

## Banking and Modern Trends: A Study of Digital Transformation and Emerging Technologies in the Indian Banking Sector

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<p><b>Type:</b> Article <b>Received:</b> 28 March 2026 <b>Revised:</b> 26 April 2026 <b>Accepted:</b> 11 May 2026 <b>Published:</b> 02 June 2026</p>	<p>The Banking Sector of India has undergone the major significant transformation driven by digital technologies and emerging innovations. The study explores how digital transformation affects various aspects and also paper examines the impact of digital transformation and emerging technology such as AI, Data Analytics and Cloud Computing in shaping banking operations and enhancing customer experience. The study focuses on evaluating technological adoption, customer perception, regulatory frameworks, and challenges associated with digital banking.</p> <p>The descriptive design was used and primary data was collected from 150 google form responses using different questionnaire. Secondary data was collected from some journals, RBI reports, and academic studies. The analysis was made using charts and also by chi-square test.</p> <p>Results show that digital banking has greatly improved efficiency, convenience, and financial inclusion. Tools like UPI and mobile banking have made banking easier, and most respondents trust digital transactions. However, issues like cyber security risks, lack of digital knowledge, and resistance to change still exist.</p> <p>The research concludes that digital transformation has improved efficiency and customer satisfaction in banking. But this success depends on security systems, improving digital literacy, regulatory compliance. The paper highlights the need for continuous innovation and inclusive growth in the evolving digital banking environment.</p> <p><b>Keywords:</b> Digital Transformation; Digital Banking; Artificial Intelligence (AI); Customer Experience; Financial Inclusion; Cyber Security.</p>

### How to Cite This Article

Raut, H., Gandhi, S., Sonavane, V., Konda, R., Gawade, P., & Sule, A. (2026). Banking and modern trends: A study of digital transformation and emerging technologies in the Indian banking sector. *International Journal of Research and Development: A Management Review*, 15(2), 247–250.

## Introduction

The banking sector of India has undergone rapid transformation, shifting from traditional branch-based operations to a digitally oriented ecosystem. Advancements in technology, along with evolving customer expectations, have significantly changed the technology such as digital banking channels, internet banking, and the Unified Payments Interface (UPI) have enhanced accessibility, efficiency and customer focus in banking services.

This Study focuses on how technologies like Artificial Intelligence, Blockchain, and big data are changing banking operations. It also looks at the regulatory system and how customers perceive digital banking trends.

## Objectives of the Study

- To Examine the digital transformation in banking.
- To evaluate customer perception and satisfaction.
- To study the policies and regulations related to banking.
- To identify challenging in banking

## Literature Review

Earlier studies highlight the rapid transformation of the banking sector driven by technological advancements and financial innovations. Literature suggests that the adoption of technologies including Artificial Intelligence, Machine Learning, Blockchain, and mobile banking has led to improvements in operational efficiency and customer experience.

According to Aithal & Prabhu (2025), AI helps in enhancing fraud detection systems and improving automated customer service. Munira (2025) emphasizes that transformation enhances efficiency and financial inclusion but introduces challenges like cyber-security risks and regulatory complexities.

Research conducted by Jabeen (2025) emphasizes the effects of modern transformation on employees, highlighting difficulties such as skill gaps and resistance to change. In a similar vein, Oyewole et al. (2024) underline the increasing significance of cybersecurity frameworks in the Indian Banking Sector.

Overall, the literature indicates that digital transformation is a strategic necessity for banks, though challenges related to security, privacy, and inclusion remain.

## Research Gap

- Limited focus on rural and elderly users
- Lack of integration between technology and regulation studies
- Insufficient research on cyber-security challenges
- Limited analysis of long-term impact on traditional banking

## Research Methodology

The study utilizes a descriptive and analytical research design to understand the method of transformation and emerging technologies in the banking sector. The focus of the research is to get knowledge into how modern tools, customer-centric innovations, and technological adoption shape the operations of banks and customer experiences.

### *Data Collection*

- Primary Data: Collected through structured questionnaires from 150 respondents using Google Forms
- Secondary Data: Journals, RBI reports, research papers

## Sampling Technique

- Convenience sampling

## Research Hypothesis

1. Title of the Test: Chi-Square Test for Relationship between Gender and Type of Bank.
2. Main Hypotheses:
  - Alternative Hypothesis (H1): Relationship between Gender and Type of Bank preferred.
  - Null Hypothesis (H0): No Relationship between Gender and Type of Bank

- Objective of the Test: To determine whether the gender of respondents influences their preference for a particular types of bank (public, private, or cooperative).
- This helps in understanding if banking preferences differ between male and female customers in terms of trust, convenience, or service satisfaction.

3. Variables Used:

- Independent Variable: Gender ( Male / Female)
- Dependent Variable: Type of Bank preferred (Public / Private)

**Hypothesis calculation:**

*Data Used*

Row Labels	Private Bank	Public Bank	(blank)	Grand Total	Expected Frequency Private Bank	Expected Frequency Public Bank
Female	18	29		47	20.37	26.63
Male	47	56		103	44.63	58.37
(blank)						
<b>Grand Total</b>	65	85		150		

*Calculation of Chi- Square Value*

	<b>Chi Square</b>
Female Private Bank	0.275
Female Public Bank	0.210
Male Private Bank	0.125
Male Public Bank	0.096
<b>Chi Square</b>	<b>0.707</b>
<b>p (Probability value)</b>	<b>0.401</b>
<b>p = 0.401 &gt; 0.05 → Gender and Type of Bank are independent.</b>	

*Decision and Interpretation*

- Since  $p = 0.401 > 0.05$ , the null hypothesis ( $H_0$ ) is not rejected.
- $H_1$ : Rejected (Significant relationship between Gender and Type of Bank).
- Therefore, there is no significant relationship between Gender and Type of Bank preference.

**Results / Findings**

The analysis shows that digital transformation has positively impacted the Indian banking sector.

- Respondents actively use digital banking services
- Around 60% of users feel digital transactions are secure
- High awareness (78.7%) about RBI regulations
- UPI and mobile banking are the mostly used services
- Chi-square testing shows no significant relationship between gender and bank preference, indicating that convenience and service quality are more important than demographic factors.

**Discussion**

The findings from above suggest that digital banking has enhanced customer convenience, reduced transaction time, and improved operational efficiency. Technologies such as AI and UPI have revolutionized banking services.

However, challenges such as cyber-security threats, digital illiteracy, and resistance to change remain significant barriers. Study highlights the need for regulatory support and customer awareness to ensure safe digital adoption.

### Conclusion

The study concludes that digital transformation is reshaping the Indian banking sector by making it more efficient, accessible, and customer-focused. As the use of digital technologies has increased significantly, difficulties related to security and infrastructure need to be addressed.

Future growth depends on strengthening cyber-security measures, promoting digital education, and ensuring inclusive banking services across all regions.

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