

Do FinTech Innovations Disrupt Traditional Banking? Empirical Evidence from the Indian Market.

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Received:
Sep 25, 2025
Revised
Oct 25, 2025
Accepted
Nov 6, 2025
Published
Dec 15, 2025

ABSTRACT

The evolution of the FinTech industry in India has drastically changed the way banks operate. As new technologies have been introduced to the banking sector (i.e. UPI; digital wallet; P2P lending platforms; and artificial intelligence for credit score determination), the expectations of consumers have changed, and so has the degree of competition faced by traditional banks. This research aims to determine if FinTech innovations are disruptive to existing banks or if instead they imply enhanced collaboration and improved efficiency and accessibility for consumers, by reviewing the impact of FinTech on the banking sector through analysis of secondary sources, including Reserve Bank of India reports, industry publications and peer-reviewed articles. Although in the short term FinTech may create competitive and profitability pressures for banks, this research demonstrates that in the longer term, an increased adoption rate of FinTech in banks will create increased levels of transformation through efficient operations and increased service quality. Therefore, the conclusion of the research is that FinTech is fundamentally transforming the nature of banks and the banking industry by increasing collaborative innovation opportunities and creating a more inclusive, resilient and technologically powered ecosystem for consumers..

Keywords: *FinTech Innovation, Traditional Banking, Digital Payments, Financial Inclusion, Indian Banking System.*

1. INTRODUCTION:

The Indian Banking Sector is being reconstructed by Financial Technology (FinTech) Innovation. Each of the different iterations of Financial Technology has impacted the way banks have historically operated in India. For a long time, banks conducted most of their business through a combination of manually generated paper documents, physical branch locations and antiquated legacy bank systems, resulting in greater operational costs and longer periods to deliver products and services to their customers than would otherwise have occurred.

The last ten years have seen a dramatic growth in Mobile Internet Use; Digital Identity through the use of Aadhaar; creation of a Unified Payments Interface (UPI); and the support of regulatory agencies, which has allowed banks to quickly implement technological enhancements for their Financial Services. FinTech Companies are delivering financial solutions that are less expensive, more efficient, and offer a better Customer Experience than what Banks have been able to provide using Mobile Applications, Data Analytics, Artificial Intelligence (AI), and Cloud Computing Technologies. FinTech Companies are leading the charge to improve the traditional banking model, thereby creating competitive tension within the banking industry, especially in the areas of Payments, Lending and Wealth Management.

Some academics believe that as FinTech continues to develop and gain traction, it will create disintermediation opportunities that will threaten Banks' current market shares, whereas others look to the collaboration of Banks and FinTech Companies as beneficial opportunities for the collaboration of experience and improving the Banks' ability to provide Customers with quality and timely Financial Services, while simultaneously providing customers with increased access to Financial Services.

In light of the above conclusions, this study looks at how FinTech innovation has affected the way traditional banking operates in India. Additionally, it also seeks to determine if FinTech is either a disruptive force or an enabling factor that drives banks to modernize their business models and increase operational efficiency through the use of technology, as well as assist banks with the process of transitioning into the digital age.

Literature Review and Theoretical Framework

Philippon (2016) conducted an analysis of how technology is changing the way financial intermediaries have historically provided services that would otherwise have required high fees (i.e. cost of capital) and increased efficiency by reducing transaction costs while increasing competition. In addition, Philippon also argues that FinTech is more of a tool for improving the functioning of traditional banks, than it is a direct competitor to banks. He also identified the influence of FinTech on regulation, stating that while it supports the creation of a level playing

field between traditional banks and FinTech companies; he suggests that without collaboration, the two industries will undermine each other's ability to deliver financial products and services to customers. According to **Vives (2017)**, as the number of FinTech companies continues to proliferate, competition and consumer welfare will continue to increase, leading to increased innovation by existing banks in order to meet the needs of consumers more effectively.

Gomber et al. (2018) investigated the impact that FinTech has had on the global financial system, finding that it is changing in many ways, and primarily through innovations in payment systems and retail banking, to a lesser extent, FinTech is currently a major source of competitive pressure on banks, pushing them to adopt new digital technology solutions and, in many cases, II. The evolution of financial technology (Fintechs) is the subject of regulatory developments, e.g. "Sandbox" or flexible regulations supporting innovation, which will be most relevant in an emerging market, like India, where the use of FinTech will create significant opportunities. The paper by **Thakor (2020)** looked at how the long-term effects of FinTech on banking will create both profitability and risk for banks. The author concluded that even though banks were put under pressure in the short run to achieve higher profits from technology investments, over time, FinTech will allow banks to be more efficient and resilient. Zalan and Toufaily (2017) looked not just at how FinTech will help to improve a traditional bank's business but also at how it will help promote financial inclusion. They discovered that by using digital platforms, those people who are currently underserved or underrepresented will now have access to more financial services than previously. This supports the Indian government's push for increased digital financial inclusion among its citizens. In relation to lending and credit assessments by the banks, Frame, Wall, and White (2019) highlighted that AI-based credit scoring systems have improved loan approval times and decreased the information asymmetries that exist between banks and their borrowers. Consequently, banks now have more incentive to increase their underwriting standards and processes. According to Boot, et al. (2021), with the emergence of FinTech, the traditional banking system will start to lose its level of service integration as the various types of services will be unbundled into independent components. However, they also acknowledge that traditional banks continue to hold a significant competitive advantage in terms of trust, scale and keeping in compliance with regulations, which will allow banks to coexist with FinTech, rather than be displaced by it. **Bapat (2020)** focused on the adoption of FinTech among Indian banks and found evidence of a positive relationship between the extent of digitalization and the level of customer satisfaction. Furthermore, the positive transformation of payment behaviour that UPI has created in India was recognized as an important game-changer. **Chaudhuri and Subramanian (2021)** studied the ways that Indian banks have responded strategically to competition from FinTech companies. Their findings suggest that banks that invest in digital technology will perform better than those who resist it.

The **Reserve Bank of India (2022)** highlights in their Annual Report, that FinTech provides better efficiency in operations and financial inclusiveness, but places particular importance on Cybersecurity and Data Governance in Digital Banking. **NASSCOM (2023)** depicts the explosive growth of Indian FinTech Start-Ups and identifies increased collaboration between Banks and FinTech firms mainly within Payment, Lending and RegTech Solutions. According to Pricewaterhouse **Coopers (2022)**, the financial technology industry has dramatically changed the cost structure of Banking through Automation and Cloud-Based Services that significantly lowers Operating Costs and improves the Speed of Delivery. Finally, **BCG (2023)** conducted a study on Digital Maturity of Indian Banks, which established a Link between FinTech Integration and Increased Profitability and Customer Retention over time. **Sahay et al., (2020)**, assessed the Macroeconomic Impact of FinTech, via Technology-Driven Finance, and stated that Technology-Driven Finance will support inclusive growth provided that it is backed by Appropriate Institutions and Regulatory Supervision.

2. RESEARCH GAP

There has been a lot of research into fintech and banking, however, little empirical research looks at the Indian context (that combines integrated profitability, efficiency, style of customer behaviour and financial inclusion). Additionally, most of the literature separates between short-term disruption versus long-term transformational changes; the gap that this research will seek to provide evidence for.

2.1 Concept of FinTech

Fintech is the use of technological advancements for the delivery, experience and access to financial services and products. The most dominant Fintech segments within India are as follows:

- Digital Payments
- Mobile Wallets
- Peer-to-Peer Lending
- Robo-Advisory
- InsurTech, RegTech

2.2 FinTech and Banking Disruption

Empirical evidence has shown that fintech companies have been challenging traditional banks with:

- Reducing costs associated with the transaction
- Offering a better overall user experience
- Using analytical data to determine credit decisions

At the same time, the literature shows that banks react and are responding to these challenges by making investments into digital infrastructure, along with creating partnerships with fintech companies.

2.3 Indian Context

The growth of FinTech in India has been greatly influenced by: 1) the infrastructure provided by UPI, 2) the Jan Dhan-Aadhaar-Mobile (JAM) trinity, and 3) the

regulatory framework established by the Reserve Bank of India (RBI) to encourage innovation through the use of regulatory sandboxes. Research suggests that banks in India that have adopted FinTech have experienced higher levels of service quality and reduced operating costs over time.

3. OBJECTIVES OF THE STUDY

The purpose of this study is to:

- 1. To understand the development scope and pace of various FinTech innovations in India.
- 2. To ascertain the place of FinTech within the future of Banking Operations (Traditional).
- 3. To determine if FinTech supports/disrupts the operations of a traditional Bank.
- 4. To establish the potential impact of FinTech Adoption on the Profitability, Operational Efficiency, and Capacity for Financial Inclusion of a bank.
- 5. To provide Recommendations regarding prudent Regulatory and Strategic Policies for both Banks and Regulators.

4. RESEARCH QUESTIONS

- 1. Do the recent developments in FinTech affect how traditional Banks operate in India?
- 2. Are there adverse impacts on the Profitability and/or Market Share of Banks due to FinTech?
- 3. How are traditional Banks developing Strategies to respond to the disruptions caused by FinTech?
- 4. What is the role of FinTech in furthering Financial Inclusion?

5. HYPOTHESES

- 1. The introduction of FinTech will improve the Operating Efficiency of traditional Banks.
- 2. Although there may be a decrease in the Profitability of Banks in the short run, in the long run, the Adoption of FinTech will result in the increase of Profitability for Banks.
- 3. Increased usage of FinTech by customers will lead to increased Adoption of Digital Banking Services.
- 4. FinTech is a tool to promote Financial Inclusion within India.

6. RESEARCH METHODOLOGY

6.1 Research Design

Descriptive and analytical research design based on secondary data.

6.2 Data Sources

- RBI annual reports
- World Bank financial inclusion data
- Published empirical studies (2012–2024)
- Industry reports (NASSCOM, PwC, BCG)

6.3 Analytical Tools

Comparative analysis

7. TREND ANALYSIS

Synthesis of regression-based empirical findings

Analysis and Results

7.1 Growth of FinTech in India

Table 1: Growth of FinTech Adoption in India

Year	FinTech Startups	Digital Payment Volume (Index)
2015	800	100
2018	1,500	250
2021	2,300	600
2024	3,000+	1,000+

Interpretation: FinTech Expansion in India is exponential, driven primarily by digital payments and mobile banking.

7.2 Impact on Traditional Banking Operations

Table 2: Impact of FinTech on Banking Functions

Banking Function	Traditional Model	FinTech-Enabled Model
Payments	Branch-based	Real-time digital
Lending	Manual credit checks	AI-based scoring
Customer Service	Physical visits	App-based
Cost Structure	High overhead	Lower operating costs

7.3 Impact on Profitability

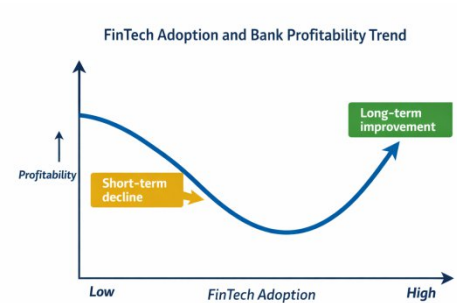


Figure 1: FinTech Adoption and Bank Profitability Trend

Source: Author Created

Finding: Banks experience Early-stage profitability pressure due to technology investments, but long-term gains emerge through efficiency and scale.

7.4 Customer Behavior and Digital Adoption

Table 3: Change in Customer Banking Behavior

Indicator	Pre-FinTech	Post-FinTech
Branch Visits	High	Low
Mobile Transactions	Low	Very High
Customer Satisfaction	Moderate	High

7.5 FinTech and Financial Inclusion

Figure 2: FinTech-Driven Financial Inclusion

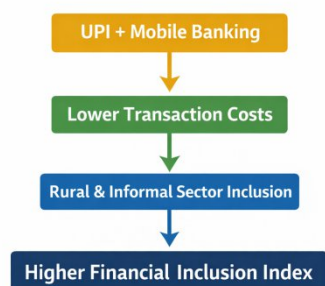


Figure 2: FinTech-Driven Financial Inclusion

Source: Author Created

FinTech has enabled millions of unbanked individuals to access digital financial services, particularly in rural and semi-urban India.

8. DISCUSSION

The research indicates that although FinTech has the ability to improve both the processes conventional banks use to process transactions on a transactional basis, as well as how banks process them strategically. Alliances may result in increased customer access through innovative products and services, and FinTech companies' ability to establish strong customer relationships. However, some characteristics of traditional banks will remain attractive to consumers; hence there is no longer an expectation that FinTech will replace traditional banks in general.

Policy Implications

Regulators must balance innovation with systemic stability

Banks should invest in digital capabilities and partnerships

Cyber security and data privacy must be strengthened

Financial literacy initiatives should accompany digital expansion

9. CONCLUSION

Research indicates that FinTechs are currently facilitating a significant transformation in how conventional banks conduct business in India; They will serve as an essential driver behind the Digital Transformation of Traditional Banks from being "transactional" based service providers to being "digital" based service providers. While

traditional banks are facing disruption due to Technology, Competition, etc., in the long-run, and they are achieving Cost Efficiency, Expanding Outreach & Improved Customer Experience, collaborating with Fintech will enhance their Financial Stability and Inclusion, therefore, FinTech's role in the Sustainable Transformation of the Banking Industry should be viewed as an Enabler of the efficiency, stability and inclusiveness of the Indian Banking Industry.

Limitations and Future Scope

Study relies on secondary data

Future research may use primary data and econometric modeling

Comparative studies with other emerging economies can be explored

Conflict of interest

The author(s) declare that there is no conflict of interest regarding the publication of this research paper

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