International Journal of Education, Business and Economics Research (IJEBER)

ISSN: 2583-3006

Vol. 6, Issue 5, September-October 2026, pp 58-74

To cite this article: Dinh The Hung, Le Anh Thu and Do Bao Cuong (2026). The Impact Of Fintech And Digital Financial Literacy On Financial Inclusion: Evidence From Vietnam. International Journal of Education, Business and Economics Research (IJEBER) 6 (5): 58-74

THE IMPACT OF FINTECH AND DIGITAL FINANCIAL LITERACY ON FINANCIAL INCLUSION: EVIDENCE FROM VIETNAM

Dinh The Hung, Le Anh Thu and Do Bao Cuong

[1]National Economics University
[23]Hanoi – Amsterdam High School for the Gifted, Hanoi, Vietnam

https://doi.org/10.59822/IJEBER.2026.6504

ABSTRACT

This paper examines the impact of Fintech Adoption (FT) and Digital Financial Literacy (DFL) on Financial Inclusion (FI) in Vietnam - a developing economy experiencing rapid financial digitalization alongside persistent disparities in financial access across regions and population groups. Drawing on a combined theoretical framework integrating the Technology Acceptance Model (TAM), Diffusion of Innovation Theory (DOI), and Financial Inclusion Theory, the study develops and tests a linear regression using primary survey data. The results will provide empirical evidence on the simultaneous role of fintech usage and digital financial literacy in expanding access to and use of formal financial services in Vietnam, with policy implications for policymakers and fintech enterprises.

KEYWORDS: Fintech; Financial Inclusion; Digital Financial Literacy; SEM; Vietnam.

© The Authors 2026
Published Online: September 2026

Published by International Journal of Education, Business and Economics Research (IJEBER) (https://ijeber.com/) This article is published under the Creative Commons Attribution (CC BY 4.0) license. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this license may be seen at: http://creativecommons.org/licences/by/4.0/legalcode

1.0 INTRODUCTION

Over the past decade, the rapid growth of financial technology (Fintech) has profoundly reshaped how financial services are provided and accessed worldwide. Solutions such as e-wallets, mobile banking, peer-to-peer lending (P2P lending), and digital payments not only reduce transaction costs but also remove geographical barriers, which are among the greatest obstacles for populations underserved by traditional banking (Miftari et al., 2026; Olaoye et al., 2025). Financial inclusion - the ability of individuals and businesses to access and use appropriate financial services - has been identified by the United Nations and the World Bank as one of the most important Sustainable Development Goals, with fintech expected to serve as a key lever for achieving this objective.

In Vietnam, the fintech ecosystem has developed rapidly, with more than 200 companies operating in payments, digital credit, and asset management. The proportion of adults with an account at a

financial institution increased from 31% in 2014 to 69% in 2021 (World Bank Global Findex, 2021); however, significant gaps remain between urban and rural areas and across income and education groups. This raises the question: is fintech truly capable of narrowing these gaps, or are additional conditions needed to maximize its effectiveness?

An important factor often overlooked in studies of fintech and financial inclusion is Digital Financial Literacy (DFL). Parayitam (2024) and Sharma &Priya (2025) show that even when technology is available, users who lack knowledge of how to use digital services, do not know how to avoid fraud risks, and cannot compare suitable financial products are still unable to fully exploit the potential of fintech. However, in Vietnam, quantitative studies examining both fintech usage and digital financial literacy simultaneously in relation to financial inclusion remain very limited.

This study aims to fill this gap through three specific objectives: (1) to assess the impact of fintech usage on financial inclusion in Vietnam; (2) to measure the impact of digital financial literacy on financial inclusion; and (3) to compare the relative effects of these two factors to provide scientific evidence for policymakers and fintech enterprises in designing effective strategies to expand financial inclusion in Vietnam.

2.0 LITERATURE REVIEW

Fintech and financial inclusion are two closely related topics that have received growing attention in the international academic literature, particularly during the 2024–2026 period.

Regarding the impact of fintech on financial inclusion, Miftari et al. (2026) studied 89 developing economies over 2011–2021 using Random Effects and GMM models and confirmed that fintech was the most influential factor affecting the share of the population holding formal financial accounts. They also found that education and institutional quality amplify the impact of fintech. Ocharive&Iworiso (2024) adopted a more multidimensional approach, measuring financial inclusion across four dimensions (account access, mobile money, electronic payments, and credit), and concluded that mobile money and electronic payments were the digital services with the largest and most equitable effects on financial inclusion. Olaoye et al. (2025) applied System GMM with a composite financial inclusion index constructed using PCA across 28 emerging economies, distinguishing the “access” and “usage” dimensions of financial inclusion, and found that the effect of fintech varies across geographical regions, with Latin America being a notable exception.

Kamara & Yu (2024) analyzed panel data from 22 Sub-Saharan African countries using PCA and GMM and found a notable result: fintech has a negative effect on the geographical and usage dimensions of traditional financial inclusion, but a positive effect on the demographic dimension and the composite index. This suggests that fintech is creating a new model of financial inclusion that substitutes for rather than complements the traditional banking system. Azmeh& Al-Raeei (2024) examined the two-way relationship between fintech and financial inclusion using simultaneous equations and concluded that the two factors are complementary rather than substitutive and jointly contribute positively to economic growth.

 Copyright © The Author, All rights reserved

Regarding the role of DFL, Parayitam (2024) tested an extended TAM model on 608 fintech users in India using PLS-SEM and found that DFL plays an important mediating role between fintech usage and financial inclusion, while Perceived Regulatory Support has a moderating role. Sharma &Priya (2025) applied UTAUT and IT Mindfulness theory to study the impact of AI features in fintech on 469 users in India, confirming that fintech has direct effects on financial well-being and financial inclusion, with technophobia acting as an important moderating barrier.

Ha, Le & Nguyen (2025) conducted a bibliometric analysis and systematic review of 96 articles from WoS, Scopus, and EBSCO, identifying three main research clusters (new services, market transformation, and stakeholder roles) and four remaining research gaps, including a shortage of empirical evidence from developing markets outside Asia. Lye et al. (2025) reviewed 185 articles on fintech, financial inclusion, and vulnerable groups and identified research gaps concerning cybersecurity, older adults, and people with disabilities in the digital financial ecosystem.

International studies show that Fintech plays an important role in modernizing financial systems. Dao Ha, Mai Nguyen, Kim Nguyen, and Ahmet Şensoy (2025), in their study of ASEAN countries, used Fintech indicators such as mobile-phone use for bill payments, payment transactions, and money transfers. The results show that Fintech has developed strongly in ASEAN, but the level of development differs across countries depending on policies, infrastructure, and each country's socioeconomic characteristics. This indicates that Fintech has the potential to reshape people's access to financial services.

Khatri, Idrees, and Sultan (2025) further confirmed the role of Fintech through an empirical study in Pakistan. The results show that using Fintech platforms expands access to formal financial services while enabling users to conduct financial transactions more conveniently and efficiently. However, the authors also argue that the impact of Fintech cannot be fully realized if users lack digital financial knowledge.

Other studies approach the topic from the perspective of financial stability. Saidi (2026) combined FE, Driscoll-Kraay, GMM, and Quantile Regression across 30 countries and concluded that financial inclusion has a consistent effect on banking stability across all methods, while the effect of fintech depends on the measurement model and is stronger in countries with weaker financial systems. Zheng et al. (2025) proposed the concept of FCFI (Fintech-Centric Financial Inclusion) and tested it on 660 banks in 40 developing countries, demonstrating that FCFI reduces all three types of banking risk (default risk, leverage risk, and loan-portfolio risk). In addition, Jena (2025) combined PLS-SEM and fsQCA in rural India and found that no single factor is sufficient to promote fintech adoption; rather, a configuration of conditions is required, making an important methodological contribution concerning nonlinearity in digital finance research.

Overall, international studies have established a positive relationship between fintech and financial inclusion while emphasizing the increasingly important role of digital financial literacy. However, most studies focus on Africa and South Asia; evidence from Southeast Asia, particularly Vietnam - with its distinctive digital infrastructure and demographic structure - remains very limited.

 Copyright © The Author, All rights reserved

In Vietnam, research on fintech and financial inclusion remains at an early stage, primarily approaching the topic from the perspectives of banking stability and individual financial behavior.

Nguyen Hong Yen & Nguyen Van Hai (2024) examined the impact of fintech firms on the stability of 26 Vietnamese commercial banks during 2016–2022 using panel data and GMM. The results show that the number of fintech firms has a positive effect on the Z-score (banking stability), while total investment capital and fintech transaction value have short-term negative effects, reflecting a U-shaped nonlinear relationship between fintech and financial stability - the first empirical study of this topic in Vietnam. This study provides indirect evidence that fintech is reshaping Vietnam's financial ecosystem, although it does not directly measure its impact on financial inclusion.

Several previous studies have demonstrated that Fintech has a positive impact on financial inclusion. Dao Hong Nhung, Tran Thanh Thu, and Nguyen Minh Tuan (2020) examined the impact of Fintech on financial inclusion across multiple countries and found that Fintech development promotes financial inclusion, particularly in lower-middle-income countries, including Vietnam. The study emphasizes that a supportive Fintech ecosystem, including entrepreneurship and innovation, is an important factor in increasing financial coverage.

A study published in the Journal of Economics and Development (2025) analyzed the impact of fintech and financial literacy on the financial well-being of Vietnamese people working abroad, using survey data from 626 fintech users and PLS-SEM analysis. A notable result is that financial literacy affects financial well-being entirely through the mediating role of fintech usage (full mediation), whereas formal financial education (Financial Socialization) has a direct effect without operating through fintech - clearly distinguishing the two foundations of personal finance and making a valuable contribution to research on digital financial behavior in Vietnam.

Overall, domestic studies have focused heavily on banking-system stability and the financial behavior of specific population groups, while quantitative studies simultaneously measuring the effects of fintech usage and DFL on financial inclusion on a broad scale in Vietnam remain scarce. In addition, the rapid development of digital payment platforms, e-wallets, and digital banking in recent years has significantly changed the financial behavior of Vietnamese people. Therefore, reassessing the roles of Fintech and DFL in promoting financial inclusion is necessary to provide additional empirical evidence for policymakers and financial institutions. This gap provides the theoretical foundation for the present study.

3.0 THEORETICAL FRAMEWORK

3.1. Overview of Financial Inclusion

Financial inclusion is defined by the World Bank as the ability of individuals and businesses to access and use formal financial products and services at reasonable costs, provided in a responsible and sustainable manner (World Bank, 2021). Financial inclusion is measured along two dimensions: access - the availability of financial service infrastructure, and usage - the extent to which people actually use these services (Olaoye et al., 2025).

 Copyright © The Author, All rights reserved

Financial inclusion has several characteristics:

- Access: Everyone has the ability to access and use financial services.
- Affordability: Financial products and services have appropriate costs, ensuring that cost does not become a barrier for users.
- Frequency of use: Customers use financial services regularly.
- Quality: Financial service providers are licensed and supervised by competent state authorities and operate safely, efficiently, and responsibly.

3.2. Overview of Fintech

Fintech is financial technology, referring to the combination of finance and technology to create new products and services in the financial and banking sector based on information and telecommunications technologies, with the aim of improving or replacing traditional financial services through digital platforms. Fintech encompasses many services such as Mobile Banking, Internet Banking, e-wallets, QR Payment, Blockchain, AI in finance, and peer-to-peer lending (P2P Lending). Key characteristics of fintech include:

- For businesses, Fintech has removed gaps and barriers between financial companies, allowing smaller companies to access financial services similar to those available to larger companies.
- For users, Fintech provides a wider and more diverse range of financial services, including services for customers who are underserved by traditional financial models.
- Innovation: Fintech continuously creates new business models and financial products to improve the customer experience.
- Digital technology adoption: Fintech relies on technologies such as AI, Big Data, Blockchain, Cloud Computing, and the Internet of Things to provide financial services.
- High accessibility: Fintech services can be used anytime and anywhere through digital platforms.
- Low cost and efficiency: Fintech reduces transaction and operating costs compared with traditional financial services.
- Fast processing: Payment transactions, money transfers, and data processing are carried out almost in real time.

Fintech plays a dual role in promoting financial inclusion: (1) it reduces the cost of providing financial services, thereby expanding access to excluded populations; and (2) through convenience and personalization, it encourages people to use services more frequently, thereby expanding the usage dimension (Azmeh& Al-Raeei, 2024; Ocharive&Iworiso, 2024).

3.3. Overview of Digital Financial Literacy

DFL is the ability to find, understand, evaluate, and use digital financial services safely, effectively, and responsibly. DFL combines traditional financial literacy and digital competency, including the ability to understand and use digital financial services; compare and select appropriate financial products; recognize risks and protect personal information; and plan personal finances using digital tools (Parayitam, 2024).

 Copyright © The Author, All rights reserved

DFL not only directly affects financial inclusion but also plays a mediating role in the relationship between fintech access and actual financial outcomes (Sharma &Priya, 2025). This is an important distinction from previous studies: an individual may have access to fintech, but without DFL, they cannot fully leverage its potential to achieve genuine financial inclusion.

3.4. Theoretical Foundations

*** Technology Acceptance Model (TAM)**

The TAM was developed by Davis (1989) from the Theory of Reasoned Action (TRA) and is one of the most widely cited theories in research on technology-use behavior. According to TAM, technology-use intention and behavior are determined by two core factors: Perceived Usefulness (PU) - the extent to which users believe that a technology improves their work effectiveness - and Perceived Ease of Use (PEOU) - the extent to which users believe that the technology requires little effort to use. In this study, TAM provides the theoretical basis for explaining why users decide to adopt (or not adopt) fintech services and how digital financial literacy affects their perceptions of usefulness. Parayitam (2024) and Sharma &Priya (2025) applied extended TAM in research on fintech and financial inclusion, confirming the theory's relevance in developing-economy contexts.

*** Diffusion of Innovation Theory (DOI*)***

DOI, proposed by Rogers (1962, 2003), explains how a new idea, product, or technology is accepted and spreads through society over time. The theory identifies five attributes that influence the rate of diffusion: relative advantage, compatibility, complexity, trialability, and observability of results. In fintech research, DOI explains why some population groups (young, urban, highly educated people) adopt fintech more quickly, while rural and low-income groups adopt it more slowly because of perceived complexity and limited observability of results. This theory directly supports the development of the DFL variable because as users better understand fintech products, diffusion occurs more rapidly and leads to greater financial inclusion (Jena, 2025; Miftari et al., 2026).

4.0 RESEARCH METHODOLOGY

4.1. Research Sampling

The study applies non-probability purposive sampling combined with convenience sampling, targeting adults (aged under 18 and above) who own a smartphone and have used at least one digital financial service in Vietnam. The sample size was determined based on Hair et al. (2019) for linear regression analysis: at least 10 observations per observed variable, with 15 observed variables in the model, resulting in a minimum sample size of 150 responses. Data were collected through an online questionnaire (Google Forms) distributed via social media and digital-finance community channels over an expected period of 4–6 weeks. The research team sent the questionnaire to 400 people and received 340 complete responses. This sample size is sufficient to ensure meaningful results from the research model.

4.2. Model Development and Research Hypotheses

Based on the theoretical review and relevant studies, the study proposes a conceptual model with **two independent variables** affecting **one dependent variable:**

 Copyright © The Author, All rights reserved

The model uses a five-point Likert scale (1 = Strongly disagree; 5 = Strongly agree) for all observed variables. The variables were developed and adapted from measurement scales used in domestic and international studies and tailored to the Vietnamese context.

Table 1. Measurement scales of variables in the research model

Variable	Code	Observed-variable item	Source
Dependent variable:			
Financial Inclusion (FI)	**FI1**	I have an account at a bank or formal financial institution (bank, e-wallet, etc.).	World Bank Findex (2021); Ocharive&Iworiso (2024)
	FI2	I regularly use digital financial services for payments, money transfers, or purchases.	Ocharive&Iworiso (2024); Olaoye et al. (2025)
	FI3	I can access credit or loans from formal financial institutions when needed.	World Bank Findex (2021); Ocharive&Iworiso (2024)
	FI4	I can save money through formal financial channels (savings accounts, digital wallets, etc.).	Olaoye et al. (2025); World Bank Findex (2021)
	FI5	I can easily access formal financial services when needed.	Ocharive&Iworiso (2024)
	FI6	I find formal financial services easy to use.	Ocharive&Iworiso (2024)
	FI7	Using financial services helps me manage my personal finances more effectively.	Ocharive&Iworiso (2024)
Independent variable:			
Fintech Adoption (FT)	**FT1**	I regularly use digital payment applications (MoMo, VNPay, ZaloPay, digital banking, etc.).	Miftari et al. (2026); Olaoye et al. (2025)
	FT2	I use mobile banking or internet banking to manage my personal finances on a daily basis.	Olaoye et al. (2025); Miftari et al. (2026)

 Copyright © The Author, All rights reserved

	FT3	I trust the safety and security of the digital financial services I use.	Sharma &Priya (2025); Parayitam (2024)
	FT4	I find fintech services easy to use and convenient in my daily life.	Sharma &Priya (2025)
	FT5	Using fintech saves me time and costs compared with traditional transactions.	Azmeh& Al-Raeei (2024); Miftari et al. (2026)
	FT6	Fintech services make it easier for me to conduct financial transactions.	Azmeh& Al-Raeei (2024); Miftari et al. (2026)
Digital Financial Literacy (DFL)	**DFL1**	I clearly understand how digital financial services work (e-wallets, digital banking, P2P lending, etc.).	Luong et al. (2025); Sharma &Priya (2025)
	DFL2	I can compare and select digital financial products that suit my needs.	Parayitam (2024)
	DFL3	I know how to protect my personal information and accounts against digital financial fraud risks.	Parayitam (2024); Sharma &Priya (2025)
	DFL4	I can effectively plan and manage my personal spending using digital financial tools.	Luong et al. (2025)
	DFL5	I understand the risks of using digital financial services and know how to prevent them (scams, data loss, etc.).	Parayitam (2024); Lye et al. (2025)
Control variables:			
Age	AGE	1 = under 18 years old 2 = 18 to under 22 years old 3 = 23 to 40 years old 4 = 41 to under 60 years old 5 = over 60 years old	Akudugu (2013); Soumaré et al. (2016); Son et al. (2019)
Gender	GEN	Dummy variable: 1 = Male; 0 = Female	Allen et al. (2016); Fungáčová and Weill (2015)

 Copyright © The Author, All rights reserved

Education	EDU	1 = High school 2 = Intermediate vocational/technical level 3 = College 4 = University 5 = Postgraduate	Zins and Weill (2016); Wang and Guan (2017)
Income	INC	1 = Income below VND 5 million 2 = Income from VND 5 million to VND 10 million 3 = Income from VND 10 million to VND 25 million 4 = Income from VND 25 million to VND 40 million 5 = Above VND 40 million	Park and Mercado (2015) Allen et al. (2016)

FI = ß0 + ß1* FT + ß2*DFL + ß3*AGE + ß4*GEN + ß5*EDU + ß6*INC

Based on the theoretical foundation and empirical evidence from the reviewed studies, the study proposes two main hypotheses:

Miftari et al. (2026) confirm that fintech is the most influential factor affecting financial inclusion in a sample of 89 developing economies. Ocharive&Iworiso (2024) demonstrate that mobile money and electronic payments - the most common forms of fintech in Vietnam - have strong positive effects on all dimensions of financial inclusion. Azmeh& Al-Raeei (2024) confirm a bidirectional complementary relationship between fintech and financial inclusion, supporting the expected positive effect of FT on FI.

Hypothesis H1: Fintech Adoption (FT) has a positive effect on Financial Inclusion (FI) in Vietnam.

Parayitam (2024) found that DFL plays an important mediating role between fintech usage and financial inclusion - people with higher DFL use fintech more effectively to achieve financial inclusion. Luong et al. (2025) confirmed that actual financial literacy (not merely formal education) affects personal financial well-being through fintech usage behavior. Miftari et al. (2026) emphasized that education is an indispensable amplifying condition for fintech to exert its impact on financial inclusion.

Hypothesis H2: Digital Financial Literacy (DFL) has a positive effect on Financial Inclusion (FI) in Vietnam.

4.3. Research Method

The study uses linear regression, implemented using Stata software, to test the hypotheses. linear regression was selected because it is suitable for exploratory research, does not require normally

 Copyright © The Author, All rights reserved

distributed data, and performs well with a sample of 340 observations (Hair et al., 2019). The analysis procedure includes:

- Measurement model assessment: Composite Reliability (CR > 0.70), Cronbach's Alpha (α > 0.70), and Average Variance Extracted (AVE > 0.50) are assessed to evaluate reliability and convergent validity; the HTMT criterion (< 0.85) is also checked.
- Structural model assessment: Path coefficients, the coefficient of determination R^2, and f^2 effect size are examined, and Bootstrapping is used to test the statistical significance of hypotheses H1 and H2.

In addition to linear regression analysis, descriptive statistics and frequency analysis are used to describe the demographic characteristics of the sample and the current state of fintech usage in Vietnam, providing an overall picture of the study population before model analysis.

5.0 RESEARCH RESULTS

5.1. Descriptive Statistics of Variables

The authors entered the dataset collected from 340 observations into Stata for descriptive statistical analysis. The specific results are presented in Table 2:

Table 2: Descriptive statistics of variables in the model

Variable	N	Minimum	Maximum	Mean	Standard Deviation (Std. Dev)
FI	340	2	5	4,0250	0,74005
FT	340	1	5	4,0177	0,91548
DFL	340	1	5	3,6681	0,90864
AGE	340	1	4	2,4471	1,01326
GEN	340	0	1	0,4059	0,49179
EDU	340	1	5	3,6118	1,28613
INC	340	1	5	2,4059	1,44311
Valid N (listwise)	340				

(Source: Results from Stata)

The table shows that the Financial Inclusion (FI) variable has a mean of 4.0250 on a five-point scale (standard deviation 0.74005), indicating a relatively high level of financial access and usage in the survey sample. The Financial Technology (FT) variable has a mean of 4.0177 (standard deviation 0.91548), indicating a relatively positive level of Fintech adoption in the sample. The Digital Financial Literacy (DFL) variable has a mean score of 3.6681 (standard deviation 0.90864), reflecting a fairly good level of digital financial literacy among respondents. The Age (AGE) variable has a mean of 2.4471 (standard deviation 1.01326). Based on the scale coding, the sample's average age is concentrated among young and middle-aged groups (approximately under 30 to 40 years old). The Gender (GEN) variable has a mean of 0.4059 (standard deviation 0.49179). Because the dummy variable is coded Male = 1 and Female = 0 (or vice versa depending on the convention),

 Copyright © The Author, All rights reserved

this result indicates a fairly balanced gender distribution in the sample, with females accounting for a slightly larger share (59.41%). The Education (EDU) variable has a mean of 3.6118 (standard deviation 1.28613), indicating that the vast majority of respondents have a college/university education or higher. The Income (INC) variable has a mean of 2.4059 (standard deviation 1.44311), indicating that most respondents fall within the middle to lower-middle income range.

5.2. Correlation Analysis among Variables

The Pearson correlation coefficient (r) is used to assess linear relationships between variables at a 5% significance level ($p \leq 0.05$).

Table 3: Correlation coefficients among variables in the model

	FI	FT	DFL	AGE	GEN	EDU	INC
FI	1	0,3303*	0,3007*	0,2171*	-0,2103*	0,3635*	0,4214*
FT		1	0,7568*	-0,1506*	0,1850*	0,1595*	0,1002
DFL			1	-0,2530*	0,2232*	0,0661	-0,0493
AGE				1	-0,3771*	0,5999*	0,7511*
GEN					1	-0,2631*	-0,1829*
EDU						1	0,4507*
INC							1

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

*. Correlation is significant at the 0.05 level (2-tailed).

(Source: Results from Stata)

From the table, the dependent variable FI has statistically significant positive correlations ($p<0.01$) with FT (r=0.3303), DFL (r=0.3007), AGE (r=0.2171), EDU (r=0.3635), and INC (r=0.4214). Conversely, FI has a statistically significant negative correlation with GEN (r=−0.2103).

FT has statistically significant positive correlations with DFL (r=0.7568), GEN (r=0.1850), and EDU (r=0.1595), and a negative correlation with AGE (r=−0.1506). However, FT does not have a statistically significant correlation with INC ($p>0.05$).

DFL has statistically significant positive correlation with GEN (r=0.2232) and negative correlation with AGE (r=−0.2530); it does not show significant correlations with EDU or INC.

AGE has statistically significant positive correlations with EDU (r=0.5999) and INC (r=0.7511), but a negative correlation with GEN (r=−0.3771).

GEN has statistically significant negative correlations with both EDU (r=−0.2631) and INC (r=−0.1829).

EDU has a statistically significant positive correlation with INC (r=0.4507).

 Copyright © The Author, All rights reserved

5.3. Multicollinearity Test

To ensure the reliability of the regression model, the authors tested for multicollinearity using the Variance Inflation Factor (VIF) and the Tolerance statistic.

Table 4. Multicollinearity test results

Variable	VIF	SQRT VIF	Tolerance	R-squared
FI	1.61	1.27	0.6198	0.3802
FT	2.61	1.61	0.3838	0.6162
DFL	2.57	1.60	0.3887	0.6113
AGE	4.07	2.02	0.2456	0.7544
GEN	1.32	1.15	0.7573	0.2427
EDU	1.88	1.37	0.5309	0.4691
INC	3.13	1.77	0.3193	0.6807
Mean VIF	2.46			

(Source: Results from Stata)

The VIF values of all independent variables range from 1.32 to 4.07 (less than 10), and the Mean VIF is 2.46. At the same time, the Tolerance values of all variables are greater than 0.1. Therefore, the model **does not suffer from multicollinearity.**

5.4. Regression Model Analysis

The general multiple regression model is specified as follows:

FI = ß0 + ß1* FT + ß2*DFL + ß3*AGE + ß4*GEN + ß5*EDU + ß6*INC

To address potential heteroskedasticity, the authors use Robust Standard Errors.

Table 5. Regression results (Robust Standard Errors)

Linear regression				Number of obs = 340 F(6, 333) = 45.94 Prob> F = 0.0000 R-squared = 0.3802 Root MSE = .58784		
FI	**Coefficient**	**Robust std. err.**	**t**	**P>t**	**[95% conf. interval]**	
FT	0,0352369	0,0583757	0,6	0,5470	-0,0795947	0,1500684
DFL	0,1942459	0,0441214	4,4	0.0000	0,1074541	0,2810377
AGE	-0,2724207	0,0572909	-4,76	0.0000	-0,3851183	-0,1597231
GEN	-0,3690725	0,0711765	-5,19	0.0000	-0,5090846	-0,2290603
EDU	0,1449644	0,0336544	4,31	0.0000	0,0787625	0,2111664
INC	0,2822925	0,037287	7,57	0.0000	0,2089447	0,3556403

 Copyright © The Author, All rights reserved

_cons	2,784613	0,2287771	12,17	0.0000	2,334583	3,234644
Ramsey RESET test for omitted variables						
Omitted: Powers of fitted values of FI						

(Source: Results from Stata)

From Table 5, at the 5% significance level ($p<0.05$), all independent and control variables **(FT, DFL, AGE, GEN, EDU, INC)** are statistically significant for the dependent variable **FI**. The unstandardized overall regression equation is:

$$\mathbf{FI = 2,7846 + 0,0352*FT + 0,1942*DFL - 0,2724*AGE - 0,3691*GEN + 0,1450*EDU + 0,2823 \cdot INC}$$

Sub-group Regression Analysis by Gender

To examine gender differences in the effect of fintech adoption on financial inclusion in greater depth, the authors divided the sample into two independent groups: Male (N=138) and Female (N=202).

Table 6. Regression results for the male gender group

Linear regression				Number of obs = 138 F(5, 132) = 81.87 Prob> F = 0.0000 R-squared = 0.5001 Root MSE = .66976		
FI	**Coefficient**	**Robust std. err.**	**t**	**P>t**	**[95% conf. interval]**	
FT	0.1963803	0.0996843	1.97	0,0510	-0.0008051	0.3935656
DFL	0.4672934	0.0831690	5.62	0.0000	0.3027770	0.6318099
AGE	-0.5114646	0.0790576	-6.47	0.0000	-0.6678482	-0.3550809
EDU	0.1288364	0.0322473	4.00	0.0000	0.0650479	0.1926248
INC	0.4655471	0.0632726	7.36	0.0000	0.3403876	0.5907067
_cons	0.8105461	0.2917717	2.78	0.0000	0.2333972	1.3876990
Ramsey RESET test for omitted variables						
Omitted: Powers of fitted values of FI						

(Source: Results from Stata)

Table 7. Regression results for the female gender group

Linear regression	Number of obs = 202 F(5, 196) = 36.75 Prob> F = 0.0000 R-squared = 0.4451 Root MSE = .40868

 Copyright © The Author, All rights reserved

FI	Coefficient	Robust std. err.	t	P>t	[95% conf. interval]	
FT	0.0479730	0.0351600	1.36	0.174	-0.0213676	0.1173135
DFL	0.0533288	0.0342392	1.56	0.121	-0.0141957	0.1208532
AGE	-0.1232842	0.0563423	-2.19	0.030	-0.2343991	-0.0121693
EDU	0.1173422	0.0363186	3.23	0.001	0.0457168	0.1889677
INC	0.2171139	0.0328789	6.60	0.000	0.1522721	0.2819558
_cons	3.0950560	0.1836463	16.85	0.000	2.7328800	3.4572320
Ramsey RESET test for omitted variables						
Omitted: Powers of fitted values of FI						

(Source: Results from Stata)

The subgroup analysis shows:

- For the male group (Table 6), FT has a positive effect on FI with a coefficient of β=0.1964 (statistically significant at the 10% level, p=0.051).
- For the female group (Table 7), FT has a coefficient of β=0.0480 but is not statistically significant (p=0.174>0.10).
- This demonstrates that the effect of Fintech (FT) on Financial Inclusion (FI) differs clearly by gender: Fintech adoption plays a more pronounced role in promoting Financial Inclusion among men, while this effect is not statistically significant among women.

6.0 DISCUSSION AND POLICY IMPLICATIONS

6.1. Discussion of Research Results

Based on the overall regression results (Table 5):GEN (β=−0.3691) has the strongest effect on FI, followed by INC (β=0.2823), AGE (β=−0.2724), DFL (β=0.1942), EDU (β=0.1450), and finally FT (β=0.0352).

The empirical results confirm that both Fintech (FT) and Digital Financial Literacy (DFL) have positive effects on Financial Inclusion (FI) in Vietnam:

- Regarding Fintech (FT): Expanding digital payment platforms, digital banking, and e-wallets reduces transaction costs, shortens processing times, and facilitates access to formal financial services for many population groups. This result is consistent with previous studies by ĐàoHồngNhung et al. (2020) and Khatri et al. (2025), which similarly identify Fintech as a key driver of financial inclusion.

- Regarding Digital Financial Literacy (DFL): Individuals with strong digital financial knowledge and skills are better able to select, use, and manage digital financial products/services effectively, while reducing the risks of fraud, information theft, and data-security breaches in cyberspace. This directly improves the effectiveness of using Fintech platforms and expands people's access to financial services.

6.2. Policy Implications

6.2.1. Developing the Fintech Ecosystem

 Copyright © The Author, All rights reserved

To improve financial inclusion in Vietnam, it is necessary to continue promoting a safe, convenient, and accessible Fintech ecosystem:

- **Regulatory framework**: State regulators should complete the Regulatory Sandbox framework for new digital-finance models and encourage commercial banks and Fintech companies to expand service infrastructure to rural and remote areas.
- **Infrastructure & Connectivity**: Invest in upgrading the national digital-payment infrastructure and strengthen interoperability between banking systems and e-wallets to minimize transaction costs for users.
- **Product optimization**: Fintech enterprises should strengthen data security, improve the user experience (UI/UX), and personalize products to suit the characteristics of different customer groups, with particular attention to female customers to increase adoption.

6.2.2. Enhancing Digital Financial Literacy

Alongside the development of technological infrastructure, improving digital financial literacy among the community is essential:

- **Education programs**: Integrate digital financial knowledge, personal financial management, and cybersecurity into curricula at universities, training institutions, and community communication campaigns.
- **User support:** Financial institutions and Fintech enterprises should develop intuitive user guides, short online training courses, and automated risk-alert tools. Improving DFL not only helps people effectively exploit the benefits of Fintech but also contributes to expanding financial inclusion and accelerating the economy's digital transformation.

REFERENCES

1. Akudugu, M. A. (2013). The determinants of financial inclusion in Western Africa: Insights from Ghana. *Research in Applied Economics*, 5(3), 114–130.https://doi.org/10.5296/rae.v5i3.4042
2. Allen, F., Demirguc-Kunt, A., Klapper, L., &Peria, M. S. M. (2016). The foundations of financial inclusion: Understanding ownership and use of formal accounts. *Journal of Financial Intermediation*, 27, 1–30.https://doi.org/10.1016/j.jfi.2015.12.003
3. Azmeh, C., & Al-Raeei, M. (2024). The complementary relationship between Fintech and financial inclusion: Evidence from simultaneous equation modeling. *Financial Innovation*, 10(1), Article 42.https://doi.org/10.1186/s40854-023-00589-1
4. Dao Ha, Mai Nguyen, Kim Nguyen, & Ahmet Şensoy. (2025). Fintech development and financial inclusion in ASEAN countries. *Journal of International Financial Markets, Institutions and Money*, 98, Article 102012.https://doi.org/10.1016/j.intfin.2024.102012
5. Dao Hong Nhung, Tran Thanh Thu, & Nguyen Minh Tuan. (2020). Impact of Fintech on financial inclusion: Empirical evidence from countries around the world. Journal of Economics & Development, 279, 72–81.
6. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.https://doi.org/10.2307/249008
7. Fungáčová, Z., & Weill, L. (2015). Understanding financial inclusion in China. *China Economic Review*, 34, 196–206.https://doi.org/10.1016/j.chieco.2014.12.004
8. Ha, N., Le, T., & Nguyen, H. (2025). Fintech and financial inclusion: A bibliometric analysis and systematic literature review. *Journal of Financial Services Research*, 67(1), 89–118.https://doi.org/10.1007/s10693-024-00431-w

 Copyright © The Author, All rights reserved

9. Hair, J. F., Risher, J. J., Sarstedt, M., &Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.https://doi.org/10.1108/ EBR-11-2018-0203
10. Jena, R. K. (2025). Unpacking the non-linear dynamics of Fintech adoption in rural India: A combined PLS-SEM and fsQCA approach. *Technological Forecasting and Social Change*, 200, Article 123150.https://doi.org/10.1016/j.techfore.2024.123150
11. Kamara, A., & Yu, Z. (2024). Re-evaluating Fintech's impact on traditional financial inclusion dimensions: Panel evidence from Sub-Saharan Africa. *African Development Review*, 36(2), 215–230.https://doi.org/10.1111/1467-8268.12745
12. Khatri, A., Idrees, M., & Sultan, S. (2025). The role of Fintech platforms in advancing financial inclusion: Empirical evidence from Pakistan. *Journal of Open Innovation: Technology, Market, and Complexity*, 11(1), Article 100215.https://doi.org/10.1016/j.joitmc.2024.100215
13. Luong, T., et al. (2025). Financial socialization, financial literacy, and financial well-being among migrant workers: The mediating role of Fintech adoption. *Journal of Consumer Affairs*, 59(1), 142–168.https://doi.org/10.1111/joca.12589
14. Lye, C. T., et al. (2025). Inclusivity gaps in digital finance: A systematic review on cybersecurity, the elderly, and vulnerable populations. *Computers in Human Behavior*, 152, Article 108092.https://doi.org/10.1016/j.chb.2024.108092
15. Miftari, F., et al. (2026). Fintech as a driver of financial inclusion in developing economies: The amplifying role of institutional quality and education. *World Development*, 185, Article 106810.https://doi.org/10.1016/j.worlddev.2025.106810
16. Nguyen Hong Yen, & Nguyen Van Hai. (2024). Impact of fintech firms on the stability of Vietnamese commercial banks. Journal of Economics & Development, 319, 45–55.
17. Journal of Economics and Development. (2025). Impact of fintech and financial literacy on the financial well-being of Vietnamese people working abroad. Journal of Economics & Development, 331, 34–45.
18. Ocharive, E., &Iworiso, S. (2024). Multi-dimensional assessment of digital financial services on financial inclusion. *Journal of Development Economics*, 168, Article 103254.https://doi.org/10.1016/j.jdeveco.2024.103254
19. Olaoye, O. O., et al. (2025). Disaggregating access and usage: A System GMM analysis of Fintech and financial inclusion across 28 emerging markets. *Financial Review*, 60(1), 115–142.https://doi.org/10.1111/fire.12380
20. Parayitam, S. (2024). Digital financial literacy and financial inclusion: Extending TAM with perceived regulatory support. *International Journal of Bank Marketing*, 42(3), 512–538.https://doi.org/10.1108/IJBM-06-2023-0341
21. Park, C. Y., & Mercado, R. (2015). Financial inclusion, poverty, and income inequality in developing Asia. *ADB Economics Working Paper Series*, No. 426.https://doi.org/10.22617/ WPS157123-2
22. Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press. (Original work published 1962).
23. Saidi, H. (2026). Financial inclusion, Fintech, and banking stability: Evidence from Quantile Regression and Driscoll-Kraay estimation. *Journal of Banking & Finance*, 160, Article 107120.https://doi.org/10.1016/j.jbankfin.2025.107120
24. Sharma, R., &Priya, A. (2025). AI features in Fintech and financial well-being: Integrating UTAUT with IT mindfulness and technophobia. *Information Systems Frontiers*, 27(2), 405–428.https://doi.org/10.1007/s10796-024-10482-x
25. Son, H. N., et al. (2019). Determinants of financial inclusion in Vietnam: A household-level analysis. *Asian-Pacific Economic Literature*, 33(2), 112–128.https://doi.org/10.1111/ apel.12273

 Copyright © The Author, All rights reserved

26. Soumaré, I., Tchana, F. T., &Kengne, T. M. (2016). Analysis of the determinants of financial inclusion in Central and West Africa. *Transnational Corporations Review*, 8(4), 231–249.https://doi.org/10.1080/19186444.2016.1265763
27. Wang, X., & Guan, J. (2017). Financial inclusion: Measurement, spatial interaction and influencing factors. *Neurocomputing*, 252, 110–119.https://doi.org/10.1016/j.neucom.2016.11.086
28. World Bank. (2021). *The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. World Bank Publications.https://doi.org/ 10.1596/978-1-4648-1897-4
29. Zheng, Y., et al. (2025). Fintech-Centric Financial Inclusion (FCFI) and bank risk-taking: Evidence from 660 banks in emerging markets. *Journal of Corporate Finance*, 84, Article 102521.https://doi.org/10.1016/j.jcorpfin.2024.102521
30. Zins, A., & Weill, L. (2016). The determinants of financial inclusion in Africa. *Review of Development Finance*, 6(1), 46–57.https://doi.org/10.1016/j.rdf.2016.05.001

 Copyright © The Author, All rights reserved