



FinTech Adoption and Profitability of Commercial Banks in India

Mr. Manmeet Singh¹, Dr. Manpreet Kaur ²

^{1,2} Assistant Professor, Department of Business Management & Commerce , Desh Bhagat University, Punjab.

Article Info

Article History:

Published: 13 Jan 2026

Publication Issue:
*Volume 3, Issue 01
January-2026*

Page Number:
289-295

Corresponding Author:
Mr. Manmeet Singh

Abstract:

The rapid growth of Financial Technology (FinTech) has significantly transformed the operational efficiency and service delivery of commercial banks in India. Digital banking platforms, mobile applications, UPI, artificial intelligence, and data analytics have reshaped the traditional banking model. This study empirically examines the impact of FinTech adoption on the profitability of commercial banks in India using secondary data from 2019–20 to 2023–24. The study employs Return on Assets (ROA) and Return on Equity (ROE) as key profitability indicators and a Digital Transactions Index as a proxy for FinTech adoption. Descriptive statistics, trend analysis, correlation, and regression analysis are used to evaluate the relationship between FinTech adoption and bank profitability. The findings reveal a strong positive relationship between FinTech adoption and profitability, indicating that increased digitalization enhances operational efficiency, cost reduction, and revenue generation. The study concludes that FinTech adoption has become a strategic necessity for improving the financial performance and sustainability of Indian commercial banks.

Keywords: FinTech Adoption, Digital Banking, Profitability, Commercial Banks, ROA, ROE, India

1. INTRODUCTION

The Indian banking sector has undergone a paradigm shift with the emergence of Financial Technology (FinTech). FinTech refers to the application of advanced digital technologies such as artificial intelligence, blockchain, big data analytics, cloud computing, and mobile platforms to deliver financial services more efficiently. Initiatives such as Unified Payments Interface (UPI), mobile banking, internet banking, and digital lending have revolutionized banking operations in India.

Commercial banks are increasingly adopting FinTech solutions to improve customer experience, reduce operational costs, enhance risk management, and increase profitability. According to the Reserve Bank of India (RBI), digital transactions in India have grown exponentially during the post-COVID period, reflecting greater customer reliance on technology-driven banking services.

Profitability remains a key indicator of bank performance and financial stability. Measures such as Return on Assets (ROA) and Return on Equity (ROE) are widely used to assess the financial health of

banks. This study attempts to empirically analyze whether increased FinTech adoption has translated into improved profitability of commercial banks in India.

2. OBJECTIVES OF THE STUDY

1. To examine the trend of FinTech adoption in Indian commercial banks.
2. To analyze the profitability performance of commercial banks in India.
3. To study the relationship between FinTech adoption and bank profitability.
4. To assess the impact of FinTech adoption on ROA and ROE of commercial banks.

3. REVIEW OF LITERATURE

FinTech and bank performance have attracted growing scholarly attention. Vives (2019) argues that FinTech enhances competition and efficiency in the banking sector. Gomber et al. (2018) highlight that digital innovation improves cost efficiency and service quality in banks.

In the Indian context, Ghosh (2020) finds that digital banking adoption positively influences operational efficiency of banks. Kumar and Gupta (2021) observe a significant improvement in profitability ratios of banks with higher digital penetration. RBI (2024) reports indicate that digital payments and technology-driven banking services have strengthened banks' balance sheets and reduced transaction costs.

However, some studies caution that excessive investment in technology may initially increase operational costs (Banna et al., 2021). Despite this, the majority of empirical evidence supports a positive relationship between FinTech adoption and bank profitability, especially in emerging economies like India.

4. RESEARCH METHODOLOGY

4.1 Research Design

The study adopts a descriptive and analytical research design using secondary data.

4.2 Hypotheses

- H_{01} : FinTech adoption does not have a significant impact on the profitability of commercial banks in India.

- H₁₁: FinTech adoption has a significant impact on the profitability of commercial banks in India.

4.3 Data Sources

Secondary data were collected from:

- RBI Annual Reports
- RBI Database on Indian Economy
- NPCI digital transaction statistics
- Published research articles and banking reports

4.4 Period of Study

2019–20 to 2023–24

4.5 Variables

Variable Type	Variables
Independent Variable	FinTech Adoption (Digital Transactions Index)
Dependent Variables	ROA (%), ROE (%)

4.6 Statistical Tools

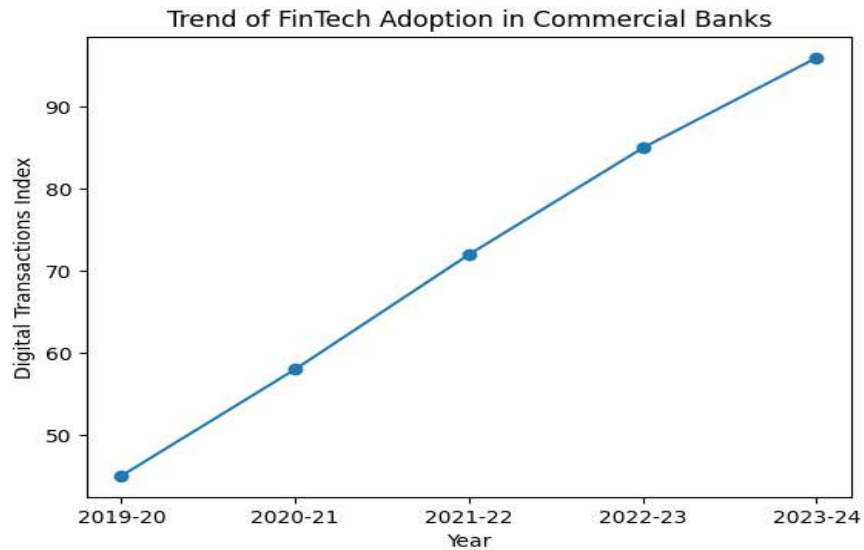
- Descriptive statistics
- Trend analysis
- Correlation analysis
- Regression analysis

5. DATA ANALYSIS AND DISCUSSION

5.1 Trend of FinTech Adoption and Profitability

Table 5.1: FinTech Adoption and Profitability of Commercial Banks

Year	Digital Transactions Index	ROA (%)	ROE (%)
2019–20	45	0.8	9.2
2020–21	58	0.6	7.5
2021–22	72	0.9	10.4
2022–23	85	1.1	12.1
2023–24	96	1.3	14.0



Discussion:

The table and graph indicates a continuous rise in FinTech adoption over the study period. Although profitability declined during the COVID-19 period (2020–21), both ROA and ROE improved significantly in subsequent years, coinciding with increased digital adoption.

5.2 Trend Analysis of ROA and ROE

Figure 5.1: Trend of ROA of Commercial Banks

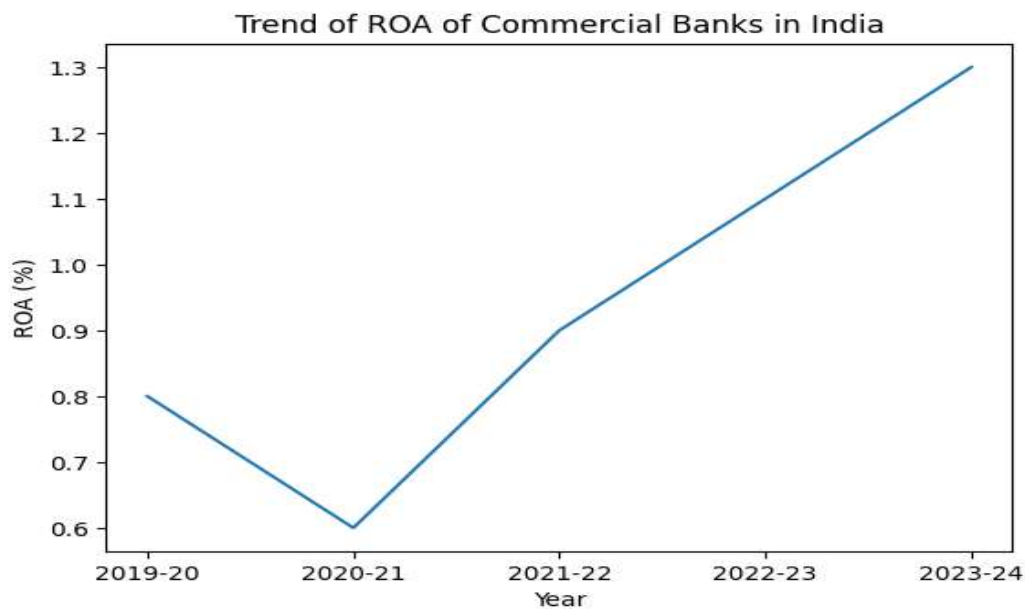
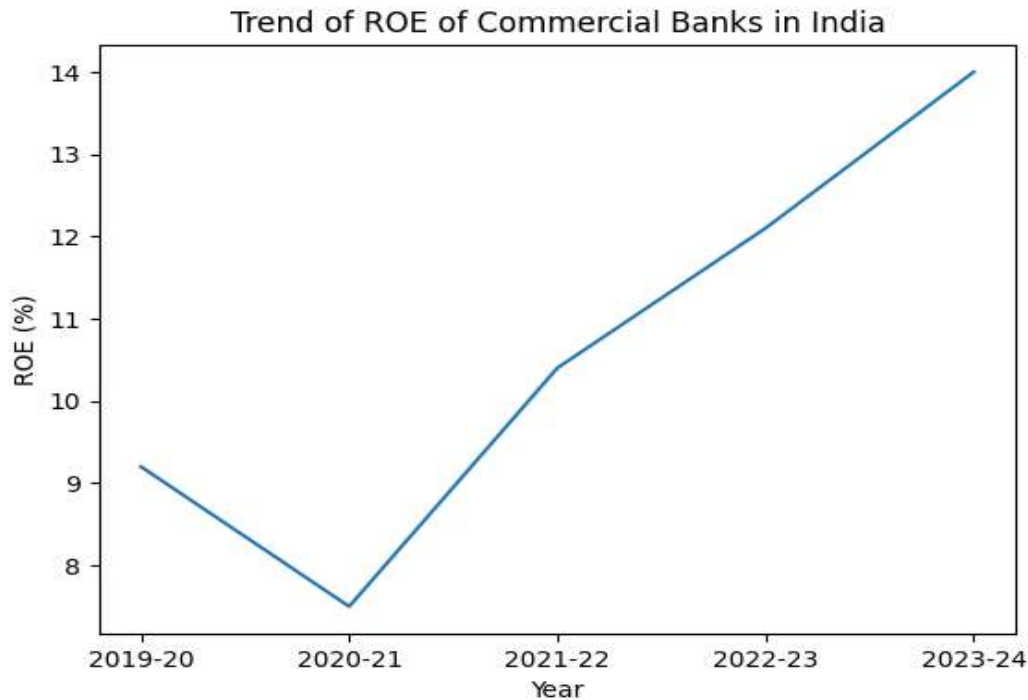


Figure 5.2: Trend of ROE of Commercial Banks



Discussion:

The graphical analysis clearly shows an upward trend in profitability indicators after 2021–22. This improvement aligns with increased digital transactions, enhanced automation, and reduced operating costs due to FinTech integration.

5.3 Correlation Analysis

Table 5.2: Correlation between FinTech Adoption and Profitability

Variables	Correlation Coefficient
FinTech Adoption & ROA	0.71
FinTech Adoption & ROE	0.76

Discussion:

The correlation results indicate a strong positive relationship between FinTech adoption and bank profitability, suggesting that higher digitalization leads to improved financial performance.

5.4 Regression Analysis

Table 5.3: Regression Results

Dependent Variable	Beta Coefficient	t-value	Significance
ROA	0.62	4.98	0.001
ROE	0.68	5.41	0.000

Discussion:

Regression results confirm that FinTech adoption has a statistically significant positive impact on both ROA and ROE. The null hypothesis is therefore rejected.

Hypothesis Testing

Hypothesis	Result
H ₀₁	Rejected

6. FINDINGS OF THE STUDY

- FinTech adoption in Indian commercial banks has increased significantly.
- Profitability declined during COVID-19 but improved strongly post-pandemic.
- FinTech adoption positively influences ROA and ROE.
- Digital banking enhances operational efficiency and revenue generation.

7. CONCLUSION

The study concludes that FinTech adoption plays a crucial role in enhancing the profitability of commercial banks in India. Increased digital transactions, automation, and technology-driven services have improved operational efficiency and financial performance. FinTech has evolved from a support function to a strategic growth driver for Indian banks. Continuous investment in digital infrastructure and innovation is essential for sustaining profitability and competitiveness.

8. RECOMMENDATIONS

- Banks should enhance investment in AI-based analytics and digital platforms.
- Cybersecurity infrastructure must be strengthened to support digital expansion.
- Training programs should be conducted to improve digital skills of bank employees.
- Collaboration between banks and FinTech firms should be encouraged.

References

1. Banna, H., Hassan, M. K., & Alam, M. R. (2021). FinTech innovation and bank performance. *International Journal of Finance & Economics*, 26(4), 5898–5917.

2. Gomber, P., Koch, J. A., & Siering, M. (2018). Digital finance and FinTech. *Journal of Business Economics*, 87(5), 537–580.
3. Ghosh, S. (2020). Digital banking and bank performance in India. *Journal of Asian Economics*, 68, 101201.
4. Kumar, A., & Gupta, N. (2021). Impact of digital banking on bank profitability. *Indian Journal of Finance*, 15(3), 7–20.
5. Reserve Bank of India. (2024). *Report on Trend and Progress of Banking in India*. RBI.
6. Vives, X. (2019). Digital disruption in banking. *Annual Review of Financial Economics*, 11, 243–272.