



From Financial Literacy to Fintech Adoption: Trust as a Mediating Mechanism in an Extended TAM–TPB Framework

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Abstract

Background: The rapid growth of financial technology has transformed access to financial services in Indonesia, promoting greater financial inclusion. However, concerns about trust, security, financial literacy, and ease of use continue to influence user adoption. This study investigates the effects of financial literacy, trust, and perceived ease of use on fintech adoption intention by integrating the Technology Acceptance Model (TAM) and Theory of Planned Behaviour (TPB).

Objective: This research seeks to delineate the antecedents of fintech adoption intent in Indonesia by enriching the TAM–TPB architecture with financial literacy, trust, and perceived ease of use constructs, while probing the intermediary function of trust.

Methods: Primary data were gathered from 315 Indonesian fintech users via a structured survey instrument.

Results: The analysis revealed that financial literacy exerts favorable effects on trust, perceived ease of use, and adoption intention. Trust emerged as a consequential intermediary amplifying the pathway from financial literacy to usage intent. Additionally, PEOU was directly related to ITU without mediating the connection between FL and ITU. Trust was an important factor in ITU, specifically in developing markets where users had security concerns. The most effective method used by fintech providers to build trust was to offer open and safe platforms, as well as to enhance FL in increasing ITU.

Conclusion: This work enriches the technology adoption scholarship by augmenting TAM and TPB with financial knowledge, provider confidence, and usability dimensions, offering actionable guidance for regulators and platform operators in emerging markets.

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INTRODUCTION

During the preceding twenty years, broadening access to formal financial channels has ascended to the forefront of development policy, carrying heightened significance for lower-income nations (Zheng et al., 2023). In its widest sense, financial inclusion denotes individuals' ability to secure and deploy monetary instruments coupled with purposeful strategies to make financial offerings more cost-effective and accessible across income segments (Nutassey et al., 2025). Governance bodies broadly view expanded financial access as a catalyst for long-term socioeconomic progress (Zheng et al., 2023). Empirical work recognizes FI as a catalyst for household welfare and macroeconomic advancement (Liu & Walheer, 2022).

Quantitative analyses confirm a statistically meaningful positive influence of FI on economic output (Adedokun & Ağa, 2023). Panel data spanning 21 Asian nations from 2004 to 2019 demonstrated a sustained positive influence of FI on economic growth, with a bidirectional causal correlation between FI and economic development (Hussain et al., 2024). Complementary

evidence from the Republic of Benin underscores that fintech-enabled FI serves as a conduit linking technological innovation with broader economic progress (Tchidi & Zhang, 2025).

Fintech constitutes a pivotal driver of structural change within global financial ecosystems. As a form of technology-driven innovation, fintech generates novel business architectures, operational workflows, and service offerings that reshape financial product delivery (Udeagha & Muchapondwa, 2023). Beyond convenience, fintech creates pathways for broader participation in formal financial channels and stimulates economic dynamism (Tchidi & Zhang, 2025). The COVID-19 pandemic amplified this trajectory, as digital financial solutions expanded rapidly to address heightened demand during mobility restrictions (Zheng et al., 2023). A principal benefit of fintech resides in its capacity to extend formal financial reach, thereby mitigating deprivation and reducing wealth gaps. Research consistently links persistent poverty in developing regions to fragile financial infrastructures and insufficient FI coverage (Olaoye & Zerihun, 2023). Evidence from Africa indicates that mobile connectivity and internet penetration correlate positively with poverty alleviation outcomes (Kelikume, 2021). Nigerian data further reveal that ICT (information and communication technology) reinforces FI effectiveness in cushioning against macroeconomic volatility.

The global fintech sector has undergone remarkable expansion, with aggregate industry revenues climbing from \$85.92 billion in 2017 to an estimated \$201.91 billion in 2024 (Ahmad et al., 2025). Despite this growth, pronounced FI disparities persist: roughly 94% of individuals in advanced economies maintain bank accounts, whereas the corresponding figure in developing nations stands at only 63% (Sedera et al., 2022). On the African continent, financial inclusion reaches merely 23% of adults, substantially trailing the 41% benchmark observed in other developing regions (Adedokun & Ağa, 2023). In fact, according to findings by Mhlanga & Dunga (2020), roughly four-fifths of the adult population across Sub-Saharan Africa lacks access to institutional financial channels, whereas OECD member states report exclusion rates of merely eight percent (Asuming et al., 2019). Rural populations face disproportionate exclusion from mainstream financial channels. Structural impediments including socioeconomic constraints, inadequate infrastructure, and weak institutional frameworks continue to hamper digital finance penetration in lower-income settings (Jain & Sahu, 2025).

Examining the drivers of fintech adoption intent in emerging economies carries substantial scholarly and practical relevance, considering the technology's proven potential to widen financial participation, spur economic dynamism, and advance sustainability objectives. Fintech plays an instrumental role in drawing underserved populations into formal financial participation (Tchidi & Zhang, 2025). Many developing economies continue to grapple with limited institutional reach, underdeveloped infrastructure, and insufficient exposure to innovative technologies (Sedera et al., 2022). These barriers perpetuate financial and economic marginalization, making the identification of adoption drivers a matter of practical and scholarly urgency, with direct relevance for policy design and industry strategy.

Multiple determinants shape fintech uptake across emerging economies, notably provider confidence, financial knowledge, and interface usability. Financial literacy serves as a meaningful antecedent, equipping individuals with the evaluative capacity to appraise platform advantages against potential hazards, thereby reinforcing adoption intent (Long et al., 2023). In this context, trust is an ITU determinant, allowing individuals to use the platform more often (Appiah & Agblewornu, 2025; Gupta et al., 2023). Furthermore, PEOU has an impact on ITU by making digital financial technology platforms more accessible and less intimidating (Chinh et al., 2024; Yadav & Shanmugam, 2024). These studies have previously been contradictory in showing relationships between the factors and ITU. Some investigations show an increase in trust and PEOU with higher FL. Meanwhile, others report that higher financial knowledge may increase skepticism and decrease trust in fintech services (Srivastava et al., 2024). No straightforward correlation between PEOU and ITU. Even though numerous studies have supported the idea that PEOU of an interface leads to higher levels of user-adoption, this variable has a limited impact on ITU, specifically when users are familiar with digital technology or the complexity of a fintech platform. For example, Srivastava et al. (2024) reported that younger and digitally native users switched to fintech services easily without regard for FL or PEOU platform. For some groups of users, other variables including trust or perceived usefulness may be more important for affecting the fintech

application. This inconsistency suggests the need for further study of the correlation between FL, trust, PEOU, and fintech application.

Based on the identified gap, this research explores complex relationships between FL, trust, PEOU, and ITU, specifically in Indonesia as a developing country. The mediating effect of trust on FL and ITU is explored to obtain more clarity. Unlike previous fintech adoption studies that have primarily examined financial literacy, trust, or perceived ease of use independently, this study integrates these constructs within an extended TAM–TPB framework and simultaneously examines the mediating roles of trust and perceived ease of use. This approach enables a more comprehensive understanding of how financial literacy translates into fintech adoption intention in the context of a developing country.

The remainder of this paper proceeds as follows: the theoretical review section establishes the conceptual foundations and develops the hypotheses; the methodology section outlines the research design; the results section reports statistical findings; and the discussion and conclusion sections interpret the outcomes and articulate implications.

Theoretical Review

Financial Technology (Fintech)

Financial technology constitutes a disruptive phenomenon defined by digitally engineered solutions designed to optimize institutional financial processes and elevate the quality of service provision to consumers (Ozili, 2023). The concept subsumes a heterogeneous array of innovations, including peer-to-peer credit platforms, digital currency exchanges, distributed ledger applications, mobile banking interfaces, electronic wallets, automated investment advisors, and artificially intelligent financial tools (Breidbach et al., 2020). Knewton & Rosenbaum (2020) stated fintech offers financial markets advanced products/services. Alshater et al. (2022) stated the potential to allow for incremental and drastic improvements in financial services. Alamsyah & Syahrir (2023) stated that Fintech corporations apply technology to innovate financial products and services. The impact is multifaceted, specifically in improving financial inclusion by accessing money to formal services, as reported by (Allen et al. 2022; Ozili 2023). These institutions overcome supply-side constraints in developing countries, like high banking costs and a lack of infrastructure (Adjasi et al., 2023). Competitive dynamics between fintech enterprises and conventional banking institutions have spurred collaborative alliances, as incumbent banks increasingly embrace innovation (Ameziane, 2024). In addition, Elia et al. (2023) reported the substantial effect of Fintech on society and business due to the categories of technology-enabled products (loans, personal finance, payments, and cryptocurrency)

Study Model & Hypotheses Development

The Technology Acceptance Model and Theory of Planned Behaviour represent cornerstone analytical frameworks within the technology adoption scholarship. Davis's seminal proposition held that behavioral intent toward technology usage originates from judgments of functional utility and operational simplicity, with attitudinal dispositions channeling motivational direction and realized usage behavior. Ajzen's TPB, which evolved from the Theory of Reasoned Action, specifies that behavioral intention is jointly shaped by evaluative attitudes, normative social pressures, and perceived volitional capacity. Incorporating volitional capacity as a predictor enhances the framework's explanatory power in contexts where individual agency is constrained (Baharuddin et al., 2023; Diéguez et al., 2023). These frameworks converge within the UTAUT (Unified Theory of Acceptance and Use of Technology), a consolidated model that synthesizes constructs from TAM, TPB, and related acceptance theories (Sultana et al., 2023). TAM and TPB have been widely deployed to examine fintech adoption across varied contexts, including mobile payment platforms, cryptocurrency exchanges, and Islamic financial technology (Ravi & Pandey, 2024; Shaikh et al., 2020). The models have been faced criticism for insufficiently accounting for FL and trust. Incorporating these constructs enhances explanatory power, specifically in settings such as mobile payments and Islamic fintech, by adding constructs such as FL and trust to the models (Nugroho & Apriliana, 2022). Trust has been shown to exert a substantial effect on fintech adoption, as heightened confidence in platform security and risk management encourages user engagement (Laksamana et al., 2023; Zhang et al., 2023). These findings underscore the value of

extending TAM and TPB to construct more comprehensive models capable of capturing the multifaceted nature of ITU (Tang et al., 2025). The proposed conceptual framework is depicted in Figure 1.

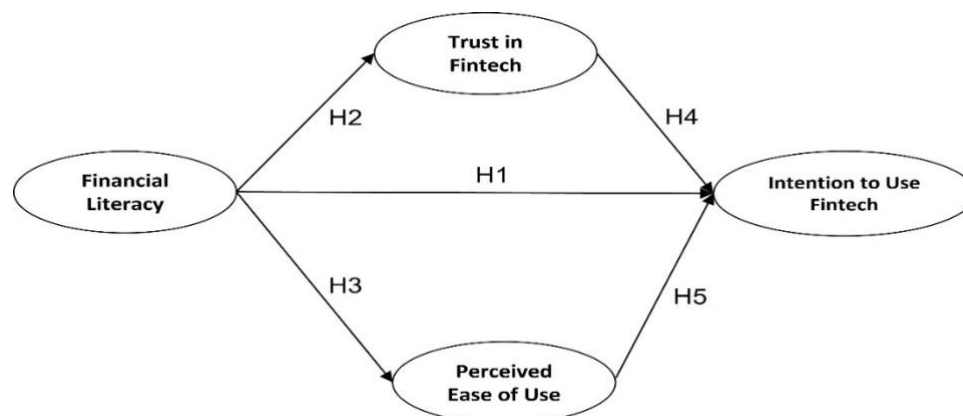


Figure 1. Study Model

Financial Literacy (FL)

Financial Literacy (FL) is the ability to understand and apply different financial skills (personal financial management, budgeting, and investments). This construct plays a pivotal role in shaping users' propensity to engage with financial technology platforms (Long et al., 2023). Higher FL correlates with deeper comprehension of fintech offerings, encompassing mobile payment systems and digital wallet services (Setiawan et al., 2021). However, FL can differ depending on the contextual factors, including the nature of the service and the demographic attributes of the users, pointing to the critical aspect in the current landscape (Kakinuma, 2022; Koskelainen et al., 2023).

Financial Literacy (FL) and Intention to Use Fintech (ITU)

Drawing on human capital theory, financial literacy furnishes individuals with evaluative competencies necessary for appraising financial offerings and arriving at well-grounded decisions. In fintech contexts, elevated financial literacy alleviates uncertainty surrounding digital financial products while bolstering user confidence, thereby strengthening adoption intentions.

Empirical investigations consistently indicate that financial literacy favorably shapes fintech adoption intentions, as knowledgeable users demonstrate superior capacity to assess digital financial instruments and formulate sound financial judgments. These results empirically substantiate the anticipated positive linkage between financial literacy and fintech adoption propensity.

H1: FL significantly affects intention to use Fintech (ITU)

Financial Literacy (FL) and Trust (TR)

Trust formation occurs when users can appraise a provider's competence, dependability, and integrity. Financial literacy augments users' evaluative capacity regarding the risk-return profile and protective mechanisms of fintech services, thereby narrowing information gaps and cultivating confidence in digital financial platforms.

Previous studies have shown that the relationship between financial literacy and trust is complex and context-dependent. Individuals possessing higher financial literacy demonstrate enhanced capability in evaluating fintech risk exposure, service advantages, and security provisions, which attenuates perceived risk and elevates platform confidence. Financial literacy has also been identified as an important prerequisite for developing trust in digital financial services (Hahm et al., 2021). Nevertheless, some studies suggest that greater financial literacy may also increase users' skepticism, particularly when regulatory frameworks are weak or security concerns remain high. These findings indicate that the relationship between financial literacy and trust depends on the maturity of the fintech ecosystem and its regulatory

environment ([Koloseni & Mandari, 2024](#)).

H2: FL significantly affects trust in Fintech (TR)

Financial Literacy (FL) and Perceived Ease of Use (PEOU)

Within the TAM framework, perceived ease of use captures the extent to which users perceive a technology as requiring negligible cognitive or operational effort. Financially literate individuals, possessing deeper familiarity with financial constructs and digital service interfaces, tend to navigate fintech platforms with greater facility. Consequently, financial literacy is theoretically anticipated to elevate perceived ease of use.

Empirical evidence supports this expectation. Financially literate individuals are generally more knowledgeable and experienced in using fintech platforms, reducing the cognitive effort required to use these services. Previous studies have also shown that financial literacy positively influences users' ability to interact effectively with fintech applications ([Mulyono, 2023](#)). Although some studies found that this relationship is less evident among digitally native users, such as Generation Y and Generation Z [Srivastava et al. \(2024\)](#), the overall evidence supports financial literacy as an important antecedent of perceived ease of use ([Wu & Peng, 2024](#)).

H3: FL significantly affects perceived ease of use (PEOU)

Trust (TR) and Intention to Use Fintech (ITU)

Trust diminishes perceived uncertainty and risk perceptions, considerations of salience in financial transactions requiring disclosure of personal and monetary information. Platform trust heightens user willingness to interact with the service and fortifies behavioral adoption intentions.

Empirical evidence uniformly indicates that elevated trust levels correspond with strengthened fintech adoption intentions. Trust additionally attenuates the deterrent influence of perceived hazards, encompassing monetary loss, data compromise, and privacy infringement, thereby lowering uncertainty and facilitating adoption ([Dawood et al., 2022](#)). Moreover, trust is built upon several dimensions, including service reliability, transaction security, and data confidentiality, all of which influence users' continued intention to use fintech services ([Wang et al., 2019](#)). Similar findings have been reported across different regions, including Sub-Saharan Africa, Pakistan, and Indonesia, confirming that trust is a key determinant of fintech adoption ([Zhao et al., 2024](#)).

H4: Trust significantly affects intention to use Fintech (ITU)

Trust as a Mediator

Trust may function as a mediating channel between financial literacy and fintech adoption intention, given that financially knowledgeable users possess superior capacity to gauge service dependability, protective measures, and institutional credibility. This deepened evaluative understanding cultivates trust, which in turn reinforces adoption intentions.

Previous studies support this mechanism. Users with robust financial knowledge tend to hold more nuanced awareness of fintech service advantages, associated risks, and operational parameters. Consequently, users who trust fintech platforms are more likely to adopt and continue using these services. Nevertheless, some studies suggest that higher financial literacy may also increase skepticism when regulatory frameworks are weak or perceived security risks remain high ([Zhang & Fan, 2024](#)). Overall, these findings indicate that trust serves as an important psychological mechanism through which financial literacy influences users' intention to adopt fintech services ([Odei-Appiah et al., 2022](#); [Shuhaiber et al., 2025](#)).

H6: Trust mediates the effect of financial literacy (FL) on intention to use Fintech (ITU)

Perceived Ease of Use (PEOU)

Perceived Ease of Use and Intention to Use Fintech

Under the TAM paradigm, PEOU captures the subjective belief that technology interaction demands minimal effort ([Davis, 1989](#)). When users perceive reduced cognitive

demands, their openness to adoption increases. Accordingly, fintech platforms characterized by intuitive design and streamlined navigation are more likely to elicit sustained usage intentions.

This theoretical expectation is supported by previous empirical studies. PEOU has consistently been identified as an important determinant of intention to use fintech services. User-friendly fintech platforms are more readily accepted by consumers (Zhang et al., 2023). In addition, PEOU positively influences both perceived usefulness and adoption intention, thereby strengthening users' overall intention to use fintech services. Although the relationship may be influenced by other factors, such as perceived benefits, the overall evidence consistently identifies PEOU as a fundamental determinant of fintech adoption.

H5: Perceived ease of use significantly affects intention to use Fintech (ITU)

Perceived Ease of Use as a Mediator

PEOU may serve as an intermediary mechanism linking financial literacy to fintech adoption intention, since financially knowledgeable individuals draw upon their conceptual and digital fluency to interact with fintech platforms more proficiently. As the perceived effort associated with platform usage declines, adoption intentions correspondingly intensify.

Previous studies support this indirect relationship. Financially literate individuals are better able to evaluate and navigate fintech platforms, thereby enhancing perceived ease of use (Wu & Peng, 2024). Improved perceived ease of use subsequently strengthens users' intention to adopt fintech services (Widyanto & Syahrivar, 2022). Accordingly, financial literacy may indirectly influence fintech adoption through perceived ease of use, which acts as a mechanism for translating financial knowledge into adoption intentions (Akhtar et al., 2024; Shobandiyah et al., 2023). Given that PEOU has consistently been identified as an important determinant of adoption intention Bergmann et al. (2023), it is expected to mediate the relationship between financial literacy and intention to use fintech.

H7: Perceived ease of use mediates the effect of financial literacy on intention to use Fintech (ITU)

METHOD

The instrument was a structured questionnaire designed to measure FL, Trust, PEOU, and ITU. The series of items included in the questionnaire measured specific aspects of each construct. For example, FL was measured using statements such as "I can compare different financial products to choose the one that suits me" and "I know how to avoid unnecessary debt and manage repayment," which were adapted from (Lusardi & Mitchell, 2011). Trust in Fintech (TR) was measured using items such as "I believe that mobile money services will work properly when I use them" and "I feel safe using Fintech services for my daily financial needs," based on (Padi et al., 2026). PEOU was assessed using statements such as "I find mobile Fintech services easy to use" and "Generally, I find it effortless to use Fintech for fulfilling my financial needs," adapted from Abd Malik et al. (2020). ITU was measured using items such as "I will use Fintech services in the future" and "I plan to continue using Fintech services rather than discontinue their use." Respondents were asked to rate each statement using a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) to quantify their attitudes and perceptions toward Fintech usage. Face validity assessment was conducted to ensure the content validity of the questionnaire, whereby two experts reviewed the items to evaluate their relevance and appropriateness for measuring the intended constructs.

Table 1
Study Instrument

Code	Item	Statement	Reference
Financial Literacy (FL)	FL1	I can compare different financial products to choose the one that suits me.	(Latupeirissa et al., 2024; Lusardi & Mitchell, 2011)

	FL2	I am aware of how to use fintech safely without falling for fraud.	
Trust in Fintech (TR)	TR1	I believe that mobile money services will work properly when I use them	(Padi et al., 2026)
	TR2	I am confident that mobile money service providers will protect my personal information.	
	TR3	I feel safe using Fintech services for my daily financial needs.	
PEOU	PEOU1	I find mobile Fintech services easy to use	(Abd Malik et al., 2020)
	PEOU2	Fintech services are user-friendly for people like me.	
Intention to Use Fintech (ITU)	ITU1	I will use Fintech services in the future	(Padi et al., 2026)
	ITU2	I plan to continue using Fintech services rather than discontinue their use.	
	ITU3	I encourage others to use Fintech.	

Primary data collection employed a web-based structured survey instrument crafted to investigate the antecedents of fintech adoption intent among Indonesian users. Field administration spanned December 2025 through January 2026, targeting Indonesian nationals possessing direct experience with fintech platforms. Participants provided self-reported assessments of their experiential encounters and subjective evaluations concerning fintech platform utilization.

A non-probability convenience approach governed respondent recruitment, consistent with prevailing methodological conventions in technology adoption inquiry (Almahamid & McAdams, 2010). This approach was deemed suitable given the study's exclusive targeting of respondents possessing prior fintech usage experience. The absence of a comprehensive and publicly accessible registry of fintech users in Indonesia rendered probability-based sampling impractical. Convenience sampling has also been used in technology-adoption and PLS-SEM studies in which the primary objectives are theory testing and prediction rather than the estimation of population parameters (Hair et al., 2010). Nevertheless, this recruitment approach carries inherent susceptibility to selection bias and circumscribes the external applicability of the conclusions. To minimize this potential bias, the study recruited respondents from diverse demographic backgrounds in terms of gender, age, and educational attainment, and included only individuals with prior experience using fintech services to ensure that participants were relevant to the research objectives. Therefore, the outcomes warrant interpretation specifically within the Indonesian fintech user population, and subsequent investigations should consider probabilistic sampling frameworks to strengthen generalizability.

The minimum sample size was initially assessed using the ten-times rule recommended in earlier PLS-SEM studies (Pinem et al., 2018). According to this rule, the minimum sample size should be ten times the largest number of structural paths directed toward any endogenous construct. Since the maximum number of predictors directed toward an endogenous construct in the proposed model was three, the minimum required sample size was 30 respondents. A total of 315 valid responses were obtained, substantially exceeding this minimum threshold and providing an adequate sample for the PLS-SEM research.

Of the 315 respondents, 51.43% were male and 48.57% were female. The largest age group consisted of respondents aged 26–35 years, representing 55.24% of the sample, followed by those aged 36–45 years at 28.57%. Regarding educational attainment, 52.38% held a bachelor's degree, while 29.52% had completed postgraduate education. These characteristics provide contextual information for interpreting the findings, although the use of convenience sampling limits the extent to which the sample can be considered representative of the broader Indonesian fintech-user population.

Seven directional hypotheses were subjected to empirical scrutiny using Partial Least Squares Structural Equation Modeling (PLS-SEM) (Sarstedt et al., 2021). The variance-based PLS approach was favored over covariance-based techniques for its predictive orientation, which facilitates evaluation of how well independent constructs anticipate dependent variable outcomes (Kim et al., 2019; Minh et al., 2019). Furthermore, PLS-SEM accommodates non-normally distributed data and performs effectively with smaller sample sizes (Nabavi et al., 2016). Anderson & Gerbing (1988) suggested this study followed a two-step analytical method where the measurement model was tested first before the structural model (Ali et al., 2019; Foroughi et al., 2019).

Table 2
Respondents Characteristics

Variable	Measurement	Frequency	Percent %
Gender	Male	162	51.43
	Female	153	48.57
Age	Below 26	18	5.71
	26-35	174	55.24
	36-45	90	28.57
	46-55	18	5.71
	Above 55	15	4.76
Education	High School	16	5.07
	Diploma	36	11.43
	Bachelor	165	52.38
	Post Graduate	93	29.52

According to the institutional policy of Universitas Garut, formal ethical approval was not required for anonymous questionnaire-based research involving voluntary adult participants. Nevertheless, the study adhered to accepted ethical principles for research involving human participants. Before completing the questionnaire, respondents were informed of the purpose of the study, that participation was voluntary, that their responses would remain anonymous and confidential, and that they could discontinue participation at any time without consequence. Submission of the completed questionnaire was considered to indicate informed consent.

RESULTS AND DISCUSSION

Result

Measurement Model (MM)

The measurement model (MM) assessment is an essential stage in PLS-SEM because it evaluates the reliability and validity of the measurement constructs. During this stage, several criteria were evaluated: Indicator loadings greater than 0.70 were used to ensure that each indicator adequately represented its respective construct. An Average Variance Extracted (AVE) value greater than 0.50 was used to establish convergent validity. Composite reliability (CR) and Cronbach's alpha values greater than 0.70 indicated satisfactory internal consistency reliability. These criteria ensured that the measurement model demonstrated satisfactory reliability and validity before proceeding to the structural model assessment (Hair et al., 2010).

The measurement assessment confirmed satisfactory convergent properties and consistency metrics. Every retained indicator demonstrated factor loadings above 0.70, verifying that each item substantively represented its intended construct. The AVE values were 0.857 for FL, 0.859 for PEOU, 0.678 for TR, and 0.736 for ITU fintech. With all AVE figures surpassing the 0.50 criterion, convergent validity was confirmed. Composite reliability and Cronbach's alpha coefficients likewise exceeded 0.70 across all constructs, corroborating adequate internal consistency.

Table 3
The MM Result

Construct	Item	Convergent Validity			Cronbach's Alpha
		Factor Loading	AVE	CR	
Financial Literacy (FL)	FL1	0.940	0.857	0.923	0.835
	FL2	0.911			
Perceived Ease of Use (PEOU)	PEOU1	0.921	0.859	0.924	0.835
	PEOU2	0.932			
Trust in Fintech (TR)	TR1	0.850	0.678	0.867	0.763
	TR2	0.802			
	TR3	0.819			
Intention to Use Fintech (ITU)	ITU1	0.831	0.736	0.891	0.817
	ITU2	0.884			
	ITU3	0.852			

The Fornell–Larcker (1981) procedure served as the initial discriminant validity test, comparing each construct's AVE square root against its cross-construct correlation coefficients. Table 4 confirms that diagonal values consistently surpass off-diagonal coefficients, signifying that each construct captures more variance from its own indicators than from competing constructs, thereby establishing satisfactory discriminant validity.

Table 4

Discriminant Validity Based on Fornell-Larcker Criterion

Construct	Financial Literacy (FL)	Intention to Use Fintech (ITU)	Perceived Ease of Use (PEOU)	Trust in Fintech (TR)
FL	0.926*			
ITU	0.457	0.856*		
PEOU	0.271	0.479	0.927*	
TR	0.500	0.695	0.573	0.824

In addition to the Fornell–Larcker criterion, discriminant validity was further assessed using the Heterotrait–Monotrait ratio (HTMT), which is recommended as current best practice in PLS-SEM (Henseler et al., 2015). As shown in Table 5, all HTMT values were below the recommended threshold of 0.90, providing further evidence that the constructs possess satisfactory discriminant validity.

Table 5

Heterotrait-Monotrait Ratio (HTMT)

Construct	Financial Literacy (FL)	Intention to Use Fintech (ITU)	Perceived Ease of Use (PEOU)	Trust in Fintech (TR)
FL	-			
ITU	0.546	-		
PEOU	0.322	0.582	-	
TR	0.618	0.879	0.719	-

Before evaluating the structural relationships, multicollinearity was assessed using the variance inflation factor (VIF). All inner VIF values ranged from 1.000 to 1.841, well below the recommended threshold of 3.0. These results indicate that multicollinearity was not a concern in the structural model.

Table 6

Inner VIF Values

Path	VIF
FL → ITU	1.334
FL → PEOU	1.000
FL → TR	1.000
PEOU → ITU	1.490
TR → ITU	1.841

Structural Model

The R^2 statistic captures the share of endogenous construct variability explained by its upstream predictors (Santhanamery & Ramayah, 2014). In this case, the R^2 value for ITU is 0.510, which falls into the moderate to strong category, meaning that 51% of the variance in ITU is described by the model's predictors. According to the general criteria for R^2 values, weak is $R^2 < 0.25$ (less than 25% of the variance), moderate is $0.25 \leq R^2 < 0.50$ (explains between 25% and 50% of the variance), and strong is $R^2 \geq 0.50$ (50% or more of the variance) [Hair et al., \(2010\)](#). The R^2 value for PEOU is 0.074, which is considered weak, suggesting that only 7.4% of the variance in PEOU is described by the exogenous variables. Finally, Trust in Fintech (TR) has an R^2 value of 0.250, which is on the boundary of weak and moderate, showing that 25% variance in TR is described by the model. The findings recommend the model has a moderate fit for ITU, a weak fit for PEOU, and a weak to moderate fit for TR (Table 5).

Table 7*The R^2 Value*

Endogent Variable	Intention to Use Fintech (ITU)	Perceived Ease of Use (PEOU)	Trust in Fintech (TR)
R^2	0.510	0.074	0.250

The effect size (f^2) was assessed to determine the contribution of each exogenous construct to the explained variance of the endogenous constructs. f^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively. As shown in Table 8, the effects of FL on ITU ($f^2 = 0.034$), FL on PEOU ($f^2 = 0.080$), and PEOU on ITU ($f^2 = 0.021$) were small. In contrast, FL on TR ($f^2 = 0.334$) and TR on ITU ($f^2 = 0.335$) demonstrated relatively strong effect sizes, indicating that Trust plays a substantial role in explaining the structural relationships within the proposed model.

Table 8*Effect Size (f^2)*

Path	f^2	Effect Size
FL → ITU	0.034	Small
FL → PEOU	0.080	Small
FL → TR	0.334	Large (close to threshold)
PEOU → ITU	0.021	Small
TR → ITU	0.335	Large (close to threshold)

Seven hypotheses were subjected to empirical testing within this model. Statistical significance was determined using the conventional criterion: t-statistics exceeding 1.96 at the 95% confidence level indicate that the corresponding path coefficient departs meaningfully from zero. A p-value < 0.05 (95% confidence level) hence the variables correlation is statistically significant. Therefore, all hypotheses with t-statistics > 1.96 and p-values < 0.05 are significant, while those with p-values > 0.05 (like H6) are not significant ([Hair et al., 2010](#)).

The hypothesis testing, including both direct and indirect effects, indicate several significant correlations between the constructs. H1 (FL → ITU) has a 0.148 path coefficient with a 2.494 t-statistic and a 0.013 p-value, which is significant. H2 (FL → TR) shows a 0.500 stronger path coefficient, a 7.655 t-statistic, and a 0.000 p-value, which is also significant. H3 (FL → PEOU)

has a 0.271 path coefficient, a 4.665 t-statistic, and a 0.000 p-value, making it significant. For H4 (TR → ITU), 0.550 path coefficient, with a 7.319 t-statistic and a 0.000 p-value, which is significant. H5 (PEOU → ITU) has a 0.124 path coefficient, a 2.092 t-statistic, and a 0.037 p-value, making it significant. H6 (FL → PEOU → ITU) shows a 0.034 path coefficient, a 1.878 t-statistic, and a 0.061 p-value, which is not significant. Finally, H7 (FL → TR → ITU) has a 0.275 path coefficient, a 5.350 t-statistic, and a 0.000 p-value, which is significant. These results indicate that FL affects ITU, Trust (TR), and PEOU directly, while not significantly and directly affects FL through PEOU on ITU. Trust and PEOU both significantly affect ITU.

Table 9

Hypotheses Testing (Direct & Indirect Effect)

Hypotheses	Path	Path Coefficient (β)	T-Statistic	P-Value	Significant
H1	FL → ITU	0.148	2.494	0.013	Yes
H2	FL → TR	0.500	7.655	0.000	Yes
H3	FL → PEOU	0.271	4.665	0.000	Yes
H4	TR → ITU	0.550	7.319	0.000	Yes
H5	PEOU → ITU	0.124	2.092	0.037	Yes
H6	FL → PEOU → ITU	0.034	1.878	0.061	No
H7	FL → TR → ITU	0.275	5.350	0.000	Yes

The mediation analysis confirmed that Trust operates as a statistically significant intermediary in the FL-ITU relationship. This outcome implies that financially knowledgeable individuals possess enhanced capacity to appraise fintech product attributes, weigh associated risk-benefit trade-offs, and discern platform security and privacy safeguards. As a result, such individuals are predisposed to develop confidence in fintech operators, which cascades into stronger adoption intentions. This result aligns with earlier scholarship positioning trust as a pivotal adoption mechanism, especially within financial settings where perceived risk and uncertainty are pronounced (Gefen et al., 2003; Stewart & Jürjens, 2018). The finding also resonates with contemporary evidence demonstrating trust-mediated fintech adoption under conditions of elevated perceived risk Imam (2026) and mediates the relationship between financial literacy and digital banking adoption (Salsabilla et al., 2026).

Conversely, despite Financial Literacy exerting a significant direct influence on PEOU, the indirect pathway through PEOU failed to attain statistical significance. A plausible interpretation is that modern fintech interfaces have achieved sufficient design sophistication such that fundamental usability no longer constitutes a principal adoption barrier. For users already equipped with adequate digital and financial competencies, ease of use recedes as a distinguishing adoption criterion. These users instead appear to prioritize trust-related considerations, particularly platform security assurance, operational reliability, and institutional credibility, when formulating adoption decisions. This pattern accords with evolved TAM formulations suggesting that as technological familiarity increases, the predictive weight of ease of use diminishes relative to trust, perceived usefulness, and risk perception in governing behavioral intentions.

Discussion

This study tested seven hypotheses to understand the relationships between FL, Trust, PEOU, and ITU. The results found a few significant relationships in line with some previous results and new insights on the dynamics of fintech adoption.

H1: Financial Literacy affects Intention to Use Fintech (FL → ITU)

H1 results confirm that FL exerts a positive influence on ITU, consistent with prior literature highlighting FL's role in enriching users' product and service comprehension. Setiawan et al. (2021) confirmed that financially literate people recognized the utility of fintech platforms, causing ITU of the services. A likely explanation is that financially knowledgeable individuals can more effectively balance perceived advantages against potential hazards of fintech platforms. This

relationship suggests that FL affects fintech adoption. Srivastava et al. (2024) suggested that FL had less of a direct effect on the fintech application since individuals were predisposed to using the service, regardless of financial knowledge.

H2: Financial Literacy affects Trust (FL → TR)

The H2 indicated a FL's strong and positive impact on Trust which appropriate to Qi et al. (2024), where financially literate users could assess the risks, security, and benefits of services. Financial knowledge evaluated the credibility of fintech platforms, increasing people's trust in services. This observation contributed to the idea that FL was a building block of developing trust in the fintech application to reduce perceived risks regarding digital financial services. The potential explanation was that financially literate individuals were better able to think critically about the security, trustworthiness, and overall value of fintech services.

H3: Financial Literacy affects Perceived Ease of Use (FL → PEOU)

H3 examined the FL and PEOU correlation, which was found to be significant. The increased FL allowed individuals to learn more about fintech platforms, providing the opportunity to view the service as easier to use. Therefore, financially literate individuals can easily evaluate and interact with the interface of the system, as well as understand the benefits and operational aspects of the service. The findings was appropriate to Long et al. (2023), where financially literate individuals could more easily use fintech services. A plausible explanation was that financially literate individuals had the knowledge needed to understand the features and functions of fintech platforms. Therefore, the increased level of understanding is part of the view of the technology as being user-friendly and intuitive, contributing to PEOU. In some cases, FL does not contribute to the strengthening of the relationship between PEOU and ITU. This is due to various reasons, such as the user's fluency with digital technology or the technical nature of the fintech platform. For instance, Srivastava et al. (2024) showed that younger, digitally native users might adopt fintech services easily regardless of their financial knowledge. Despite the nuances, FL is crucial in enhancing PEOU of fintech services.

H4: Trust affects Intention to Use Fintech (TR → ITU)

H4 confirms a direct and statistically significant influence, demonstrating that trust affects ITU directly and significantly. This is appropriate to previous studies where trust is crucial in the fintech application, as reported by (Ali et al., 2019; Gupta et al., 2023). Zhao et al. (2024) also stated that trust mediated the perceived risks of using digital financial services, like security and privacy risks. In this context, trust prevents the barriers to fintech adoption, specifically where individuals may be distrustful of digital services. Trust, as reported by Zhao et al. (2024), mitigates the perceived risks associated with digital financial service utilization, thereby elevating users' likelihood of platform adoption. This variable is a better predictor of ITU than FL or PEOU, supporting the previous study that enhances the importance of trust in selecting to apply the services.

H5: Perceived Ease of Use affects Intention to Use Fintech (PEOU → ITU)

In H5, PEOU affects ITU significantly appropriate to TAM as well as Chinh et al. (2024). This result strengthens the case for fintech platforms having user-friendly interfaces since the concept improves the willingness to interact with the services. Darmansyah et al. (2021) suggested that PEOU is an essential consideration in adopting fintech. When users view a fintech service as straightforward to operate, their inclination toward adoption rises, as this perception diminishes the anticipated cognitive and operational burden associated with platform interaction. According to Chinh et al. (2024), PEOU helps to lower the users' anxiety or resistance towards the new technology application. The simpler and more intuitive the interface, the more users are willing to interact with the service. Gupta et al. (2023) reported that PEOU was important, but the influence on adoption intention might be mediated by other factors, such as perceived benefits or trust. Even though PEOU is a foundational role in fintech application, the effect may not operate independently.

H6: Perceived Ease of Use Mediates the Effect of Financial Literacy on Intention to Use Fintech (FL → PEOU → ITU)

H6 investigated PEOU's potential mediating function in the FL-ITU pathway. The analysis yielded a non-significant indirect effect, indicating that PEOU does not operate as a meaningful mediator between FL and ITU. A reason for the non-significant result is that FL directly affects ITU without PEOU. Even though FL enhances user understanding, the variable may not substantially influence PEOU. The digital literacy of users or their familiarity with similar technologies could make PEOU less relevant. Srivastava et al. (2024) observed that in highly digitalized contexts, such as among younger individuals or technologically proficient users, PEOU had less significant influence on ITU compared with other variables. Even though FL facilitates understanding of fintech services, the findings indicate that PEOU does not invariably function as the primary pathway influencing ITU.

H7: Trust as a Mediator Between Financial Literacy and Intention to Use Fintech (FL → TR → ITU)

H7 validated trust's mediating function in the FL-ITU relationship. This outcome substantiates the theoretical premise that FL serves as a critical antecedent in trust formation. Studies conducted by Tariq et al. (2024) emphasized that the trust element was a necessary mediating variable in adopting digital services. A potential explanation is that people with greater FL are better in understanding the risks and benefits of the services. According to Tariq et al. (2024), trust operates as a consequential mediator in the financial knowledge-adoption nexus, as users' confidence in their capacity to appraise digital service security and reliability reinforces adoption propensity. This contributes to decreasing worries and perceived risks, allowing people to be more inclined to make use of fintech platforms. Therefore, FL informs and increases the trust of the user which is an important connection in the promotion bridging to increasing intention to use. The prominence of trust in fuelling ITU shows the need to make sure that the platforms emphasize on the mechanisms of establishing and sustaining trust.

CONCLUSION

The empirical outcomes demonstrate that financial knowledge exercises both an unmediated influence and a trust-channeled indirect effect on fintech adoption propensity. Although financial literacy additionally elevates usability perceptions, perceived ease of use failed to operate as a statistically meaningful intermediary in the financial literacy-adoption intent sequence. These findings establish trust as the dominant transmitting mechanism through which financial competence translates into platform adoption intent, eclipsing the intermediary significance of usability perceptions in the contemporary fintech environment. Through embedding financial knowledge, provider confidence, and usability constructs within a unified TAM-TPB framework, this study deepens conceptual comprehension of fintech uptake mechanisms in an emerging-market setting. Practically, fintech operators should invest in trust-enhancing initiatives encompassing robust cybersecurity protocols, transparent data governance, proactive fraud mitigation, and clear communication of protective safeguards, while regulatory bodies should strengthen consumer protection frameworks and champion sector-wide security benchmarks. Financial education initiatives should concurrently cultivate user confidence in digital financial platforms and deepen substantive financial understanding.

Notwithstanding these contributions, certain methodological boundaries warrant recognition. The use of convenience sampling and the exclusive focus on Indonesian fintech users constrain the transferability of findings to other populations and geographic settings. Moreover, the single-timepoint design forecloses causal inference, and the analytical framework incorporated only three focal constructs, leaving aside potentially influential variables including digital competence, security perceptions, peer influence, and institutional governance. Subsequent inquiries would benefit from probability-based sampling approaches, longitudinal or experimental designs, and cross-national comparative analyses to bolster external validity and enable causal determination. Moreover, enriching the theoretical architecture with supplementary behavioral and contextual constructs, while differentiating among fintech service categories including digital payments, lending, robo-advisory, and cryptocurrency, would yield

more granular and practically relevant insights into adoption behavior.

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