



Impact of digitalization on banking sector in India

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Abstract

Digitalization has profoundly transformed the Indian banking sector, moving it from traditional, paper-based branch operations to a dynamic, technology-driven ecosystem. This literature review synthesizes research on the multifaceted impacts, key drivers, benefits and persistent challenges of this digital revolution primarily drawing from academic sources and industry reports. The arrival of digitalization in the Indian banking sector has caused a fundamental shift in how financial activities are carried out. Fueled by increased internet access, widespread smartphone uses and government push for a cashless society, the financial landscape has moved away from traditional branch-based banking toward a more technologically-focused system. The move has influenced everything from how banks operate to how consumers handle their money.

This transition has not been a simple process but a profound transformation impacting efficiency, access and security. For banks automation and data analysis have improved internal processes while for customers services have become available at any time and from any location. This shift also extends to societal changes as digital platforms have brought financial services to many who were previously excluded from the formal banking system. Alongside these advances, new challenges have emerged including cybersecurity threats and a gap in digital literacy between urban and rural areas.

Ultimately the digital shift in Indian banking represents a complex and ongoing evolution creating a financial sector that is more convenient and inclusive but also one that requires continuous adaptation to new threats and opportunities.

Keywords: Customer experience, digital banking, customer satisfaction, customer loyalty, financial performance, internet banking, digital innovation, fintech, inclusion

Introduction

The phrase "digital banking" refers to the provision of banking and financial services and goods via electronic channels, including automated teller machines (ATMs), the phone, the internet, social media, mobile devices, etc. The Indian banking sector has undergone a remarkable transformation in recent decades driven largely by the wave of digitalization. What was once a system dominated by manual processes, long queues, and paper-based transactions has now evolved into a technology-enabled ecosystem offering speed, convenience and accessibility. Digitalization has not only reshaped the way banks operate but has also revolutionized customer experiences through innovations such as internet banking, mobile applications, Unified Payments Interface (UPI) and digital wallets.

This shift has been accelerated by government initiatives like *Digital India* and regulatory support from the Reserve Bank of India which have encouraged banks to adopt modern technologies including artificial intelligence, blockchain and big data analytics. As a result, banking services have become more inclusive reaching rural and semi-urban areas while also enhancing efficiency, transparency and security in financial transactions. The impact of digitalization on the Indian banking sector is therefore multifaceted—it has improved operational efficiency, expanded financial inclusion, reduced transaction costs, and created new opportunities for innovation. At the same time, it has introduced challenges such as cybersecurity risks, digital literacy gaps and the need for continuous technological upgrades. Understanding this impact is crucial to appreciating how digitalization is shaping the future of banking in India.

The development of technologies for information transmission, processing, storing, and gathering has an effect on every facet of banking operation. Almost all banks whether in the public or private sector have placed a high priority on the advancement and application of technology. The results of their initiative towards technological advancement include for example, ATMs, plastic money (Credit Cards, Debit Cards, and Smart Cards), online collection and payment services, online investments (Deposits and Mutual Funds), online Demat and Trading accounts, Electronic Funds Transfer (EFT) and clearing services, branch networking, telephone banking, mobile applications and wallets, and internet banking. No matter how mature or emerging, the banking industry has always been the foundation of the economy. It organizes and carries out economic changes. Any shift in this area brought about by the use of technology will have a significant effect on the expansion of an economy. These days, banks are looking for unusual methods to offer and set themselves apart from their wide range of services. Retail and business clients both are unwilling to wait in line or over the phone for the most basic banking services. They need and expect to be able to conduct their banking operations anywhere and whenever they choose. (Chauhan.S, Akhtar.A & Gupta.A 2022) ^[1].

Objectives of the Study

1. To examine the role of digitalization in transforming operational efficiency within Indian banks.
2. To analyze the impact of digital technologies on customer experience and financial inclusion.
3. To evaluate the challenges posed by digitalization including cybersecurity risks and digital literacy gaps.

4. To explore the regulatory and policy measures supporting digital transformation in the banking sector.
5. To assess the future prospects of digital banking in India in terms of sustainability and innovation.

Research Methodology: The methodology is based on secondary information. The data is collected from journals, books, research from journal papers and websites.

Review of Literature: Previously the banking procedure took a long time. Customers were required to preserve physical records of their transactions or banking histories. However, the advent of digitalization has made paperless banking a reality for everyone. The development of technology has been a key factor in India's banking industry's progress. In response to rising customer expectations, banks created cutting-edge goods and services to guarantee client happiness. Banking operations, goods and services have been reimagined by digital technology. Customers may complete transactions more quickly, accurately and conveniently. It has changed how banks interact with their clients. The year 2020 brought to light the urgent necessity for quick adoption of digital technologies in all fields. (Haralayya, Dr. (2021) ^[2]. This qualitative study aims to analyze the impact of banks' in-branch initiatives on consumers' transition from branch banking to digital banking in India. Access to future fintech trends will greatly increase in the following years by updating the digital banking transformation in fintech and established banking institutions. As progress is made within the legal framework of data protection as part of the Privacy Act and open-banking directives the findings taken together suggest that digitized-mobile-banking transactions emphasize the capabilities of banking infrastructure for data sharing, connectivity, stability and cyber security. (Luigi Wewege *et al.*, 2020) ^[3] The purpose of the study is to assess the variables influencing Vietnamese consumers' intention to utilize digital banking experiences. Thirupathi,

Vinayagamoorthi and Mathiraj (2019) ^[4]: studied the concept of "Effect of Cashless Payment Methods: A case study perspective analysis" and quoted that several financial institutions and banks are getting interlinked with a system of digital payments by every day. They further found that in order to increase habit of digital payments banks are now offering certain discounts to their customers if they make payments through their debit or credit cards along with an attractive offer.

The shift towards digital banking in India has been driven by several factors:

- **Government Initiatives:** Programs like "Digital India" have provided a significant push, fostering a climate conducive to digital growth. The introduction and widespread adoption of the Unified Payments Interface (UPI) by the National Payments Corporation of India (NPCI) have been a game-changer, making real-time, low-cost payments highly accessible.
- **Changing Customer Expectations:** A tech-savvy and younger demographic, along with the convenience offered by e-commerce and social media platforms has increased the demand for 24/7 user-friendly and instant financial services.
- **Fintech Competition:** The rise of agile financial technology (Fintech) companies and new operating models have forced traditional banks to innovate and adapt their business models to remain competitive.
- **Cost Efficiency and Performance:** Banks are motivated by the potential for reduced operational costs (e.g., fewer physical branches, less paperwork) and enhanced efficiency through automation.

The benefits of digitalization on various aspects of banking operations as per available literature

Aspect	Impact/Benefit	Key Literature Findings
Customer Experience (CE)	Improved convenience and satisfaction, 24/7 access.	Pooja Yadav (2022) studied digital banking opportunities and challenges and concluded customer experience (CE) is defined by convenience and accessibility. Kaur <i>et al.</i> (2021) ^[8] also examined customer satisfaction risks.
Operational Efficiency	Automation of processes, reduced transaction costs, and improved employee productivity.	Gupta & Yadav (2017) ^[7] used secondary data and found that digital developments have significantly changed operations. Another study interviewed thirty employees from ten banks and found a positive association between digitalization and improved bank performance/employee efficiency.
Employment/HR	Shifts in required skills; concern about job impact.	A case study of India looked at the impact of digitalization on the employment of personnel in the banking sector, finding "relatively few" changes.
Financial Stability/Risk	The need for a balanced approach to innovation and risk management.	Ashga (2022) conducted a systematic literature review on the impact on financial stability, suggesting the necessity of sound risk procedures. Barquin & Vinay (2019) explored the implications of digital innovation and financial inclusion.

Challenges and Concerns

Despite the advancements, several challenges are prominent in the literature:

- **Cybersecurity and Data Privacy:** The increased reliance on digital platforms exposes the sector to higher risks of hacking, phishing, and data breaches.
- **Digital Divide and Literacy:** A significant portion of the population faces barriers such as poor internet connectivity, low digital literacy, and a preference for traditional banking methods.
- **Legacy Systems and Infrastructure:** Public sector banks, in particular, face challenges in integrating modern digital platforms with outdated IT systems.
- **Regulatory Compliance:** Banks must balance rapid innovation with stringent regulatory requirements, which can slow down the adoption of new technologies compared to less regulated fintech firms.
- **Talent Acquisition:** The need for a workforce with advanced digital skills (e.g., in AI, data analytics) requires significant investment in training and development.

Conclusion

The literature overwhelmingly agrees that digitalization is a transformative force in the Indian banking sector, enhancing efficiency, customer satisfaction, and financial inclusion. While the benefits are substantial, addressing challenges related to security, the digital divide, and regulatory adaptation is crucial for sustainable and inclusive growth

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