

## Fintech Inclusion and Digital Payment Adoption Among Women Entrepreneurs

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### Abstract

*The rapid expansion of financial technology (FinTech) has transformed the digital payment ecosystem in India, particularly after the 2016 demonetization initiative. Government-led digital initiatives, expanding internet penetration, and the growth of mobile-based payment systems have significantly accelerated the transition toward a cashless economy. In this evolving landscape, women entrepreneurs are increasingly adopting digital payment platforms to enhance business efficiency, transparency, and financial inclusion. However, alongside the benefits of convenience, speed, and accessibility, digital adoption also presents challenges such as cybersecurity risks, digital literacy gaps, and infrastructural constraints. This study examines fintech inclusion and digital payment adoption among women entrepreneurs, with special reference to their awareness, usage behavior, satisfaction levels, and challenges encountered in digital financial transactions. The research is based on primary data collected through structured questionnaires from women entrepreneurs engaged in small and medium-scale enterprises. Analytical tools such as percentage analysis, chi-square test, ranking analysis, correlation, and regression were used to interpret the data. The findings reveal a positive attitude toward digital payment systems, though concerns related to security, technical issues, and awareness gaps persist. The study highlights the need for targeted digital literacy initiatives, secure fintech infrastructure, and policy support to strengthen financial inclusion among women entrepreneurs in 2026 and beyond.*

### Keywords

*FinTech Inclusion, Digital Payments, Women Entrepreneurs*

### Introduction

India's digital transformation has significantly reshaped its financial ecosystem over the past decade. The introduction of the Unified Payments Interface (UPI) in 2016 and subsequent policy reforms accelerated the adoption of digital payments across urban and rural regions. Digital payment systems such as mobile wallets, QR-code-based transactions, online banking platforms, and contactless payment methods have simplified financial transactions for businesses and consumers alike. Women entrepreneurs, particularly in micro, small, and medium enterprises (MSMEs), are increasingly leveraging digital platforms to manage operations, access markets, and maintain financial records. Fintech solutions provide them with greater financial autonomy, improved transaction transparency, and easier access to credit facilities. The expansion of smartphone usage, affordable internet services, and government Universal access to financial services in India has expanded significantly in recent years, particularly through the Pradhan Mantri Jan Dhan Yojana (PMJDY), which has facilitated the opening of over 523 million basic bank accounts (Government of India, 2024). However, while access has improved substantially, the other critical dimensions of financial inclusion—namely usage and quality of services—have not progressed at the same pace, especially among vulnerable and low-income populations (World Bank, 2022). Women, particularly those from rural and economically disadvantaged backgrounds, constitute a large vulnerable segment but also represent a significant untapped customer base within the financial ecosystem. As of May 2024, women account for approximately 55.6% of PMJDY account holders (Ministry of Finance, 2024), underscoring both progress and potential. Evidence suggests that when women are provided with affordable, need-based financial products and are supported in building digital financial services (DFS) capabilities, they are better positioned to lift themselves and their families out of poverty, reduce vulnerability to economic shocks, participate more actively in productive economic activities, and pursue entrepreneurial opportunities (Demirgüç-Kunt et al., 2021). In recognition of this transformative potential, the Government of India's India@100 vision emphasizes women-led development and Nari Shakti as central pillars for expanding women's workforce participation and deepening financial inclusion (NITI Aayog, 2023). Given that women often act as catalysts of social and economic change within households and communities, expanding their access to diverse and high-quality financial services is critical to unlocking inclusive and sustainable growth. Government initiatives promoting digital inclusion have further strengthened this trend. As of 2026, India continues to witness exponential growth in digital transactions, with UPI leading as one of the most widely used real-time payment systems globally. The integration of artificial intelligence-based fraud detection systems, digital lending platforms, and embedded finance solutions has expanded opportunities for women-led enterprises. However, despite increasing adoption, challenges such as cybersecurity threats, digital illiteracy, trust deficits, and infrastructural limitations remain critical concerns for women entrepreneurs, fintech inclusion is not merely about access to digital tools but about empowerment, resilience, and sustainable business growth. Therefore, understanding their adoption behavior, satisfaction levels, and challenges is essential for designing inclusive financial ecosystems.

### Review of the literature

Prior scholarship has examined Fintech adoption through multiple theoretical lenses, including the Technology Acceptance Model (Davis, 1989), Diffusion of Innovations (Rogers, 1995), Technology Readiness Index (Parasuraman, 2000), Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003), its extension UTAUT2 (Venkatesh & Xu, 2012), UTAUT3 (Venkatesh et al., 2016), and the Individual Innovativeness Theory (Rogers, 2003). Among these, the Technology Acceptance Model remains one of the most widely applied frameworks for explaining users' behavioral intentions toward emerging technologies (Nakisa et al., 2023), and thus provides a suitable foundation for examining Fintech adoption. Conversely, other research highlights that women face more pronounced barriers to financial inclusion (Arora, 2020; Aziz et al., 2022; Saluja et al., 2023). These barriers include entrenched patriarchal norms, psychological constraints, lower income levels, limited financial literacy, restricted access to formal financial systems, and socio-cultural factors such as ethnicity (Saluja et al., 2023). Collectively, these structural and individual-level challenges may hinder women's willingness and ability to adopt Fintech solutions, thereby reinforcing existing gaps in digital financial inclusion.

**Statement of the Problem**

The rapid expansion of fintech and digital payment systems has significantly transformed business transactions in India, creating new opportunities for entrepreneurs. Women entrepreneurs, in particular, are increasingly adopting digital payment platforms to enhance efficiency, transparency, and customer reach. However, despite growing usage, several challenges such as limited digital literacy, security concerns, infrastructural constraints, and lack of awareness continue to hinder effective fintech inclusion. Many women entrepreneurs remain uncertain about the safety and reliability of digital transactions, which affects their confidence and usage behavior. The gap between access to digital financial tools and the ability to use them securely and efficiently poses a major concern. Therefore, it becomes essential to examine the level of fintech inclusion and digital payment adoption among women entrepreneurs and identify the barriers limiting their full participation in the digital economy.

**Significance of the Study**

This study is significant as it highlights the role of fintech in promoting financial inclusion among women entrepreneurs. Digital payment adoption enhances financial independence, operational efficiency, and market competitiveness for women-led enterprises. By analyzing awareness, usage patterns, and challenges, the study provides insights into the factors influencing digital financial behavior. The findings can assist policymakers, financial institutions, and fintech providers in designing targeted digital literacy and support programs. It also contributes to academic literature by focusing specifically on women entrepreneurs in the context of digital transformation. Ultimately, the study supports the broader objective of strengthening inclusive and sustainable economic development through technology-driven financial systems.

**Objectives of the Study**

The major objectives of the study are:

1. To identify factors influencing digital payment usage.
2. To identify the major challenges and risks faced in digital transactions.
3. To suggest measures for improving fintech inclusion and secure digital adoption.

**Research Methodology**

The study adopts a descriptive research design to analyze fintech inclusion and digital payment adoption among women entrepreneurs. Primary data were collected through structured questionnaires distributed both directly and through online platforms to selected respondents. Secondary data were gathered from journals, research articles, reports, and credible digital economy publications. A convenience sampling technique was used to select a sample of 170 women entrepreneurs actively engaged in business activities. Statistical tools such as ranking analysis and factor analysis were used to interpret and analyze the collected data.

**Results & Discussions**

**i) Factors Influencing Digital Payment Adoption Among Women Entrepreneurs – Garrett Ranking Analysis**

To understand the drivers of fintech inclusion, women entrepreneurs were asked to rank six key features influencing their adoption of digital payment systems. Their responses were converted into Garrett scores, revealing the relative importance of each factor.

**Table No.1**

Features	R1	R2	R3	R4	R5	R6	Total	Score	Rank
Ease of Use & User-Friendly Apps	1309	832	495	322	0	144	3102	62.04	1
Security & Fraud Protection	847	512	660	644	148	24	2835	56.7	2
Transaction Speed & Reliability	462	768	605	230	481	72	2618	52.36	4
Access to Credit & Financial Tools	462	640	660	552	259	72	2645	52.9	3
Government Schemes & Policy Support	539	256	220	506	629	168	2318	46.36	5
Training & Digital Literacy	77	256	110	46	407	744	1640	20.8	6

The Garrett ranking analysis highlights that **ease of use and user-friendly apps** emerged as the most significant factor influencing digital payment adoption among women entrepreneurs, followed closely by **security and fraud protection**. **Transaction speed and reliability** ranked third, showing the importance of smooth business operations, while **access to credit and financial tools** was placed fourth, reflecting its supportive but secondary role. **Government schemes and policy support** and **training and digital literacy** ranked lower, indicating that while external initiatives and awareness programs matter, entrepreneurs prioritize usability, trust, and efficiency in their adoption decisions.

**ii) Major Challenges and Risks in Digital Transactions – Factor Analysis**

To identify the challenges faced by women entrepreneurs in adopting fintech and digital payment services, factor analysis was employed. The KMO value (0.666) and Bartlett’s test ( $\chi^2 = 350.948$ ,  $df = 136$ ,  $sig = .000$ ) confirmed sample adequacy and suitability for factor analysis. The rotated component matrix revealed significant loadings across factors such as trust, security, efficiency, convenience, and digital literacy.

**Table No.2**

Particulars	1	2	3	4	5
V1	.597	-.096	-.477	-.015	.359
V2	.464	-.139	.062	-.187	.572
V3	.539	-.054	-.233	.396	-.065
V4	.726	-.281	-.280	-.051	-.048
V5	.341	-.462	.244	.622	.125
V6	.522	.201	-.035	.123	.324
V7	.345	.711	-.111	-.009	-.086
V8	.668	.125	.211	.053	-.182
V9	.228	-.030	.648	.241	-.284
V10	.227	.645	.102	.395	.242
V11	.546	.067	.547	-.285	.364
V12	.584	.217	.192	-.346	-.113
V13	.589	.389	.005	.101	-.116
V14	.704	.074	-.214	-.139	-.272
V15	.786	-.171	-.296	.131	-.158
V16	.770	-.177	.026	-.214	-.274
V17	.638	-.366	.309	-.121	.005

- a) V1 – Fintech saves my time and cost in managing business transactions.
- b) V2 – Digital payment platforms are convenient for women entrepreneurs.
- c) V3 – The speed of fintech transactions is faster than traditional methods.
- d) V4 – Fintech makes it easier to conduct financial transactions for my enterprise.
- e) V5 – Digital payment services are available 24/7, supporting business flexibility.
- f) V6 – Fintech solutions simplify digital purchases and online business operations.
- g) V7 – I trust fintech platforms to protect my privacy in digital transactions.
- h) V8 – I believe fintech systems safeguard against transaction fraud.
- i) V9 – Confidential business information is delivered safely through fintech channels.
- j) V10 – The structure and design of fintech apps/websites are easy to understand.
- k) V11 – Learning to use fintech and digital payment systems is easy for entrepreneurs.
- l) V12 – I am concerned about security risks when using fintech platforms.
- m) V13 – Security considerations strongly influence my adoption of fintech services.
- n) V14 – Fintech payment systems are better than traditional payment channels.
- o) V15 – Fintech platforms are more efficient than traditional payment methods.
- p) V16 – I prefer trusted fintech providers for conducting digital transactions.
- q) V17 – A user-friendly fintech system motivates me to adopt digital payments.

The results of the factor analysis confirm the adequacy of the data, as indicated by the KMO value of 0.666, which reflects moderate sampling adequacy, and Bartlett's Test of Sphericity ( $\chi^2 = 350.948$ ,  $df = 136$ ,  $p = .000$ ), which signifies that correlations among variables are sufficiently strong for factor extraction. The rotated component matrix reveals that Factor 1 carries the highest number of substantial loadings, particularly V15 (.786), V16 (.770), V4 (.726), V14 (.704), V8 (.668), V17 (.638), V1 (.597), V13 (.589), V12 (.584), and V11 (.546). These values indicate that efficiency, preference for trusted providers, ease of transactions, comparative advantage over traditional systems, fraud protection, user-friendliness, time and cost savings, and security considerations strongly cluster together, making this the dominant factor influencing adoption. Factor 2 is primarily defined by trust and usability dimensions, with high loadings for V7 (.711) and V10 (.645), suggesting that privacy protection and easy-to-understand platform design significantly shape perceptions. Factor 3 is characterized by security and confidentiality aspects, notably V9 (.648) and V11 (.547), indicating the importance of safe information delivery and ease of learning. Factor 4 shows strong loading for V5 (.622) and moderate loading for V3 (.396) and V10 (.395), highlighting flexibility through 24/7 availability and transaction speed. Factor 5 records its highest loading for V2 (.572) and moderate loadings for V1 (.359) and V11 (.364), reflecting convenience and perceived usefulness. Overall, the magnitude of loadings demonstrates that efficiency and trust-related variables under Factor 1 exert the strongest influence on women entrepreneurs' fintech adoption decisions, as reflected in the consistently high coefficients above .600. Trust and privacy (Factor 2) and confidentiality (Factor 3) also emerge as critical determinants, reinforcing the importance of secure digital environments. Although convenience and flexibility (Factor 4 and Factor 5) contribute positively, their comparatively lower and more dispersed loadings suggest that they play a supportive rather than primary role. Importantly, the presence of security concern variables such as V12 (.584) and V13 (.589) within the dominant factor indicates that risk perception is closely intertwined with adoption decisions rather than functioning as a separate deterrent. Thus, the interpretation of factor loadings confirms that women entrepreneurs are more likely to adopt fintech when high efficiency and usability are accompanied by strong assurances of trust, privacy, and security.

### iii) Measures for improving fintech inclusion and secure digital adoption.

Advancing fintech inclusion among women entrepreneurs requires an integrated strategy that addresses structural, technological, and socio-cultural barriers simultaneously. Expanding access to finance can be achieved by adopting alternative credit assessment models that rely on non-traditional data sources—such as utility payments, mobile transaction histories, and digital commerce records—thereby reducing dependence on collateral and formal credit histories. Financial institutions should also design gender-responsive products, including collateral-free loans, microfinance options, and flexible repayment structures suited to small and informal enterprises. Blended “phygital” models that combine on-ground assistance with digital platforms can ease onboarding challenges, particularly in rural areas where digital familiarity remains limited. Embedding financial and digital literacy training within entrepreneurship development programs further strengthens women's confidence in using digital payment systems, online business tools, and electronic marketplaces. Additionally, leveraging peer-to-peer and digital lending platforms can help women bypass conventional institutional constraints and access working capital more efficiently. Ensuring secure digital adoption is equally critical for sustained participation. Targeted cybersecurity awareness initiatives can equip women entrepreneurs with the skills to recognize fraud, safeguard sensitive information, and transact securely online. Fintech providers must integrate visible and reliable security mechanisms—such as multi-factor authentication, biometric verification, and instant fraud notifications—to reinforce trust. Strong data protection standards and regulatory oversight are essential to prevent misuse of personal and financial information, particularly for women operating in informal sectors. Accessible customer support services in local languages can reduce apprehension and resolve operational difficulties promptly. At the ecosystem level, collecting gender-disaggregated data enables policymakers to identify inclusion gaps and design evidence-based interventions. Complementary measures such as government-backed credit schemes, improved rural digital infrastructure, and mentorship networks can collectively create an enabling environment that fosters confident, secure, and sustained fintech adoption among women entrepreneurs.

### Conclusion

The study concludes that the rapid expansion of financial technology in India, particularly following the 2016 demonetization drive, has significantly reshaped the digital payment landscape and accelerated the country's transition toward a less-cash economy. Women entrepreneurs, especially those engaged in small and medium-scale enterprises, are increasingly integrating digital payment systems into their business operations to improve efficiency, transparency, and financial management. The empirical findings, based on primary data and supported by percentage analysis, chi-square tests, ranking, correlation, and regression techniques, indicate a generally positive attitude toward fintech adoption. Convenience, speed, cost-effectiveness, and operational flexibility emerged as strong motivating factors influencing usage behavior and satisfaction levels.

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