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DIGITAL TRUST AND THE USE OF FINTECH BANKING SERVICES: EVIDENCE FROM WOMEN ENTREPRENEURS IN NAMAKKAL DISTRICT

Murugaganesh Ramachandran [1], Dr. Vimlesh Tanwar [2]

[1] Research Scholar, Banasthali Vidyapith, Jaipur, Rajasthan, India
[2] Assistant Registrar, Banasthali Vidyapith, Jaipur, Rajasthan, India

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ABSTRACT

The expansion of digital financial services in India has created new opportunities for women entrepreneurs, yet the pace of adoption continues to vary significantly across regions. This study examines how digital trust influences the usage of FinTech banking services among women entrepreneurs in Namakkal district, a region known for its dynamic microenterprise ecosystem. The analysis is based on data collected from 280 women entrepreneurs and investigates key variables including digital trust, perceived security, system reliability, and FinTech usage behaviour. The study employs descriptive statistics, Pearson correlation, one-way ANOVA, and multiple regression to understand how trust-related constructs shape digital financial engagement.

The results reveal that digital trust has a strong positive relationship with FinTech usage ($r = .66$, $p < .001$). Women who perceive digital banking systems as reliable, secure, and transparent are significantly more likely to engage in activities such as UPI payments, mobile banking, online fund transfers, and digital credit applications. Regression findings further demonstrate that digital trust is the strongest predictor of FinTech usage among all examined variables, with the overall model explaining 46 percent of the variance in digital financial behaviour. ANOVA results indicate age-based differences, with younger entrepreneurs displaying higher levels of usage, reflecting generational differences in technology readiness.

The study highlights the central role of trust in shaping digital financial inclusion and suggests the need for enhanced cyber-awareness initiatives, clearer communication by financial institutions, and simplified user interfaces to strengthen trust and reliability perceptions among rural women entrepreneurs. The findings contribute to the growing literature on behavioural determinants of FinTech adoption in emerging economies.

Keywords: Digital Trust, Fintech Adoption, Women Entrepreneurs, Namakkal District, Digital Banking Services, Financial Inclusion, UPI Payments, Mobile Banking, Perceived Security

1. INTRODUCTION

The rapid growth of financial technology in India has transformed the landscape of financial services, particularly through innovations such as mobile banking appliscations, Unified Payments Interface platforms, Aadhaar-enabled payment systems, and digital wallets. These developments have expanded access to financial services even in remote regions and have introduced new opportunities for entrepreneurs to manage payments, savings, credit, and business transactions through digital channels. India's digital economy has seen tremendous momentum, with the Reserve Bank of India. (2023) reporting sustained increases in digital transactions and deeper penetration of digital banking systems. However, despite these advancements, the adoption of FinTech services among rural women

entrepreneurs remains uneven and is influenced by behavioural factors that extend beyond merely having access to technology.

Among the various behavioural constructs shaping FinTech adoption, digital trust has emerged as one of the most critical. Digital trust refers to the confidence individuals place in digital systems, including the belief that these systems are secure, reliable, accurate, and capable of protecting personal financial information McKnight et al. (2002). Trust plays a central role in shaping consumer behaviour in digital environments, where transactions occur without physical interaction or face-to-face verification. When trust is weak, individuals often avoid using digital services due to concerns about fraud, system failures, or loss of money. Conversely, strong trust encourages frequent usage, reduces hesitation, and increases the perceived benefits of digital tools. In the context of rural women entrepreneurs, trust becomes even more essential because digital transactions may represent unfamiliar territory requiring both confidence and perceived safety.

Women entrepreneurs in Namakkal district provide an important context for examining digital trust. Namakkal is known for its vibrant microenterprise ecosystem, with women actively participating in sectors such as dairy, poultry farming, textile production, tailoring, food processing, and small-scale trade. These enterprises regularly handle payments, purchase inputs, and maintain business relationships that can benefit from the efficiencies of digital financial systems. However, despite the availability of banking apps and digital payment tools, many women continue to rely on traditional cash-based transactions. Studies in rural India consistently show that women hesitate to adopt digital tools when they are uncertain about their security or reliability Kumar and Kanchana (2021). Even when digital access is present, behavioural barriers such as lack of trust, fear of errors, and concerns about fraud hinder active adoption.

Digital trust is influenced by several interconnected factors. Perceived security, which refers to beliefs about the safety of digital transactions and protection against unauthorised access, is closely linked to trust. Research shows that users who believe their data and money are secure are more willing to transact digitally Lee (2017). System reliability is another important component. When digital banking platforms operate consistently, load quickly, and provide accurate transaction confirmations, users are more likely to perceive them as dependable Gomber et al. (2018). Conversely, frequent technical glitches or failed transactions undermine trust and discourage repeated usage. In addition, trust is influenced by institutional factors such as customer support responsiveness, transparency in communication, and clarity regarding dispute resolution processes.

The Technology Acceptance Model and related behavioural theories emphasise perceived usefulness and ease of use as determinants of adoption. However, these models increasingly recognise trust as a central variable in digital contexts because digital transactions involve intangible processes that users cannot directly observe Venkatesh et al. (2003). In rural communities, where financial vulnerability is higher and knowledge of digital systems is limited, trust becomes the foundational determinant that shapes whether individuals perceive FinTech tools as safe and beneficial.

The case of women entrepreneurs in Namakkal is particularly significant because these women operate in a socio-economic environment where traditional financial practices dominate and where digital literacy varies widely. Although smartphone penetration has increased, and banking applications are increasingly accessible, the adoption of FinTech tools requires assurance that digital systems will not expose users to financial loss. Anecdotal evidence from community groups and

self-help organisations indicates that many women prefer visiting bank branches due to a perception that in-person interactions are safer. This preference persists even among those who possess the technical ability to perform digital transactions. Concerns about entering the wrong amount, sending money to an incorrect recipient, or losing money due to poor network connectivity contribute to hesitation.

At the same time, there is significant potential for FinTech to strengthen the entrepreneurial capabilities of rural women. Digital payments can support improved cash flow management, reduce the burden of handling physical cash, create verifiable transaction histories necessary for accessing formal credit, and increase transparency within business operations. Studies conducted in emerging economies show that when trust is established, digital adoption increases rapidly and leads to measurable economic benefits Islam and Arvidsson (2022). For women entrepreneurs managing multiple roles within households and businesses, digital systems offer efficiency, convenience, and long-term financial empowerment. However, these benefits can only be realised when digital trust is sufficiently strong.

The review of existing research highlights that digital trust has not been adequately examined in the context of rural women entrepreneurs in Tamil Nadu. While national and international studies acknowledge trust as a critical determinant of digital adoption, district-level empirical evidence focusing on women-led enterprises remains limited. Namakkal provides a suitable setting for such a study because of its strong microenterprise presence and increasing exposure to digital banking campaigns. Understanding how trust influences FinTech usage in this district can provide insights relevant for policymakers, financial institutions, entrepreneurship development organisations, and FinTech companies seeking to deepen digital financial inclusion.

The present study seeks to address this gap by investigating the relationship between digital trust and the usage of FinTech banking services among women entrepreneurs in Namakkal district. By analysing data from 280 women entrepreneurs, the study explores how digital trust, perceived security, and system reliability influence digital financial behaviour. The study also examines whether demographic factors, particularly age, contribute to differences in digital adoption. Through correlation, ANOVA, and regression analyses, the study provides a comprehensive understanding of trust-driven digital behaviour among rural women.

The significance of this study lies in its focus on behavioural enablers and barriers that shape FinTech usage in a rural entrepreneurial setting. Digital trust does not emerge automatically with increased access to technology. It is built through positive user experiences, institutional transparency, clear communication, security assurances, and system reliability. Identifying the dimensions of trust that matter most to rural women is essential for designing interventions aimed at strengthening digital financial inclusion. If trust is found to be a strong predictor of FinTech usage, targeted initiatives can be developed to enhance user confidence, improve cyber-awareness, and improve the perceived safety and dependability of digital platforms.

In conclusion, examining digital trust within the context of rural women entrepreneurs is critical for understanding the behavioural foundations of FinTech adoption. As India continues to promote digital transformation across sectors, ensuring that women entrepreneurs are confident and trusting users of digital financial systems will be essential for achieving inclusive and sustainable development.

2. REVIEW OF LITERATURE

Digital transformation in financial services has created significant opportunities to expand financial inclusion, especially in developing economies. However, adoption of digital financial tools depends not only on access and infrastructure but also on behavioural constructs, particularly digital trust. Trust is central to digital environments where transactions involve intangible processes and where users cannot physically verify each stage. The literature on digital trust, FinTech adoption, behavioural models, and women's financial participation collectively provides a foundation for examining how trust shapes FinTech usage among women entrepreneurs in Namakkal district.

Digital trust has been defined as a psychological state comprising users' willingness to rely on digital systems based on perceptions of competence, integrity, reliability, and security McKnight et al. (2002). These perceptions influence how individuals interpret risks and benefits associated with digital transactions. In digital finance contexts, users must believe that their personal data will remain confidential, that transactions will be processed accurately, and that the system will provide support in the event of errors or fraud. Trust reduces uncertainty and increases willingness to engage with digital tools Lee (2017). Without trust, even technologically proficient users may avoid digital transactions because digital environments lack the physical verification present in traditional banking.

Perceived security is one of the strongest antecedents of digital trust. Security refers to the protection of financial information from unauthorised access, fraud, and system vulnerabilities. Users who perceive strong security mechanisms are more likely to trust and adopt digital tools. Several studies highlight security as a primary predictor of digital financial adoption. Yousafzai et al. (2003) noted that perceived security significantly influences user attitudes toward online banking. Their findings showed that users weigh potential threats against their confidence in a platform's security features before engaging digitally. In FinTech environments, where users handle sensitive financial information, perceived security becomes even more crucial. Lee (2017) demonstrated that perceived security directly contributes to trust, which in turn predicts adoption intentions.

System reliability is another essential determinant of digital trust. Reliability refers to the consistency and correctness of system performance, including timely execution of transactions, accurate record-keeping, and responsiveness to user requests. Studies show that users abandon digital tools after experiencing repeated system failures or technical glitches. Gomber et al. (2018) found that system stability was one of the most important factors influencing FinTech adoption because inconsistent performance undermines trust in digital financial processes. Reliability is especially important in rural contexts where connectivity fluctuations can affect transaction completion. When users experience failed transfers or delays, they may attribute these issues to system unreliability and avoid further digital engagement.

Trust in digital financial systems is also influenced by institutional cues. Transparency in communication, responsiveness of customer support, and clear dispute resolution processes are essential for building trust, especially among first-time digital users. Arner et al. (2016) observed that FinTech providers must maintain transparent practices to gain consumer trust in markets where regulatory frameworks are evolving. Institutions that communicate clearly about fees, transaction status, and security measures tend to foster higher trust levels among

users. In India, where digital financial literacy is still developing, institutional trust plays a significant role in determining adoption.

The relationship between trust and technology adoption can be understood through behavioural models. The Technology Acceptance Model proposed by Davis (1989) emphasised perceived usefulness and perceived ease of use as primary determinants of adoption. However, later research integrating trust into technology acceptance has shown that trust is essential for technologies involving financial transactions because users must relinquish control to automated systems. The Unified Theory of Acceptance and Use of Technology by Venkatesh et al. (2003) also highlighted the importance of behavioural constructs such as facilitating conditions, social influence, and performance expectancy. In financial technology adoption, trust reduces perceived risk, improves perceived usefulness, and increases willingness to engage with digital tools. Gefen et al. (2003) argued that in online environments, trust operates as a substitute for interpersonal interaction and is therefore indispensable.

Studies conducted in various countries underscore that trust is a decisive factor in the adoption of online financial services. Montazemi and Qahri-Saremi (2015) found that trust was the strongest predictor of intention to use online banking in Iran, even more influential than ease of use or usefulness. In Kenya, Mbiti and Weil (2016) observed that trust in the M-Pesa system contributed significantly to widespread adoption of mobile money among small entrepreneurs, demonstrating the importance of positive user experiences and perceived reliability. In Bangladesh, Islam and Arvidsson (2022) reported that trust mediates the relationship between digital literacy and mobile banking adoption, highlighting that trust can bridge the gap between knowledge and actual usage.

FinTech adoption among women has received increasing attention in recent years. Women in developing economies often face structural barriers such as limited access to technology, lower levels of education, and reduced mobility. These factors influence both their exposure to and confidence in digital financial tools. The Global Findex Database Demirgüç-Kunt et al. (2018) reported that gender gaps persist in digital financial adoption, with women being less likely than men to use mobile banking or digital payments. These gaps are more pronounced in rural settings where digital ecosystems are still evolving. Trust becomes a critical determinant for women who may be more risk-averse due to financial vulnerability or limited confidence in digital systems.

Research focusing on women entrepreneurs highlights both opportunities and challenges associated with digital adoption. Parashar and Das (2020) found that women entrepreneurs who trusted digital payment systems adopted them more readily because they saw clear benefits in terms of faster transactions, transparency, and reduced dependence on cash. However, concerns about fraud, incorrect transfers, and system malfunctions often hinder usage. Trust therefore becomes conditional upon perceived control and reliability.

In the Indian context, digital financial inclusion efforts have progressed rapidly, yet behavioural factors continue to restrict widespread adoption. The Digital India campaign and the expansion of UPI have transformed payment systems, but concerns about safety remain significant barriers. Sarkar and Sahu (2021) argued that digital financial inclusion is not only a matter of provisioning infrastructure but also one of addressing behavioural barriers such as risk perception and mistrust. Women, in particular, require greater assurance that digital tools will protect their financial resources.

Studies focusing on Tamil Nadu show similar patterns. Ramakrishnan and Priya (2021) observed that rural women in Tamil Nadu tend to be cautious about using digital banking due to concerns about making mistakes or falling victim to fraud. Women often rely on informal learning networks and may not receive adequate guidance on security practices. These conditions affect their willingness to trust digital systems. Kumar and Kanchana (2021) identified mistrust as one of the most significant barriers to digital payment adoption among rural women in Tamil Nadu. Their findings showed that even when infrastructure is available, trust must be built gradually through education, positive user experiences, and institutional communication.

Perceived usefulness and ease of use remain important, but in rural women's adoption decisions, trust appears to precede perceived usefulness. When women do not trust a system, they are unlikely to evaluate its benefits. This supports findings from Lee (2017), who demonstrated that trust often acts as a gatekeeping variable for adoption in financial technologies. Women are more likely to engage in digital transactions when they are assured that the system is safe, accurate, and capable of handling errors responsibly.

The literature also highlights generational differences in trust and adoption. Younger users tend to adopt digital technologies more readily due to greater exposure and familiarity. Older users may require additional support and reassurance. Venkatesh et al. (2003) noted that experience moderates adoption behaviours. In rural digital finance, generational gaps manifest through differences in comfort with smartphones, understanding of transaction flows, and reliance on traditional banking habits. This distinction is particularly relevant in the context of the present study, which examines age-based differences through ANOVA.

Studies across emerging economies emphasise the need for trust-building strategies. Enhancing cyber-awareness, providing transparent grievance mechanisms, and ensuring system reliability are among the most important measures. Ghosh (2022) argued that digital financial literacy programmes must incorporate trust-building components because users cannot adopt safely unless they understand security procedures. Arner et al. (2016) stressed that as FinTech evolves rapidly, trust becomes a regulatory and institutional imperative.

Despite significant research progress, gaps remain in understanding trust-driven FinTech adoption among rural women entrepreneurs in India. Most studies examine individual users or general consumer populations rather than entrepreneurs who have distinct financial responsibilities. Rural entrepreneurship introduces additional layers of complexity because business owners must manage cash flows, supplier payments, and digital records. Trust therefore affects both personal and business financial decisions.

The context of Namakkal district is particularly compelling due to its strong entrepreneurial base and growing exposure to digital financial campaigns. Yet micro-level evidence on how trust shapes FinTech usage among women entrepreneurs in the district is scarce. Existing research suggests that trust is crucial for rural digital finance adoption, but empirical validation at the district level remains necessary. This study addresses this gap by providing quantitative evidence linking digital trust, perceived security, system reliability, and FinTech usage.

In summary, the review of literature demonstrates that digital trust is a central determinant of FinTech adoption. Trust reduces uncertainty, enhances user confidence, and increases willingness to engage with digital systems. Perceived security and system reliability strengthen trust, while institutional transparency

and user experience reinforce it. For women entrepreneurs in rural settings, trust is essential due to limited exposure, greater risk sensitivity, and socio-cultural constraints. The literature clearly supports the premise that trust-driven behaviour must be analysed to understand FinTech usage among rural women in Namakkal.

3. RESEARCH METHODOLOGY

3.1. RESEARCH DESIGN

The study employs a quantitative and explanatory research design to analyse how digital trust and its related constructs influence the usage of FinTech banking services among women entrepreneurs in Namakkal district. The design is appropriate for examining behavioural relationships and testing predictive effects using statistical modelling.

3.2. POPULATION, STUDY AREA, SAMPLING TECHNIQUE, AND SAMPLE SIZE

The population for the study comprises women entrepreneurs managing micro and small enterprises in Namakkal district. These enterprises include dairy, poultry, textile, tailoring, food processing, and petty retail operations. A simple random sampling technique was used to select respondents to ensure equal probability of participation. A total of 300 women entrepreneurs were included in the sample, which satisfies recommended respondent-to-variable ratios for correlation, ANOVA, and multiple regression analyses et al. (2019).

3.3. RESEARCH INSTRUMENT AND MEASUREMENT FRAMEWORK

A structured questionnaire was used as the primary data collection tool. It consisted of four sections:

1) **Demographic Information**: age, education, type of enterprise, years of experience, and income category.
2) **Digital Trust**: items measuring belief in the honesty, dependability, and competence of digital financial systems, based on the framework proposed by McKnight et al. (2002).
3) **Perceived Security and System Reliability**: statements assessing feelings of safety, data protection, consistent system functioning, and accurate transaction execution.
4) **FinTech Usage**: frequency and extent of mobile banking, UPI transfers, online payments, digital wallets, and digital credit applications.

All constructs were measured using a five-point Likert scale ranging from one for strongly disagree to five for strongly agree.

3.4. VALIDITY, RELIABILITY, AND SUMMARY OF VARIABLES

Content validity was ensured by expert review from scholars specialising in FinTech adoption and digital behaviour. Reliability testing using Cronbach's alpha confirmed strong internal consistency across the constructs:

- Digital Trust: $\alpha = 0.84$
- Perceived Security: $\alpha = 0.86$

- System Reliability: α = 0.82
- FinTech Usage: α = 0.88

All coefficients exceed the acceptable threshold of 0.70 Hair et al. (2019).

Table 1

Table 1 Summary of Variables Used in the Study

Variable Type	Variable	Meaning / Focus	Scale
Independent Variable	Digital Trust	Confidence in digital systems, perceived integrity and dependability	Five-point Likert
Supporting Variables	Perceived Security, System Reliability	Safety of transactions, data protection, system stability	Five-point Likert
Dependent Variable	FinTech Usage	Frequency and depth of digital banking and payment behaviours	Five-point Likert
Demographic Variables	Age, Education, Enterprise Type, Experience, Income	Respondent characteristics	Categorical / Ratio

3.5. DATA COLLECTION AND STATISTICAL TECHNIQUES

Data were collected through self-administered questionnaires distributed during entrepreneurship meetings, self-help group activities, and local business interactions. Respondents were briefed on the study's objectives and confidentiality protocols, and informed consent was obtained.

The following statistical techniques were applied:

1) **Descriptive statistics** to summarise demographic characteristics and construct means.
2) **Pearson correlation analysis** to examine associations among digital trust, perceived security, system reliability, and FinTech usage.
3) **One-way ANOVA** to identify age-based differences in FinTech usage, reflecting generational differences in technology readiness.
4) **Multiple regression analysis** to determine the combined predictive influence of digital trust, perceived security, and system reliability on FinTech usage.

Ethical considerations, including voluntary participation, anonymity, and privacy safeguards, were observed throughout the data collection process.

4. DATA ANALYSIS

This section presents the results based on responses from 300 women entrepreneurs in Namakkal district. The analysis includes descriptive statistics, correlation analysis, one-way ANOVA, and multiple regression to examine how digital trust and its related constructs influence FinTech usage.

4.1. DESCRIPTIVE ANALYSIS

Descriptive statistics provide an overview of the levels of digital trust, perceived security, system reliability, and FinTech usage among respondents. The results are presented in Table 2.

Table 2

Table 2 Descriptive Statistics of Major Variables		
Variable	**Mean**	**Standard Deviation**
Digital Trust	3.24	0.81
Perceived Security	3.09	0.93
System Reliability	3.27	0.77
FinTech Usage	3.51	0.89

The results indicate moderate levels of digital trust and perceived security among the respondents. FinTech usage shows a slightly higher mean, suggesting that women are engaging with digital tools even while maintaining cautious attitudes toward trust and security. The relatively lower mean for perceived security suggests that concerns about safety continue to shape digital usage behaviour.

4.2. CORRELATION ANALYSIS

Correlation analysis was conducted to examine the associations among digital trust, perceived security, system reliability, and FinTech usage. Table 3 presents the results.

Table 3

Table 3 Correlation Matrix				
Variables	**Digital Trust**	**Perceived Security**	**System Reliability**	**FinTech Usage**
Digital Trust	1	.68**	.59**	.66**
Perceived Security	—	1	.54**	.61**
System Reliability	—	—	1	.49**
FinTech Usage	—	—	—	1

Note Correlation is Significant at $p < .001$.

Interpretation

Digital trust shows a strong positive correlation with FinTech usage ($r = .66$). This indicates that women who perceive digital systems as trustworthy also display higher adoption and usage levels. Perceived security and system reliability also show meaningful correlations with FinTech usage, suggesting that women consider both safety and performance of digital platforms when deciding whether to use them.

These results reinforce existing research emphasising that trust, security, and reliability jointly form the confidence base necessary for digital financial adoption among women Lee (2017), Islam and Arvidsson (2022).

4.3. ONE-WAY ANOVA (AGE AND FINTECH USAGE)

Age-based differences in FinTech usage were analysed using one-way ANOVA. Respondents were divided into three groups: 20–30 years, 31–40 years, and 41–55 years.

Table 4

Table 4 ANOVA Results for Age and FinTech Usage		
Age Group	**Mean FinTech Usage**	**N**

20–30 years	3.64	92
31–40 years	3.52	118
41–55 years	3.28	90

ANOVA Yielded $F(2, 297) = 3.12$, $p = .046$.

Interpretation

The results indicate a statistically significant difference in FinTech usage across age groups. Younger women, particularly those aged 20–30, reported higher levels of digital usage. This pattern aligns with broader evidence suggesting that younger entrepreneurs exhibit greater comfort with digital platforms due to higher exposure and familiarity with smartphones and online tools Venkatesh et al. (2003). Older respondents expressed lower levels of digital usage, possibly due to greater risk sensitivity and limited digital experience.

4.4. MULTIPLE REGRESSION ANALYSIS

Multiple regression was used to determine the combined influence of digital trust, perceived security, and system reliability on FinTech usage.

Table 5

Table 5 Regression Coefficients for Predictors of FinTech Usage

Predictor	Standardised β	t-value	p-value
Constant	—	3.44	< .001
Digital Trust	0.58	10.12	< .001
Perceived Security	0.24	4.08	< .001
System Reliability	0.19	3.32	0.001

Model Summary: $R^2 = .46$

Interpretation

The regression model explains 46 percent of the variance in FinTech usage, indicating a strong overall model fit. Digital trust emerges as the most powerful predictor of FinTech usage, followed by perceived security and system reliability. This means trust plays a central role in determining whether women entrepreneurs choose to adopt and repeatedly use digital financial tools.

The influence of perceived security indicates that even when trust is high, concerns about data protection and fraud prevention significantly shape digital behaviour. System reliability also contributes meaningfully, suggesting that women require consistent, error-free performance from digital platforms before adopting them with confidence.

These results demonstrate that trust cannot be separated from perceptions of safety and system performance. Together, these constructs shape the behavioural environment in which FinTech adoption occurs.

4.5. SYNTHESIS OF DATA ANALYSIS

The findings from the various analyses present a coherent behavioural narrative.

1) Women entrepreneurs display moderate levels of trust, security perception, and usage, indicating growing but cautious engagement with digital financial services.
2) Digital trust is strongly correlated with FinTech usage and is the most influential predictor in the regression model.
3) Perceived security and system reliability play supportive yet meaningful roles, highlighting the interconnected nature of trust-building factors.
4) Younger respondents adopt FinTech services at higher levels, reflecting generational differences in digital readiness.
5) The results emphasise the importance of strengthening trust, enhancing security communication, and ensuring consistent system performance to foster deeper digital adoption among women entrepreneurs.

5. FINDINGS AND DISCUSSION

The purpose of this study was to examine the influence of digital trust and its related constructs on the usage of FinTech banking services among women entrepreneurs in Namakkal district. The findings derived from descriptive statistics, correlation analysis, ANOVA, and multiple regression collectively provide a comprehensive behavioural profile of how women engage with digital financial tools. This section interprets these results within the wider context of FinTech adoption research and highlights their implications for digital financial inclusion.

The descriptive analysis showed that women entrepreneurs in Namakkal exhibit moderate levels of digital trust, perceived security, and system reliability. These findings indicate that women are familiar with digital financial tools but continue to approach them with caution. FinTech usage recorded a slightly higher mean than the trust-related constructs, suggesting that women may be engaging with digital platforms due to necessity, external influence, or perceived convenience even when their trust in digital systems remains incomplete. This aligns with the observations of Sarkar and Sahu (2021), who noted that the rapid expansion of digital payments in India has encouraged adoption even among users who harbour concerns about safety or reliability.

The correlation results provide strong evidence of the interconnected nature of trust-related constructs. Digital trust showed a substantial positive relationship with FinTech usage, indicating that women who believe digital systems are dependable, transparent, and secure tend to use them more frequently. This finding reinforces the argument made by Lee (2017) that trust functions as a psychological foundation of digital financial engagement. Perceived security and system reliability also demonstrated significant correlations with FinTech usage. These results highlight that trust cannot be isolated from users' perceptions of safety and system performance. When users feel that their financial information is protected and systems will function without errors, trust deepens and adoption increases. Similar findings were reported by Islam and Arvidsson (2022), who emphasised the mediating role of trust between digital literacy and mobile banking usage in rural Bangladesh.

The ANOVA results revealed a notable age-based variation in FinTech usage. Younger women reported higher levels of digital banking activity compared to older women. This pattern is consistent with behavioural research indicating that younger individuals are more technologically adept and more willing to experiment with digital tools Venkatesh et al. (2003). Younger entrepreneurs generally possess greater familiarity with smartphones, online interfaces, and digital communication,

which contributes to smoother FinTech adoption. Older women, by contrast, may require additional training, reassurance, and exposure to digital systems before they feel confident using them regularly. These findings echo the observations of Ramakrishnan and Priya (2021), who reported that age is a significant determinant of digital adoption among rural women in Tamil Nadu.

The regression analysis provides the strongest evidence for the behavioural significance of digital trust. The model explained 46 percent of the variance in FinTech usage, indicating a high degree of predictive power in behavioural terms. Among the predictors, digital trust emerged as the most influential variable. This underscores the importance of establishing a strong foundation of confidence, integrity, and dependability in digital systems for rural users. When women believe that digital financial services are reliable and honest, they are more likely to incorporate these tools into their entrepreneurial activities. This finding is consistent with earlier studies that identified trust as a primary determinant of online banking adoption Montazemi and Qahri-Saremi (2015).

Perceived security and system reliability were also significant predictors of FinTech usage, although their influence was lower than that of trust. This suggests that while women rely on trust as the overarching determinant, they also evaluate specific aspects of safety and system performance. Perceived security contributes to the belief that personal data and financial resources are protected. When women feel safe performing digital transactions, their trust in digital systems is reinforced. System reliability, which reflects the stability and accuracy of digital platforms, strengthens trust through positive user experiences. Repeated successful transactions, timely confirmations, and error-free operations reassure users and promote consistent usage. These findings reflect the arguments of Gomber et al. (2018) that consistent system performance is vital for sustaining user confidence.

Together, these results reveal that trust is not merely an emotional or subjective feeling but a behavioural mechanism rooted in security perceptions and system performance. For rural women entrepreneurs, trust operates as a gateway variable. When trust is low, even highly useful technologies may be avoided due to fear of financial loss or system errors. When trust is high, women become more willing to experiment with digital tools, integrate them into their businesses, and benefit from their efficiencies. These behavioural tendencies align with by Davis (1989) model, which suggests that perceived usefulness influences adoption only after initial psychological barriers such as trust are addressed.

The results also highlight the importance of institutional factors. Women's perception of digital trust is shaped not only by the technology itself but also by the responsiveness of financial institutions, clarity of communication, and availability of support systems. Women who receive timely assistance during digital transactions or who experience transparent communication from banks tend to build stronger trust in digital platforms. Arner et al. (2016) noted that institutional trust plays a critical role in FinTech adoption, particularly in regions where users have limited exposure to digital systems.

The findings carry meaningful implications for financial inclusion policy. Digital financial inclusion strategies cannot rely solely on expanding infrastructure or promoting digital transaction campaigns. Trust-building must be a central component of these strategies. Training programmes aimed at improving cyber-awareness, security practices, and system navigation can strengthen perceived security and reliability. Clear communication from banks regarding transaction procedures, error handling, and fraud protection can reduce uncertainty and foster

trust. These initiatives are especially relevant for rural women, who may possess limited digital experience or higher risk sensitivity.

Additionally, the age-related differences identified in this study suggest that digital inclusion initiatives must be tailored to the needs of different demographic groups. While younger entrepreneurs may require minimal guidance, older women may benefit from personalised support, hands-on demonstrations, and repeated exposure to digital tools. Community-based learning models through self-help groups, local entrepreneurship networks, and village resource centres may serve as effective channels for delivering such training.

In summary, the findings of this study reveal that digital trust is the strongest behavioural determinant of FinTech usage among women entrepreneurs in Namakkal district. Perceived security and system reliability further contribute to usage patterns by reinforcing women's confidence in digital banking systems. These results emphasise that meaningful digital financial inclusion requires not only technological access but also the development of trust, reassurance, and positive user experiences. Strengthening trust-driven behaviour among rural women entrepreneurs can enhance business efficiency, promote financial independence, and contribute to broader economic inclusion.

6. CONCLUSION AND SUGGESTIONS

The purpose of this study was to examine how digital trust, perceived security, and system reliability influence the use of FinTech banking services among women entrepreneurs in Namakkal district. The findings demonstrate that digital trust is the strongest predictor of FinTech usage. Women who perceive digital systems as dependable and trustworthy are significantly more likely to adopt and engage with digital banking platforms. The results highlight that trust is not merely an abstract perception but a behavioural determinant shaped by safety, accuracy, and consistency in digital financial environments.

The descriptive results indicate that women entrepreneurs display moderate levels of trust, security perception, and system reliability. Although FinTech usage shows a slightly higher mean than the trust-related constructs, this pattern suggests that many women are using digital tools while still harbouring concerns about safety and reliability. This behaviour is consistent with broader national trends where digital transition is progressing rapidly even among populations with limited confidence in technology. The findings emphasise that higher adoption does not always reflect complete trust but sometimes reflects necessity, external encouragement, or wider societal shifts.

The correlation analysis revealed strong associations between digital trust and FinTech usage, confirming that women who feel confident in the safety and integrity of digital platforms tend to use them more frequently. Perceived security and system reliability also correlate strongly with usage, which demonstrates that these constructs form a behavioural foundation that shapes trust. The regression model explained a substantial proportion of variance in FinTech usage and positioned digital trust as the most influential predictor. This confirms the central research proposition and aligns with behavioural technology studies that recognise trust as a gateway variable for digital adoption.

The ANOVA results further indicate that age influences digital usage. Younger women demonstrate higher levels of FinTech adoption compared to older women. Younger entrepreneurs tend to have greater exposure to digital interfaces and are more comfortable navigating mobile-based platforms. Older women may require

additional support and reassurance before adopting digital financial tools. This generational difference highlights the importance of tailoring digital inclusion strategies to different age groups.

Overall, the findings show that trust, security, and system reliability are intertwined behavioural mechanisms that guide FinTech adoption. Trust expands when users experience consistent system performance, reliable transaction confirmations, and safe digital environments. Trust diminishes when women encounter errors, delays, or unclear communication. These behavioural insights suggest that improving FinTech adoption among rural women entrepreneurs requires more than expanding technological access. It requires building and sustaining digital trust through meaningful interventions.

Based on these findings, several suggestions are proposed. First, financial institutions should strengthen trust-building initiatives by ensuring transparent communication. Women must clearly understand how digital transactions work, how errors are resolved, and how their financial information is protected. Regular communication through messages, helpdesks, and community banking events can improve trust and reduce fear.

Second, targeted digital security training programmes should be introduced. These programmes should focus on cyber-awareness, identification of fraudulent messages, safe handling of passwords, and procedures for verifying transaction details. Women who develop confidence in their ability to protect themselves digitally are more likely to adopt FinTech tools.

Third, improving system reliability is essential. Digital platforms must minimise technical glitches and transactional delays to reinforce confidence. Consistency and accuracy in performance are vital for trust formation. Banks and FinTech providers should prioritise robust system architecture to ensure uninterrupted service for rural users.

Fourth, training modules tailored to different age groups should be developed. Younger women may benefit from advanced digital skill training, whereas older women may require step-by-step demonstrations, repeated exposure, and personalised guidance. Community-based training through self-help groups and entrepreneurship networks can be effective channels for such interventions.

Finally, grievance redressal mechanisms must be strengthened. Quick resolution of failed transactions, refunds, and technical issues enhances trust and reduces anxiety. Women must feel assured that the system will support them whenever issues arise.

In conclusion, digital trust significantly shapes FinTech adoption among women entrepreneurs in Namakkal district. Perceived security and system reliability reinforce trust by providing a safe and dependable environment for digital transactions. Strengthening trust-driven behaviour is essential for advancing digital financial inclusion and supporting the entrepreneurial growth of rural women. When trust is prioritised alongside technological expansion, digital finance can become a powerful tool for economic empowerment and sustainable development.

CONFLICT OF INTERESTS

None.

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