

Role of artificial intelligence (Ai) in adoption of digital banking in India

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Abstract

The evolution of Indian Digital Banking shifting gear to AI based operations and customer experience. This paper also acknowledges AI based applications in banking for enhancing the customer experiences, driving operational efficiency, and improving risk management advanced banking system. AI adoption including ethical concerns around bias and data privacy, the need of skilled professionals and the evolving regulatory landscape. Finally, it discusses the future potential of Artificial Intelligence in Indian banking. The paper concludes by highlighting the transformative potential of AI in boosting digital banking adoption in India, while stressing the need for responsibility development and adaptation to ensure a secure, inclusive, and ethical future for the Indian banking sector.

Keywords: Sandboxes, predictive, personalization, requirements

Introduction

The Indian government aims to become global leader in AI ensuring responsible and transformational with a special emphasis on the promotion of research, skilling and reskilling. According to PWC Report the Reserve Bank of India (RBI), Securities Exchange Board of India (SEBI), and Insurance Regulatory and Development Authority of India (IRADAI) have initiated 'regulatory sandboxes' approach towards the use of emerging technologies like AI and Block chain.

Banks have been evolving by adoption of newer technologies for past few decades, building upon this momentum the advancement of artificial-intelligence (AI) technologies within financial services focus to control cost and increase revenue. On attaining the customer convenience and speed, consumers are also seeking the evolution for making their life easier by hands on banking. The pandemic of Covid has accelerated the digital transformation of consumers has shifted and changing of 75 to 80 billion devices being connected to the internet by 2025.

Artificial Intelligence (AI) includes machine learning and natural language, it can be efficient with banking industry. AI comprises a range of technologies including banking sector also includes customer support and marketing, security, predictive analysis, risk management, fraud detection, credit rating, identity protection, wealth management, simplify operations, and personalization. The current state in India for AI in banking creating opportunities for many banks. Adoption of banking sector based on updated technology for controlling fraud and improving the customer experience is the become the motive as a part the fusion of Artificial Intelligence fulfill both requirements.

Role of AI in Banking of India

The rapid growth of Tech-savvy customers in India exposed to advanced technologies in their day to day lives, expect banks to deliver seamless experience. Artificial Intelligence plays a vital role for meeting expectations by enabling services like mobile banking, e-banking and real-time money transfers.



AI Bot Assistants

The primary focus of AI chatbots in banking services is to improve customer experience while interacting with the banking applications for accessing the requirement of the customer easily and the availability of 24x7 services. Which also provides advisors for choosing the banking products like loans, insurance and so on.

Artificial Chatbots helps for transforming the customer experience to small and medium size enterprises customers, customized lending solutions, micro expansion analysis to review loan applications, seamless inventory and receivables management, SME platform to source suppliers and buyers, Advisory services by AI powered virtual assistants.

Automation

Artificial intelligence takes a vital role for enhancing the automation of tasks in banking task for handling with high volume of data with includes the receptive tasks management, high frequency trading, automation of loan approvals based on machine vision and natural language processing to scan and process the loan documents, report generation, data handling and customer onboarding.

Risk Assessment

Artificial Intelligence has broader range for analyzing the data points of loan applications, provides accurate creditworthiness, analyzing mobile usage patterns, helps for reducing NPA's, portfolio management, machine learning to detect fraud patterns cyber-attacks and real time transactions analysis for risk monitoring.

Predictive Analytics

Artificial intelligence provides the accurate prediction based on machine learning and quantum computing for optimizing the common problems and financial forecasting, risk modelling, customer behaviour, market trends for more efficiently and effectively than traditional methods, loan default prediction.

Data Privacy and Management

In banking sector, the customer needs to provide the sensitive data regarding their proof of documents, financial statements, and companies details are also involved. So, the bank must maintain high end security for improving customer privacy requirements these can be boosted by the help of AI for storing customer data.

While handling with huge data in financial modelling, security analysis, customer respondents analysis artificial intelligence plays a vital role in data gathering, data handling, data analysing, and decision making from the huge data it provides the information beyond the human efforts which helps for accurate results.

Examples of Banks in India Using AI in Predictive Analytics

HDFC Bank: Utilizes predictive analytics for fraud detection, personalized marketing campaigns, and credit risk assessment.

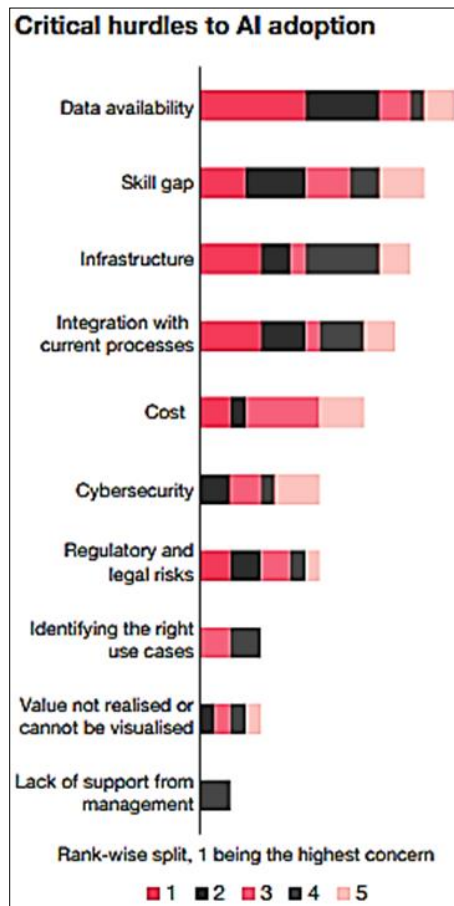
State Bank of India (SBI): Leverages AI models for predicting customer churn, demand forecasting, and optimizing ATM operations.

ICICI Bank: Employs AI-based solutions for predictive analytics in customer behaviour analysis and risk management.

Cyber Fraud Protection

In protection of bank systems from the cyber threats artificial intelligence facilitates how malicious attacks arises like phishing, social engineering, zero-day attack, and automated fraudulent activity protection. AI plays a dual role in defending, and enhancing security measures and protects customer data.

Majorly some of the common frauds detected from automation like Bots for Accounts Takeover, Fake Account creation, DDoS (Distributed Denial of Services) Attack. Artificial intelligences are rapidly evolving, necessitating continuous vigilance and adaptability by Indian banks to stay one step ahead of cybercriminals.



Challenges for Adoption of AI.

- The opportunity for a new business model comes as banks face daunting challenges on multiple fronts. In capital markets, many banks trade at a 50 percent discount to book, and approximately three-quarters of banks globally earn returns on equity that do not cover their cost of equity.
- Trained Professionals required to work with the top Indian universities to develop skilled data scientists.
- The impact of global standards enforcement of AI innovations may differ make it hard to quantify their risk of rolling out internationally.
- AI systems requires data management skills for maintaining the continuous consumption of consumer data by tracking online and offline customer behavior to generate a big data set and extract further information about consumers through profiling may create a huge risk of data privacy.
- In India the diversification and multiplicity of languages becomes a challenge to create a system to enable communication services in vernacular languages while simultaneously training the machine to read the same.
- While adapting artificial intelligence in the workplace the management also needs to evaluate with the moderate condition and needs to support to the banking network for using these advanced technologies.

Regulatory Framework for AI Banking in India

RBI's Regulatory Sandbox: The RBI has established a regulatory sandbox to encourage experimentation and innovation of fintech solutions, including those that utilize AI. The RBI closely monitors the sandbox experiments to understand the risks and benefits of new technologies, allowing them to gather evidence for future regulatory decisions.

NITI Aayog's National Strategy on Artificial Intelligence: This strategy outlines a broad roadmap for AI development in India, including responsible AI principles which are relevant to the banking sector. Position India as a global leader in AI development and application and promote AI research in blockchain technology for development of banking technology.

Conclusion

The convergence of digital banking and Artificial Intelligence (AI) in India presents a transformative landscape, promising enhanced customer experiences, operational efficiency, and robust risk management for the banking sector. AI applications like chatbots, automation tools, and predictive analytics are revolutionizing various aspects of banking, from personalized financial services to fraud detection and cybersecurity.

Despite these challenges, the future of AI in Indian banking remains promising. By embracing responsible adoption, fostering collaboration, and addressing ethical concerns, banks can leverage AI's potential to unlock a new era of financial inclusion, efficiency, and security for the nation. This journey necessitates a concerted effort from banks, policymakers, technology providers, and academia to shape a future where AI serves as a powerful tool for inclusive and sustainable growth in the Indian banking sector, ensuring a secure, inclusive, and ethical future for all stakeholders.

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