Journal of Information Systems Engineering and Management
2025, 10(25s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

Developing Inclusive Finance in Vietnam

Le Thi Mai Huong[1], Nguyen Thi Kim Chi[2], Nguyen Ngoc Hien[3], Hoang Trung Kien[4], Nguyen Ba Thanh[5]

[1,2,3]Electric Power University, Hanoi city, Vietnam

[4]HUTECH University, Ho Chi Minh City, Vietnam

[5]University of Finance - Marketing, Ho Chi Minh city, Vietnam

[1]Email: huongltm_qtkd@epu.edu.vn, [2]Email: chintk@epu.edu.vn; [3]Email: hiennn@epu.edu.vn, [4]Corresponding author, Email: ht.kien@hutech.edu.vn; [5]Email: nguyenthanhkcb@ufm.edu.vn

ARTICLE INFO

Received: 28 Dec 2024

Revised: 16 Feb 2025

Accepted: 28 Feb 2025

ABSTRACT

Inclusive financial development has been identified by countries, including Vietnam, as one of the important measures to promote and support individuals and small businesses to borrow capital to develop production, business and consumption, serving the economic and social development of the country and locality. In this study, the author discusses the content of inclusive financial development and two basic factors affecting inclusive financial development, including traditional finance and digital finance. Based on the theoretical framework developed, the author conducted a survey of 400 managers of 200 financial institutions operating in a number of rural areas of Vietnam, including Hoa Binh province (North), Nghe An province (Central), and Bac Lieu province (South). The research results show that inclusive financial development is attracting the participation of a large number of rural people through traditional and digital financial channels; Increasing the level of use of these services not only contributes to increasing accessibility but also promotes the participation of different target groups in rural areas, including adults, women and the poor in the formal financial system. From the results of that study, the author discusses some solutions for sustainable financial inclusion development in Vietnam.

Keywords: Inclusive finance; Access to financial services; Developing Inclusive finance.

INTRODUCTION

Vietnam is a country located in Southeast Asia - a region with a fast-growing and dynamic economy in the world. In 2024, Vietnam's economic growth rate will reach over 7% of GDP (GSO, 2024), ranked among the countries with the highest growth rates in the world, while the global economy is facing many difficulties. The forecast of the International Monetary Fund (IMF, 2024) shows that the global economy in 2024 will only reach an average growth rate of 3.2%, showing that Vietnam's economic growth rate is more than twice as high as the world's growth rate. This impressive growth achievement of Vietnam is the result of many policy solutions to support businesses, improve the investment and business environment, and the dynamism of industries and localities, along with the positive contributions of domestic and foreign enterprises.

One of the sectors that has made an important contribution to the overall growth of the economy is the finance-banking sector. This sector is not only at the forefront of digital transformation, but also pioneers in applying scientific and technological achievements to business and management activities, thereby promoting the development of the economy. In particular, digital initiatives in the banking sector have brought about remarkable progress in providing online financial services, promoting financial inclusion and creating opportunities for all social classes to participate in the formal financial system.

The Financial Inclusion Strategy in Vietnam, which has been implemented since 2021 and is in the implementation phase, has achieved remarkable results after nearly 5 years of implementation. Specific indicators such as the proportion of adults owning bank accounts, the application of financial technology in banking services and people's access to finance have made significant progress (WB, 2023). Although some positive results have been achieved, there are still many challenges that need to be addressed to ensure that financial inclusion truly reaches its full potential, especially in narrowing the financial gap between population groups, especially vulnerable groups such as women, the poor and residents in remote areas.

In this context, research on the development of financial inclusion in Vietnam is more urgent than ever, in order to assess the effectiveness of current financial policies and propose appropriate solutions to promote the participation of all social classes in the formal financial system. This study will examine the factors affecting the development of financial inclusion in Vietnam, especially the role of digital technology and traditional financial services, and assess their impact on people's participation in formal financial services.

2. LITERATURE REVIEW

Financial inclusion plays an important role in promoting sustainable economic development and improving people's quality of life, especially in developing countries like Vietnam. According to the National Financial Inclusion Strategy for the 2021-2025 period and vision to 2030, Vietnam aims to improve access to financial services for all classes of people, with special priority given to vulnerable groups such as women, the poor, ethnic minorities and rural residents (PM, 2020).

Since the early 2000s, Vietnam has issued and implemented the Microfinance Development Strategy. Microfinance models, through the provision of basic financial services such as credit, savings and insurance to groups of people who do not have access to the traditional banking system, have contributed to improving the lives of the poor and supporting community development in rural areas. The successes of microfinance have created a solid foundation for building and implementing the next phase of the financial inclusion strategy (Chung et al, 2018).

Financial inclusion in Vietnam is understood as ensuring that all people, especially vulnerable groups, can access and use safe and effective financial services, including credit, savings, insurance, payments and electronic banking services (PM, 2020). With that goal, financial inclusion policy in Vietnam has been developing strongly, especially in the context of rapidly developing digital technology. Digital banking platforms and financial technology not only reduce transaction costs but also help expand the network of financial services to remote areas, helping to narrow the financial gap between different population groups (Nguyen et al, 2022).

Financial inclusion includes traditional financial services such as credit, savings, insurance and emerging digital financial services with the aim of promoting the participation of all segments of the population in the formal economy. The development of digital finance has become an important factor in promoting financial inclusion in Vietnam, especially in the modern context. Digital technology helps reduce costs and increase access to financial services for groups of people who have difficulty accessing traditional financial services such as the poor, women and residents in rural areas (WB, 2020). Therefore, research on the impact of digital technology and other factors on the development of financial inclusion in Vietnam is essential. Continuing to research and implement financial inclusion strategies and policies will help increase people's participation in the formal economy, especially disadvantaged groups, thereby promoting rapid and sustainable economic development for the country. With the above explanation, the author mentions and analyzes the two most basic contents of financial activities in the current context, which are also two factors that have an impact on comprehensive financial development in Vietnam, including Traditional finance and Digital finance.

TRADITIONAL FINANCE

Traditional finance is a financial system that operates through financial intermediaries including banks, financial institutions, insurance companies, branch systems, etc. and uses payment instruments such as cash, checks, and bank transfers (Barbesino et al., 2005). According to Merton et al. (1995), the operation of the traditional financial system is often limited by physical conditions, infrastructure, and people's access to financial services. In addition, Mishkin (2015) emphasized that traditional finance is the basis of the modern financial system, maintaining economic stability, controlling inflation, and supporting economic growth through monetary and fiscal policies. However, this system also faces limitations such as high transaction costs, limited access to low-income populations, and dependence on the branch network.

The increase in the proportion of adults using bank accounts is a fundamental factor that promotes the development of the financial system. Research by Demirgüç-Kunt et al. (2018) shows that the use of bank accounts not only helps people access financial services such as money transfers, payments and savings, but also plays an important role in reducing the financial gap between population groups. The increase in the proportion of people using bank accounts is directly linked to the development of the formal financial system and the improvement of the quality of financial services (Beck et al., 2007). Klapper et al. (2016) emphasize that expanding access to bank accounts helps promote the development of other financial services such as credit and insurance, thereby promoting economic development. Furthermore, according to Ghosh (2019), participation in the formal banking system helps people protect their personal finances and have the opportunity to participate in modern financial services, thereby improving their living standards and enhancing financial inclusion.

An equally important factor is the rate of people participating in formal savings services, especially saving at financial institutions. Research by Mader et al. (2016) shows that saving not only helps individuals protect their finances in the long term but also promotes economic development by improving financial resources for banks and financial institutions. A high savings rate is a sign that people have access to formal financial services and are actively participating in the financial system (Rhyne, 2015). Furthermore, Demirgüç-Kunt et al. (2018) affirm that participation in formal savings services helps people have access to loans and insurance, thereby creating an inclusive financial ecosystem and promoting sustainable development for the national financial system. Increased savings rates also reflect people's trust in the formal financial system, which helps to strengthen confidence and increase participation in the formal financial system (Sarma, 2008).

Borrowing from formal financial institutions is another important factor in promoting financial system development. Studies by Klapper et al. (2016) and Ghosh (2019) confirm that the proportion of people borrowing from formal financial institutions is increasing and has a great impact on financial development. Access to credit from formal financial institutions helps individuals and businesses overcome financial difficulties and supports economic growth by providing capital for production and consumption. Sahoo et al. (2020) also point out that legal borrowing services from banks and financial institutions help reduce dependence on informal sources of credit and ensure transparency in the financial system. Hossain et al. (2020) argues that formal financial institutions play an important role in improving access to capital for low-income groups and small businesses, thereby contributing to promoting economic development and financial inclusion.

Thus, with the traditional form of finance, people using bank accounts, participating in savings services and borrowing from formal financial institutions not only play an important role in promoting financial inclusion but also contribute to sustainable economic development. Studies have shown that people's participation in the formal financial system has a positive impact on the development of financial services, thereby improving the quality of life and increasing social participation in the financial inclusion ecosystem. Therefore, promoting these factors in Vietnam's financial policy is essential to ensure the sustainable development of the economy in the future.

DIGITAL FINANCE

Digital finance is the application of scientific and technological achievements to financial activities, including electronic payments, digital banking, blockchain technology, artificial intelligence and financial technology platforms to provide faster, more efficient and accessible financial services (Gomber et al., 2017). According to Arner et al. (2016), digital finance is the digital transformation of the financial system, helping to optimize, reduce financial transaction costs, operations and expand access to financial services for low-income people. In addition, Philippon (2019) emphasized that digital finance not only improves the efficiency of the traditional financial system but also promotes innovation through decentralized financial models, bringing transparency and reducing dependence on traditional financial intermediaries.

In the modern context, digital finance has become a key factor promoting the development of financial inclusion. The increased use of digital financial services not only increases access to banking services but also helps narrow the financial gap between population groups, especially those with limited access to traditional finance such as women, the poor and people in rural areas. Digital finance, through services such as e-banking and e-wallets, helps expand access and create new opportunities for people to participate in the formal financial system. Studies in this area have shown that digital finance has a positive impact on the development of financial inclusion and contributes to improving the quality of life of people.

The proportion of adults using digital finance has been increasing significantly, which has a positive impact on the expansion of formal financial services. Studies by Burgess et al. (2005) show that when people use e-banking and e-wallet services, they can access financial services quickly and conveniently, thereby reducing their dependence on informal financial services. Aker et al. (2010) also confirm that digital finance plays an important role in helping people in areas lacking formal financial services access basic financial tools such as money transfers, payments, and savings. Di Castri (2014) emphasizes that digital finance helps improve access to e-banking services, thereby increasing the ability to participate in the formal financial system for people in areas without traditional bank branches. Mazer (2016) points out that digital finance is not simply a replacement for traditional financial transactions but also creates a more flexible and comprehensive platform, helping to increase people's participation in modern financial services.

Digital finance has a particular impact on women, especially those living in rural areas or areas lacking traditional financial services. Research by Demirgüç-Kunt et al. (2013) shows that the use of digital finance by women is increasing, which contributes to narrowing the financial gap between women and men. Suri et al. (2016) assert that digital financial platforms, such as e-wallets and mobile banking, not only help women access financial services but also provide tools to help them manage their personal finances effectively. Leach et al. (2019) show that digital finance helps women reduce their dependence on informal financial sources and provides access to savings and credit services. López et al. (2020) added that digital finance helps women reduce social and cultural barriers, thereby creating a more favorable environment for women to participate in formal financial activities, thereby promoting gender equality in the financial sector.

The poor, especially those living in areas with limited access to traditional financial services, are increasingly gaining opportunities through the use of digital finance. Studies by Ghosh (2019) and Aker et al. (2010) indicate that the use of digital finance by the poor is increasing, especially in developing countries. The use of digital financial services enables the poor to save, borrow, and engage in financial transactions without having to rely on informal financial channels such as black credit, which can bring many financial risks to them. Karlan et al. (2010) demonstrate that digital finance can help the poor access credit services at lower costs and more easily, thereby creating opportunities to improve their quality of life. Narain et al. (2021) also argued that digital financial services help the poor reduce their dependence on informal financial sources and expand financial opportunities for this group.

In summary, digital finance plays a key role in promoting financial inclusion, especially for groups of people who have difficulty accessing traditional financial services such as women, the poor and people in rural areas. Studies have shown that increasing the use of digital financial services not only helps people access financial tools more easily but also contributes to reducing dependence on informal financial channels, thereby promoting participation in the formal financial system. Therefore, developing digital financial platforms and increasing the rate of use of these services is an essential factor to achieve the goal of financial inclusion in Vietnam and globally.

DEVELOPING INCLUSIVE FINANCE

Developing inclusive finance is the process of expanding access to and use of formal financial services by people and businesses, especially disadvantaged groups such as the poor, women and small businesses, to promote sustainable economic growth and reduce inequality (Demirgüç-Kunt et al., 2008). According to the World Bank (2018), financial inclusion is not simply about providing financial services but also ensuring that these services are safe, sustainable, affordable and relevant to the needs of users. This includes access to bank accounts, credit, insurance, digital payments and other financial services. Beck et al (2007) emphasize that financial inclusion plays an important role in narrowing the gap between the rich and the poor, supporting the development of small and medium enterprises, and contributing to the stability of the national financial system.

The use of formal financial services, including bank accounts, savings, borrowing from formal financial institutions and digital finance, has a direct impact on the development of financial inclusion. Studies have shown that increasing the level of use of these services not only contributes to increasing access but also promotes the participation of different groups, including adults, women and the poor, in the formal financial system.

Formal financial institutions play an important role in expanding access to formal financial services, especially for people who do not have bank accounts or have not participated in formal financial services before. Demirgüç-Kunt et al. (2018) argue that increasing the presence of formal finance through the provision of bank accounts and other basic financial services has contributed to expanding the network of access to financial services. Furthermore, studies by Sarma (2008) and Ghosh (2019) emphasize that the development of formal financial institutions helps to reduce financial gaps between regions and populations, thereby promoting financial inclusion. Studies by Klapper et al. (2016) and Sahoo et al. (2020) also pointed out that formal financial services contribute to increasing access to financial services for low-income groups and people in remote areas, thereby promoting their participation in the formal financial system.

Financial institutions not only provide access but also contribute to increasing the level of use of formal financial services, especially in the context of increasingly developed and improved financial services. Studies by Mader et al. (2016) indicate that the increase in the level of use of bank accounts, savings and borrowing from formal financial institutions helps people participate in the formal financial system more frequently, thereby improving the financial sustainability of individuals and households. Klapper et al. (2014) also affirm that formal financial services contribute significantly to improving financial conditions and promoting economic prosperity of local communities. People's participation in formal financial services not only helps them achieve their personal financial goals but also helps improve the efficiency and sustainability of the national financial system.

In the context of increasingly advanced financial technology, the transition from traditional payment methods to digital payments has become an important factor in developing financial inclusion. Formal financial institutions play an essential role in promoting the use of electronic payment methods, e-wallets and digital financial services, making it easier for people to access and use these services. Gomber et al. (2018) argue that increasing the level of digital payments through e-banking platforms not only helps save transaction costs but also improves efficiency and transparency in financial transactions. Moreover, the use of digital financial services is also an important factor in narrowing the financial gap between different population groups, including the poor, women and adults in remote areas (Narain et al. 2016). Studies by Aker et al. (2010), Rhyne (2015), and Zhou et al. (2019) also asserted that digital payments and digital finance have a positive impact on reducing dependence on informal financial channels, promoting financial inclusion, especially for the poor and groups with limited access to traditional financial services.

In summary, the use of bank accounts, savings and borrowing from formal financial institutions, combined with increased use of digital finance, has a strong impact on financial inclusion. Formal financial institutions play an important role in expanding access to financial services for underserved groups, thereby contributing to the sustainable development of the formal financial system and the economy as a whole. Relevant studies have shown that increased use of these financial services not only increases participation in the financial system but also contributes to improving the quality of life and reducing poverty, especially for disadvantaged groups. In the context of Vietnam, based on the above theoretical foundations, the author continues to study the impact of traditional financial services and digital finance on comprehensive financial development and based on the following hypotheses: Traditional finance (H1) and Digital finance (H2) have a positive impact on developing inclusive finance.

Table 1. Summary of theoretical research on developing inclusive finance

Scales	Related research	Content of inheritance and development of research scales
I. Traditional finance (TF)		
1. Bank account usage: The proportion of adults using bank accounts is maintained/increasing, which has a positive impact on financial services development.	Demirgüç-Kunt et al. (2018); Sarma (2008); Klapper et al. (2016); Ghosh et al. (2007); Sahoo et al. (2020)	**TF1.** The proportion of adults with bank accounts is maintained/increasing.
2. Tiết kiệm: Tỷ lệ người dân gửi tiết kiệm tại tổ chức tài chính chính thức được duy trì/ngày càng tăng, có tác động tích cực đến mức độ sử dụng dịch vụ tài chính chính thức.	Demirgüç-Kunt et al. (2018); Mader et al. (2016); Sarma (2008); Rhyne (2015); Ghosh (2019)	**TF2.** Savings: The proportion of people saving at formal financial institutions is maintained/increasing, which has a positive impact on the level of use of formal financial services.
3. Borrowing: The rate of borrowing from formal financial institutions, maintained/increasing, positively impacts the development of financial services.	Klapper et al. (2016); Gomber et al. (2018); Demirgüç-Kunt et al. (2018); Sahoo et al. (2020); Hossain et al. (2020)	**TF3.** Borrowing rate from formal financial institutions, maintained/increasing.
II. Digital finance (DF)		
4. Adults: The proportion of adults using digital finance is maintained/increasing, positively impacting financial services development - positively impacting the level of access to formal financial services, giving them easier access to e-banking and e-wallet services.	Burgess et al (2005); Di Castri (2014); Klapper et al. (2014); Aker et al (2010); Mazer (2016)	**DF1.** The proportion of adults using digital finance is maintained/increasing; they have easier access to e-banking and e-wallet services.
5. Women: The rate of women using digital finance is maintained/increasing, positively impacting the development of financial services - positively impacting the narrowing of the financial gap between women and men, especially for groups of women in rural areas or areas with difficult access to traditional financial services.	Demirgüç-Kunt et al. (2013); Suri et al. (2016); Leach et al. (2019); López et al. (2020)	**DF2.** The proportion of women using digital finance is maintained/increasing; the financial gap between women and men is narrowed.
6. Poor: The proportion of poor people using digital finance is maintained/increasing, which has a positive impact on their ability to save, borrow, and reduce their dependence on informal financial channels.	Ghosh (2019); Aker et al. (2010); Karlan et al. (2010); Narain et al. (2021)	**DF3.** The proportion of poor people using digital finance is maintained/increasing, reducing dependence on informal financial channels.
III. Developing inclusive finance (DIF)		
7. Inclusive finance increases access to financial services	Demirgüç-Kunt et al. (2018); Sarma (2008); Klapper et al. (2016); Sahoo et al. (2020); Ghosh (2019); Mader et al. (2016)	**DIF1.** People use bank accounts widely and have easy access to financial services; access to formal financial services is higher.
8. Inclusive finance increases the use of financial services	Mader et al. (2016); Sarma (2008); Klapper et al. (2016); Ghosh (2019); Demirgüç-Kunt et al. (2018)	**DIF2.** The majority of people have bank accounts, savings accounts and loans through formal channels; participation in the formal financial system is increasing.
9. Inclusive finance increases digital payments	Gomber et al. (2018); Narain et al. (2016); Zhou et al. (2019); Rhyne (2015); Mader et al. (2016)	**DIF3.** People use financial services widely; digital payments are growing and becoming more popular.
10. Inclusive finance creates opportunities to increase	Sarma (2008);	**DIF4.** People participate in financial

savings at formal financial institutions	Mader et al. (2016); Ghosh (2019)	transactions in the formal financial system regularly and safely; the level of savings at formal financial institutions grows steadily.

Source: Compiled by the author through the review

With the content of inheriting and developing the above theoretical research, the author has built a research model on comprehensive financial development and factors affecting comprehensive financial development, including 3 scales: "Traditional Finance" scale, "Digital Finance" scale (02 scales/independent variables) and "Comprehensive Financial Development" scale (01 scale/dependent variable). The above scales include 10 observed variables, designed by the author into 10 questions in the survey form and measured by a 5-level Likert scale: 1 - Strongly disagree; 2 - Disagree; 3 - No opinion; 4 - Agree; 5 - Strongly agree [Table 1, Figure 1].

Research model

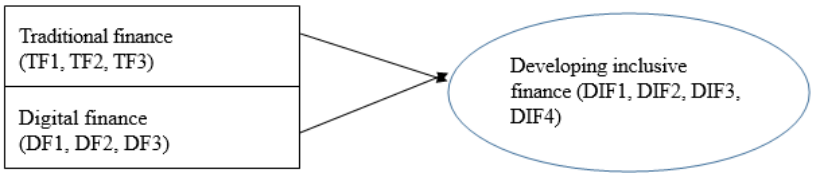

Figure 1. Research model

3. RESEARCH METHODS

In this study, the author uses a combination of qualitative and quantitative methods to analyze and evaluate the practical policies to support small business development in Vietnam and the employment and income of the poor. The author conducts qualitative research through collecting and analyzing secondary documents to build a theoretical framework and research model; quantitative research through practical surveys to verify the theoretical framework and research model. The survey to collect primary data is conducted in two steps: Preliminary survey and official survey.

- Preliminary survey: The research model was built with 03 scales with a total of 10 observed variables and the minimum sample size required for exploratory factor analysis and regression analysis for this research model is N = 10*5 = 50 (Hair, J.F. et al., 2009). After designing and completing the survey, the author conducted a preliminary survey with a sample size of N = 100 (N > 50) managers of 200 financial institutions in Hoa Binh province. The results of the preliminary survey in Hoa Binh province showed that the scales and observed variables are reliable enough to be used in an official survey on a larger scale.

- Official survey: The author conducted a field survey with a sample size of N = 400 (N > 50) managers of 200 financial institutions operating in some rural areas of Vietnam, including Hoa Binh province (North), Nghe An province (Central), Bac Lieu province (South). The survey subjects were selectively identified, those who had worked and had management experience in the financial sector for 2 years or more. The author conducted preliminary interviews to collect information and distributed survey forms based on the consent of the respondents. The survey results collected 400/400 valid responses, achieving a response rate of 100%.

4. RESEARCH RESULTS AND DISCUSSION

With data collected from 400 survey forms, the author conducted scale testing, exploratory factor analysis, and regression analysis to test the model, assess the relationship between the scales, and draw research conclusions. In quantitative research, scales are reliable when meeting the standard condition of Cronbach's alpha > 0.6; observed variables are reliable when meeting the standard condition of Corrected Item-Total Correlation > 0.3 (Hair, J.F. et al., 2009). The test results show that all 3 scales and 10 observed variables in the initial research model are reliable enough to conduct further analysis (Table 2).

Table 2. Statistical results and testing results of the scale

Scales	Observed variables	N	Min	Max	Mean	Std. Deviation	Cronbach' Alpha	Corrected Item-Total Correlation
1. Traditional Finance (TF)	TF1	400	1	5	4.18	.578	.686	TF1 = .563
	TF2	400	2	5	4.02	.611		TF2 = .477
	TF3	400	2	5	4.05	.635		TF3 = .502

Scales	Observed variables	N	Min	Max	Mean	Std. Deviation	Cronbach' Alpha	Corrected Item-Total Correlation
2. Digital Finance (DF)	DF1	400	1	5	4.01	.595	.647	DF1 = .462
	DF2	400	1	5	3.97	.622		DF2 = .439
	DF3	400	1	5	3.95	.631		DF3 = .415
3. Developing inclusive finance (DIF)	DIF1	400	2	5	4.12	.653	.643	DIF1 = .551
	DIF2	400	2	5	4.03	.581		DIF2 = .495
	DIF3	400	1	5	3.99	.607		DIF3 = .398
	DIF4	400	1	5	3.98	.619		DIF4 = .423
Valid N (listwise)		400						

Source: Author's survey results

Data in Table 2 shows that observations on the "Traditional Finance" (TF) scale, the "Digital Finance" (DF) scale and the "Developing inclusive finance" (DIF) scale are all rated at an average level of Mean > 3.95, which is statistically significant according to the determined Likert scale (1-5). However, the observed variables of the "Digital Finance" (DF) scale are rated at a lower level than the "Traditional Finance" (TF) scale: Mean (DF1) = 4.01, Mean (DF2) = 3.97, Mean (DF3) = 3.95, showing that there are still many people who have not participated/participated in limited digital financial transactions. Of which, the lowest is Mean (DF2) = 3.97 and Mean (DF3) = 3.95, confirming that the rate of women and the rate of poor people using digital finance is low; There is a gap in the rate of digital financial transactions between women and men; dependence on traditional financial channels and informal financial channels remains significant.

The above data analysis results also contribute to demonstrating that people, especially women and the poor, have limited knowledge, digital skills and knowledge, digital financial transaction skills to access e-banking services and e-wallets more easily. The survey results also reflect the current status of people's participation in comprehensive financial activities in Vietnam, quite similar to the content of the assessment of Vietnam's socio-economic situation through the official channels of government agencies, local authorities and through a number of related studies. According to Dao, H.Q. (2024), by 2022, 40 banks had officially implemented the eKYC payment account opening process with more than 11.9 million active eKYC payment accounts; 22 banks had officially implemented the eKYC card opening process with nearly 10.8 million active eKYC cards; By June 2023, the State Bank has coordinated with the Ministry of Public Security to complete the authentication of more than 25 million customer credit information with the National Population Database (while Vietnam's current population is 100 million people). Research by Dao, H.Q. (2024) also confirmed that policies in the field of electronic payments are still incomplete and inconsistent; cash payments still account for a large proportion; Vietnam is a predominantly cash-based economy, more than 70% of the population is not part of the banking ecosystem, and access to financial information is limited. Therefore, the use of cash is still quite common in people's civil transactions and this becomes more common in rural, remote and isolated areas. Even in e-commerce transactions, electronic payments are still low, most people make purchases by paying in cash upon receipt. The main reason is that the habit of spending cash is ingrained in people's subconscious; digital knowledge and skills in financial transactions are limited; psychological apprehension when approaching new payment technology, as well as concerns about security when shopping online and costs when using electronic payment methods.

From the results of reliability testing of the scales and observed variables, the author has the basis to conduct exploratory factor analysis to test the initial theoretical research model. Exploratory factor analysis with Varimax rotation is performed to preliminarily assess the unidimensionality, convergent validity, and discriminant validity of the scales to have more basis for drawing research conclusions about the suitability of the proposed theoretical research model. The results of exploratory factor analysis are shown in Table 3 and Table 4 below.

Table 3. Total Variance Explained

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.796
Bartlett's Test of Sphericity	Approx. Chi-Square	1989.350
	df	36
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.569	39.659	39.659	3.569	39.659	39.659	2.780	30.885	30.885
2	2.881	32.015	71.674	2.881	32.015	71.674	2.680	29.773	60.658
3	1.101	12.236	83.911	1.101	12.236	83.911	2.093	23.253	83.911
4	.560	6.002	86.365						
5	.487	5.414	89.325						
6	.408	4.529	93.854						
7	.195	2.172	96.026						
8	.175	1.942	97.967						
9	.126	1.399	99.366						
10	.057	.634	100.000						

Extraction Method: Principal Component Analysis.

Source: Author's survey results

Table 4. Rotated Component Matrix

Rotated Component Matrix[a]				
Scales	Observed variables	Component		
		1	2	3
Traditional Finance (TF)	TF1	.806		
	TF2	.783		
	TF3	.791		
Digital Finance (DF)	DF1		.792	
	DF2		.767	
	DF3		.778	
Developing inclusive finance (DIF)	DIF1			.794
	DIF2			.785
	DIF3			.721
	DIF4			.728

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Source: Author's survey results

In quantitative research, exploratory factor analysis is performed in accordance with the data set through the values: 0.5 ≤ KMO ≤ 1; Bartlett's test has an observed significance level Sig. < 0.05; Eigenvalue ≥ 1; Total Variance Explained ≥ 50%; Factor Loading ≥ 0.5 (Hair, J.F. et al., 2009). The data in Table 3 and Table 4 show that:

- KMO = 0.814 > 0.5, confirming that exploratory factor analysis is appropriate for the data set; Bartlett's test has an observed significance level Sig. = 0.000 < 0.05, showing that the observed variables have a linear correlation with the representative factor. Total Variance Explained with Cumulative % = 83.911% > 50% (Table 3), showing that 83.911% of the variation of the representative factors is explained by the observed variables; the observed variables all have Factor Loading > 0.5 (Table 4), showing that the observed variables have good statistical significance. The theoretical research model initially proposed is consistent with the survey research practice.

- The observed variables are extracted into 03 factors corresponding to the 03 initial factors with Eigenvalues > 1 (Table 3), continuing to confirm the suitability of the initial research model. And the initial research model is kept intact, including: 02 independent variables "Traditional Finance" (TF), "Digital Finance" (DF) and 01 dependent variable "Developing inclusive finance" (DIF) with a total of 10 observed variables with good statistical significance, which can perform multivariate linear regression analysis to examine the relationship of the variables in the model. The results of the regression analysis are shown in Table 5, which is the basis for the author to draw research conclusions.

Table 5. Multivariate regression results

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std. Error	Beta			
1 (Constant)	1.039	.182		14.585	.000	
Traditional Finance (TF)	.578	.322	.484	11.564	.000	1.815
Digital Finance (DF)	.351	.297	.376	9.827	.000	1.815

a. Dependent Variable: Developing inclusive finance (DIF) Adjusted R Square: 0.748; Durbin-Watson: 2.102

Source: Author's survey results

The data in Table 5 shows that:

+ R Square = 0.748, confirming that the scales "Traditional Finance" (TF), "Digital Finance" (DF) explain 74.8% of the variation in the scale "Developing inclusive finance" (DIF); VIF = 1.815 (1 < VIF < 2), showing that the regression model does not have multicollinearity; Durbin-Watson = 2.102 (1 < d < 3), showing that the regression model does not have autocorrelation, confirming that the scales "Traditional Finance" (TF), "Digital Finance" (DF) are independent and have the same impact on the scale "Developing inclusive finance" (DIF), confirming the suitability of the theoretical research model with the survey data set.

+ The regression coefficients of the two independent variables "Traditional Finance" (TF), "Digital Finance" (DF) are both statistically significant Sig. = 0.000 (Sig. < 0.05) and have positive values: B(TF) = 0.578 and B(DF) = 0.351, confirming the positive relationship between the two independent variables "Traditional Finance" (TF), "Digital Finance" (DF) and 01 dependent variable "Developing inclusive finance" (DIF); hypotheses H1, H2 are accepted; the initial research model continues to be confirmed to be appropriate.

Based on the generalized regression model of Hair, J.F. et al. (2009): Y = Bo + B1*X1 + B2*X2 + ... + Bi*Xi, the author determined the multivariate regression model of this study as follows:

$$DIF = 1.039 + 0.578*TF + 0.351*DF$$

Based on the standardized regression coefficient (Beta), it can be seen that the correlation level of the independent variables and the dependent variables in ascending order is: "Traditional Finance" (TF) and "Digital Finance" (DF). That contributes to further affirming the empirical research results in Vietnam: Human resource development is an important content that determines the success of socio-economic activities in general. In this case, developing social human resources with digital knowledge and skills is an important content that determines the success of the strategic goals of economic development and comprehensive financial development in Vietnam. However, to successfully implement the strategies, many synchronous policy solutions from the Government, local authorities, the participation of businesses, organizations and people are needed. Specifically:

- Firstly, localities should strengthen propaganda and communication on digital economy and digital finance, including the roles, benefits and risks, especially for economic activities in the digital space. This helps people and businesses have full information, proactively participate in business activities in compliance with the law, exploit potential economic benefits and avoid being deceived or participating in illegal business activities.

- Second, the Government and localities need to issue mechanisms and legal regulations to protect risks for customers and businesses when participating in digital economic and digital financial activities, thereby helping people and businesses participate more actively in digital economic and digital financial activities.

- Third, government agencies, local authorities and public sector agencies and organizations need to take the lead and pioneer in providing and using digital economic and digital financial services to enhance transparency in management and operation activities, contribute to improving the quality of public services, create ways and habits for people and businesses to access and use digital economic and digital financial services conveniently and easily.

- Fourth, the Government and localities need to increase investment and infrastructure development for the digital economy and digital finance in rural areas and areas with difficult transportation to help financial intermediaries and businesses deploy and develop digital financial services and digital business activities.

- Fifth, encourage financial institutions to pilot financial service products on new technology platforms, diversify products, and combine with the provision of non-financial products to increase the efficiency of providing and using financial services.

- Sixth, strengthen the work of promoting financial education for people, integrate financial education programs into training programs at all levels and grades to equip students with financial knowledge from the time they are still in school.

REFERENCES

[1] Aker, J. C., & Mbiti, I. M. (2010). Mobile phones and economic development in Africa. *Journal of Economic Perspectives, 24*(3), 207-232. https://doi.org/10.1257/jep.24.3.207

[2] Arner, D. W., Barberis, J. N., & Buckley, R. P. (2016). The evolution of fintech: A new post-crisis paradigm? *Georgetown Journal of International Law, 47*(4), 1271–1319.

[3] Barbesino, P., Camerani, R., & Gaudino, A. (2005). Digital finance in Europe: Competitive dynamics and online behaviour. *Journal of Financial Services Marketing*, 9(4), 329-343.

[4] Beck, T., Demirguc-Kunt, A., & Levine, R. (2007). Finance, inequality, and poverty: Cross-country evidence. *Journal of Economic Growth*, 12(1), 27-49. https://doi.org/10.1007/s10887-007-9010-6

[5] Burgess, R., & Pande, R. (2005). Do rural banks matter? Evidence from the Indian social banking experiment. *American Economic Review, 95*(3), 780-795. https://doi.org/10.1257/0002828054201333

[6] Chung, T. T.; Hoang, D. T. (2018). "Microfinance and its role in economic development in Vietnam". *Journal of Economics and Development*, 24(5), 76-83

[7] Dao, H.Q. (2024). "Developing electronic payment in the process of transforming the digital economy in Vietnam today". *Journal of Economic and Forecast*, address https://kinhtevadubao.vn/phat-trien-thanh-toan-dien-tu-trong-qua-trinh-chuyen-doi-nen-kinh-te-so-tai-viet-nam-hien-nay-28135.html#:~:text=L%C3%A0%20m%E1%BB%99t%20trong%20nh%E1%BB%AFng%20n%E1%BB%81n,PWC%20Vi%E1%BB%87t%20Nam%2C%202021).

[8] Demirguc-Kunt, A., Klapper, L. F., & Singer, D. (2018). Financial inclusion and inclusive growth: A review of recent evidence. *World Bank Research and Policy Briefs*. https://doi.org/10.1596/1813-9450-9190

[9] Demirgüç-Kunt, A., Klapper, L. F., & Singer, D. (2013). Financial inclusion and legal discrimination against women: Evidence from developing countries. *World Bank Policy Research Working Paper No. 6416*. World Bank. https://doi.org/10.1596/1813-9450-6416

[10] Demirgüç-Kunt, A., Beck, T., & Honohan, P. (2008). *Finance for all? Policies and pitfalls in expanding access*. World Bank.

[11] Di Castri, S. (2014). *The role of mobile money in financial inclusion and economic development*. *World Bank Group*. https://www.worldbank.org/en/topic/financialinclusion

[12] Ghosh, A. (2019). Financial inclusion in the digital era: Evidence from South Asia. *Journal of Development Economics*, 137, 34-47. https://doi.org/10.1016/j.jdeveco.2018.11.004

[13] Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). Digital financial services and the future of finance: A review and research agenda. *Journal of Business Research*, 93, 1-10. https://doi.org/10.1016/j.jbusres.2018.01.013

[14] Gomber, P., Koch, J. A., & Siering, M. (2017). Digital finance and fintech: Current research and future research directions. *Journal of Business Economics, 87*(5), 537-580.

[15] GSO - General Statistics Office (2024). Press release on socio-economic situation in the fourth quarter and year 2024, address https://www.gso.gov.vn/du-lieu-va-so-lieu-thong-ke/2025/01/thong-cao-bao-chi-tinh-hinh-kinh-te-xa-hoi-quy-iv-va-nam-2024/

[16] Hossain, M. A., & Ahmed, S. (2020). The role of financial inclusion in poverty reduction: Evidence from Bangladesh. *International Journal of Finance & Economics*, 25(4), 460-471. https://doi.org/10.1002/ijfe.1820

[17] IMF - International Monetary Fund (2024). "World Economic Outlook: Policy Pivot, Rising Threats", address https://www.imf.org/-/media/Files/Publications/WEO/2024/October/English/text.ashx

[18] Quỹ tiền tệ quốc tế (2024). "World Economic Outlook: Policy Pivot, Rising Threats", địa chỉ https://www.imf.org/-/media/Files/Publications/WEO/2024/October/English/text.ashx

[19] Klapper, L. F., El-Zoghbi, M., & Hess, J. (2016). Achieving the dream: The impact of financial literacy and financial inclusion on financial behavior. *World Bank Group Report*. https://doi.org/10.1596/1813-9450-7432

[20] Klapper, L. F., & Singer, D. (2014). Financial inclusion and development: Recent impact evidence. *World Bank Policy Research Working Paper No. 7255*. World Bank. https://doi.org/10.1596/1813-9450-7255

[21] Karlan, D., & Zinman, J. (2010). Expanding credit access: Using randomized supply decisions to estimate the impacts. *Review of Financial Studies, 23*(1), 139-169. https://doi.org/10.1093/rfs/hhp004

[22] Leach, F., & Sitaram, S. (2019). The role of financial inclusion in promoting gender equity in the global South. *Feminist Economics, 25*(3), 20-40. https://doi.org/10.1080/13545701.2019.1673171

[23] López, L., & Rodríguez, M. (2020). Financial inclusion, digital finance and gender: A review of the literature. *Journal of Development Studies, 56*(5), 855-870. https://doi.org/10.1080/00220388.2019.1685175

[24] Mader, P., Singh, K., & Seibel, H. D. (2016). The role of microfinance in financial inclusion: Evidence from developing countries. *Journal of Development Economics*, 118, 47-66. https://doi.org/10.1016/j.jdeveco.2015.11.003

[25] Mazer, R. (2016). Financial inclusion and the role of digital financial services in Africa. *Development Policy Review, 34*(2), 175-191. https://doi.org/10.1111/dpr.12235

[26] Merton, R. C., & Bodie, Z. (1995). A conceptual framework for analyzing the financial environment. In Crane, D. B., Froot, K. A., Mason, S. P., Perold, A. F., & Sirri, E. R. (Eds.), *The global financial system: A functional perspective* (pp. 3-31). Harvard Business School Press.

[27] Mishkin, F. S. (2015). *The Economics of Money, Banking and Financial Markets* (11th ed.). Pearson Education.

[28] Nguyen, M. T.; Phan, H. L. (2022). "Financial technology and its impact on financial inclusion in Vietnam". *Journal of Banking*, 19(4), 45-56.

[29] Narain, S., & Brown, M. (2021). Digital financial services for the poorest: Evidence from the field. *Journal of Development Economics, 148*, 102537. https://doi.org/10.1016/j.jdeveco.2021.102537

[30] Narain, R., Keeble, S., & Giesbers, J. (2016). Digital financial services: The potential and challenges of mobile payments. *International Journal of Bank Marketing*, 34(7), 1046-1061. https://doi.org/10.1108/IJBM-09-2015-0118

[31] Philippon, T. (2019). The fintech opportunity. *Brookings Papers on Economic Activity, 2019*(Spring), 107-182.

[32] PM - Prime Minister (2020). "Decision No. 149/QD-TTg of the Prime Minister approving the National Financial Inclusion Strategy to 2025, with a vision to 2030", address https://chinhphu.vn/?pageid=27160&docid=198928&tagid=6&type=1

[33] Rhyne, E. (2015). Microfinance and the future of financial inclusion: A global perspective. *World Development*, 71, 1-9. https://doi.org/10.1016/j.worlddev.2014.12.002

[34] Sahoo, P., Patra, M., & Mohanty, B. (2020). Financial inclusion and its impact on economic growth: Evidence from BRICS countries. *International Journal of Financial Studies*, 8(2), 28. https://doi.org/10.3390/ijfs8020028

[35] Sarma, M. (2008). Index of financial inclusion. *IGIDR Working Paper No. 2008-05*. https://www.igidr.ac.in/pdf/publication/WP-2008-05.pdf

[36] Suri, T., & Jack, W. (2016). The long-run poverty and gender impacts of mobile money. *Science, 354*(6317), 1288-1292. https://doi.org/10.1126/science.aaf6572

[37] Zhou, T., Lee, M. K., & Lee, J. K. (2019). The impact of financial literacy on e-commerce adoption. *Journal of Electronic Commerce Research*, 20(2), 79-96.

[38] WB-World Bank (2023). The Little Data Book on Financial Inclusion 2022. https://openknowledge.worldbank.org/server/api/core/bitstreams/a57b273f-12e1-5b10-89e2-d546f2ea7125/content

[39] WB-World Bank. (2020). *Vietnam: Financial Inclusion and Digital Payments*. World Bank Group. Retrieved from www.worldbank.org.

[40] WB-World Bank. (2018). *The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution*. World Bank Publications.