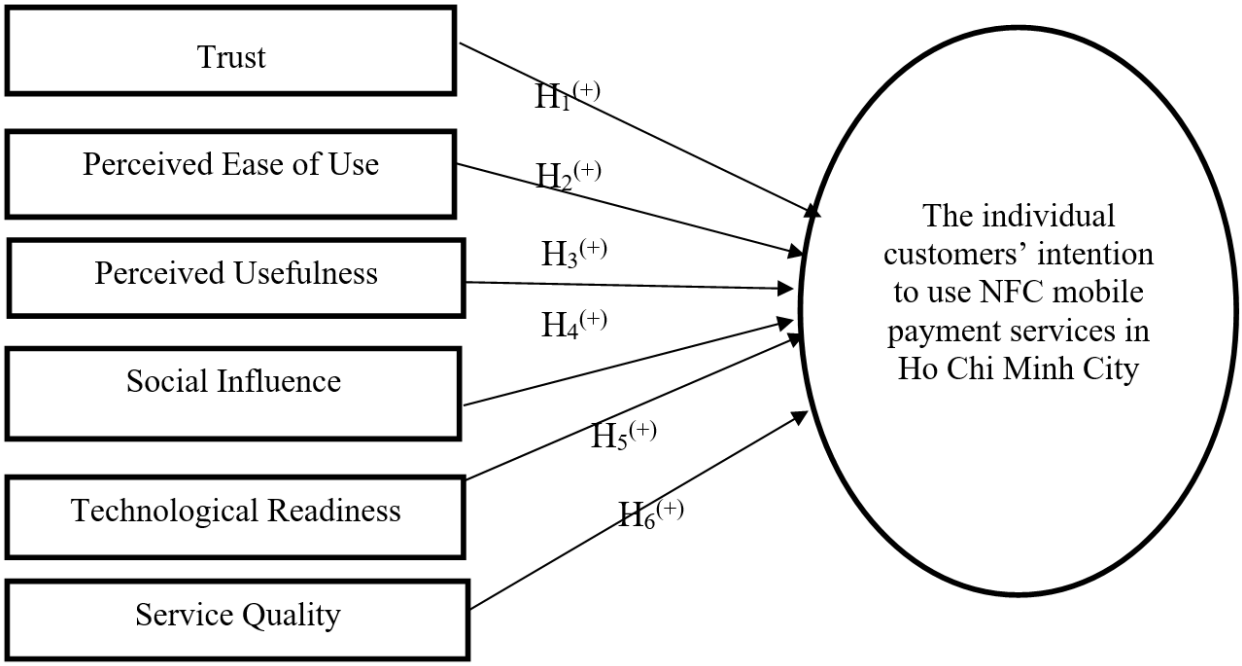

Figure 1.
Proposed research model.

3. Methodology

The methodological framework comprised two distinct phases: a qualitative phase dedicated to the refinement of measurement instruments and a quantitative phase devoted to empirical testing. Expert consultation was conducted during the qualitative phase to evaluate the relevance, intelligibility of the scales. Refinement involved the deletion of redundant statements and the refinement of the contextual applicability of the scales based on expert evaluation. Following the qualitative enhancement, the quantitative phase employed a standard survey instrument for data gathering from individual consumers. The approach offers a detailed insight into the NFC mobile payment adoption dynamics. Primary data were gathered by communicating with respondents through a questionnaire that was disseminated through Google Forms. The questionnaire was built upon validated measures taken from past research to optimize construct validity. 415 responses were initially received. Following data cleansing, in which invalid or partially completed entries were eliminated, 385 valid questionnaires remained for analysis. The survey sample collected shows that the majority of individuals aged 18 and above have high confidence and are considered to be more likely to adopt NFC mobile payment technology.

4. Results

4.1. Descriptive Statistics

With 385 valid and quality responses that met the survey criteria were collected and subsequently used for data analysis. In terms of gender breakdown, the findings reveal a marginal majority of female respondents compared to their male counterparts. To be more precise, 185 respondents reported being male, representing 48.1% of the sample, and 200 respondents reported being female, representing 51.9%.

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Table 1.
Gender analysis results.

Gender	Frequency	Percent
Male	185	48.1
Female	200	51.9
Total	385	100.0

Table 2.
Residence Analysis of Survey Respondents.

Content	Frequency	Percent	Valid Percent	Cumulative Percent
District 1	35	9.09%	9.09%	9.09%
District 3	35	9.09%	9.09%	18.18%
District 4	28	7.27%	7.27%	25.45%
District 5	27	7.01%	7.01%	32.47%
District 6	24	6.23%	6.23%	38.70%
District 7	45	11.69%	11.69%	50.39%
District 10	40	10.39%	10.39%	60.78%
District 11	25	6.49%	6.49%	67.27%
District 12	26	6.75%	6.75%	74.03%
Binh Thanh District	30	7.79%	7.79%	81.82%
Phu Nhuan District	28	7.27%	7.27%	89.09%
Tan Binh District	22	5.71%	5.71%	94.81%
Binh Tan District	20	5.19%	5.19%	100.00%
Total	385	100.00%	100.00%	100.00%

The examination of the residential areas of the respondents shows a distribution of survey participants in different districts. Among the 385 valid responses, District 7 recorded the most participants (45 respondents, 11.69%), followed by District 10 with 40 respondents (10.39%) and Districts 1 and 3, with 35 participants each (9.09%). The other prominent districts are Binh Thanh District (7.79%), District 4 (7.27%), and Phu Nhuan District (7.27%). The others were dispersed across various districts like Districts 5, 6, 11, 12, Tan Binh, and Binh Tan. The dispersed geographical location indicates that the data collected reflects various locations within the city accurately.

Table 3.
Reliability Testing of the Scale.

The scale	Observed variables	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Cronbach's Alpha coefficient: 0.916			
Trust (TR)	I believe that NFC mobile pay apps secure my personal information.	0.687	0.910
	I feel secure when making transactions via NFC mobile payments.	0.724	0.906
	I trust that NFC payment service providers handle my transactions reliably.	0.782	0.900
	I believe that transactions made through NFC are processed accurately without errors.	0.768	0.901
	I trust that NFC payment providers always protect users' rights.	0.710	0.907
	I am confident that my financial information will be securely protected and not subject to misuse when utilizing NFC mobile payment services.	0.786	0.899
	I believe that my financial information will be well protected and not subjected to abuse when using NFC mobile payment services	0.743	0.904
Cronbach's Alpha coefficient: 0.753			
Perceived Ease of Use (PEU)	I consider the process of learning to operate NFC mobile payment services to be straightforward and uncomplicated.	0.521	0.711

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	Carrying out transactions through NFC mobile payment platforms is easy for me.	0.498	0.722
	I consider the interaction with NFC mobile payment applications to be clear and straightforward.	0.602	0.664
	I am confident in my ability to quickly become adept at using NFC mobile payment systems.	0.578	0.679
Cronbach's Alpha coefficient: 0.737			
Perceived Usefulness (PU)	Paying with NFC mobile payment services is faster and more convenient for me.	0.495	0.694
	NFC mobile payments make it more convenient for me to complete financial activities.	0.470	0.702
	Using NFC mobile payments enhances my effectiveness in managing payments.	0.541	0.674
	NFC mobile payment services are useful for my daily financial transactions.	0.537	0.676
	Overall, I find NFC mobile payments beneficial to my personal financial management.	0.458	0.709
Cronbach's Alpha coefficient: 0.911			
Social Influence (SI)	Individuals who are significant to me believe that I ought to adopt NFC mobile payment services.	0.731	0.898
	Those whose opinions I respect tend to favor my use of NFC mobile payment applications.	0.763	0.893
	My friends and family influence my choice to make use of NFC mobile payments.	0.757	0.894
	People around me often recommend using NFC mobile payment methods.	0.753	0.894
	I feel social pressure to use NFC mobile payment services.	0.738	0.897
	Using NFC mobile payments helps me fit in with people I interact with regularly.	0.763	0.893
Cronbach's Alpha coefficient: 0.778			
Technological Readiness (TR)	I feel at ease when adopting new technologies, such as NFC mobile payment systems.	0.604	0.713
	I am open to experimenting with emerging technologies that have the potential to enhance my everyday activities.	0.513	0.760
	I possess the required competencies to utilize NFC mobile payment services efficiently.	0.590	0.724
	I think I would be able to pick up and stay current with advances in mobile payment technology quite easily.	0.636	0.696
Cronbach's Alpha coefficient: 0.747			
Service Quality (SQ).	NFC mobile payment services provide prompt and efficient support when needed.	0.504	0.710
	The customer service of NFC mobile payment providers is reliable and helpful.	0.474	0.725
	I believe that my financial information will be secured safely and cannot be misused when I use NFC mobile payment services	0.590	0.661
	NFC mobile payment systems consistently deliver services as promised.	0.604	0.653
Cronbach's Alpha coefficient: 0.799			
The individual customers' intention to use NFC mobile payment services in Ho Chi Minh City **(IUNFC)**	I anticipate consistently incorporating NFC mobile payment services into my future transactions.	0.584	0.763
	Whenever feasible, I will opt for NFC mobile payments to complete my transactions.	0.595	0.757
	I am inclined to suggest the use of NFC mobile payment services to others.	0.642	0.734
	I plan to keep using NFC mobile payment services for many years to come.	0.627	0.742

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4.2. Reliability Testing of the Scale

Cronbach's Alpha coefficient is greater than 0.60 which indicates an acceptable level of internal consistency in the scale, i.e., the observed variables belonging to the same conceptual domain reliably and consistently measure the underlying construct that they are supposed to be measuring. The measure serves a fundamental purpose in establishing the reliability of the measuring instrument, particularly in the case of quantitative research that utilizes multi-item scales. At the same time, a correlation coefficient of more than 0.30 between the variables being measured is said to reflect a statistically significant indicator that portrays a moderate degree of association among the items, thus offering strong evidence for the development of construct validity. Simultaneously satisfying both of these is a critical building block for checking that the scale has not only internal stability but also the capacity to validly capture the theoretical constructs examined in the research model.

Table 4.
Rotated Component Matrix[a].

	Component					
	1	**2**	**3**	**4**	**5**	**6**
TRU6	0.852					
TRU3	0.848					
TRU4	0.831					
TRU7	0.813					
TRU2	0.803					
TRU5	0.788					
TRU1	0.765					
SI3		0.840				
SI4		0.833				
SI6		0.833				
SI2		0.830				
SI1		0.814				
SI5		0.813				
PU3			0.741			
PU4			0.737			
PU1			0.691			
PU2			0.660			
PU5			0.652			
TR4				0.806		
TR1				0.790		
TR3				0.772		
TR2				0.709		
PEU3					0.798	
PEU4					0.778	
PEU1					0.727	
PEU2					0.719	
SQ4						0.798
SQ3						0.792
SQ1						0.714
SQ2						0.687
Eigenvalues	2.318					
Extracted variance	61.565					
KMO coefficient	0.810					
Bartlett test significance level	0.000					

4.3. Exploratory Factor Analysis

Bartlett's test ($p < 0.001$) showed that the correlation matrices were sufficiently different to perform EFA. The KMO value was 0.810, in the "good" range (0.8–0.9). All factors had eigenvalues> 1, explaining 61.565% of the variance, with factor loading > 0.65, reflecting high convergence.

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Table 5.
Results of KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.780
Bartlett's Test of Sphericity	Approx. Chi-Square	457.516
	df	6
	Sig.	0.000

The adequacy of the data was assured by a KMO index of 0.780, which meant that the sample adequacy was good. Meanwhile, Bartlett's test yielded an output that was highly statistically significant (Chi-Square = 457.516; df = 6; $p < 0.001$), thereby rejecting the assumption of a homogeneous correlation matrix and confirming the suitability of the data for EFA.

Thereby rejecting the assumption of a homogeneous correlation matrix and ascertaining the fitness of the data for exploratory factor analysis.

Table 6.
Summary of Component Matrix EFA.

Observed variable	**Factor load factor**
	1
IUNFC3	0.812
IUNFC4	0.801
IUNFC2	0.779
IUNFC1	0.770

Table 7.
Explained Variance and Eigenvalues of Extracted Components.

Component	**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	2.501	62.522	62.522	2.501	62.522	62.522
2	0.598	14.940	77.462			
3	0.487	12.169	89.631			
4	0.415	10.369	100.000			

The Principal Component Analysis program returned a superordinate latent factor with an eigenvalue greater than 1.0 that explained 62.522% of the total variance. A single such high proportion of explained variance is strong support for the unidimensionality of the construct, indicating that the dependent variable has one underlying theoretical dimension that it is driven by.

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Table 8.
Correlation.

		IUNFC	TRU	PEU	PU	SI	TR	SQ
IUNFC	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	385						
TRU	Pearson Correlation	0.510**	1					
	Sig. (2-tailed)	0.000						
	N	385	385					
PEU	Pearson Correlation	0.188**	0.032	1				
	Sig. (2-tailed)	0.000	0.528					
	N	385	385	385				
PU	Pearson Correlation	0.236**	-0.048	-0.032	1			
	Sig. (2-tailed)	0.000	0.351	0.534				
	N	385	385	385	385			
SI	Pearson Correlation	0.396**	-0.077	-0.040	0.048	1		
	Sig. (2-tailed)	0.000	0.129	0.431	0.345			
	N	385	385	385	385	385		
TR	Pearson Correlation	0.222**	0.066	0.007	0.033	-0.174**	1	
	Sig. (2-tailed)	0.000	.195	.888	.521	0.001		
	N	385	385	385	385	385	385	
SQ	Pearson Correlation	0.281**	-0.011	.005	.023	0.084	0.055	1
	Sig. (2-tailed)	0.000	0.837	0.920	0.651	0.098	0.284	
	N	385	385	385	385	385	385	385

4.4. Correlation Analysis Results

Pearson Correlation test indicated that IUNFC was statistically significantly and positively related to all the independent variables at $p < 0.01$. The strongest correlation was Trust (TRU) ($r = 0.510$), followed by Social Influence (SI), Service Quality (SQ), Usefulness (PU), Technology Readiness (TR), and Ease of Use (PEU). The findings indicate that trust, social influence, and service experience are the main elements to enhance NFC mobile payment behavior adoption.

Table 9.
Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.815[a]	0.665	0.659	0.325	2.241

4.5. Regression Analysis Results

The multivariate regression analysis confirmed the strong correlation of the independent variables to use NFC mobile payments ($R = 0.815$; $R^2 = 0.665$; adjusted $R^2 = 0.659$). Furthermore, the Durbin-Watson statistic stood at 2.241, which effectively excluded the threat of autocorrelation and consequently guaranteed the high reliability of the results.

Table 10.
Anova.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78.938	6	13.156	124.938	0.000[b]
	Residual	39.805	378	0.105		
	Total	118.743	384			

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Table 11.
Coefficients[a].

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.251	0.218		-5.736	0.000		
	TRU	0.342	0.019	0.537	17.916	0.000	0.988	1.012
	PEU	0.174	0.027	0.194	6.501	0.000	0.997	1.003
	PU	0.179	0.023	0.232	7.775	0.000	0.993	1.007
	SI	0.283	0.019	0.457	14.986	0.000	0.953	1.049
	TR	0.179	0.022	0.245	8.047	0.000	0.960	1.041
	SQ	0.192	0.025	0.229	7.626	0.000	0.987	1.013

Anova analysis indicated the regression model attained significant statistical power ($F = 124.938$; $p < 0.001$), thereby proving the high explanatory capability of independent variables for behavioral intention. The findings uphold the adequacy of the model to predict NFC mobile payment acceptance behavior under the condition of digital urbanization in Ho Chi Minh City.

The findings showed that the 6 independent variables all had an impact and were statistically significant with IUNFC ($p < 0.001$). Among these variables, Trust was the strongest predictor ($\beta = 0.537$), followed by Social Influence, Technology Readiness, Perceived Usefulness, Service Quality, and Ease of Use. Multicollinearity diagnostics also affirmed the model's strength, with VIF values less than 1.05 and tolerance levels close to 1.00, signifying the absence of multicollinearity issues and strengthening the reliability of the regression estimates.

4.6. Discussion

Hypothesis H1, Trust (TRU): The regression analysis indicates that TRU shows a significance level of 0.000, which is below the 0.01 level. This proves to be statistically significant positive at the 1% level, which corresponds to a 99% confidence interval. This hypothesis is accepted. This result is consistent with Linh [21] who emphasized that fostering trust through secure transaction environments, transparent practices.

Hypothesis H2, Perceived Ease of Use (PEU): The regression analysis shows that PEU shows a significance level of 0.000, which is below the 0.01 level. This proves to be statistically significant positive at the 1% level, which corresponds to a 99% confidence interval. This hypothesis is accepted. This result is consistent with Agárdi and Alt [22] who found that intuitive design and minimal user effort improve adoption. Similarly, Nur and Panggabean [23] demonstrated that user-friendly systems are especially impactful in urban environments where digital tools are increasingly prevalent.

Hypothesis H3, Perceived Usefulness (PU): The regression analysis shows that PU shows a significance level of 0.000, which is below the 0.01 level. This proves to be statistically significant positive at the 1% level, which corresponds to a 99% confidence interval. This hypothesis is accepted. This result is consistent withthe research by Zhong and Moon [24] who highlighted the aspects of speed, convenience, and increased control in the design of perceived usefulness. Further, Agárdi and Alt [22] highlighted that perceived usefulness facilitates adoption by enhancing transaction efficiency.

Hypothesis H4, Social Influence (SI): The regression analysis shows that SI shows a significance level of 0.000, which is below the 0.01 level. This proves to be statistically significant positive at the 1% level, which corresponds to a 99% confidence interval. This hypothesis is accepted. This result is consistent with the research by Venkatesh, et al. [17] which stipulated that peer influence, social media, and how things are perceived by society are very important in Vietnam.

Hypothesis H5, Technology Readiness (TR): The regression analysis shows that TR shows a significance level of 0.000, which is below the 0.01 level. This proves to be statistically significant

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positive at the 1% level, which corresponds to a 99% confidence interval. This hypothesis is accepted This result coincides with the study by Gao and Liu [18].

Hypothesis H6, Service Quality (SQ): The regression analysis shows that SQ shows a significance level of 0.000, which is below the 0.01 level. This proves to be statistically significant positive at the 1% level, which corresponds to a 99% confidence interval. This hypothesis is accepted. These findings agree with Baabdullah, et al. [27] describing how there should be system security, reliability, and responsiveness when utilizing technology. Likewise, Laukkanen [3] and Hijazi, et al. [8] also found that a secure framework and quality assistance promote long-term customer trust.

5. Conclusion

The findings indicate that all six discovered factors including Trust, Perceived Ease of Use, Perceived Usefulness, Social Influence, Technology Readiness, and Service Quality have positive and significant effects on NFC payment intention. Surprisingly, Trust and Social Influence are the most influential factors, reflecting the key role that trust and social influence play in shaping technology adoption behaviors in an urban environment such as Ho Chi Minh City.

6. Recommendations

The research results show that six factors including trust, ease of use, perceived usefulness, social influence, technological readiness and service quality all have positive and significant impacts on the intention to use NFC payments. Therefore, to promote individual users in Ho Chi Minh City to accept this form of payment, banks and service providers need to deploy synchronous management solutions. Specifically, it is necessary to increase trust through data security, process transparency and transaction security. At the same time, it is necessary to simplify operations and design a friendly interface to enhance user experience. Emphasizing practical benefits such as speed and convenience also helps increase customers' perceived value. In addition, it is necessary to take advantage of social influence by promoting communication, cooperating with KOLs and building an active user community. Additionally, organizations need to support users to improve their access to technology through consulting, guidance, and technical support. Finally, ensuring consistent service quality, quick response, and effective customer support are key factors to maintain satisfaction and promote digital payment adoption in the current context of strong digital transformation.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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