



Artificial Intelligence as a Tool For Smart Banking Services

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ABSTRACT

In moments digital period, technology plays an important part in helping businesses to achieve their things of furnishing good services to their customers. AI is the changing the global markets rapidly. AI technology has been explored across multitudinous diligence and the banking sector. Recent times in India, AI has used in banking has increased. Artificial Intelligence is described as the capability of a device to perform cognitive functions we companion with moral minds, similar as perceiving, logic, getting to know, interacting with the surroundings, hassle solving, or indeed exercise creativity. Artificial intelligence is carried out in banking systems via algorithms with awful success in custom operation services, Credit Information Services, Frequently Asked Questions (FAQ) services, Financial Assistance Services. Presently, the improvement in overall performance of a banking machine is achieved via applying the A.I. The banking is undergoing various reforms, with a focus on the customer as the primary motorist. Client that are tech apprehensive and frequently interact with slice-edge technologies want banks to give smooth gests. To meet these prospects, banks have expanded their industrial geography to encompass retail, IT, and telecom using services like mobile banking, e-banking, and real-time plutocrat transfers. Thus, the paper aims to dissect the conception of AI and to bandy openings of AI in Indian Banking sector and to understand the growth of AI in Indian Banking sector.

KEY WORDS

Artificial Intelligence, Banking, Technology, Digital, Indian Banking.

INTRODUCTION

Banks and fiscal institutions in India are serving their client through multiple platforms. Preface of Internet Banking and Mobile banking platforms paved a way for digital deals in gaining significant traction and the result is “footfall in branches” passing gradational downfall. Now, client expects flawless experience across all platforms and largely individualised services are the need of the hour. But interacting and understanding the unique conditions of these guests located in colourful geographical locals have come a major challenge for all the Banks in India.

Artificial Intelligence & Analytics have dominated all the new technologies/ inventions in the once many times. They together answered numerous of the problems that Banks face in moment’s digital world. They can pull out good information snappily and fluently from Bank’s database and convert it into meaningful benefits for themselves and their guests.

They help banks in following aspects:

1. Understanding, segmenting and profiling of customers.
2. Targeting, acquiring and retaining of customers.
3. Spending pattern of customers.
4. Product selling and cross selling.
5. Maintaining and growing a profitable customer base.
6. Regulatory compliance Management.
7. Risk management.
8. Security and Financial crime management.
9. Becoming more operationally efficient and much more.

These technologies extract actionable insights and quantifiable predictions which help the Banks to understand customer behaviour in account opening/closing, default, fraud, and customer departure. With a capacity to garner a good number of benefits, these technologies are the future of financial institutions. Almost all Banks have been adopting these technologies in every process of Banking.

Artificial Intelligence

Artificial intelligence has become a defining development of the modern era. Its growing influence suggests that it may surpass many past innovations in term of long-term impact. Unlike earlier technologies that served a single purpose, AI is reshaping multiple aspects of daily life at once. It is already transforming healthcare practices, modern transportation systems, digital assistants used in homes, and the way financial operate, and its role continues to expand rapidly.

Objective

1. To study and analyse the role of AI in banking and impact on its operations and performance.
2. To identify the challenges associated with AI adoption in banking.
3. To analyse the outlook of AI, its sustainability and adoption in banking industry.

Research Methodology

Data is gathered for the study from secondary sources such as books, articles, research papers, websites, business reports, and so on. For needed theoretical understanding on the subject, books have also been recommended. This paper based on secondary data.

Literature Review

Ankur Aggarwal, 2022 Explained that all the banking function offerings had been revolving across the salaried person .it emerge as a major part of life. Present look primarily depends on the scope of synthetic intelligence in client revel in and robot technique automation in banking zone in India. The client revels their problem solved by AI with collaborate and corelated to banks.

Hickam Sadok, 2022 This article explores the effects of Artificial Intelligences use on banks and other financial organisations' credit score assessment processes. These restrictions serve as the foundation for a new age of economic law that introduces the certification of AI algorithms and bank-used data.

Chandrima Bhattacharya, 2022 Through this paper we understood that literature evaluation and theoretical studies is completed for diverse worldwide and the banks with admire to the combination of AI to enhance client interactions and inner banking processes. Chatbot use-instances on banking systems are ranked primarily based totally on client experience. Practical/Theoretical implications: Based at the entire image of Artificial Intelligence integration with banking functions, banks should recognition at the maximum famous use-instances to draw customers. The correlation among Chatbot use-instances can also additionally gain the installed Indian banks to similarly amplify business.

Omar H. Fares, 2022 The findings show how three important study areas—Strategy, Process, and Customer are covered by the literature on AI and banking. A systematic consumer credit solution application blueprint (Service Blueprint) that details the customer journey, front stage, backstage, and support procedure in banks was also stated by him in his study paper.

Saloni Tripathi, 2022 Points out the transformative of AI platforms in the banking sector and how it becomes a significant disruptor. Banks are facing challenges from current technology that uses intelligent algorithms to replace human labour. Companies must integrate AI into their business strategies and practises to stay competitive.

Neeraj Gupta, 2020 As they discussed here, various financial institution-specific factors, such as size, capitalization ratio, risk, price-to-earnings ratio, investment price, sales diversification, labour productivity, and age, are analysed and their effects on financial institution performance are discussed. The findings of the examination also show that the key factors of the performance of commercial banks in India are financial institution size, non-appearing mortgage percentage, and sales diversification. Additionally, the effects show that the impact of financial institution size, financial institution age, workforce productivity, and sales diversification on the overall performance of the Indian banks is significant during the catastrophe length.

Report, 2020 Says that AI has power to disrupt the manner we interact with every other, function our businesses, or even how governments paintings for his or her citizens. Although the adoption of AI varies substantially throughout geographies, there are wallet of industries even in the evolved nations which might be more and more adopting AI to higher carrier their clients and produce in efficiencies of scale. The authorities have said that for banks to fulfil India's developing needs, they should harness technology along with AI and huge data. Whether to enhance typical client experience, take extra knowledgeable selections on credit score underwriting, come across frauds and defaults early, enhance collections or boom worker efficiency.

Mehrotra, 2019 In this, he discusses the possibility of banking and financial services industry cab be replaced by AI, unwittingly bringing about the same of the individualised attention and personal touch that are the cornerstones of customer satisfaction and delight in industries like banking and financial services, which are renowned for their fiduciary and responsible nature. Additionally, he stated that human intervention cannot be fully replaced by AI because it cannot handle complex personalised requests, comprehend sentiments, establish trust, or emotionally connect with a customer in order to capture his interest and earn his brand loyalty.

Sindhu J, 2019 In this study, artificial intelligence (AI) adoption in five Indian commercial banks—SBI, ICICI, Axis, HDFC, and HSBC is discussed with reference to cost-benefit analysis. The data is gathered from secondary sources based on literature to determine the information utilised in the banking business. Search for AI technology services offered in India.

As discussed in Board, 2017 the loss of interpretability or “auditability” of AI and gadget getting to know techniques may want to come to be a macro-stage danger. Similarly, a significant use of opaque fashions can also additionally bring about unintentional consequences. As with any new product or service, there are vital problems round suitable danger control and oversight. It might be vital to evaluate makes utilise of Artificial Intelligence and gadget getting to know in view in their dangers, which include adherence to applicable protocols on information privacy, behaviour dangers, and cybersecurity. Adequate checking out and `training` of equipment with impartial information and remarks mechanisms is vital to make sure programs do what they're supposed to do. Overall, AI and gadget getting to know programs display full-size promise if their unique dangers are well managed. The concluding phase offers initial mind on governance and improvement of fashions, in addition to auditability through establishments and supervisors.

AI in banking revolutionizes operations through fraud detection, personalized customer service (chatbots/virtual assistants), faster loan processing, risk management, and regulatory compliance, using technologies like Machine S S Learning Processing to analyse big data, automate tasks, predict trends, and offer tailored financial advice, boosting efficiency and security.

Role of AI in Banking

Fraud Detection & Security

AI analyses transaction patterns in real-time to flag suspicious activities, detect money laundering, and prevent cyber threats faster than humans.

- **Customer Service:** chatbots which is powered by AI give 24/7 services, handle routine queries, and offer personalized banking experiences.
- **Credit and Loan Management:** AI automates credit scoring, speeds up mortgage approvals, and assesses risk more accurately by analysing vast applicant data.
- **Personalization and Marketing:** AI understands customer behavior to offer tailored financial products, investment advice, and proactive recommendations.
- **Risk Management:** Predictive analytics help banks simulate scenarios, manage market risks, and comply with complex regulations.
- **Operational Efficiency:** Robotic Process Automation (RPA) and AI streamline back-office tasks, from document processing to report generation, reducing costs.
- **Investment and Trading:** AI analyses market trends, manages investment portfolios, and powers robot-advisors for automated wealth management. It helps banks forecast market trends, manage liquidity, and comply with regulatory requirements. This strengthens the overall stability and performance of the banking system. In conclusion, Artificial Intelligence has become a powerful tool for the banking sector by enhancing customer experience, strengthening security, improving efficiency, and supporting informed decision-making. With responsible and ethical implementation, AI can help banks achieve sustainable growth and competitive advantage in the digital era.

Risk of AI in Banking

Artificial Intelligence has changed the way banks work by making services faster and more efficient. However, depending too much on AI also brings several risks that cannot be ignored:

- **Loss of Personal Judgement:** One major risk is the loss of personal judgement. Banking decisions often require understanding a customer's situation, which AI systems cannot fully do. When machines

decide who gets a loan or credit, genuine cases may be rejected simply because they do not fit into a fixed data pattern.

- **Data Security:** Another serious concern is data security. AI systems use large amounts of personal and financial data. If this data is hacked or misused, customers can suffer financial loss, and banks can lose public trust. Even a small security failure can have long-term consequences.
- **Unfair Decisions:** AI can also make unfair decisions. Since AI learns from past data, it may repeat old mistakes or biases present in the system. This can affect loan approvals, interest rates, and customer profiling, leading to inequality and dissatisfaction.
- **Lack of Transparency:** There is also a lack of transparency in AI decisions. Many customers and even bank employees do not understand how AI reaches a particular conclusion. When banks cannot clearly explain decisions, it creates confusion, frustration, and mistrust.
- **Job Insecurity:** Job insecurity is another risk. Automation through AI reduces the need for human workers in routine banking operations. This can lead to job losses and increased pressure on employees to continuously upgrade their skills.
- **Poor Data Quality:** Over-reliance on AI is also risky. Technology can fail due to errors, poor data quality, or system breakdowns. In such situations, absence of human control may worsen the problem instead of solving it.
- **Emotional Understanding:** AI lacks emotional understanding. Banking customers often face stressful financial situations where empathy and human interaction are important. Machines cannot replace the comfort and assurance provided by a human banker.

CONCLUSION

AI is set to accelerate growth across the banking sector. Digital platforms are enabling banks to adopt new sales strategies, improve efficiency, focus on data utilization, and offer personalized relationship-based customer interactions on a large scale. AI is crucial in facilitating customized customer responses, providing safer and more reliable product and service recommendations, and gaining trust through expanded concierge services accessible to customers at crucial moments. Furthermore, banks must develop distinct, permission-based digital customer profiles. The challenge is that the necessary data often exists in isolated silos. By dismantling these silos, integrating AI, and combining it with human interaction seamlessly, banks can shape experiences that meet their customers' individual needs while efficiently scaling to growth.

BIBLIOGRAPHY

1. Bhattacharya, C., & Mukherjee, D. (2022) Role of artificial intelligence in banking for leveraging operational efficiency. *Australasian Accounting, Business and Finance Journal (AABFJ)*, 16(2), 7–84.
2. Board, F. S. (2017) *Financial stability implications from FinTech*. Financial Stability Board, Switzerland.
3. Boo bier, T. (2020) *AI and future of banking system*. Wiley Finance, Hoboken, NJ.
4. Datatec vibe. (2021) How AI is making banks cost-effective and efficient. Retrieved from <https://datatechvibe.com/ai/how-ai-is-making-banks-cost-effective-and-efficient/>, Accessed on 26/10/2025.
5. Gupta, N. & Mehta, J. M. (2020) Ownership, bank size, capitalization and bank performance: Evidence from India. *Cogent Economics & Finance*, 8(1), 4–34.

6. IDBRT (2020) AI in banking: A primer. Institute for Development and Research in Banking Technology, www.idrvt.ac.in, Accessed on 24/10/2025.
7. Mehrotra, A. (2019) Artificial intelligence in financial services: Need to blend automation with human touch. ResearchGate, 2–6, ,https://www.researchgate.net/publication/334764043_Artificial_Intelligence_in_Financial_Services, Accessed on 28/10/2025.
8. Ng, J. (2020) *Hands-on artificial intelligence for banking: A practical guide to building intelligent financial applications using machine learning techniques*. Packt Publishing, Birmingham, UK.
9. ResearchGate. (2022) A study of the scope of artificial intelligence in customer experience in the banking sector in India. Retrieved from, <https://www.researchgate.net/publication/359904161>, Accessed on 04/11/2025.
10. Sadok, H. & Fritha, M. (2022) Artificial intelligence and bank credit analysis: A review. *Cogent Economics & Finance*, 10(1), 2–10.
11. Sindhu, J. & Reddy, N. R. (2019) Impact of artificial intelligence in chosen Indian commercial banks: A cost–benefit analysis. *Asian Journal of Management*, 10(1), 2–7.
12. Tripathi, S. & Gupta, R. G. (2022) Role of artificial intelligence in the banking sector. *International Journal of Research Publication and Reviews*, 3(5), 3–8.
14. Analytics Insight. (2021) Banking of tomorrow: Top Indian banks using artificial intelligence. Retrieved from <https://www.analyticsinsight.net/banking-of-tomorrow-top-indian-banks-using-artificial-intelligence>, Accessed on 28/10/2025.
15. McKinsey & Company. (2020) AI bank of the future: Can banks meet the AI challenge? Retrieved from <https://www.mckinsey.com/industries/financial-services/our-insights/ai-bank-of-the-future-can-banks-meet-the-ai-challenge>, Accessed on 20/09/2025.
16. Wipro. (2021) Banking on artificial intelligence: Why banks need AI. Retrieved from <https://www.wipro.com/business-process/why-banks-need-artificial-intelligence/>, Accessed on 28/09/2025.
