International Journal of Commerce and Management Research
www.managejournal.com
ISSN: 2455-1627
Received: 27-10-2023, Accepted: 12-11-2023, Published: 28-11-2023
Volume 9, Issue 6, 2023, Page No. 53-56

Evolution of technology in Indian banking sector

Ram Milan[1], Krishna Kumar Kasaudhan[2]
[1] Professor and Head, Department of Commerce, University of Lucknow, Lucknow, Uttar Pradesh, India
[2] Research Scholar, Department of Commerce, University of Lucknow, Lucknow, Uttar Pradesh, India

Abstract
Since its establishment, the Indian banking sector has operated in a conventional manner. Indian banks made an effort to improve their circumstances through the development and application of technology, although they were mostly dependent on technological transfer from foreign banks. However, today's banking system is centered on giving the general public timely, well-coordinated, and efficient financial services. The Indian banking system is undergoing a redesign as a result of concerted attempts to increase the speed of the banking sector's digitization. When it comes to technological advancements, India's Aadhar Enabled Payment System (AEPS) and UPI-based remittance system are well ahead of those implemented by many other countries. In this paper we will discuss how India's digital transformation has improved financial services, made transactions easier, and encouraged the use of cutting-edge solutions.

Keywords: Technology, open banking, digitization, financial services, cloud banking

Introduction

The banking industry in India is thriving today, with a primary focus on emerging technologies in banking. Banks designed to leverage technology to deliver high-quality services to customers quickly. People no longer have to stand in long queues at the bank because they carry their banks everywhere with them and may electronically transfer money in a matter of minutes. Overall, banking technology has helped people become more independent.

After banks were nationalized in 1969 and, more significantly, after they were liberalized in 1991, the banking industry entered a period of intense competition and providing the best services to customers. This is also the moment when the internet began to exist. Even though it is used less frequently, the potential for internet usage on an international level was considered to be very helpful in strengthening the banking business. Even though the world's first commercial ATM began operations in the US in 1969, HSBC, the country's first private foreign bank, opened its first ATM in Mumbai in 1987.

A few years ago, banking was conducted in a way that has been significantly disrupted by technology. Our reliance on technological breakthroughs has increased significantly, even as the pandemic has sped up their acceptance across all industries and sectors. Undoubtedly, technological progress is influencing customer behavior, and banks are forced to adapt swiftly to these changes as it is a matter of existence.

In order to streamline the banking industry, the Indian government has recently undertaken a number of initiatives including the use of financial technology. The government's ambitious Digital India Mission and Payment System laid the groundwork for the digital economy. Rupay and Kisan credit cards enabled cashless transactions for farmers, but general credit cards enabled cashless purchases for persons in other professions as well. For people who are not qualified for formal banking, the AEPS is also necessary for their financial inclusion. Excellent achievements are also being shown by the Direct Benefit Transfer System (DBT), which was introduced in January 2013 with the goal of promptly transferring social security funds to the general public's accounts without any financial leakage. Importantly, the Reserve Bank of India established a Payments Bank with the goal of providing safe, technology-enabled means for small enterprises, low-income families, migratory workers, and others to access payments, remittances, and other financial services.

Technological Development in Banks

Information technology (IT) advancements promote inclusive economic growth, which in turn helps the banking industry expand and become more inclusive. Technology lowers consumer transaction costs and enhances front-end operations with back-end services.

The introduction of card-based payments, such as debit and credit cards, occurred in the late 1980s and early 1990s. Electronic Clearing Services (ECS) was introduced in the late 1990s. Electronic Fund Transfer (EFT) was introduced in the early 2000s. Real-time gross settlement (RTGS) was introduced in March 2004. The National Electronic Fund was introduced in 2007.

As time has gone on, the Indian banking industry has likewise advanced to new heights. Today's banks place a strong emphasis on guaranteeing client pleasure and offering top-notch customer service. Information technology has led to new advancements in product development and distribution in the banking and finance industries. Technological advancement led to financial innovation that fundamentally changed the banking philosophy, which was then further improved by industry competition. The demanding business climate of the banking sector promotes more innovation in markets, procedures, and products.

Automated Teller Machine (ATM): A computerized telecommunications device known as an automated teller machine (ATM) provides financial institution clients with a secure means of handling their financial transactions in public without the help of a human clerk or bank teller. Originally, an ATM could only be used to withdraw cash;

however, these days, ATMs can also be used to send money to any account. Furthermore, a lot of banks currently provide the ability to use ATMs to make deposits. However, the sender and recipient's accounts are the only ones that can be in the same institution.

Mobile Banking: Banking correspondents are essential for manual labourers, unskilled labourers, and people with lower levels of education in both rural and urban areas. They help customers in several ways, including as opening an account and sending or receiving money. Due to new technology and more competition, tech-savvy consumers have easily shifted to using their mobile phones for banking, and banks are always improving their technology to make it more user-friendly. New banking apps have also been made available for a number of iOS and Android phones. As a result, mobile banking offers a wide range of functions, such as bank statement retrieval, financial transfers, mobile device recharging, and booking.

NEFT and RTGS: The National Electronic Funds Transfer (NEFT) is a state wide payment system that facilitates cross-border money transfers, according to the Reserve Bank of India. NEFT allows people, companies, and organizations to electronically transfer money from one bank branch in a participating country to another bank branch where the recipient has an account. Anyone with an account at a bank branch, whether a corporation or an individual, is able to transfer money via the NEFT system.
Since its launch in India in March 2004, the Real Time Gross Settlement System (RTGS) has enabled banks to electronically instruct one bank to transfer funds to the account of another bank. The RTGS system, which enables banks to transfer money swiftly and effectively and supports their financial operations, is managed and maintained by the RBI. Money transfers between banks are handled effectively by both systems. Indian banks are frequently employed as financial middlemen in cross-border and mobile money transactions.

Core Banking Solutions (CBS): Across the country, commercial banks and cooperative banks currently provide the Core Banking Solution service. As a result, banking is now accessible from anywhere at any time. This tendency indicates that these digital solutions are becoming more and more popular as the number of users of mobile banking increases.

Unified Payments Interface (UPI): With the use of the Unified Payments Interface (UPI) payment system, customers may link several bank accounts to a single smartphone app and transfer money without needing to enter an account number or IFSC code. With this real-time payment system, money is credited immediately and continuously. Any transaction will only require the user to use a virtual address, referred to as a Virtual Payment Address (VPA). UPI is overseen by the Reserve Bank of India (RBI) and was created by the National Payments Corporation of India (NPCI). UPI is slowly becoming the most favored form of digital payment.

Aadhaar Enabled Payment System (AEPS): Aadhaar card holders can easily conduct financial transactions using the Aadhaar-based authentication provided by the Aadhaar Enabled Payment System (AEPS), a sort of payment system built on the Unique Identification Number. At points of sale (PoS) and micro ATMs, clients can use their Aadhaar number and provide Aadhaar authentication to make payments through AEPS. This platform for financial transactions is straightforward, safe, and easy to use. The National Payments Corporation of India (NPCI) has launched this program as part of its ongoing efforts to promote cashless transactions in India. Through a mini ATM, customers can use a Business Correspondent (BC) or bank agent to complete all transactions. You can use any bank BC for other transactions, with the exception of fund transfers, where you must visit a specific bank BC. Your bank account needs to be connected to Aadhaar in order to use AEPS.

Recent trends in indian banking sector

Metaverse

Banks can use Metaverse to build digital representations of their customer service professionals so that clients can have customized chats regarding their assets. Customers may access all financial services in real-time and in one location with Metaverse without ever leaving their homes. In order for banks to adopt the metaverse over the next ten years, the RBI's decision to introduce a central bank digital currency (CBDC) is highly appropriate. These days, the metaverse is mostly powered by exchange methods, including paying with cryptocurrencies.

Open Banking

A key tactic used by financial organizations to expand and compete is open banking. By integrating their financial products into other companies' software, banks give their clients access to their services through a unified user interface. Banks enable their consumers to easily make payments through apps by collaborating with fintech to offer their services. Open banking services allow for digital payments in Uber and online ordering of meals from Zomato.

Blockchain

Banks are utilizing blockchain technology more often to implement risk management procedures because it makes it more difficult for hackers to obtain private data, such consumer bank account information. The industry has already begun tinkering with the technology by using the blockchain to replicate present asset transactions. It facilitates speedier, less expensive transactions while increasing efficiency and security.

Biometrics

In this interconnected world, banks are witnessing a change in perspective in the way their clients view and interact with them due to the increasing digitization of procedures and availability of numerous technological channels. The system now has multiple passage points due to the increasing network and digitization, which leaves banks more open to attack. Therefore, distinctive biological or behavioral traits are used in biometric validation techniques to assess a client's personality. Therefore, companies are creating new payment systems as cash usage gradually decreases.
As consumers become less dependent on cash, businesses like Google, Amazon, and WhatsApp are developing their own payment methods. The manner that customers use their

mobile devices to make purchases is changing due to biometric payments. After using facial recognition technology or scanning their finger, payments are processed instantaneously.

Cloud banking

Cloud computing is another technical innovation in the banking sector. This method uses shared computing resources to handle applications rather than personal servers and devices. It provides online services for processing, storing, and analyzing data. The majority of banks have begun to transition to cloud-based banking. Banks may synchronize their operations and dismantle data and operational silos in customer service, finance, risk, and other areas by utilizing the cloud. By maintaining their historical approach, this improves their cost-efficiency and allows them to offer digital experiences to clients.

Roadblock

The banking industry in India is confronted with unique prospects and challenges due to technological progress. In order to achieve and preserve high levels of service and efficiency, while remaining economical and providing a sustainable return to investors, it is essential to create or obtain the appropriate technology, implement it correctly, and then utilize it to the greatest degree feasible. Thus, managing technology is one of the main issues the Indian banking sector is experiencing. Due to their scattered and disjointed locations, a large number of individuals in developing countries like India do not have access to financial services. On the other hand, if we concentrate on the people who utilize financial services, their expectations are rising due to the advancements in information technology and the fierce competition between the services and goods provided by different banks. Due to the entry of international banks into the Indian market, the number of services provided has increased, and banks now emphasize going above and beyond for their consumers.

Technological advancements can lead to a closer integration of the urban and rural populations. But the biggest problem is serving clients consistently, whether they live in an urban or rural area. As a result, keeping customers will be a big worry. Consequently, banks ought to place a high priority on retaining clients and expanding their market share.

Undoubtedly, the benefits of technology have fundamentally altered the way that people view contemporary banking. These days, the goal of banking should be to interact with customers and improve their experiences rather than just meeting their demands. The only way to accomplish this is to provide the customer with the perfect blend of traditional service and technology.

Conclusion

The banking industry in India, one of the world's five largest economies, has a lot of room to grow. Banks are constantly experimenting with new technologies, using terms like cloud computing and mobile solutions more frequently. The industry sees mobility and client convenience as the main drivers of growth. The Indian banking industry has had to reassess its strategies and procedures in order to stay competitive in this dynamic environment. Other challenges it has faced include pressure on spreads, growing competition, and systemic changes to comply with international standards.

The necessity for digital technologies for banking has grown during the year. Banks still have a huge opportunity to close the gaps and satisfy their customers. An increasing number of firms are investing in the newest technologies to modernize their operations, digitize their procedures, and create more agile ways to work. In order to provide customers with newer and more effective technology, banks are collaborating and integrating their services with fintech and neo-banks thanks to modern banking technologies. Banks need to deploy a comprehensive plan to suit the ever-changing needs of their clients and grow their market share. The trick is to use low-cost technologies to make intricate objects. This calls for a careful analysis of consumer, competitor, and market developments. Furthermore, considering how important digitalization is as a requirement especially in this epidemic era it makes sense to support innovation that changes consumers' perceptions as well as the financial sector.

References

1. Anbalagan G. New Technological Changes in Indian Banking Sector. International Journal of Scientific Research and Management (IJSRM),2017:5(9):15-21.
2. Akilandeswari S, Dr. Malfiga AL. Evolution of technology in the banking sector. *Shanlax International Journal of Arts, Science & Humanities*,2016:3(3):86-90.
3. Buitenhek M. Understanding and applying blockchain technology in banking: Evolution or revolution? Journal of Digital Banking,2016:1(2):111-119.
4. Bhatnagar S. Technological Evolution and Emergence of New Banking Models. IUP Journal of Bank Management,2022:21(2):7-15.
5. Sawant BS. Technological Developments in Indian Banking Sector. Indian Streams Research Journal,2011:1(9):1-4.
6. Guruprasad. M. Evolution of Technology in the Banking sector. Srujan, 2018, 17.
7. https://www.forbesindia.com
8. www.bankbazaar.com