

# Banking Technologies Trends in 2024: Advantages and Challenges

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## Abstract

A bank is a crucial company in the services sector. The most important role in the bank is played by the customers. The person who utilizes banking products and services and evaluates their quality is the client. A contract between a bank and a customer is known as a banking relationship. Every industry needs to continue expanding and changing in order to meet consumer demands and thrive. The same idea applies to the financial sector as well. Since many in this industry have worked hard for years to meet the urgent needs of their customers, they have long resisted changing their management and processes. This industry has been reluctant to adapt since these systems are less appropriate for the technologically advanced world of today. In this paper the researcher aims to study the latest banking technologies, advantages and challenges.

**Keywords:** Artificial Intelligence, Banking Technologies, Block chain, Challenges, Machine Learning, Open Banking

## Introduction

A bank is a crucial company in the services sector. The most important role in the bank is played by the customers. The person who utilizes banking products and services and evaluates their quality is the client. A contract between a bank and a customer is known as a banking relationship. Every industry needs to continue expanding and changing in order to meet consumer demands and thrive. The same idea applies to the financial sector as well. Since many in this industry have worked hard for years to meet the urgent needs of their customers, they have long resisted changing their management and processes. This industry has been reluctant to adapt since these systems are less appropriate for the technologically advanced world of today. FinTech companies, which are popping up everywhere, are a persistent challenge to the established banking system. Banks were also compelled to respond to the problem, and they devised a range of inventive and digital initiatives.

## Banking Technologies

Technology has had a significant impact on the banking industry, much like it has on other businesses. The proliferation of digital technology is transforming people's daily lives and corporate processes. Both the epidemic and technological improvements have contributed to the process of digitalization and technology exploitation in the banking business. The overall volume of digital transactions in India was 3,412 crores in 2019–20, while it was approximately 4,371 crores in 2020–21, according to the Reserve

Bank of India's annual report for 2020–21. Plenty of creative and expedient solutions to clients' banking-related problems have been made possible by technology and digitalization in the banking industry.

### **Aim of the Study**

In this article the researcher aims to study the latest banking technologies, advantages and challenges.

### **Current Technology Trends**

#### **Open Banking**

In order to give its customers a single point of access for all of their banking needs as well as the bank's services, banks that use open banking systems link their financial solutions using third-party software. Open banking is a crucial strategy for financial firms to compete and grow. Banks and fintech companies collaborate to make it simpler for customers to use mobile apps to conduct rapid and simple payments. A couple of instances of this kind of transaction are online meal orders placed on Zomato or online Uber reservations.

#### **Blockchain**

Blockchain technology allows for the preservation of data integrity and immutability when several parties require simultaneous access to the same information. Blockchain technology is being used by banks more and more to protect sensitive data from hackers. Banks are always experimenting with this new technology in an effort to improve efficiency, enhance security, and expedite transactions.

#### **Biometrics**

Quick payments can be made with biometrics by employing facial recognition software or by scanning an individual's fingerprint. As more and more people choose not to carry about cash, it's growing in popularity. Among the companies that have already created these kinds of solutions are Google and Whatsapp.

#### **Cloud Banking**

While keeping the conventional model in place, cloud banking is revolutionizing the banks' cost-efficiency and enabling them to offer new experiences to their customers. Banks may synchronize their operations and dismantle data and operational silos in customer service, finance, risk, and other business domains by utilizing the cloud.

#### **Artificial Intelligence and Machine Learning**

AI and machine learning (ML) are no longer new concepts, and banks are quickly adopting them to provide customers with personalized, just-in-time service. They automate banking operations to improve customer service, credit, and fraud prevention.

#### **Chatbots**

The popularity of speech-based engagements among clients is rising. Chatbots therefore depend on a speech interface. Banks have demonstrated that financial chatbots save them more than four minutes per transaction and enable them to obtain customer feedback more rapidly and affordably.

### **‘Zero Trust’ Security Model**

The idea of zero-trust security is used to avoid cybercrime as much as possible. It secures the business by eliminating implicit trust and requires users to rigorously authenticate both their identity and that of their device across the network.

### **Wearables**

Wearable technology, like smart watches, is becoming more and more popular with consumers. It is revolutionizing digital payment methods and making shopping more enjoyable.

### **Advantages of New Banking Technologies**

Traditional banking procedures have been impacted by the move toward digital banking technology. It has caused new firms to enter the market, bringing with them a host of benefits to the banking sector.

- Firstly, it has enhanced the user experience by offering financial services that are easily accessible and comfortable to use on desktops and mobile devices. Clients can now pay bills, transfer money between accounts, and check their accounts at any time and from any location.
- Secondly, digital technology has improved financial institutions' operational efficiency by facilitating speedier transaction processing and lowering expenses related to physical branches.
- Third, digital technology has enabled banks to provide personalized services to consumers using data analytics and machine learning algorithms.
- Finally, digital technology has improved security measures and prevented fraud through biometric authentication and real-time monitoring.

### **Challenges**

Financial institutions need to keep on top of developments in the quickly changing digital banking landscape in order to stay competitive. There are many advantages to using digital technology in the banking sector. When implementing digital solutions, financial institutions must to overcome a number of obstacles.

- Regulatory compliance is one of the major challenges. When using digital technology, financial institutions have to go by a number of rules and guidelines to protect the confidentiality and security of client information. This can be a laborious, lengthy process that needs a lot of resources.
- Legacy systems present another difficulty. Many conventional banks still use antiquated IT systems that are incompatible with contemporary online services. The expense and duration of system upgrades can impede the uptake of digital technologies.
- One major risk when integrating digital technologies in banking is cybersecurity. Financial organizations need to make sure that cyberthreats like hacking and data breaches are not present in their systems and that they are safe.
- Moreover, proficient experts are required to oversee and uphold these digital solutions. Investing in training and development programs is vital to guarantee that staff members possess the skills needed to deal with emerging technologies.
- Finally, with more banking transactions happening online, there's a chance that the personal touch could disappear. To keep customers loyal, financial institutions need to discover methods to strike a balance between the ease of digital banking and attentive customer care.

## Ways to Overcome the Challenges

Financial institutions must figure out how to get beyond the obstacles that come with integrating digital technology if they want to stay competitive in a world that is becoming more and more digital.

### AI Influence in Banking

The banking sector is changing as a result of artificial intelligence (AI), which is automating procedures and offering insights into consumer behavior. Virtual assistants and chatbots driven by AI are transforming customer care, and machine learning algorithms are enhancing fraud detection and risk management. Additionally, banks are using AI to personalize their services and give clients tailored financial advice. But there are also moral issues with AI use in banking that need to be resolved. The possibility of prejudice is one of the primary ethical ramifications of utilizing AI in banking. Due to the fact that AI algorithms can only be as objective as the data they are trained on, biased training data will provide biased outputs. This may result in prejudice towards specific consumer groups, including those from marginalized neighborhoods or those with poorer credit scores.

The possibility of job loss as a result of automation raises further ethical concerns. There is a chance that certain positions will become obsolete as AI-powered technologies proliferate in the banking industry, which would result in unemployment and economic inequity.

Another major ethical problem is privacy, which is why financial institutions have to make sure that consumer data is safeguarded and handled responsibly. This entails getting clients' informed consent before collecting their data and making sure that information isn't shared with outside parties without permission.

Another crucial ethical factor to take into account while utilizing AI is transparency. Clients are entitled to information about how their data is used and how decisions are derived from it. Financial institutions are required to give explicit justifications for any choices made using algorithms and to be open and honest about how they use them.

Finally, there's a chance that decision-making procedures will rely too much on AI. While AI can automate some jobs and offer insightful information, it shouldn't completely replace human judgment. Financial institutions must make sure that their decision-making processes are free from biases or errors by putting checks and balances in place.

### Complementary Digital Convenience and Adapted Service

It becomes increasingly important to strike a balance between the ease of digital banking and the individualized attention that consumers need as banks continue to close their physical branches. Even if more people are using internet banking, some people still value the face-to-face interaction that comes with going to their neighborhood branch and speaking with employees. This is particularly crucial when extending a warm welcome to new clients. Emerging technologies like virtual reality (VR) and augmented reality (AR) could be able to help close the gap between digital convenience and individualized care.

Recalling the importance of customer-focused service is crucial as the banking sector transitions to a digital one. Virtual reality (VR) and augmented reality (AR) provide a special way to close the gap between digital convenience and adapted service.

### Accepting Critical Cybersecurity Threats and Explanatory Third-Party Risks

With the increasing use of digital technologies in banking, cybersecurity has become essential. In addition

to preventing cyberattacks, banks must guarantee the security and privacy of consumer data. Digital banking is becoming more secure because to advances in cybersecurity technologies like biometric verification, encryption, and fraud detection algorithms.

Customers are now subject to a variety of cybersecurity dangers as a result of the growing usage of digital channels for banking operations. Banks must put strong security measures in place, such as multi-factor authentication (MFA), encryption, real-time transaction monitoring, and file integrity monitoring (FIM), to reduce these cybersecurity threats.

In addition, banks must to inform their clientele on a regular basis about any fresh security risks or weaknesses and teach them on how to defend themselves against online attacks. By putting these best practices into effect, banks can guarantee the safety and maintaining client data protection while offering easy access to banking services via digital channels.

### **The Future of Digital Banking and Emerging Technologies**

The advent of novel technologies, like 5G and IoT, is providing wider accessibility to financial applications. The sector could see even more transformation thanks to quantum computing. To keep up with the rapidly evolving technological world, banks need to be creative and flexible.

The following are a few of the cutting-edge technologies that will influence banking in the future:

- The rollout of 5G technology will allow banks to offer mobile banking services that are quicker and more dependable. Customers can anticipate faster upload and download speeds, reduced latency, and enhanced network coverage with 5G.
- Fitness trackers and home automation systems are among the many Internet of Things (IoT) products that are gaining popularity. Banks can offer specialized products and services and individualized financial advice by utilizing Internet of Things data.
- AI is already utilized in banking for risk management, fraud detection, and customer support. With chatbots and virtual assistants getting more advanced, artificial intelligence (AI) will become even more important in banking in the future.
- Quantum Computing: This emerging technology holds promise for solving intricate issues that are beyond the scope of conventional computers. Quantum computing can be used by banks for fraud detection, portfolio optimization, and risk management.

### **Conclusion**

To surpass customer expectations and open limitless possibilities, innovation and digital disruption are essential. To make banking easier for everyone, banks and other financial institutions need to stay on top of emerging trends and provide more easily accessible services.

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