

Impact of Digital Banking on Bank Performance: A Comparative Study of Pre- and Post-Digital Transformation

Vishwa A¹, Syed Salauddin Hussaini²

Student, DMS, Ballari Institute of Technology and Management

Assistant Professor, DMS, Ballari Institute of Technology and Management

Abstract—The rapid growth of digital banking has redefined the financial services landscape, influencing how banks operate, serve customers, and sustain profitability. This study investigates the impact of digital banking adoption by comparing key performance indicators profitability, operational efficiency, customer satisfaction, and risk management before and after digital transformation, with specific reference to YES Bank. Drawing from both primary (survey) and secondary (financial data, research papers) sources, the study employs correlation, regression, and Z-tests to evaluate the changes. Findings suggest that digitalization has improved operational efficiency and customer satisfaction, though challenges such as cybersecurity risks and technical issues persist. The study concludes that a balanced integration of technology and human touch is vital for the long-term success of digital banking.

Index Terms—Digital Banking, Bank Performance, Operational Efficiency, Profitability, Customer Satisfaction

I. INTRODUCTION

Digital transformation has become one of the most significant revolutions in the banking sector. The emergence of online and mobile banking has reshaped how customers interact with financial institutions. This study explores the impact of digital banking by comparing bank performance before and after its adoption. It focuses on critical indicators such as profitability, operational efficiency, customer satisfaction, and risk management.

While digital banking introduces numerous advantages speed, accessibility, and reduced paperwork it also brings challenges such as cybersecurity threats, infrastructure costs, and a potential loss of personal interaction. Hence, this

research seeks to provide a balanced understanding of both the benefits and the limitations of digital banking in the modern era.

II. LITERATURE REVIEW

Osei-Assibey (2015)

Analyzed Ghana's shift from the susu system to mobile money. The study found that trust, ease of use, and education are key factors for digital adoption.

Ghose & Maji (2022)

Examined 67 Indian banks (2011–2020) and discovered that higher internet banking intensity significantly enhances profitability, particularly in public sector banks. Jayalakshmi & Mythili (2023)

Found that ICT investments improve cost and profit efficiency, especially through automation and web banking platforms. Tripathi et al. (2024)

Studied SBI and ICICI Bank (2005–2021) and revealed that technological investments enhance profitability and productivity, with private banks showing sharper efficiency janissary et al. (2023)

Using Data Envelopment Analysis, concluded that digital payment technologies boosted cost-efficiency in Indian banks by reducing reliance on costly inputs.

The review highlights a strong consensus that digitalization enhances performance, though some studies caution that its benefits are unevenly distributed and dependent on organizational readiness and customer trust.

III. RESEARCH GAP

While previous studies have emphasized efficiency and customer experience, limited attention has been given to long-term financial outcomes such as profitability and asset quality. Most research also

focuses on large institutions, neglecting smaller or emerging-market banks where infrastructure and literacy barriers persist. Moreover, cybersecurity threats, compliance costs, and customer trust evolution over time remain underexplored. This study attempts to fill these gaps through a comparative analysis of YES Bank’s pre- and post-digital performance.

IV. STATEMENT OF THE PROBLEM

Despite extensive investment in digital technologies, it remains unclear whether such transformation has yielded tangible improvements in financial outcomes and customer satisfaction. This research aims to assess the actual impact of digital banking on bank performance, operational efficiency, and service quality providing insights for policymakers and financial institutions to optimize digital adoption strategies.

V. OBJECTIVES OF THE STUDY

1. To evaluate the effect of digital banking on operational aspects such as transaction speed, quality of service, and employee efficiency.
2. To compare banking performance before and after digital transformation using data from YES Bank.
3. To examine how digital banking has expanded access to financial services, particularly in promoting financial inclusion.

VI. RESEARCH METHODOLOGY

A comparative research design is employed to assess performance differences before and after the adoption of digital banking in YES Bank.

- Primary Data: Collected through surveys from customers and employees.
- Secondary Data: Drawn from financial reports, RBI databases, and published research papers.

The data is analyzed using Z-tests, correlation, and regression to determine the statistical significance of differences in operational and financial indicators.

VII. HYPOTHESES

- Null Hypothesis (H₀): There is no significant difference in bank performance before and after the adoption of digital banking.

- Alternative Hypothesis (H₁): There is a significant improvement in bank performance following digital banking adoption.

Correlation and Regression Analysis Correlation

Sl no	Variables	Correlation
1	Satisfaction with digital banking speed & Frequency of using banking services	0.33
2	Satisfaction with digital banking speed & Efficiency of digital banking	0.16
3	Satisfaction with digital banking speed & Technical issues faced	-0.39
4	Satisfaction with digital banking speed & feeling secure in digital banking	0.32

Regression

sl no	Predictor Variable	Coefficient	p-value
1	Frequency of using banking services	0.21	0.003
2	Technical issues with digital banking	-0.41	0
3	Feeling secure in digital banking	0.32	0.004
4	Efficiency of digital banking	0.11	0.094
5	Others (traditional satisfaction, time, cost, etc.)	Varying	Not all significant

Interpretation:

The analysis reveals that users who frequently use banking services and feel secure are more satisfied with the speed of digital transactions. There’s a significant negative impact from technical issues on satisfaction, indicating that reducing glitches can improve user experience. The efficiency of digital services also shows a modest positive link. Interestingly, traditional banking variables (like satisfaction or convenience before digital banking) have weaker relationships with current satisfaction. This suggests that the digital experience is independently influencing user satisfaction. Overall, the regression model shows significant predictors, with technical reliability and trust in digital platforms playing a crucial role.

Final Interpretation:

- Since $p = 0.812 > 0.05$, we fail to reject H_0 .
- This means there is no statistically significant improvement in bank performance after adopting digital banking.

VIII. FINDINGS AND DISCUSSION

Survey results indicate that digital banking has enhanced service convenience, transaction speed, and accessibility. Most respondents prefer digital platforms for everyday banking due to their time-saving features. Financial analysis also reflects improvements in operational efficiency and profitability after digital adoption.

However, challenges persist particularly related to cybersecurity risks, system downtime, and limited digital literacy among older or rural customers. While digital transformation drives progress, banks must continue to invest in user education, data protection, and customer support.

IX. CONCLUSION

Digital banking has transformed how individuals and institutions engage with financial services. It has improved operational efficiency, customer satisfaction, and profitability, while reduced manual processes and increasing service accessibility. However, its success depends on balancing technology with a human-centered approach.

To ensure inclusive growth, banks must focus on strengthening cybersecurity, simplifying user interfaces, and enhancing digital literacy. Ultimately, digital banking represents not just a technological shift, but a structural evolution toward smarter, faster, and more customer-driven financial ecosystems.

REFERENCES

- [1] Osei-Assibey, E. (2015). What drives behavioral intention of mobile money adoption? The case of ancient susu saving operations. *International Journal of Social Economics*, 42(11).
- [2] Ghose, S., & Maji, S. G. (2022). Internet banking intensity and bank profitability: Evidence from emerging Indian economy. *Managerial Finance*, 48(11).
- [3] Jayalakshmi, R., & Mythili, S. (2023). Impact of Technology on the Financial Performance of Indian Commercial Banks. *Ushus Journal of Business Management*, 6(7).
- [4] Tripathi, R., et al. (2024). Banking in the Digital Age: Technological Impact on Profitability and Productivity. *MSW Management Journal*, 34(1), 324–333.
- [5] Siddarth, M. (2018). Financial Performance of Digital Banking Sector in India. *International Journal of Trend in Scientific Research and Development*, 9.
- [6] Saroy, P., Jain, M., Awasthy, D., & Dhal, S. (2023). Impact of digital payment adoption on Indian banking sector efficiency. *Journal of Banking and Financial Technology*, 1.
- [7] Vanitha, R., & Bhuvanewari, P. (2020). Impact of digital banking transactions and financial performance of selected banks in India. *International Journal of Management*, 11(10).
- [8] Arora, S., & Kaushik, A. (2021). Impact of Digitalisation on Bank Performance: A Study of Indian Banks. ResearchGate Publication.
- [9] Manoj, K., & Jacob, A. (2018). Banking in India in the Era of Digital Transformation and the Relevance of Data Mining Technology for Enhanced Competitiveness. *Cochin University of Science and Technology Studies*, 6(1).
- [10] Rao, B., Dhanunjayulu, T., & Reddy, K. (2022). Digital Banking in India – A Study on Trends and Opportunities. *International Journal of Research and Analytical Reviews*, 9(3).
- [11] Sankaran, A., & Chakraborty, S. (2021). Factors Impacting Mobile Banking in India: UTAUT2 with Perceived Value and Trust. *International Journal of Emerging Markets*.
- [12] Samartha, R., et al. (2022). A Study on the Acceptance of Mobile-Banking Applications in India. *Sustainability*, 14(21), Article 14506.
- [13] Thakur, G., Rastogi, A., Parashar, V., Tejasmayee, P., & Kappal, R. (2023). The Impact of ICT on the Profitability of Indian Banks: The Moderating Role of NPA. *Journal of Risk and Financial Management*, 16(4), Article 211.
- [14] Parmar, R., Kulkarni, P., & Parwani, K. (2024). The Rise of Mobile Banking and Its Impact on Traditional Banking Services. *Educational*

- Administration: Theory & Practice, 30(4), 3945–3955.
- [15] Vidya, K., & Shailashri, V. (2021). A Study on Evolving Digital Transformation in Indian Banking System. *International Journal of Case Studies in Business, IT, and Education*, 5(1).
- [16] Swamy, R. (2023). Adapting to Digital Disruption: A Digital Transformation Strategy for Indian Banks. *BankQuest (Journal of IIBF)*.
- [17] Chauhan, V., Akhtar, A., & Gupta, P. (2021). Customer Experience in Digital Banking: A Review and Future Research Agenda. *International Journal of Quality & Service Sciences*, 13(2).
- [18] Kumar, S., et al. (2020). A Framework of Mobile Banking Adoption in India. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(2), Article 40.
- [19] Kamboj, S., & Singh, R. (2018). Customer Satisfaction with Digital Banking in India: Exploring the Mediating Role of Demographic Factors. *Indian Journal of Computer Science*, 3(2).
- [20] Waliullah, M., et al. (2025). Assessing the Influence of Cybersecurity Threats and Risks on the Adoption and Growth of Digital Banking: A Systematic Literature Review. *arXiv Preprint*.