


# The Role of Financial and Digital Literacy in Enhancing Financial Inclusion: The Mediating Effect of Perceived Ease of Use in a Regional Banking Context

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INFO	ABSTRACT
<p><i>Sent :</i> <i>Revised :</i> <i>Accepted :</i> <i>Available online:</i></p>	<p>Financial inclusion remains a challenge in developing countries despite increasing access to digital financial services. Previous literature emphasizes the importance of financial and digital literacy, but is limited in explaining the behavioral mechanisms linking these literacy and financial inclusion. This study analyzes the influence of financial and digital literacy on financial inclusion, with perceived ease of use as a mediating variable in a regional banking context. The study employed a cross-sectional quantitative design with 385 bank customer respondents, and the data were analyzed using PLS-SEM. The results indicate that financial and digital literacy significantly influence increased financial inclusion. Perceived ease of use also has a strong direct influence on financial inclusion and partially mediates the relationship between financial and digital literacy and financial inclusion. This study emphasizes that individual literacy needs to be supported by an easy-to-use digital system for optimal financial inclusion.</p>
<p>Copyright ©2024 by Jurnal Judikultura (s) This work is licensed under a <a href="#">Creative Commons Attribution-ShareAlike 4.0 International License</a>.</p> 	<p>Keywords: Financial literacy; Digital literacy; Financial inclusion</p>
<p><b>Keywords:</b> <i>Fundamental Change, Political System, Vietnam</i></p>	

## INTRODUCTION

Financial inclusion has become a key focus of policy and academic research due to its role in driving economic growth, reducing inequality, and improving social welfare. Access to formal financial services enables savings protection, financing, risk mitigation, and more inclusive economic participation. However, in developing countries, financial inclusion still faces structural, technological, and behavioral barriers. Financial literacy plays a crucial role in helping individuals understand financial products and make informed decisions, and has been shown to be positively associated with access to and use of formal financial services. As financial services digitize, digital literacy is also a crucial factor, particularly in individuals' ability to utilize technology-based financial platforms. Low digital literacy can hinder the adoption of digital banking services and limit the impact of financial innovation.

However, financial and digital literacy alone do not guarantee effective financial participation. Perceived ease of use acts as a behavioral mechanism that bridges individual capabilities with actual use of digital financial services. Individuals with high levels of literacy tend to be reluctant to adopt services perceived as complex or non-intuitive.

Previous research has been dominated by analyses of the direct relationship between financial literacy and inclusion, with limited studies examining the mediating role of perceived ease of use, particularly in the context of regional banks in developing countries. Therefore, this study aims to examine the direct influence of financial literacy and digital literacy on financial inclusion, as well as the mediating role of perceived ease of use in this relationship. This study contributes theoretically by integrating literacy into

the Technology Acceptance Model and practically recommends user-centered digital service design to promote broader financial inclusion.

## LITERATURE REVIEW

### 1. Literacy Finance and Inclusion Finance

Financial literacy is recognized as a critical determinant of an individual's ability to obtain and utilize formal financial services efficiently. Lusardi and Mitchell (2014) define financial literacy as a set of knowledge and competencies that enable individuals to make appropriate and informed financial choices. Within the framework of financial inclusion, individuals with adequate financial literacy are better able to understand financial products, assess potential risks and benefits, and navigate formal financial institutions, ultimately increasing their participation in the formal financial system.

A large body of empirical research demonstrates a consistent correlation between financial literacy and financial inclusion. Kass-Hanna et al. (2022) illustrated that individuals with high financial literacy are more likely to own a bank account, use digital payment methods, and participate in formal savings and credit practices. Ary et al. (2025) confirmed that financial literacy significantly increases financial inclusion by reducing knowledge asymmetries and behavioral barriers, particularly in emerging markets. These findings suggest that financial literacy serves as an important enabling capability that reduces cognitive limitations and increases trust in financial institutions.

From a behavioral perspective, financial literacy goes beyond technical knowledge by strengthening individuals' confidence when interacting with formal financial services (Bucher-Koenen et al., 2021). Consequently, people with better financial literacy are more likely to transition from informal financial practices to longer-term participation in the formal financial system.

### 2. Literacy and Inclusion Finance

As financial services increasingly rely on digital platforms, digital literacy has emerged as a complementary determinant of financial inclusion. Digital literacy demonstrates the ability to access, assess, and skillfully use digital technologies for communication, problem-solving, and decision-making (Jenkins, 2022). In the financial domain, digital literacy enables individuals to navigate mobile banking applications, digital payment systems, and online financial platforms.

Previous studies have highlighted that inadequate digital literacy is a significant barrier to financial inclusion, particularly in emerging markets where digital infrastructure adoption is outpacing user capability development (Suherdi, 2021). Kass-Hanna et al. (2023) demonstrated that digital literacy enhances individuals' ability to utilize digital financial services, thereby increasing access to the formal financial system. Adel et al. (2024) illustrated that digital literacy is crucial for reducing the digital divide and promoting equitable access to financial services across socioeconomic groups.

Importantly, digital literacy encompasses more than just basic technical competencies. It includes essential understanding and self-efficacy in interacting with digital systems, which directly influences an individual's propensity to use digital financial services (Yessi, 2021). Consequently, individuals with high digital literacy are more likely to use digital banking services, thereby increasing their overall financial inclusion.

### 3. Convenience Usage and Adoption Perceived Technology

Perceived ease of use is a key construct in the Technology Acceptance Model (TAM), which refers to the extent to which users perceive a system as easy to use and requiring minimal effort (Davis, 1993). Various empirical studies have shown that perceived ease of use has a significant impact on the acceptance and use of digital technology, including digital banking services.

In the context of digital banking, systems perceived as complex can hinder adoption even if users

have adequate financial and digital literacy (Brahanta, 2021). Perceived ease of use has been shown to reduce cognitive load and ambiguity, thereby increasing the likelihood of using digital banking services (Ernawati & Noersanti, 2020). In addition to influencing initial adoption, ease of use also drives satisfaction and continued use through simple interfaces and efficient transaction processes (Venkatesh & Davis, 2000), thus playing a crucial role in driving financial inclusion.

#### 4. The Role of Mediation Convenience Use

While financial literacy and digital literacy enhance individual capabilities, neither automatically drives financial inclusion. The conversion of knowledge and skills into actual use depends on an individual's interaction with financial technology, with perceived ease of use acting as a key mediating mechanism. Individuals with higher literacy tend to perceive digital financial systems as easier to use due to greater understanding and confidence, thereby reducing perceived complexity and effort (Kass-Hanna et al., 2022).

From the Technology Acceptance Model (TAM) perspective, perceived ease of use not only directly influences adoption but also mediates the relationship between individual characteristics and usage behavior (Venkatesh & Davis, 2000). In the context of financial inclusion, literacy contributes optimally when digital services are perceived as accessible and user-friendly. Therefore, perceived ease of use is expected to mediate the relationship between financial literacy and financial inclusion, as well as between digital literacy and financial inclusion.

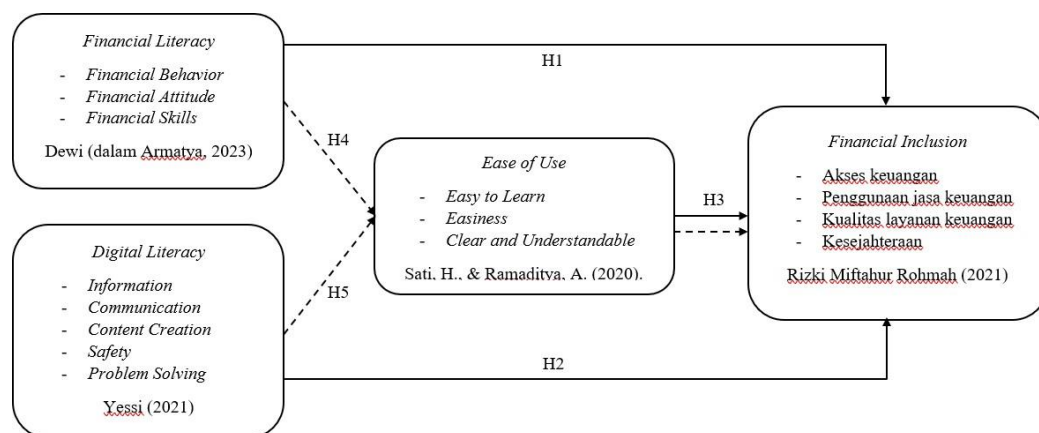


Figure 1.1 Framework Thinking

#### Hypothesis Study

1. H1: Financial Literacy has a positive and significant influence on Financial Inclusion at Bank BJB.
2. H2: Digital Literacy has a positive and significant influence on Financial Inclusion at Bank BJB.
3. H3: Ease of Use has a positive and significant influence on Financial Inclusion at Bank BJB.
4. H4: Ease of Use plays a role in the influence of Financial Literacy on Financial Inclusion at Bank BJB.
5. H5: Ease of Use plays a role in the influence of Digital Literacy on Financial Inclusion at Bank BJB.

#### METHOD

This study used a quantitative approach with a cross-sectional survey design to analyze the influence of financial literacy and digital literacy on financial inclusion, as well as the mediating role of perceived ease of use. Data were collected from 385 customers of regional banks in developing countries using a structured questionnaire. The sampling technique used purposive sampling, with respondents being users or potential users of digital banking services. The research instrument was developed based on previous literature and measured using a five-point Likert scale. Financial literacy, digital literacy, perceived ease of use, and financial inclusion were operationalized as reflective latent constructs. Data analysis was conducted using

Partial Least Squares–Structural Equation Modeling (PLS-SEM) because this method is suitable for testing complex causal relationships and does not require the assumption of a normal distribution.

Model evaluation was conducted through testing the measurement model (convergent validity, discriminant validity, and construct reliability) and the structural model to examine the direct and indirect effects between variables. Mediation testing was conducted using bootstrapping techniques to assess the significance of the mediating effect of perceived ease of use on the relationship between financial literacy and inclusion.

## RESULTS AND DISCUSSION

### 1. Statistics Descriptive

Descriptive statistics were calculated to summarize respondents' impressions of the research constructs. Table 3 presents the mean values and standard deviations for financial literacy, digital literacy, perceived ease of use, and financial inclusion. The mean values indicate respondents' overall inclination toward each construct, while the standard deviations reflect the variability of responses.

Overall, the mean scores indicate that respondents exhibit moderate to high levels of financial and digital literacy, accompanied by relatively positive perceptions of the ease of use of digital banking services. Financial inclusion also exhibits a relatively high mean score, indicating active engagement with formal and digital financial services among respondents. Standard deviations across constructs remain within acceptable ranges, indicating the absence of extreme dispersion and supporting the suitability of the data for further structural analysis.

Table 3 Statistics Descriptive Construct

<i>Build</i>	<i>Means</i>	<i>Standard Deviation</i>
<i>Financial Literacy</i>	<b>4.43</b>	<b>0.46</b>
<i>Digital Literacy</i>	<b>4.38</b>	<b>0.49</b>
<i>Perceived Ease of Use</i>	<b>4.51</b>	<b>0.45</b>
<i>Financial Inclusion</i>	<b>4.29</b>	<b>0.52</b>

### 2. Evaluation of Measurement Model

The measurement model was assessed to determine the reliability and validity of the latent constructs before hypothesis testing. Convergent validity was evaluated using outer loading and Average Variance Extracted (AVE), while internal consistency reliability was measured using Composite Reliability (CR).

#### 1) Reliability and Validity Convergent

Table 4 shows that all constructs demonstrated adequate reliability, with composite reliability values exceeding the recommended minimum of 0.70 (Hair et al., 2022). Convergent validity was established because the AVE values for all constructs were above the minimum threshold of 0.50, indicating that the construct explained more than half of the variance in its indicators. Furthermore, the minimum external loading values for each construct met acceptable requirements, indicating that the indicators adequately represented the corresponding latent variables.

Table 4 Reliability and Validity Convergent

<b>Build</b>	<b>Minimum External Load</b>	<b>Composite Reliability (CR)</b>	<b>AVE</b>
Financial Literacy	<b>0.766</b>	<b>0.958</b>	<b>0.560</b>

Digital Literacy	<b>0.630</b>	<b>0.952</b>	<b>0.548</b>
Perceived Ease of Use	<b>0.732</b>	<b>0.944</b>	<b>0.585</b>
Financial Inclusion	<b>0.627</b>	<b>0.936</b>	<b>0.540</b>

## 2) Validity Discriminant

Discriminant validity was evaluated using the Heterotrait–Monotrait ratio (HTMT), which is considered a more stringent standard than conventional approaches. Table 5 shows that all HTMT values are below the recommended threshold of 0.90, indicating that each concept is empirically unique from the others. These results validate that the measurement model meets the criteria for discriminant validity.

Table 5 Validity Discriminant ( HTMT Ratio )

Construction	Digital Literacy	Ease of Use	Financial Inclusion	Financial Literacy
Digital Literacy	—	0.913	0.755	0.932
Ease of Use		—	0.936	0.914
Financial Inclusion			—	0.813
Financial Literacy				—

## 3. Structural Model Evaluation

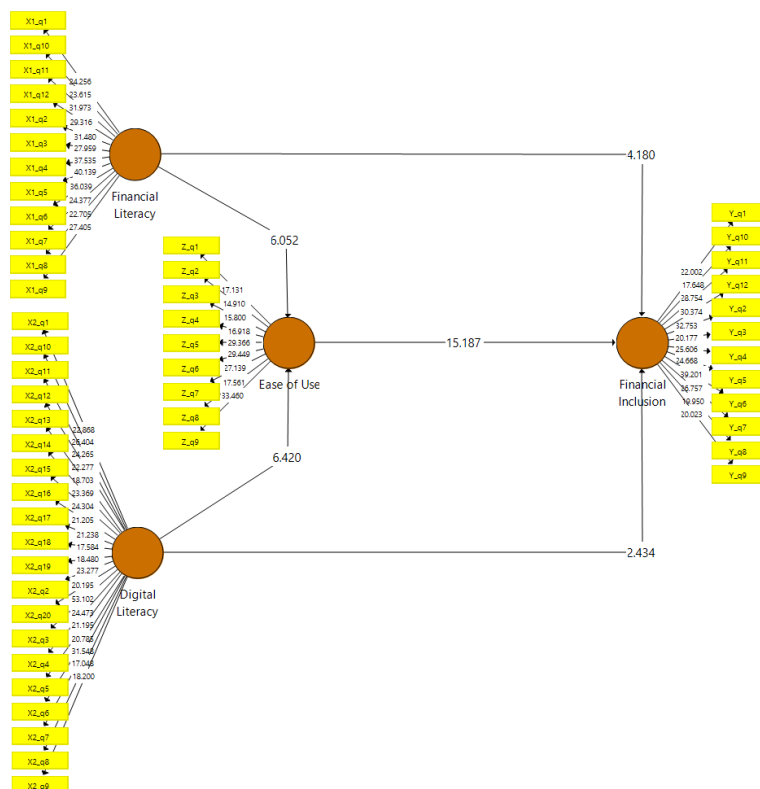


Figure 2 Structural Model with Coefficient Track

## 1) Direct Effects

Direct effects between latent constructs were examined using a bootstrapping procedure. Table 6 displays the standardized path coefficients, t-values, and p-values for each proposed association. The findings indicate that all direct paths are statistically significant at the 1% significance threshold.

**Table 6. Path Coefficients and Hypothesis Testing**

Hypothesis	Track	$\beta$	t value	p-value	Decision
H1	Financial Literacy → Financial Inclusion	0.281	4,180	< 0.01	Supported
H2	Digital Literacy → Financial Inclusion	0.172	2,434	< 0.01	Supported
H3	Perceived Ease of Use → Financial Inclusion	0.772	15,187	< 0.01	Supported

The findings show that financial literacy has a positive and significant effect on financial inclusion ( $\beta = 0.281$ ,  $p < 0.01$ ), indicating that individuals with higher financial knowledge are more likely to obtain and use formal financial services. Digital literacy also has a significant positive effect on financial inclusion ( $\beta = 0.172$ ,  $p < 0.01$ ), emphasizing the role of digital capabilities in facilitating the use of financial services. The strongest effect was observed on perceived ease of use on financial inclusion ( $\beta = 0.772$ ,  $p < 0.01$ ), indicating that ease of use is a dominant factor in enabling inclusive financial behavior.

## 2) Mediation Analysis

To investigate the mediating role of perceived ease of use, the indirect effect was assessed using the bootstrapping method. Mediation analysis examined whether perceived ease of use mediated the impact of financial literacy and digital literacy on financial inclusion.

**Table 7. Results of Mediation Analysis**

Hypothesis	Indirect Path	Indirect Effect ( $\beta$ )	t value	p-value	Types of Mediation
H4	Financial Literacy → Ease of Use → Financial Inclusion	0.340	5,328	< 0.01	Partial Mediation
H5	Digital Literacy → Ease of Use → Financial Inclusion	0.345	5,893	< 0.01	Partial Mediation

Mediation analysis showed that perceived ease of use significantly mediated the relationship between financial literacy and financial inclusion ( $\beta = 0.340$ ,  $p < 0.01$ ). This study indicates that individuals with higher financial literacy are more likely to achieve financial inclusion when digital banking services are perceived as easy to use. Perceived ease of use significantly mediated the relationship between digital literacy and financial inclusion ( $\beta = 0.345$ ,  $p < 0.01$ ), indicating that digital competence increases inclusion through increased perceived ease of use. Because the direct effects of financial literacy and digital literacy on financial inclusion remained significant, alongside their indirect effects, the mediation effect was classified as partial mediation. This result implies that although literacy directly contributes to financial inclusion, its influence is largely transmitted through perceived ease of use.

## Discussion

This study examines the influence of financial literacy, digital literacy, and perceived ease of use on financial inclusion in a regional banking context, with an emphasis on the mediating role of ease of use. The results provide theoretical and empirical contributions that enrich the literature on financial inclusion and digital banking adoption. The findings indicate that financial literacy significantly increases financial inclusion, in line with previous research that confirms its role in reducing information asymmetry and cognitive barriers, as well as fostering more confident interactions with formal financial institutions (Lusardi & Mitchell, 2014; Bucher-Koenen et al., 2021; Kass-Hanna et al., 2022; Grohmann et al., 2018). Digital literacy has also been shown to positively influence financial inclusion, underscoring the importance of digital competencies in an increasingly digitalized financial system (Van Dijk, 2020; Jenkins, 2022; Kass-Hanna et al., 2023; Adel et al., 2024).

Furthermore, perceived ease of use has the strongest direct influence on financial inclusion, consistent with the Technology Acceptance Model, which positions ease of use as a key determinant of technology adoption and continued use (Davis, 1993; Venkatesh & Davis, 2000). Ease of use has been shown to reduce cognitive load and psychological barriers, thus acting as a key catalyst for inclusive financial behavior, particularly in regional banks with heterogeneous customer characteristics (Brahanta, 2021; Ernawati & Noersanti, 2020).

The results of the mediation analysis indicate that perceived ease of use partially mediates the relationship between financial literacy and financial inclusion, as well as between digital literacy and financial inclusion. This finding confirms that literacy is a latent capability that can only be actualized when digital financial services are perceived as easy to use (Grohmann et al., 2018; Ary et al., 2025). Theoretically, these results support the integration of financial literacy and TAM and align with the behavioral finance perspective that emphasizes the role of cognitive effort and perceived complexity in decision-making (Thaler, 2016; Barberis et al., 2018). Practically, these findings confirm that improving literacy alone is not enough to achieve optimal financial inclusion. User-centered digital service design is key, especially for regional banks facing resource constraints and serving diverse customer segments (Boot & Thakor, 2000; Ghosh, 2016). Thus, inclusive digital transformation requires a synergy between enhancing individual capabilities and ease of use at the system level.

## CONCLUSION

This study examines the role of financial literacy and digital literacy on financial inclusion, with perceived ease of use as a mediating variable in a regional banking context. Empirical results indicate that both forms of literacy have a positive and significant impact on financial inclusion, underscoring the importance of individual financial and digital competencies in accessing and utilizing formal financial services in the digital era. The findings also highlight the crucial role of perceived ease of use, which not only has a strong direct influence on financial inclusion but also mediates the relationship between literacy and users' actual engagement with digital financial services. This suggests that financial inclusion is influenced by the interaction between individual ability and the extent to which digital financial platforms are perceived as intuitive and user-friendly.

Theoretically, this study adds to the literature by integrating financial and digital literacy into the Technology Acceptance Model. However, limitations include the use of a cross-sectional design, focus on a single regional bank, and reliance on self-survey data. Future research is recommended to utilize a longitudinal design, broader context, and objective data to strengthen the generalizability and validity of the findings.

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### Data Availability

Data supporting the findings of this study are available within the article and its supplementary materials. Any additional data supporting the findings of this study are available from writer correspondence on reasonable request .

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### Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could be construed as influencing the work reported in this paper.

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