



BANKING TECHNOLOGIES TRENDS IN 2024: ADVANTAGES AND CHALLENGES

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ABSTRACT

A bank is a crucial company in the services sector. The customers play the most important role in the bank. The person who utilizes banking products and services and evaluates their quality is the client. A bank and customer contract is known as a banking relationship. Every industry must continue expanding and changing 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 today's technologically advanced world. In this paper, the researcher aims to study the latest banking technologies, advantages, and challenges.

Keywords: Artificial Intelligence, Banking Technologies, Blockchain, Challenges, Machine Learning and Open Banking

Introduction

A bank is a crucial company in the services sector. The customers play the most important role in the bank. The person who utilizes banking products and services and evaluates their quality is the client. A bank and customer contract is known as a banking relationship. Every industry must continue expanding and changing to meet consumer demands and thrive. The financial sector globally has experienced a seismic shift with the emergence of fintech, leveraging technology to offer innovative financial services (Beccalli, 2003). 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 (Sharma, 1993). This industry has been reluctant to adapt since these systems are less appropriate for today's technologically advanced world. FinTech companies, which are popping up everywhere, are a persistent challenge to the established banking system (Nair, 2006). Banks were also compelled to respond to the problem and devised various inventive and digital initiatives.

Banking Technologies

Technology has significantly impacted the banking industry, much like it has on other businesses. The

proliferation of digital technology is transforming people's daily lives and corporate processes. The epidemic and technological improvements have contributed to 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 practical 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

To give its customers a single point of access for their banking needs and 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 transaction are



online meal orders placed on Zomato or Uber reservations.

Blockchain

Blockchain technology allows for preserving data integrity and immutability when several parties require simultaneous access to the same information. Banks are increasingly using blockchain technology to protect sensitive data from hackers. Banks always experiment with this new technology to improve efficiency, enhance security, and expedite transactions.

Biometrics

Quick payments can be made with biometrics using facial recognition software or scanning an individual's fingerprint. As more and more people choose not to carry cash, it is 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 customer experiences. 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, enabling 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 their identity and device across the network.

Wearables

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

Advantages of New Banking Technologies

The move toward digital banking technology has impacted traditional banking procedures. It has caused new firms to enter the market, bringing many 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 anytime and anywhere.
- Secondly, digital technology has improved financial institutions' operational efficiency by facilitating speedier transaction processing and lowering expenses related to physical branches (Sathye, 2003).
- Third, digital technology has enabled banks to provide personalized consumer services 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 must keep on top of developments in the quickly changing digital banking landscape to stay

competitive. There are many advantages to using digital technology in the banking sector. When implementing digital solutions, financial institutions must overcome several obstacles.

- Regulatory compliance is one of the major challenges. When using digital technology, financial institutions must follow several rules and guidelines to protect the confidentiality and security of client information. This can be a laborious, lengthy process that needs many resources.
- Legacy systems present another difficulty. Regulatory compliance and legacy systems present significant challenges, with many conventional banks still using antiquated IT systems (Charnes et al., 1978). incompatible with contemporary online services. The expense and duration of system upgrades can impede the uptake of digital technologies.
- Cybersecurity is a major risk when integrating digital technologies in banking (Kumar, 2006). Financial organizations need to ensure that cyber threats 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 is a chance that the personal touch could disappear. To keep customers loyal, financial institutions must discover methods to balance 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 of integrating digital technology if they want to stay competitive in a world that is becoming increasingly digital.

AI Influence in Banking

The banking sector is changing due to artificial intelligence (AI), which automates procedures and offers insights into consumer behavior. Virtual assistants and chatbots driven by AI transform customer care, and machine learning algorithms enhance fraud detection and risk management. Additionally, banks use AI to personalize their services and give clients tailored financial advice.

However, moral issues with AI use in banking must also be resolved. The possibility of prejudice is one of the primary ethical ramifications of utilizing AI in banking. Because 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 due to automation raises further ethical concerns.

There is a chance that certain positions will become obsolete as AI-powered technologies increase in the banking industry, which would result in unemployment and economic inequity.

Privacy is a significant ethical concern within the financial sector, requiring institutions to protect and responsibly manage consumer data. This involves obtaining informed consent from customers before data collection and guaranteeing that their information is not disclosed to third parties without explicit permission. Transparency is equally essential when employing artificial intelligence. Customers have the right to understand the usage of their data and the basis for decisions made through it. Financial institutions must explain algorithm-based decisions clearly and maintain openness and integrity regarding their application.

Finally, there is a chance that decision-making procedures will rely too much on AI. While AI can automate some

jobs and offer insightful information, it should not completely replace human judgment. By enforcing checks and balances, financial institutions must ensure that their decision-making processes are free from biases or errors.

Complementary Digital Convenience and Adapted Service

It becomes increasingly important to balance the ease of digital banking and the individualized attention consumers need as banks continue to close their physical branches. Even if more people use Internet banking, some still value face-to-face interaction by visiting their neighborhood branches 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 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

Cybersecurity has become essential with the increasing use of digital

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

Customers are now subject to various cybersecurity dangers due to the growing usage of digital channels for banking operations. To reduce these cybersecurity threats, banks must implement strong security measures, such as multi-factor authentication (MFA), encryption, real-time transaction monitoring, and file integrity monitoring (FIM).

In addition, banks must inform their clientele regularly about any fresh security risks or weaknesses and teach them how to defend themselves against online attacks. By implementing these best practices, banks can guarantee safety and protect client data 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, provides wider accessibility to financial applications (Howell, 2005). The sector could see even more transformation thanks to quantum



computing. Banks must be creative and flexible to keep up with the rapidly evolving technological world.

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, services, and individualized financial advice using 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

beyond conventional computers' scope. Banks can use quantum computing for fraud detection, portfolio optimization, and risk management.

Conclusion

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

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