Research Paper

EPRA International Journal of Economic and Business Review-Peer Reviewed Journal
Volume - 13, Issue - 6, June 2025 | e-ISSN: 2347 - 9671| p- ISSN: 2349 – 0187

SJIF Impact Factor (2025): 8.862 || ISI Value: 1.433 || Journal DOI URL: https://doi.org/10.36713/epra2012

THE ROLE OF FINTECH IN TRANSFORMING THE FINANCIAL SERVICES LANDSCAPE IN RURAL INDIA

Dr. Ranjith Kumar S[1], Ashwin Anand[2]

[1]*Professor, School of Economics and Commerce, CMR University, Bangalore, India.*
[2]*Student, B.com, School of Economics and Commerce, CMR University, Bangalore, India.*

ABSTRACT **DOI No: 10.36713/epra22293** **Article DOI: https://doi.org/10.36713/epra22293**

This study investigates how FinTech is transforming financial services in rural India and the barriers that impede such transformation. Suspicion, low digital literacy, resistance to change is major trust issues for many rural consumers, making it difficult for them to adopt digital financial services. By revealing these inhibitors, the research questions the significance of trust, the implications of digital literacy, and the contribution of government and private sector variables in facilitating the uptake of Fintech. Its aim is to provide insights that lead to more inclusive, user-centric financial solutions designed to meet the needs of rural communities.

In so doing, this study aims to analyse the transformative potential of FinTech in rural India through an exploration of the behavioural, technological, and institutional determinants of its adoption. Although digital finance is growing rapidly, in rural areas there are still major barriers, such as lack of trust, low levels of digital literacy, and fear of change. We plan to identify and examine challenges of the SMEs, and the role of trust in the consumer-related decisions on FinTech adoption. Additionally, it seeks to assess how digital literacy affects the usage of financial technology and evaluate the effectiveness of government and private sector initiatives in promoting financial inclusion. By providing insights into the key barriers and potential solutions, this research will offer valuable recommendations for policymakers, financial institutions, and technology companies to develop more inclusive and accessible digital financial services tailored to the needs of rural populations.

KEYWORDS: - ***Fintech Adoption, Rural Banking, Rural India, Digital Payments, Trust In Technology, Digital Literacy, Government Initiatives***

INTRODUCTION

The speed of advancement in financial technology (FinTech) has transformed the worldwide financial services sector, enhancing access, efficiency, and convenience (Arner et al., 2015). The FinTech sector in India has significantly contributed to enhancing financial inclusion, especially via digital payments, mobile banking, and microfinance (Ghosh, 2020). Nonetheless, throughout this revolution, rural India lags in embracing FinTech because of numerous socio-economic and behavioral hurdles. Limited access to conventional banking systems, digital illiteracy, distrust in online financial services, and hesitation to adopt new technologies have hindered the growth of FinTech in rural areas (Suri & Jack, 2016). Understanding these barriers is crucial for developing solutions that improve the accessibility and inclusivity of digital financial services.

Trust stands out as one of the strongest drivers for adopting FinTech in rural India. Rural users continue to be reluctant to embrace digital financial services because of concerns over fraud, cyber threats, and the general security of online transactions (Aker et al., 2016). Phishing, internet frauds, and unauthorized withdrawals have instilled fear and doubt in rural customers, making them hesitant to transition from cash payments to online transactions. In contrast to urban consumers, who might encounter more financial literacy initiatives and anti-fraud efforts, rural users are less likely to recognize the difference between legitimate financial websites and fraudulent ones, making them more vulnerable to internet-related financial crimes (Demirguc-Kunt et al., 2018).

Conventional banking remains the most desired option for the majority of rural consumers, mainly due to the direct contact with bankers, which provides the sense of stability and reliability (Beck et al., 2007). In rural regions, bank personnel typically act as financial advisors, advising customers through transactions such as account opening, loan acquisition, and transaction processing. The enduring personal connections built over time foster a feeling of trust in the banking system.

In contrast, FinTech products, which largely function through mobile applications or web portals, lack this human factor, which inhibits first-time customers from forming an equal level of confidence (Sarma & Pais, 2011). Moreover, the absence of physical banking infrastructure or customer care representatives in most villages further increases the gap, as

consumers are deprived of an instant platform to seek clarification or correct mistakes when faced with issues.

In addition, trust in FinTech products also significantly relies on some infrastructural and technical factors. Frequent problems of low internet connectivity, transaction faults, and delayed payment raise doubts regarding the reliability of FinTech products (Donovan, 2012). Most rural consumers worry about losing money in electronic payments due to technical faults or insufficient knowledge about reversing failed payments. Furthermore, language barriers and complex user interfaces of FinTech applications also decrease trust, as most rural consumers are not able to access financial platforms that do not provide clear instructions in their mother language (Gabor & Brooks, 2017).

Trusted FinTech follows a multi-faceted approach through policy for improved consumer protection, anti-fraud awareness campaigns, and efficient customer care facilities in rural focus. FinTech players and financial institutions need to come together and collaborate with each other for creating more transparency, easy-to-use products and services in local languages, and grievance redressal facilities to generate confidence in e-transactions (Jack & Suri, 2014). The trust deficit needs to be reduced to the minimum for FinTech to be adopted on a large scale in rural India and to realize the true potential of digital financial inclusion.

One of the biggest impediments to the adoption of FinTech in rural India is digital illiteracy. Even with unprecedented smartphone penetration growth, large segments of the rural population are still not able to use digital financial platforms effectively (Aker & Mbiti, 2010). Most rural consumers lack basic technological skills, which makes them unable to use mobile banking apps, digital wallets, and online payment systems. Compared to urban consumers, who are accustomed to digital interfaces, rural consumers struggle to understand complex application screens, transaction processes, and security protocols (Ozili, 2018). Consequently, many people completely shun digital financial services or use intermediaries like family members, shopkeepers, or local agents to make transactions on their behalf, thereby promoting dependency and restricting financial independence.

Among the main issues connected with a lack of digital literacy is a higher likelihood of mistakes and cases of cyber fraud. New consumers are mainly unaware of how to verify transaction details, identify phishing attacks, or employ security features such as two-factor authentication (2FA) (Baily et al., 2018). Cyber criminals exploit the ignorance by duping individuals into revealing sensitive information such as PINs, passwords, or one-time passwords (OTPs), eventually leading to losing money. Moreover, rural consumers may not have the capacity to report instances of fraud or seek assistance when transactions fail, thereby deterring them from utilizing digital financial services (Hasan et al., 2021). The possibility of making a mistake and losing money creates a psychological barrier, encouraging a preference for physical cash transactions.

Language and financial illiteracy in regional languages further worsen the problem. Most FinTech products are English or Hindi language-centric, which is a problem for users with literacy in regional languages alone (Ghosh, 2020). Even if language selection is provided, the financial jargon and guidance do not tend to get translated into simple language for users with literacy limitations. Moreover, the lack of hands-on practice or learning materials further limits their confidence in using digital financial products.

It bridges the digital literacy divide through the provision of certain educational programs, which consist of training programs at the grassroots, campaigns, and simplified mobile applications that are voice-based and supportive of local languages. Efforts from the government and the private sector should prioritize incorporating digital financial literacy into rural education systems by utilizing local influencers, including self-help groups, postal networks, and community leaders to enhance awareness (Pradhan et al., 2019). Without these initiatives, the majority of the rural population will continue to miss out on the benefits of digital financial services. Programs such as the Pradhan Mantri Jan Dhan Yojana (PMJDY), Digital India, and Aadhaar-linked financial products have played a crucial role in advancing financial inclusion in India, particularly in rural areas. The initiatives have aimed to enhance the accessibility of banking services for all, encouraging electronic payment systems, and facilitating credit access for underserved populations (Press Information Bureau, 2024). For example, PMJDY has successfully enabled the opening of bank accounts for millions who were previously unbanked, requiring minimal documentation and providing them a sense of financial security (International Monetary Fund, 2021). Aadhaar payment systems have streamlined identity verification, enhancing the accessibility of digital payments, while Digital India has led the push for a cashless economy through better internet connectivity and increased digital literacy (Press Information Bureau, 2024).

Simultaneously, the private sector has made a notable contribution to creating FinTech products and services tailored to the requirements of rural consumers. The rise of UPI payment systems, mobile wallets, and micro-lending platforms has introduced rural consumers to innovative financial products that offer greater convenience and flexibility than traditional banking (BusinessWorld, 2024). Companies have introduced new offerings such as feature-phone banking, biometric identification, and AI-driven customer support to connect technology innovations with the financial needs of rural communities (PwC, 2024). In addition to this, microfinance entities and FinTech firms have created credit models utilizing alternative data like mobile activity and transaction records to grant loans to people lacking a formal credit history (PwC, 2024).

Despite all the attempts made, rural India's adoption of FinTech is unbalanced, ridden by structural and behavioral factors discouraging mass adoption. Most rural consumers, particularly in remote regions, are still suspicious of digital financial services, have low digital literacy levels, or are constrained by infrastructural problems such as poor internet penetration and power instability (FHI 360, 2018). Additionally, despite the deployment of government interventions aimed at establishing a conducive environment to promote financial inclusion, the rollout of these initiatives has been marred by inconsistency, with broken links in access and service delivery. Rural users

also face challenges in accessing grievance redressal when something goes wrong in digital transactions, thus further deterring their uptake of FinTech solutions (FHI 360, 2018).

To enhance the adoption levels, more focused interventions need to be put in place that tackle the structural barriers and behavioral resistance among rural consumers. Collaboration between FinTech firms, banking systems, and government institutions is needed to harness digital platforms, foster trust-building initiatives, and enhance digital literacy initiatives at the grassroots levels. Customized financial services, enhanced cybersecurity, and more inclusive awareness programs can bridge the digital divide and enable the integration of financial technology among rural communities.

This research attempts to investigate the role of FinTech in transforming the financial service landscape in rural India, particularly with respect to trust parameters, digital literacy, and the success of government and private companies' efforts. By the identification of determinants impacting FinTech adoption, this research seeks to offer valuable insights to policymakers, financial institutions, and technology firms to create more accessible and user-friendly financial products. The findings of this study seek to connect technological advancements with the financial needs of rural individuals, thereby enabling digital financial services to significantly contribute to economic progress and social development in rural India.

LITERATURE REVIEW

Agarwal and Chaturvedi (2021) noted that trust gaps, particularly in rural societies, normally result from previous experiences of financial dishonesty and unfamiliarity with electronic transactions
In many rural communities, a longstanding tradition of inform al
financial practices fosters skepticism towards digital financial services. To establish confidence and promote usage, there is a need to introduce robust cybersecurity, provide transparent policies, and invest in consumer education.

Saxena and Tripathi (2021) (Saxena, n.d.) observed that the frequency of financial frauds, along with the lack of proper awareness regarding security measures in online transactions, goes a long way in undermining trust among rural consumers. Their study emphasizes that increasing awareness via educational initiatives and effective grievance resolution processes can play a crucial role in fostering trust in FinTech platforms.

Banerjee et al. (2019) had argued that government-backed FinTech initiatives lie at the heart of building trust, especially in areas where the banking infrastructure is weak. These efforts foster trust and stimulate widespread adoption of digital financial services.
Digital literacy stands as a significant barrier to the adoption of FinTech in rural India. Many individuals, lacking adequate education and access to technology, encounter challenges in effectively utilizing digital banking apps, payment systems, and mobile financial services.

Kumar et al. (2020) identified digital illiteracy as a key factor contributing to the gradual adoption of FinTech in developing nations and suggested targeted campaigns for each region to tackle the issue. Academic sources, while tackling this issue, highlight the establishment of targeted financial literacy initiatives and the creation of accessible FinTech platforms, particularly for low-literacy groups.

Sindakis and Showkat (2024) made a comparative evaluation of the level of digital literacy in urban and rural India and concluded that whereas city residents adopt new money technologies eagerly at breakneck speeds, rural individuals develop slowly because they lack exposure and have poor hands-on practice. The authors recommended that training programs emphasizing community-based and interactive practices would enhance digital literacy.

(M. Hasan et al., 2024;) suggested that easy-to-use FinTech interfaces, voice-based applications, and local language support may be made more accessible to rural communities.

Resistance to adoption of FinTech in rural India is most commonly driven by a deep cultural preference for transacting in cash, high prevalence of distrust of digital interfaces, and inadequate internet infrastructure.

Gupta and Sharma (2019) (Sharma, n.d.) noted that, despite growing availability of digital financial services, Rural consumers tend to Favor conventional banking methods because of ingrained financial habits and limited knowledge.

Studies indicate that rural customers depend more on local banking services or lending networks than on digital options. To enhance this, government and private sector initiatives need to address infrastructure gaps and raise awareness of the advantages of digital finance.

Das & Ranjan (2020) (Y. Hasan & Perumal, 2024) highlighted the cultural attitudes towards financial management in the adoption of FinTech. They established that most rural consumers prefer to use personal networks over digital resources for tracking finances, which accounts for their resistance to automated financial services.
Singh (2021) posited that pilot FinTech initiatives of low scale, tailored to rural financial habits, could potentially build trust and enable phased-up adoption.

Regulatory and Institutional Support: Despite government efforts such as the Digital India initiative and the Pradhan Mantri Jan Dhan Yojana, the uptake of FinTech still shows inequalities across different demographic segments.

Reddy (2022) stated that although digital financial inclusion regulatory policies are made to enhance digital financial inclusion, their impact is eroded by inconsistent enforcement and a lack of consumer education. Regulatory agencies have to ensure that such policies lead to secure transactions, consumer protection, and equitable lending to advance digital financial involvement in underserved markets.

STATEMENT OF THE PROBLEM

Even though FinTech adoption is progressing rapidly in urban India, rural India continues to be afflicted with serious behavioural issues such as trust issues, low digital literacy, and resistance to change. Despite efforts by the Indian government and private sector to promote digital financial inclusion, rural consumers continue to resist adopting FinTech solutions. Traditional banking systems, founded on interpersonal transactions, remain dominant in rural financial transactions and thus the shift to digital platforms is gradual and patchyDistrust in digital transactions stems from worries about fraud, cybersecurity problems, and the lack of personal touch in FinTech services. Furthermore, the lack of adequate digital literacy exacerbates the problem, since rural users do not know how to access and use mobile banking services, online financial platforms, and digital wallets. Lack of sufficient education and knowledge makes the advantages of FinTech inaccessible for many people in rural areas.

Additionally, information is scarce about how these behavioral traits influence the adoption of digital financial services in rural areas. The absence of information limits the development of targeted strategies that tackle the issues faced by rural consumers. While many studies have detailed the infrastructural and technical obstacles to FinTech adoption, it is essential to understand the socio-cultural and psychological factors that influence financial behaviors in rural India. Understanding these factors is vital for promoting greater adoption of FinTech and bridging the gap between urban and rural financial systems.

To achieve this research agenda, the study seeks to investigate the behavioral issues related to FinTech adoption faced by rural India, focusing on trust, digital literacy, and opposition to changes in attitudes.

In order to explore this topic, the following secondary research questions will be considered:

1. What is the most important trust-related issues that hinder rural consumers from utilizing FinTech services?
2. How does digital literacy affect the propensity and capacity of rural consumers to adopt FinTech solutions?
3. What is the influence of cultural and conventional banking habits in shaping attitudes towards digital financial services?
4. To what extent have public and private sector efforts succeeded in overcoming behavioural impediments to FinTech uptake?
5. What measures can be taken to promote trust and increase FinTech usage in rural regions?

Through these research questions, this study aims to present insightful observations regarding FinTech adoption drivers in rural India. Understanding and breaking down barriers to behaviour will be key in ensuring that online delivered financial services contribute to economic development and social well-being in rural India.

OBJECTIVE

1. To investigate how trust influences the acceptance of FinTech by rural consumers in India.
2. To assess the impact of digital literacy on the utilization of digital financial services.
3. To explore the factors contributing to the reluctance towards FinTech solutions in rural areas.
4. To assess government and private sector efforts towards increasing the adoption of FinTech.

METHODOLOGY

1. Research Design

The study uses a descriptive and analytical research design with secondary data analysis to examine FinTech adoption in rural India. It identifies key challenges like trust, digital literacy, resistance to change, and the sufficiency of government and private sector initiatives.

2. Data Sources

The study draws from government publications (RBI, NPCI, NITI Aayog), industry reports (McKinsey, PwC, World Bank, KPMG), research papers, and online news related to FinTech usage and trends for financial inclusion in rural India.

3. Data Collection and Analysis

- Literature Review: Review of existing literature regarding FinTech adoption.
- Extraction of Key Statistics: Data compilation from industry and government reports.
- Comparative Analysis: Review of efforts between the government and private sectors.
- Thematic Analysis: Common pitfalls identified like trust, literacy, and accessibility.

FINDINGS

1. Trust as a Barrier: FinTech is distrusted by users because of earlier frauds, lack of human interaction, and apprehension over transaction failures. Trust is additionally undermined by ineffectual grievance redressal systems and impersonal electronic interfaces.

2. Digital Literacy Deficit: Rural users have difficulty navigating apps, managing PINs, and comprehending transaction flows. Women, older adults, and low-income segments are particularly impacted. Training is frequently lacking or not contextualized.

3. Cultural **Resistance:** A strong preference for cash, networks for peer-to-peer lending, and the influence of social norms contribute to behavioral inertia. Users fear committing irreversible mistakes and often rely on others for online transactions.

4. Policy **Gaps:** Although initiatives such as PMJDY and AePS increased access, numerous accounts go dormant because of education on usage and follow-up. Interfaces are not designed for local language users. There is low awareness of support systems.

5. Connected Barriers: Structural problems (e.g., weak internet, complicated design) make behavioral resistance worse, and vice versa. A failed online experience reinforces fear and results in long-term disengagement.

DISCUSSION

A people-first strategy is key to effective rural FinTech uptake. Technology has to be repurposed with empathy, simplicity, and local relevance. Government programs need to address not just access but also usability and behavioral incentives. The private

sector has to invest in voice-based interfaces, agent-based models, and sustained engagement.

CONCLUSION & RECOMMENDATIONS

FinTech can be a revolutionary force in rural India—but only if structural and behavioral impediments are tackled comprehensively. This paper suggests:

- Trust-building campaigns based on community
- Localized and vernacular FinTech design
- Periodic digital literacy workshops
- Behavioral nudges (e.g., incentives, gamification)
- Integrated stakeholder collaboration

It is only through such inclusive, context-sensitive interventions that India can realize genuine financial empowerment for its rural citizens.

REFERENCE

1. ***Statista.* (2023).** *Global FinTech market size from 2023 to 2030. Statista. https://www.statista.com/statistics/1222970/fintech-market-size-worldwide/*
2. ***EY.* (2023).** *Global FinTech Adoption Index 2023. Ernst & Young Global Limited. https://www.ey.com/en_gl/financial-services/global-fintech-adoption-index*
3. *Aker, J. C., & Mbiti, I. M. (2010). Mobile phones and economic development in Africa. Journal of Economic Perspectives, 24(3), 207-232.*
4. *Aker, J. C., et al. (2016). Payment mechanisms and antipoverty programs. Journal of Development Economics, 123, 187-205.*
5. *Arner, D. W., Barberis, J., & Buckley, R. P. (2015). "The evolution of FinTech": "A new post-crisis paradigm? Georgetown Journal of International Law", 47(4), 1271-1319.*
6. *Baily, M. N., Farrell, D., & Green, C. (2018)." The Future of Financial Services". Brookings Institution Press.*
7. *Beck, T., Demirguc-Kunt, A., & Levine, R. (2007). Finance, inequality and the poor. Journal of Economic Growth, 12(1), 27-49.*
8. *Demirguc-Kunt, A., Klapper, L., Singer, D., & Van Oudheusden, P. (2018). The Global Findex Database 2017: Measuring Financial Inclusion and the FinTech Revolution. World Bank Publications.*
9. *Donovan, K. P. (2012). Mobile money for financial inclusion. Information and Communications for Development, 61(1), 61-73.*
10. *Gabor, D., & Brooks, S. (2017). The digital revolution in financial inclusion: International development in the FinTech era. New Political Economy, 22(4), 423-436.*
11. *Ghosh, S. (2020). "Financial Inclusion and Digital Payments in India". Springer.*
12. *Hasan, M., et al. (2021). Digital finance and rural inclusion. "Journal of Financial Services Research", 59(3), 423-447.*
13. *Jack, W., & Suri, T. (2014). Risk sharing and transactions costs: Evidence from Kenya's mobile money revolution. American Economic Review, 104(1), 183-223.*
14. *Pradhan, R. P., et al. (2019). ICT infrastructure and financial inclusion in India. Journal of Economic Studies, 46(6), 1163-1179.*
15. *Sarma, M., & Pais, J. (2011). Financial inclusion and development. Journal of International Development, 23(5), 613-628.*
16. *Suri, T., & Jack, W. (2016). The long-run poverty and gender impacts of mobile money. Science, 354(6317), 1288-1292.*
17. *BusinessWorld. (2024). Revolutionising Financial Inclusion: The Role Of Mobile Technology, Digital Wallets, And Micro-Lending Platforms In India. Retrieved from https://www.businessworld.in/article/revolutionising-financial-inclusion-the-role-of-mobile-technology-digital-wallets-and-micro-lending-platforms-in-india-533220*
18. *FHI 360. (2018). India Digital Financial Inclusion | Journey Map Report | mSTAR Project. Retrieved from https://www.fhi360.org/wp-content/uploads/drupal/documents/resource-mstar-india-digital-financial-inclusion-report.pdf*
19. *International Monetary Fund. (2021). "The India Stack is Revolutionizing Access to Finance". Retrieved from https://www.imf.org/external/pubs/ft/fandd/2021/07/india-stack-financial-access-and-digital-inclusion.htm*
20. *Press Information Bureau. (2024). "Pradhan Mantri Jan Dhan Yojana" (PMJDY) – "National Mission for Financial Inclusion" – completes a decade of successful implementation. Retrieved from https://pib.gov.in/PressReleasePage.aspx?PRID=2049231*
21. *PwC. (2024). FinTech – Powering India's USD 5 Trillion Economy by Fostering Innovations. Retrieved from https://www.pwc.in/assets/pdfs/industries/powering-indias-usd-5-trillion-economy-by-fostering-innovations.pdf*
22. *Agarwal, A., & Chaturvedi, B. (2021). Trust Issues in Rural FinTech Adoption. Journal of Rural Financial Studies, 15(3), 45-58.*
23. *Saxena, A., & Tripathi, S. N. (2021). Exploring the Security Risks and Safety Measures of Mobile Payments in Fintech Environment in India. International Journal of Management, 12(2), 408-417.*
24. *Gupta, Priyanka Sharma. "Impact of Digitization on Transaction Banking in Financial Industry: An Evolving Landscape." Leeds University Business School (2018): n. pag. Print.*
25. *Kumar, V., Raghavan, S., & Patel, M. (2020). Digital Illiteracy: A Barrier to FinTech Adoption in Developing Economies. Journal of Global Information Technology Management, 23(4), 215-233.*
26. *Banerjee, S., Gupta, R., & Singh, A. (2019). Government Initiatives and FinTech Adoption in Rural India. Indian Journal of Financial Inclusion, 7(1), 22-34.*
27. *Singh, T. (2021). Pilot FinTech Programs: A Pathway to Building Trust in Rural India. Journal of Financial Inclusion Strategies, 9(1), 33-47.*
28. *Das, S., & Ranjan, P. (2020). Cultural Influences on FinTech Adoption in Rural India. Asian Journal of Financial Technology, 5(2), 120-135.*
29. *Singh, T. (2021). Pilot FinTech Programs: A Pathway to Building Trust in Rural India. Journal of Financial Inclusion Strategies, 9(1), 33-47.*
30. *Hasan, Y., & Perumal, E. (2024). Role of Cultural Diversity and Social Influence in FinTech Adoption: India. Journal of Informatics Education and Research, **4**(3), 714-720*
31. ***Hasan, M., Hoque, A., Abedin, M. Z., & Gasbarro, D. (2024).** FinTech and sustainable development: A systematic thematic analysis using human- and machine-generated processing. International Review of Financial Analysis, 95, 103473. https://doi.org/10.1016/j.irfa.2024.103473*

32. *Reddy, L. (2022). Regulatory Challenges in Promoting Digital Financial Inclusion in Rural India. Indian Journal of Regulatory Studies, 14(2), 88-102.*
33. *National Payments Corporation of India. (2023). UPI Annual Report 2022–23. Retrieved from https://www.npci.org.in*
34. *GSMA. (2022, 2023). Mobile Gender Gap Report. https://www.gsma.com*
35. *IAMAI. (2022). Digital Literacy in India. https://www.iamai.in*
36. *Reserve Bank of India. (2021). Financial Literacy Week Report. https://www.rbi.org.in*
37. *World Bank. (2020). Digital Development in South Asia. https://www.worldbank.org*