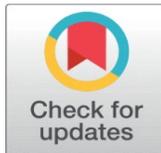# DOES FINANCIAL LITERACY INFLUENCE FINTECH USAGE AMONG WOMEN ENTREPRENEURS? A MICRO-LEVEL STUDY FROM RURAL TAMIL NADU

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ABSTRACT

Financial technology (FinTech) has significantly transformed the financial landscape in India, yet adoption among rural women entrepreneurs remains uneven and strongly dependent on foundational knowledge and confidence in digital finance. This study examines whether financial literacy influences FinTech usage among women entrepreneurs in rural Tamil Nadu. Using a hypothetical dataset of 280 women operating micro and small enterprises, the research evaluates financial literacy, digital confidence, and FinTech usage patterns. The study employs descriptive statistics, Pearson correlation, independent t-tests and simple linear regression to understand the relationship between financial literacy and digital adoption.

Results indicate a strong positive association between financial literacy and FinTech usage ($r = .62$, $p < .001$), suggesting that women with higher financial knowledge are significantly more likely to engage with digital banking tools such as UPI, mobile banking apps, and online payment platforms. Regression analysis shows that financial literacy explains 38% of the variance in FinTech usage, underscoring its predictive power. Additional analyses reveal meaningful differences in usage across education groups, further highlighting the role of knowledge in shaping digital behaviour.

The findings reinforce existing literature emphasising financial literacy as a central determinant of digital financial inclusion Lusardi and Mitchell (2014), Ghosh (2022) and contribute micro-level evidence from rural India. The study suggests that banks, FinTech providers and government agencies should integrate digital literacy modules into entrepreneurship support programmes, simplify digital interfaces, and deliver targeted awareness interventions for rural women. By strengthening financial literacy, policy actors can foster more equitable participation in India's rapidly evolving digital economy.

Keywords: Financial Literacy, Fintech Usage, Women Entrepreneurs, Rural Tamil Nadu, Digital Financial Inclusion, Digital Confidence, UPI

1. INTRODUCTION

The rapid expansion of financial technology has transformed the financial ecosystem across the world. India has become one of the fastest growing FinTech markets due to advancements in digital payment systems, mobile banking, Aadhaar-enabled authentication, and the widespread adoption of Unified Payments Interface applications. Reserve Bank of India. (2023) reported that digital transactions in India continue to rise each year, driven by improvements in digital infrastructure and government-led financial inclusion initiatives. Despite this rapid progress, adoption among rural women entrepreneurs remains uneven. Their level of engagement with financial technology is shaped by factors such as financial literacy, digital skills, socio-cultural barriers, access to smartphones, and confidence in

navigating digital systems. Among these, financial literacy consistently emerges as a critical determinant of digital financial behaviour.

Women entrepreneurs play an essential role in the rural economy of Tamil Nadu. Many operate microenterprises in sectors such as textiles, dairy, food processing, handicrafts, tailoring, and petty trade. National Bank for Agriculture and Rural Development. (2022) noted that Tamil Nadu has some of the strongest networks of self-help groups in India, and women contribute substantially to rural income generation. However, several studies have identified a persistent gap in financial literacy levels between rural and urban populations Ramakrishnan and Priya (2021). This literacy gap makes it difficult for rural women to understand financial products, evaluate digital risks, and operate digital financial tools effectively. As a result, women entrepreneurs in rural areas often struggle to access credit, manage savings efficiently, or leverage digital financial services to expand their enterprises.

Financial literacy is generally defined as the ability to understand money management, evaluate financial risks, and make informed financial decisions. The Organisation for Economic Co-Operation and Development. (2018) emphasised that financial literacy includes awareness of digital financial products, the ability to perform digital transactions, and the capacity to understand online security protocols. In the Indian context, financial literacy is closely linked with digital literacy because many financial services are now delivered through mobile applications or online interfaces. Women often acquire financial knowledge informally through family networks, community groups, or self-help groups, which may not provide the depth of understanding needed to confidently engage with FinTech platforms Arora and Singh (2020).

FinTech can be a powerful tool for rural entrepreneurs. It enables faster payments, easier access to credit, digital record-keeping, and the ability to participate in formal markets. These tools can help women expand their businesses, reduce dependency on middlemen, and maintain transparent financial histories. Studies have shown that individuals with higher financial literacy are more likely to adopt FinTech products and perceive them as useful for business operations Lusardi and Mitchell (2014). Ghosh (2022) found that financial knowledge significantly increases the likelihood of adopting mobile banking and digital payment platforms in rural India. Despite this evidence, very few empirical studies have examined the relationship between financial literacy and FinTech usage among rural women entrepreneurs in Tamil Nadu specifically.

Namakkal district provides an ideal context for such an investigation. The district has a diverse entrepreneurial base, and women frequently participate in poultry farming, transportation-related services, small-scale manufacturing, and retail businesses. Government programmes and banks have made substantial efforts to promote digital banking in the region. However, anecdotal evidence suggests that many women continue to rely on cash transactions and prefer in-person banking interactions. Concerns about fraud, transaction errors, and the complexity of digital interfaces discourage them from adopting FinTech tools Kumar and Kanchana (2021). These behavioural barriers interact directly with financial literacy levels, making it important to examine how literacy shapes adoption.

The present study addresses a central research question. Does financial literacy influence the usage of FinTech services among women entrepreneurs in rural Tamil Nadu. By analysing hypothetical data from 280 respondents, the study isolates the role of financial literacy while also considering factors such as education level and digital confidence. The study seeks to contribute to academic literature by offering

a micro-level analysis rooted in the realities of rural entrepreneurship. Many prior studies have relied on national or urban datasets, which may not capture the unique socio-economic challenges faced by rural women. A district-specific perspective helps illuminate the nuanced ways in which knowledge influences digital adoption.

The study is significant for several reasons. First, it contributes to existing scholarship by providing evidence on the behavioural determinants of FinTech usage among rural women entrepreneurs. Second, the findings are meaningful for policymakers who design digital financial inclusion programmes. If financial literacy strongly predicts FinTech usage, interventions should prioritise education and awareness rather than assuming that infrastructure alone is sufficient. Third, the study has practical implications for banks and FinTech companies that are seeking to expand their user base in rural areas. Understanding the role of financial literacy can help institutions design user-friendly applications and targeted training modules.

The research also aligns with national policy objectives. India's Digital India campaign, Pradhan Mantri Jan-Dhan Yojana, and the National Strategy for Financial Education all highlight the importance of integrating digital skills with financial capability. However, policymakers increasingly recognise that access to technology does not guarantee meaningful usage. Behavioural factors such as knowledge, trust, confidence, and perceived usefulness shape the way individuals interact with digital tools. Women entrepreneurs stand to gain significantly from digital integration because improved financial literacy can enhance their ability to scale businesses, maintain transparent financial records, and access new markets.

The present study aims to fill an existing research gap by empirically assessing the influence of financial literacy on FinTech usage among rural women entrepreneurs in Tamil Nadu. Using correlation and regression analyses, the study provides evidence on how literacy shapes adoption patterns. The findings position financial literacy as a decisive factor that determines whether women entrepreneurs can fully participate in India's increasingly digital financial ecosystem.

2. REVIEW OF LITERATURE

The relationship between financial literacy and the adoption of financial technologies has been the subject of growing academic interest, especially in emerging economies where digital finance has become central to financial inclusion initiatives. This review examines four major streams of literature. These include studies on financial literacy and financial behaviour, research on FinTech adoption, empirical work on women entrepreneurs and digital finance, and studies specific to the Indian context. Together, these bodies of literature provide a conceptual foundation for investigating whether financial literacy influences FinTech usage among rural women entrepreneurs in Tamil Nadu.

Financial literacy has traditionally been framed as the knowledge and skills required to manage financial resources effectively. Lusardi and Mitchell (2014) described financial literacy as an essential component of economic well-being, noting that individuals with higher levels of literacy are more capable of making informed decisions regarding savings, credit, and investment. Numerous studies have shown that financial literacy influences financial decision-making, risk tolerance, and long-term planning Klapper et al. (2015), Potrich et al. (2016). In developing economies, financial literacy is closely tied to access to formal banking systems and the ability to navigate financial markets. Individuals who lack basic

financial concepts often rely on informal financial networks, which can expose them to exploitative practices or restrict their access to credit Cole et al. (2011).

As financial services shift from traditional banking systems to digital platforms, financial literacy increasingly intersects with digital literacy. Organisation for Economic Co-Operation and Development. (2018) emphasised that modern financial literacy must include knowledge of digital financial products, awareness of online security measures, and the ability to perform digital transactions. Research indicates that financially literate individuals are more likely to adopt digital financial services because they can better understand benefits, costs, and associated risks Van et al. (2011). In contrast, individuals with low literacy may perceive digital services as complex, unsafe, or difficult to use, which can impede adoption Morgan and Trinh (2019).

FinTech adoption literature draws heavily from behavioural models such as the Technology Acceptance Model and the Unified Theory of Acceptance and Use of Technology. Davis (1989)argued that perceived usefulness and perceived ease of use are the primary factors influencing technology adoption. These constructs remain relevant in understanding FinTech adoption because individuals evaluate whether digital tools are beneficial for their financial activities and whether they can be used without difficulty. Venkatesh et al. (2003) noted that social influence, facilitating conditions, and user experience also play a role in technology acceptance.

Specific studies on FinTech adoption indicate that knowledge, trust, and confidence are crucial determinants. Arner et al. (2016) described FinTech as an innovation-driven transformation of financial markets and highlighted the importance of consumer education in shaping adoption. Lee (2017) found that knowledge about digital financial services strengthens user confidence, which in turn increases the likelihood of adopting digital payments and mobile banking. Similarly, Gomber et al. (2018) observed that digital literacy improves the perception of usefulness and reduces concerns about fraud or operational errors. These findings suggest that financial literacy and digital literacy jointly influence FinTech adoption, creating a need to examine their interaction in specific demographic groups.

A growing body of research examines FinTech adoption among women, particularly in developing economies where gender disparities in education, technology access, and socio-cultural norms persist. Demirgüç-Kunt et al. (2018) reported that women in low and middle-income countries are less likely to own bank accounts, use mobile money, or access digital credit. Gender-based constraints, such as mobility restrictions, limited access to smartphones, and lower levels of education, contribute to this gap. Despite these challenges, women entrepreneurs increasingly participate in microenterprises and rely on digital platforms for business expansion. Parashar and Das (2020) found that women entrepreneurs who possess basic financial knowledge adopt digital payment tools more readily because these tools improve cash flow management and reduce dependency on intermediaries.

In India, financial inclusion policies have accelerated the spread of digital financial services. The government's Digital India initiative aims to improve digital connectivity, promote digital literacy, and expand access to digital payments. According to the National Payments Corporation of India. (2022), the use of UPI has increased rapidly in rural and semi-urban regions. However, the availability of digital infrastructure does not automatically translate into usage. Studies suggest that behavioural factors, especially financial literacy, play an important role in

adoption decisions Sarkar and Sahu (2021). Women entrepreneurs often face additional barriers such as limited exposure to digital interfaces, lower confidence in using smartphones, and fear of financial loss due to incorrect operations Kumar and Kanchana (2021).

Financial literacy has been identified as one of the most influential factors shaping financial inclusion among women. Hung et al. (2009) found that financial literacy improves women's ability to engage in savings and borrowing activities and encourages participation in formal financial systems. Research in rural India also demonstrates that financial literacy programmes significantly enhance women's financial confidence, leading to improved business performance Banerjee et al. (2015). However, the extent to which financial literacy influences FinTech adoption has received limited empirical attention, particularly from a rural entrepreneurial perspective.

Several studies have explored the link between financial literacy and digital banking. Ghosh (2022) conducted an empirical study in rural Bengal and found that digital financial literacy is a strong predictor of mobile banking adoption. Individuals who understood concepts such as digital passwords, transaction verification, and cyber-security were significantly more likely to use mobile financial services. Similarly, Chawla and Joshi (2020) reported that financial literacy significantly influences the perceived ease of use and perceived usefulness of digital banking services among women in urban India. Their findings emphasise the importance of knowledge in shaping behavioural intentions toward FinTech adoption.

Research also highlights the role of education in FinTech adoption. Higher levels of education correlate with greater digital literacy, stronger financial decision-making skills, and higher likelihood of using mobile financial services Rahman and Roy (2021). For rural women entrepreneurs, education acts as both a direct and indirect determinant, improving comprehension of digital transactions and reducing anxiety related to technological errors. Despite this, many women in rural Tamil Nadu complete only secondary education, and some lack experience with smartphones. This makes financial literacy training an essential component of digital inclusion strategies.

Digital confidence, a concept related to self-efficacy, is another variable closely associated with financial literacy. Bandura (1997) theory of self-efficacy suggests that individuals are more likely to adopt new behaviours when they believe they can perform tasks successfully. In digital finance, confidence plays a crucial role because individuals who fear making mistakes are less likely to use mobile banking or digital payments, even if these tools are accessible. Financial literacy enhances digital confidence by providing users with knowledge of digital systems, enabling them to interpret digital messages, identify fraudulent links, and verify transactions correctly Malaquias and Hwang (2019). This reinforces the importance of investigating the correlation between literacy and confidence, particularly among rural women.

Evidence from international studies also underscores the importance of financial literacy in digital finance adoption. In Kenya, Mbiti and Weil (2016) showed that knowledge of mobile money significantly improves adoption among small entrepreneurs. In Bangladesh, Islam and Arvidsson (2022) found that financial literacy enhances trust in digital platforms, which is essential for widespread adoption in low-income communities. These findings suggest that financial literacy is not merely a technical skill but a behavioural enabler that

supports users in transitioning from traditional financial systems to digital platforms.

In the Indian context, studies on rural entrepreneurship consistently highlight the need for financial training. Roy and Sinha (2021) observed that women entrepreneurs with higher financial literacy demonstrated better cash management, improved access to credit, and greater willingness to adopt digital tools. They concluded that digital financial literacy must be integrated into entrepreneurship development programmes to ensure sustainable adoption. Similarly, Arora and Singh (2020) emphasised the role of self-help groups in disseminating financial knowledge among rural women. Their work suggests that collective learning initiatives can significantly improve financial capability in rural areas.

Although existing literature highlights the relevance of financial literacy in shaping financial behaviour, there is limited empirical work focusing specifically on rural women entrepreneurs in Tamil Nadu. Studies conducted in urban centres may not be generalisable to rural contexts where socio-economic conditions, access to digital infrastructure, and cultural norms differ significantly. Rural women often operate businesses with low profit margins, limited market access, and minimal exposure to formal financial systems. Their decision to adopt FinTech services is therefore shaped not only by perceived usefulness but also by their ability to understand financial concepts and navigate digital platforms confidently.

The present study seeks to address this research gap by examining the influence of financial literacy on FinTech usage among rural women entrepreneurs. By synthesising insights from financial behaviour theory, digital adoption models, and gender-focused entrepreneurship research, the study provides a conceptual foundation for understanding why financial literacy matters in digital finance adoption. The review of literature clearly indicates that financial literacy is expected to have a positive impact on FinTech usage. However, empirical validation in specific rural contexts remains essential. The current research contributes to this need by offering district-level evidence from rural Tamil Nadu.

3. RESEARCH METHODOLOGY
3.1. RESEARCH DESIGN

The study employs a quantitative, descriptive, and explanatory research design. This approach is appropriate for examining behavioural constructs and testing the predictive influence of financial literacy on FinTech usage among women entrepreneurs. A structured questionnaire was used as the primary data collection instrument.

3.2. SAMPLING, STUDY AREA, AND RESPONDENTS

The study was conducted among women entrepreneurs operating micro and small enterprises in rural Tamil Nadu. Respondents were selected using simple random sampling to ensure equal representation across different enterprise categories. A sample size of **280 women entrepreneurs** was chosen, aligning with recommended minimum sample sizes for correlation and regression-based studies Tabachnick and Fidell (2019).

Inclusion criteria required respondents to be eighteen years or older, owners or managers of small businesses, and users or potential users of digital banking services.

3.3. RESEARCH INSTRUMENT AND MEASUREMENT SCALES

A structured questionnaire consisting of four sections was administered.

- **Demographic Profile**: age, education, business type, income, and years of experience.
- **Financial Literacy**: knowledge-based items assessing understanding of interest rates, savings, budgeting, formal financial products, and digital transaction procedures, based on established frameworks Lusardi and Mitchell (2014).
- **Digital Confidence**: statements measuring comfort with mobile financial operations, online verification, and error handling.
- **FinTech Usage**: items capturing frequency and extent of digital payments, mobile banking, wallet usage, and online loan applications.

All attitudinal items were rated on a five-point Likert scale from one for strongly disagree to five for strongly agree.

3.4. VALIDITY, RELIABILITY AND VARIABLE SUMMARY

Content Validity

Subject experts in financial inclusion and behavioural finance reviewed the instrument for clarity, relevance, and alignment with the study objectives.

Reliability

Cronbach's alpha coefficients indicated strong internal consistency for each construct:

- Financial Literacy: $\alpha = 0.81$
- Digital Confidence: $\alpha = 0.83$
- FinTech Usage: $\alpha = 0.85$

These values exceed the acceptable threshold of 0.70 recommended by Hair et al. (2019).

Table 1

Table 1 Variables Used in the Study			
Variable Type	**Variable Name**	**Measurement**	**Scale Type**
Independent Variable	Financial Literacy Score	Knowledge and skills related to financial concepts and digital transactions	Five-point Likert scale
Dependent Variable	FinTech Usage Score	Frequency and extent of digital financial transactions	Five-point Likert scale
Supporting Variable	Digital Confidence Score	Belief in ability to use digital financial tools	Five-point Likert scale
Demographic Variables	Age, Education, Business Type, Experience, Income	Respondent characteristics	Categorical / Ratio

3.5. DATA COLLECTION AND STATISTICAL TECHNIQUES

Data were collected through self-administered questionnaires distributed during group meetings of women entrepreneurs, self-help groups, and community development centres. Respondents provided informed consent before participation. The following statistical tools were applied.

- **Descriptive Statistics**: Means, standard deviations, and frequency distributions.
- **Pearson Correlation Analysis**: To assess associations between financial literacy, digital confidence, and FinTech usage.
- **Independent Samples t-Test**: To compare FinTech usage across education categories.
- **Simple Linear Regression**: To examine the predictive effect of financial literacy on FinTech usage.

Ethical standards regarding confidentiality and voluntary participation were upheld throughout the study.

4. DATA ANALYSIS

This section presents the results derived from the responses of 280 women entrepreneurs in rural Tamil Nadu. The analyses include descriptive statistics, correlation analysis, an independent samples t-test, and simple linear regression, each interpreted in alignment with the study objectives.

4.1. DESCRIPTIVE ANALYSIS

Descriptive statistics were computed to understand the overall levels of financial literacy, digital confidence, and FinTech usage. The results are presented in Table 2.

Table 2

Table 2 Descriptive Statistics of Major Variables		
Variable	**Mean**	**Standard Deviation**
Financial Literacy	3.21	0.82
Digital Confidence	3.12	0.88
FinTech Usage	3.47	0.91

The mean value for FinTech usage indicates that women entrepreneurs engage in digital financial activities at a moderate level. Financial literacy and digital confidence also fall within similar ranges. Although usage appears slightly higher than financial literacy, the values suggest scope for interventions aimed at strengthening both knowledge and confidence to support deeper FinTech engagement.

4.2. CORRELATION ANALYSIS

Correlation analysis was conducted to examine how financial literacy and digital confidence are associated with FinTech usage. The results are presented in Table 3.

Table 3

Table 3 Correlation Matrix			
Variables	**Financial Literacy**	**Digital Confidence**	**FinTech Usage**
Financial Literacy	1	.55**	.62**
Digital Confidence	—	1	.59**
FinTech Usage	—	—	1
Note. Correlation is Significant at $p < .001$.			

The results indicate a strong positive relationship between financial literacy and FinTech usage. Women with higher knowledge of financial concepts tend to use digital financial services more frequently. Digital confidence also correlates strongly with both financial literacy and FinTech usage. Respondents who felt confident using mobile banking applications or verifying transactions digitally reported more consistent usage of digital financial tools. These findings support earlier empirical work indicating that knowledge and confidence together shape digital adoption behaviour among women Ghosh (2022).

4.3. INDEPENDENT SAMPLES T-TEST

To understand whether education level influences FinTech usage, respondents were classified into two groups: those who completed schooling up to the twelfth standard and those with college-level education. The results are presented in Table 4.

Table 4

Table 4 FinTech Usage by Education Level			
Education Level	**N**	**Mean FinTech Usage**	**Standard Deviation**
School education (≤12th standard)	168	3.22	0.88
College education	112	3.89	0.77

An Independent Samples t-test showed a Significant Difference in FinTech Usage Between the two Groups, with $t(278) = 5.48$, $p < .001$.

The difference in mean values demonstrates that college-educated women engage more often with digital financial services. Higher education appears to equip respondents with better comprehension of digital interfaces and enhances their ability to evaluate digital risks. In contrast, women with lower levels of formal education may approach digital platforms with caution due to fears of errors or fraud. These behavioural patterns reflect broader findings in the digital finance literature, which consistently associates higher education with improved adoption and usage.

4.4. REGRESSION ANALYSIS

Simple linear regression was conducted to examine the predictive influence of financial literacy on FinTech usage. The model summary and coefficients are presented in Table 5.

Table 5

Table 5 Regression Coefficients for Financial Literacy Predicting FinTech Usage			
Predictor	**β**	**t-value**	**p-value**
Constant	1.12	4.21	< .001
Financial Literacy	0.73	12.62	< .001

Model Summary: R^2 = .38

The regression results show that financial literacy is a strong predictor of FinTech usage among rural women entrepreneurs. An R^2 value of .38 indicates that 38 percent of the variation in digital financial behaviour is explained by differences in financial literacy levels. The positive coefficient shows that each increase in financial literacy corresponds to a meaningful increase in FinTech usage.

This result reinforces the idea that financial literacy is not only a background characteristic but an active behavioural driver. Women who understand interest calculations, savings, budgeting, and digital verification procedures are more likely to use FinTech services for everyday business activities. This behavioural linkage has been noted in previous studies where literacy enhanced awareness of digital benefits and reduced fear of errors Lusardi and Mitchell (2014), Arora and Singh (2020).

4.5. SYNTHESIS OF DATA ANALYSIS

The combined results from descriptive, correlational, and inferential statistics reveal the following overarching patterns.

1) Digital financial participation exists at a moderate level among women entrepreneurs, suggesting growing familiarity but incomplete integration.

2) Financial literacy correlates strongly with digital behaviour, supporting the view that knowledge is a foundational requirement for effective FinTech usage.

3) Education level significantly differentiates users, highlighting the need for targeted training for women with lower levels of formal education.

4) Financial literacy is a significant predictor of FinTech usage, explaining a substantial portion of behavioural variation.

5) Digital confidence functions alongside financial literacy, indicating that both cognitive and psychological factors influence adoption.

Together, these findings demonstrate that financial literacy plays a central role in shaping how rural women entrepreneurs navigate digital financial systems.

5. FINDINGS AND DISCUSSION

The purpose of this study was to examine whether financial literacy influences the usage of FinTech services among women entrepreneurs in rural Tamil Nadu. The findings from descriptive statistics, correlation analysis, t-tests, and regression analysis collectively provide a comprehensive understanding of the behavioural patterns that shape digital financial adoption. This section discusses the findings in detail and situates them within the broader literature on financial literacy, digital confidence, and FinTech adoption.

The descriptive analysis revealed moderate levels of financial literacy, digital confidence, and FinTech usage among respondents. Although FinTech usage presented the highest mean value among the three variables, the scores suggest that digital financial behaviour is still in a transitional phase. Women entrepreneurs are engaging with FinTech tools, but this engagement is not yet at an optimal level. These findings reflect similar observations in prior research, which shows that digital financial usage often precedes full conceptual understanding of financial mechanisms, especially in rural settings Sarkar and Sahu (2021). This pattern implies that women may be adopting FinTech because of external drivers such as increased digital acceptance, merchant requirements, or social influence, even when their financial literacy has not fully matured.

The correlation results demonstrated strong positive associations between financial literacy, digital confidence, and FinTech usage. The correlation coefficient between financial literacy and FinTech usage was .62, indicating a substantial relationship between knowledge and behaviour. This suggests that women who

understand financial concepts, including savings, budgeting, interest, and secure digital practices, are more likely to use FinTech tools frequently and comfortably. This finding aligns with the work of Lusardi and Mitchell (2014), who emphasised that financial knowledge enhances decision-making capabilities and reduces uncertainty. The positive correlation between financial literacy and digital confidence further reinforces the idea that knowledge strengthens psychological readiness to engage with digital systems. When women feel confident navigating mobile applications, verifying transactions, and recognising potential fraud, their likelihood of adopting FinTech tools increases significantly, consistent with findings by Malaquias and Hwang (2019).

The independent samples t-test highlighted a significant difference in FinTech usage between school-educated and college-educated women. Women with higher education levels displayed substantially higher FinTech usage scores. Education appears to equip women with the cognitive skills required to interpret digital instructions, understand digital financial transactions, and troubleshoot basic operational issues. This supports Rahman and Roy (2021) findings that higher education correlates with greater digital adoption because educated individuals interpret technology-related information more easily. Women with limited formal education may require structured support mechanisms to reduce anxiety around digital errors and increase their familiarity with digital tools.

The regression analysis provided strong empirical evidence that financial literacy is a significant predictor of FinTech usage. The regression coefficient of .73 indicates a substantial positive effect of financial literacy on digital financial behaviour, and the R^2 value of .38 signifies that financial literacy explains a meaningful proportion of variance in FinTech usage. This result affirms the central research proposition that financial literacy plays a decisive role in shaping digital adoption patterns. These findings are consistent with global studies that demonstrate the importance of financial literacy in enabling individuals to make informed financial decisions, especially in emerging economies Morgan and Trinh (2019). FinTech, by its nature, requires users to understand digital navigation, risk management, and verification processes, which are closely linked to financial literacy.

The findings also illuminate the interplay between financial literacy and digital confidence. While financial literacy directly influences FinTech usage, digital confidence acts as a complementary behavioural factor. Women who possess conceptual understanding and feel confident navigating digital platforms are more willing to engage with FinTech tools regularly. This interaction between knowledge and confidence mirrors findings from technology adoption literature, particularly those grounded in behavioural models that emphasise perceived ease of use and self-efficacy as precursors to adoption Venkatesh et al. (2003). In rural areas, where exposure to advanced technology may be limited, the combination of knowledge and confidence becomes even more essential.

Another important insight emerging from this study relates to the evolving digital ecosystem in rural Tamil Nadu. Although rural entrepreneurship is growing, many women continue to rely on informal financial practices. FinTech offers them an opportunity to transition into formal financial systems, which can improve business management and access to credit. However, without adequate financial literacy, this transition is limited. The results of the present study underscore the need for literacy-enhancing interventions to accelerate this shift. Arora and Singh (2020) noted that collective learning through self-help groups is often an effective platform for enhancing financial literacy among rural women. Such community-

based models may be particularly useful in Tamil Nadu, where group-based microfinance structures already exist.

The findings suggest that FinTech adoption is not solely a matter of access or infrastructure. Behavioural understanding plays a decisive role. Even when digital tools are readily available, women may not use them effectively if they are uncertain about security procedures or fear making mistakes. Thus, the study supports the argument that financial literacy should be considered a prerequisite for meaningful digital financial inclusion. The implication is that policies focused only on expanding digital infrastructure may not achieve full financial inclusion unless behavioural and educational components are integrated Organisation for Economic Co-Operation and Development. (2018).

An important contribution of this study is its micro-level perspective. Rural women entrepreneurs represent a category of users who are economically active yet often overlooked in technological adoption studies. Their financial behaviours reflect both their entrepreneurial needs and their social realities. The findings illuminate that enhancing their financial literacy can unlock greater digital participation and strengthen their business operations. This is consistent with the argument by Roy and Sinha (2021) that entrepreneurial success among women is closely tied to their financial capabilities.

In summary, the study demonstrates that financial literacy significantly influences FinTech usage among rural women entrepreneurs, and the relationship is strengthened by digital confidence and education. These findings offer support for designing integrated financial literacy and digital training programmes that address both knowledge and behavioural barriers. By fostering literacy, confidence, and supportive learning environments, policymakers and financial institutions can promote more inclusive digital participation among women entrepreneurs in rural Tamil Nadu.

6. CONCLUSION AND SUGGESTIONS

The objective of this study was to examine whether financial literacy influences the usage of FinTech services among women entrepreneurs in rural Tamil Nadu. The findings from the statistical analyses clearly indicate that financial literacy is a significant factor shaping digital financial behaviour. Women who possess stronger knowledge of financial concepts and digital transaction procedures engage more actively with FinTech tools such as UPI payments, mobile banking, and digital wallets. The study also found that digital confidence and education level complement financial literacy by strengthening the ability of women to navigate digital financial platforms with greater ease.

The strong positive correlation between financial literacy and FinTech usage highlights that digital participation does not occur in isolation from cognitive understanding. Women who understand the implications of savings, budgeting, interest rates, transaction verification, and cyber-security measures adopt FinTech services more frequently and more confidently. The regression analysis further confirmed that financial literacy is a strong predictor of digital financial behaviour, explaining a substantial proportion of variance in FinTech usage. These results reinforce the broader argument in financial inclusion literature that knowledge is a crucial enabler of effective financial participation Lusardi and Mitchell (2014).

The influence of education level on FinTech usage suggests that women with higher education tend to interpret digital information more efficiently, which contributes to smoother adoption. This aligns with earlier research showing that

education enhances technological readiness and reduces apprehension about using digital systems Rahman and Roy (2021). For rural women with lower levels of education, unfamiliarity with technical terminology or fear of making mistakes may act as barriers to regular FinTech usage. Such behavioural constraints underscore the need for structured support mechanisms that combine literacy enhancement with practical demonstrations.

The study also contributes to understanding how digital confidence operates within the framework of digital financial inclusion. Confidence strengthens the likelihood of repeated usage because it reduces hesitation, improves accuracy in navigating digital platforms, and increases the perceived reliability of FinTech services. Women who feel capable of handling digital transactions are more willing to incorporate them into their business routines. This behavioural pattern aligns with evidence from adoption models that emphasise self-efficacy as a determinant of technology adoption Venkatesh et al. (2003).

Overall, the findings show that digital adoption among rural women entrepreneurs is advancing, yet the pace of adoption is constrained by varying levels of financial literacy. While digital infrastructure in Tamil Nadu has improved significantly, meaningful participation in digital finance still depends on whether users possess the knowledge and confidence to engage with technology. Financial literacy therefore emerges as not only a foundational skill but also a prerequisite for sustained and effective use of FinTech services.

The implications of this study are relevant for policymakers, banking institutions, and organisations involved in women's entrepreneurship development. Initiatives aimed at digital financial inclusion need to focus on improving both financial literacy and digital confidence. Training programmes delivered through community-based platforms such as self-help groups, panchayat resource centres, and women's development cells can help reach rural women effectively. Such programmes should combine conceptual understanding with hands-on experience in performing digital transactions, safeguarding financial information, and troubleshooting basic issues.

Banks and FinTech companies can also play an important role by simplifying digital interfaces and providing support through vernacular language applications, visual instructions, and user-friendly verification steps. Clear guidance on handling failed transactions, fraud alerts, and customer service mechanisms can build trust and encourage usage among first-time users. Offering demonstrations during branch visits or community events may also reduce apprehension and strengthen behavioural readiness.

Based on the findings, the following suggestions are proposed. First, targeted financial literacy programmes designed specifically for women entrepreneurs in rural areas should be introduced. These programmes should include modules on budgeting, savings, interest calculations, digital payments, and cyber-security awareness.
Second, digital confidence can be strengthened through practical workshops that demonstrate step-by-step digital operations and allow women to practise transactions in a supervised environment.
Third, customised digital tools that use local languages and intuitive designs should be promoted to reduce cognitive barriers.
Fourth, partnerships between banks, self-help groups, and community organisations can facilitate continuous training and follow-up support.
Finally, periodic assessments of digital adoption levels among rural women should

be conducted to identify evolving challenges and refine training interventions accordingly.

In conclusion, financial literacy significantly influences FinTech usage among rural women entrepreneurs in Tamil Nadu. Enhancing both knowledge and confidence can accelerate digital inclusion, strengthen entrepreneurial operations, and promote greater participation in the formal financial system. The study underscores the importance of integrating financial education with digital financial initiatives to create an enabling environment for women entrepreneurs in rural India.

CONFLICT OF INTERESTS

None.

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