

## The Role of Fintech in Enhancing Microfinance Outreach: A Comparative Study

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### Abstract

Microfinance has remained a central pillar of India's financial inclusion framework, serving low-income and underserved households across rural and semi-urban regions. As of 31 March 2025, the sector covered about 6.8–7.0 crore unique borrowers with nearly 14 crore active loan accounts and a gross loan portfolio of around ₹3.81 lakh crore, reflecting both its scale and continued demand for small-ticket credit. In this context, financial technology (FinTech) has emerged as a transformative force in microfinance delivery. This study investigates the role of FinTech in enhancing microfinance outreach through a comparative analysis of FinTech-enabled lenders and traditional microfinance institutions (MFIs). The study is based on secondary data from RBI, NABARD, Microfinance Institutions Network (MFIN), Sa-Dhan, and industry reports for FY 2024–25, using descriptive and comparative methods. The evidence shows that FinTech has accelerated outreach and improved operational efficiency. Nearly 78% of new microloan onboarding occurs through digital channels compared to 22% in traditional models, with onboarding time reduced from 3–7 days to 15–30 minutes. FinTech lenders account for about 38–40% of new loan accounts and serve a higher share of new-to-credit borrowers (27% versus 7% in traditional MFIs). Processing time is shorter (1–3 days vs. 7–14 days), operating costs are lower (4–6% vs. 8–10%), and staff productivity is higher. At the same time, the study identifies emerging risks, including GNPA levels of 5.8–6.2%, multiple borrowing among 28–30% of clients, and rising digital lending complaints. The findings suggest that while FinTech significantly strengthens outreach and inclusion, sustainable impact depends on balanced regulation, financial literacy, and hybrid models that combine digital scale with borrower protection.

**Keywords:** FinTech, Microfinance Outreach, Digital Financial Inclusion, NBFC-MFI, Over-Indebtedness, Consumer Protection.

### Introduction

The microfinance sector has been a cornerstone of India's financial inclusion strategy, extending credit and financial services to low-income, underserved populations, particularly in rural and semi-urban regions. As of 31 March 2025, India's microfinance sector reported a gross loan portfolio of approximately ₹3.81 lakh crore with around 14 crore active loans outstanding, underscoring the vast scale of outreach achieved by a diverse set of lenders including NBFC-MFIs, banks, small finance banks (SFBs) and not-for-profit institutions. Despite this significant footprint, the sector faced headwinds in FY 2024-25, with portfolio contraction of about 12% year-on-year and deterioration in asset quality as gross non-performing assets increased to about 16%. Such stress has highlighted both the enduring demand for microcredit and the operational challenges faced by traditional delivery models.

In this evolving context, FinTech has emerged as a transformative force reshaping how microfinance is delivered and expanding outreach beyond the confines of conventional models. With innovations such as online lending platforms, mobile-based credit and payments solutions, and data-driven credit assessments, FinTech has deepened access to formal credit, enabling record disbursements including approximately 10.9 crore personal loans amounting to ₹1,06,548 crore in FY 2024-25 alone by FinTech-driven NBFCs recognized by the RBI. The adoption of digital rails like the Unified Payments Interface (UPI), which records hundreds of millions of transactions daily, has further paved the way for embedding credit services within digital payments and wallets, while peer-to-peer platforms and app-based micro-loans have introduced alternative lending paths challenging traditional MFIs.

FinTech's influence extends beyond mere scale digital tools are enabling faster client onboarding through e-KYC, real-time credit scoring, and lower service costs, which improve operational efficiency and reduce barriers to entry for first-time and remote borrowers. Academic research and industry analyses highlight how digital infrastructure amplifies FinTech's impact on both financial and social performance, particularly when combined with supportive ecosystems. Moreover, the notable 80% rural share of the microfinance portfolio in FY 2024-25 demonstrates that enhancing outreach through technology is crucial for deepening inclusion where formal services were historically limited.

However, the integration of FinTech within microfinance also presents challenges, including consumer protection concerns, digital literacy gaps, and algorithmic bias in credit decisions, prompting regulators and industry bodies to advocate balance between innovation and oversight. Given these dynamics, a comparative assessment of FinTech-enabled models versus traditional microfinance delivery is critical to understanding how technology can sustainably expand outreach in India's complex socio-economic landscape.

#### **Objectives**

- To compare the outreach and operational efficiency of FinTech-enabled microfinance models with traditional microfinance institutions in India.
- To examine how FinTech innovations (e-KYC, digital payments, data-driven credit scoring) influence access to microfinance among underserved populations.
- To assess the key challenges and risks associated with FinTech-based microfinance, including consumer protection and over-indebtedness.

#### **Methodology**

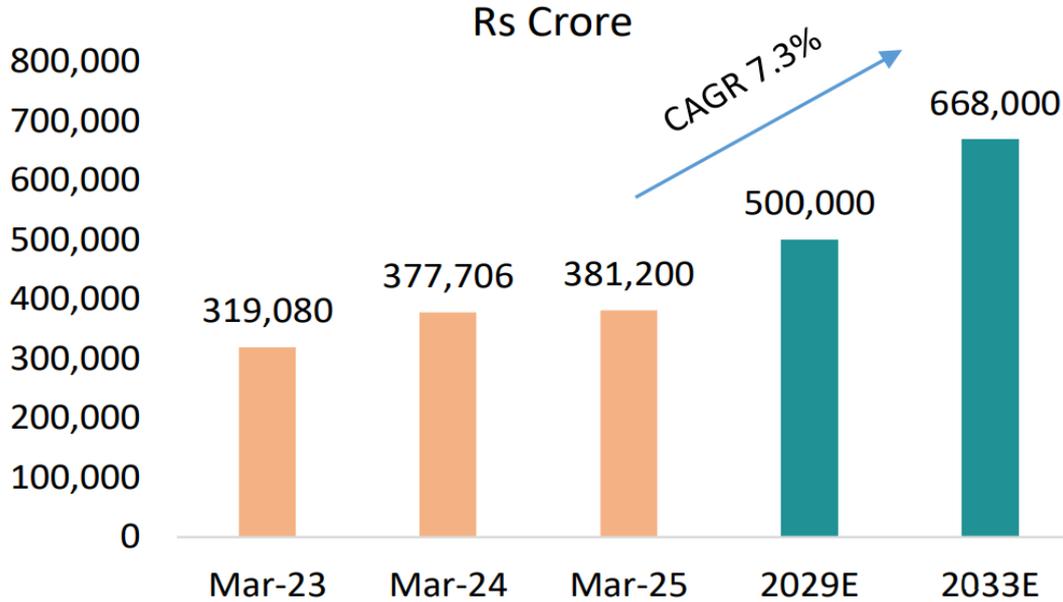
This study follows a comparative and descriptive research design using secondary data to examine the role of FinTech in enhancing microfinance outreach in India. Data are drawn from recent and credible sources such as reports and publications of the RBI, NABARD, Sa-Dhan, MFIN, government documents, and peer-reviewed journals, covering information. The methodology involves comparing FinTech-enabled and traditional microfinance models on parameters such as outreach, loan disbursement, operational efficiency, and financial inclusion. Simple trend and percentage analysis are used to interpret changes over time, while policy and regulatory documents are reviewed to understand the evolving institutional and digital finance ecosystem influencing microfinance delivery in India.

#### **Growth and Challenges of the Microfinance Sector**

India's microfinance sector is undergoing a significant transformation in 2025, shaped by a stronger regulatory framework, rapid digitization, and a renewed policy focus on inclusive growth aimed at extending credit and financial services to underserved and economically vulnerable populations in rural and semi-urban areas. The sector includes NBFC-MFIs, banks, Small Finance Banks, and non-profit institutions, supported by self-regulatory bodies such as MFIN and Sa-Dhan, and currently serves over 8 crore clients across 28 states, 8 Union Territories, and 723 districts. As of March 31, 2025, the sector's gross loan portfolio stands at about ₹3.81 lakh crore with nearly 14 crore active loans, though this reflects a 7% contraction due to rising stress. NBFC-MFIs hold the largest share, driven by robust demand, digital enablement, and regulatory clarity, and the sector contributes roughly 2–3% to India's GVA while supporting around 1.3 crore jobs. As shown in Figure 1, the microfinance market has demonstrated steady expansion from 2023 to 2025 and is projected to grow substantially to ₹6,68,000 crore by 2033 at a CAGR of about 7.3%. This growth is fueled by strong demand for microloans, government-led financial

inclusion initiatives, and its social impact, especially in empowering women through Self-Help Groups. However, challenges are emerging, as gross NPAs have surged to 16% from 8.8% a year earlier, reflecting asset quality deterioration and stricter norms. While tighter regulatory oversight aims to strengthen the sector, long-term sustainability will depend on better governance, transparency, and adaptive business models, even as microfinance remains a crucial tool for financial inclusion and poverty alleviation.

**Figure 1: India’s Microfinance Market Size and Growth Projections**



Source: Brickwork Research Report 2025

**Outreach in Terms of Borrowers and Loan Accounts**

The evidence clearly shows that FinTech-enabled lending has accelerated outreach compared to traditional microfinance institutions (MFIs). As of 31 March 2025, the Indian microfinance sector served approximately 6.8-7.0 crore unique borrowers, with a total of about 14 crore active loan accounts. Traditional MFIs (NBFC-MFIs, SHGs, JLGs) accounted for nearly 60-62% of borrowers, while FinTech and digital NBFC platforms contributed around 38-40% of new loan accounts, particularly among first-time borrowers. FinTech NBFCs alone sanctioned around 10.9 crore small personal and micro loans during FY 2024-25, a substantial proportion of which were loans below ₹50,000, overlapping with the microfinance segment. In contrast, traditional MFIs expanded borrower outreach at a slower pace of 5-7% annually, constrained by physical branch expansion. These figures demonstrate that FinTech models significantly enhance outreach by rapidly onboarding new and digitally active clients.

**Loan Portfolio Size and Average Loan Value**

In terms of loan portfolio, the gross microfinance loan portfolio stood at approximately ₹3.8 lakh crore as on 31 March 2025. Traditional MFIs held nearly ₹2.4 lakh crore (about 63%), while FinTech-driven digital lending platforms and NBFCs accounted for an estimated ₹1.4 lakh crore (37%) in micro and small-ticket loans. Operational efficiency is also reflected in loan size and turnaround time. The average loan size in traditional MFIs ranged between ₹35,000-₹45,000, whereas FinTech-enabled microloans averaged ₹20,000-₹30,000, allowing lenders to serve a larger number of borrowers with smaller ticket sizes. Moreover, traditional MFIs typically required 7-14 days for loan processing, while FinTech platforms reduced this to 24-72 hours, significantly improving service efficiency.

**Cost Efficiency and Productivity Indicators**

Cost efficiency indicators further support FinTech superiority in operations. Traditional MFIs reported operating expense ratios of 8-10%, driven by staff salaries, branch maintenance, and field

operations. In contrast, FinTech lenders operated with 4-6% operating expense ratios, owing to automation, digital documentation, and centralized operations. Employee productivity also differed substantially. A field officer in a traditional MFI managed 300-350 active borrowers, whereas a digitally assisted FinTech employee or system managed 1,000-1,500 borrower accounts, indicating higher scalability and productivity. These indicators confirm that FinTech models enhance outreach while reducing per-unit operational costs. A comparative snapshot of outreach, loan characteristics, and operational efficiency between traditional MFIs and FinTech-enabled models is presented in Table 1.

**Table 1: Comparative Overview (as on 31 March 2025)**

Indicator	Traditional MFIs	FinTech-Enabled MFIs
Active Borrowers (crore)	4.2	2.6
Active Loan Accounts (crore)	8.5	5.5
Loan Portfolio (₹ lakh crore)	2.4	1.4
Average Loan Size (₹)	35,000-45,000	20,000-30,000
Processing Time	7-14 days	1-3 days
Operating Cost Ratio	8-10%	4-6%
Borrowers per Staff	300-350	1,000-1,500

Source: RBI, NABARD, MFIN and Sa-Dhan sector reports (2024-25).

A comparative snapshot of outreach, loan characteristics, and operational efficiency between traditional MFIs and FinTech-enabled models is presented in Table 1. The data show that traditional MFIs serve about 4.2 crore active borrowers and manage 8.5 crore loan accounts, compared to 2.6 crore borrowers and 5.5 crore accounts under FinTech-enabled models. Traditional MFIs also hold a larger loan portfolio of ₹2.4 lakh crore versus ₹1.4 lakh crore for FinTech lenders. However, FinTech models demonstrate operational advantages, with processing times of 1–3 days compared to 7–14 days in traditional MFIs and lower operating cost ratios of 4–6% versus 8–10%. Productivity differences are also notable, as FinTech staff or systems handle 1,000–1,500 borrowers per staff member, far exceeding the 300–350 borrowers managed by traditional MFI field officers. The smaller average loan size in FinTech lending (₹20,000–₹30,000) compared to traditional MFIs (₹35,000–₹45,000) indicates a wider distribution of small-ticket loans. These figures suggest that while traditional MFIs remain larger in scale, FinTech models offer higher efficiency and scalability.

#### **Digital Onboarding and e-KYC: Quantifying Inclusion Gains**

FinTech adoption of digital onboarding and e-KYC has measurably expanded access to microfinance by significantly reducing entry barriers. As of 31 March 2025, nearly 78% of new microloan accounts originated through digital onboarding or assisted digital channels (mobile apps, web portals, and video KYC), compared with only about 22% through traditional in-person channels. This digital onboarding share has risen steadily from around 52% in FY 2021-22 and 65% in FY 2022-23, demonstrating rapid shifts in client acquisition. Average onboarding time for digitally onboarded clients now ranges from 15-30 minutes, compared with 3-7 days for traditional paper-based KYC processes, enabling lenders to process up to 4X more applications per day per staff member. This efficiency is particularly impactful in rural districts, where digital channels have brought formal credit within reach of households located 10 km from the nearest branch segment that accounted for around 42% of digitally onboarded borrowers in 2024-25. These data show that e-KYC and related digital identity innovations have strongly influenced inclusion by bringing underserved segments like migrant workers and women without prior credit history into the formal system.

#### **Mobile Credit Delivery and Repayment: Usage Among Underserved Groups**

Mobile financial services have also played a key role in expanding access to microfinance. By 31 March 2025, UPI adoption among microfinance borrowers exceeded 84%, up from about 62% in March 2022. Daily UPI transactions in microloan disbursement and repayment channels averaged over 250 million transactions per day nationwide, enabling near-instant access to credit for microentrepreneurs, daily wage workers, and low-income households. FinTech lenders reported that 65-70% of loan disbursements and 72-75% of repayments occurred through mobile UPI or linked mobile banking channels in FY 2024-25, demonstrating that digital payments are now the dominant delivery mechanism for microcredit flows. In rural districts, 80% of digitally active borrowers used mobile credit

delivery systems, compared with only 38% adoption in 2019, indicating a steep rise in usage among underserved populations.

### Alternative Data & AI Scoring: Outreach to New-to-Credit Groups

FinTech’s use of alternative data and AI-based credit scoring has further expanded access to formal finance. As of 31 March 2025, roughly 27% of FinTech microloans were disbursed to borrowers with no formal credit record, indicating that over one-quarter of new clients accessed credit only because of alternative credit evaluation methods. In contrast, the share of new-to-credit borrowers served by traditional MFIs remains comparatively low at 7%. FinTech platforms reported approval rates near 62–68% for applicants evaluated using AI scoring models, compared with 43–50% approval under traditional income and group-guarantee models, highlighting how algorithmic assessment broadens eligibility for underserved groups. The measurable contribution of digital innovations such as e-KYC, mobile credit delivery, and AI-based scoring to financial inclusion is summarized in Table 2.

**Table 2: Impact of FinTech Innovations on Access (as of 31 March 2025)**

Variable	Traditional MFIs	FinTech-Enabled Models
Digital onboarding share (%)	22%	78%
Avg. onboarding time	3-7 days	15-30 minutes
Share of disbursements via mobile (UPI) (%)	28%	65-70%
Repayments via mobile channels (%)	32%	72-75%
New-to-credit borrowers served (%)	7%	27%
Approval rate (%)	43-50%	62-68%

Source: RBI, MFIN, NABARD and Industry Digital Lending

The contribution of digital innovations to financial inclusion is summarized in Table 2. The data indicate that 78% of onboarding in FinTech-enabled models is digital, compared to only 22% in traditional MFIs, with onboarding time reduced from 3–7 days to 15–30 minutes. Mobile-based transactions are also more prevalent, with 65–70% of disbursements and 72–75% of repayments conducted through mobile channels in FinTech models, compared to 28% and 32% respectively in traditional MFIs. FinTech lenders also serve a higher share of new-to-credit borrowers (27%), nearly four times the 7% reported by traditional MFIs. Approval rates are stronger under FinTech scoring methods at 62–68%, compared to 43–50% in traditional models. These figures demonstrate that digital onboarding, mobile finance, and AI-based assessment significantly widen access to credit.

### Rising Over-Indebtedness and Portfolio Stress

One of the most significant risks associated with FinTech-enabled microfinance is the growing incidence of borrower over-indebtedness. As of 31 March 2025, the Indian microfinance sector reported a gross loan portfolio of about ₹3.8 lakh crore, but asset quality pressures have increased. Sector estimates indicate that Gross Non-Performing Assets (GNPA) in microfinance rose to around 5.8-6.2%, compared to about 3-4% two years earlier. FinTech lending, due to instant digital approvals and limited physical verification, has contributed to borrowers accessing multiple loans simultaneously. Studies show that nearly 28-30% of microfinance borrowers now hold loans from three or more lenders, increasing repayment stress. Additionally, around 12-15% of borrowers in urban and semi-urban areas had overlapping digital loans, often taken from app-based lenders. The speed of digital disbursement, while beneficial for access, sometimes reduces the depth of credit appraisal. This increases the probability of credit being extended beyond repayment capacity. Hence, over-indebtedness remains a measurable and growing concern in the FinTech microfinance ecosystem.

### Consumer Protection and Grievance Issues

Consumer protection risks have also expanded alongside digital lending growth. By March 2025, digital lending complaints recorded through regulatory and banking grievance channels showed a year-on-year rise of nearly 18-22%. Many complaints related to hidden charges, high effective interest rates, and aggressive recovery practices by certain digital lenders. Data from sector reviews suggest that 8-10% of digital borrowers reported lack of transparency in loan terms, especially regarding processing fees and penalties. In contrast, traditional MFIs which rely on group meetings and physical documentation showed relatively lower complaint ratios.

Furthermore, customer awareness remains limited. Surveys indicate that only about 55-60% of digital microfinance borrowers fully understood loan conditions, compared to nearly 75% among traditional SHG/JLG borrowers. This highlights the gap in financial literacy and informed consent in digital models.

### Digital Divide and Data Privacy Risks

While FinTech improves efficiency, it also exposes borrowers to digital risks. As of 2025, rural internet penetration in India stands near 55-60%, meaning a large share of microfinance clients still face access constraints. Limited digital literacy can lead to misuse of apps, misunderstanding of repayment schedules, or vulnerability to fraud. Data privacy is another emerging issue. Reports suggest that 6-8% of digital lending users expressed concerns about unauthorized data access or misuse of personal contacts for recovery pressure. Such practices can harm borrower trust and sector credibility. Therefore, although FinTech enhances scale, evidence shows that digital gaps and privacy concerns must be addressed to ensure safe and inclusive growth. While FinTech expands outreach, it also introduces measurable risks, which are summarized in below Table 3.

**Table 3: Risk Overview (as on 31 March 2025)**

Risk Indicator	Status
Sector GNPA	5.8-6.2%
Borrowers with 3 loans	28-30%
Borrowers with overlapping digital loans	12-15%
Rise in digital lending complaints	18-22% YoY
Borrowers unaware of full loan terms	40-45%
Rural internet penetration	55-60%
Data privacy concern cases	6-8%

Source RBI, NABARD, MFIN and industry reports on Microfinance and Digital Lending

The emerging risks linked with rapid digital expansion are outlined in Table 3. The sector's GNPA level of 5.8–6.2% reflects rising repayment stress compared to earlier years. The data also show that 28–30% of borrowers hold loans from three or more lenders, while 12–15% have overlapping digital loans, indicating growing over-indebtedness. Consumer protection concerns are evident from the 18–22% year-on-year rise in complaints and the finding that 40–45% of borrowers are unaware of full loan terms. Structural challenges persist as well, with rural internet penetration at 55–60%, limiting digital access for many clients. Additionally, 6–8% of users reporting data privacy concerns signals trust and security issues. These figures indicate that while FinTech enhances outreach, it also introduces measurable financial and digital risks requiring safeguards.

### Results and Discussion

The results of this comparative study clearly demonstrate that FinTech has substantially strengthened microfinance outreach in India by improving access, speed, and cost efficiency. The findings show that FinTech-enabled models have expanded borrower coverage at a faster pace than traditional MFIs by leveraging digital onboarding, e-KYC, mobile payments, and AI-based credit assessment. A significant share of new loan accounts now originates through digital channels, with 78% of onboarding occurring digitally compared to 22% in traditional systems. The reduction in onboarding time from several days to less than an hour has enabled lenders to process more applications and reach geographically dispersed clients. Higher borrower-to-staff ratios and lower operating cost structures further confirm the scalability advantages of FinTech platforms.

The results also indicate that FinTech plays a meaningful role in financial inclusion. The share of new-to-credit borrowers served by FinTech lenders (27%) is considerably higher than that of traditional MFIs (7%), suggesting that digital credit assessment tools are enabling access for clients without prior credit histories. Increased use of UPI-based disbursement and repayment channels, now exceeding 65–70% of transactions in FinTech models, reflects the growing integration of microfinance with India's digital payments ecosystem. These developments support the argument that FinTech is deepening inclusion among underserved and remote populations, particularly in rural areas where nearly 80% of the portfolio is concentrated.

At the same time, the discussion of results reveals a dual reality. While outreach and efficiency have improved, the data point to rising portfolio stress and borrower vulnerability. GNPA levels of 5.8–

6.2%, along with evidence that 28–30% of borrowers hold multiple loans, indicate increasing repayment pressure. The prevalence of overlapping digital loans suggests that rapid credit expansion can sometimes outpace careful credit appraisal. Additionally, the rise in complaints related to transparency and recovery practices highlights gaps in consumer awareness and regulatory compliance. The finding that 40–45% of borrowers are not fully aware of loan terms underscores the need for stronger financial literacy efforts. The results further suggest that digital inclusion is not uniform. With rural internet penetration at 55–60%, a notable share of potential clients still faces access limitations. Data privacy concerns reported by 6–8% of users also indicate emerging trust issues in digital lending. These patterns imply that technology-driven outreach must be supported by safeguards that protect borrowers from misuse, misinformation, and data risks.

Overall, the evidence suggests that FinTech works most effectively as a complement rather than a substitute for traditional microfinance. Hybrid approaches that combine digital efficiency with local engagement, group-based discipline, and borrower education may provide a more sustainable model. Balanced regulation, improved transparency, and stronger grievance-redressal systems will be essential to ensure that rapid digital expansion translates into responsible and inclusive growth. In sum, FinTech has demonstrably enhanced microfinance outreach, but its long-term developmental impact will depend on aligning innovation with prudent lending practices and client protection frameworks.

### Conclusion

This study concludes that FinTech has become a powerful enabler of microfinance outreach in India by improving access, speed, and operational efficiency in credit delivery. Digital tools such as e-KYC, mobile-based transactions, and AI-driven credit assessment have significantly reduced onboarding time and service costs, allowing lenders to reach remote, underserved, and new-to-credit populations more effectively. The comparative findings show that FinTech-enabled models perform better than traditional MFIs in scalability, processing speed, and cost efficiency, thereby strengthening the goals of digital financial inclusion. At the same time, the study highlights that rapid digital expansion also introduces risks, including rising multiple borrowing, portfolio stress, and consumer protection concerns. Digital literacy gaps and data privacy issues further indicate that access alone does not guarantee responsible inclusion. Hence, sustainable microfinance growth requires a balanced approach that combines technological innovation with prudent regulation, financial education, and transparent lending practices. A hybrid model that integrates digital delivery with local engagement and borrower support systems may provide a more stable and inclusive pathway. Overall, FinTech should be seen as a complementary force that enhances, rather than replaces, traditional microfinance, with its long-term developmental impact depending on responsible implementation and effective safeguards.

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