
ROLE OF ARTIFICIAL INTELLIGENCE IN BANKING SECTOR

DR. PREETI ARORA

ASSISTANT PROFESSOR, GGSDS COLLEGE, KHERI GURNA

ABSTRACT

Banks are financial institutions that play a major role in the flow and movement of credit within the country. It plays an important role in enhancing economic activities by streamlining the business and commercial process with revenue generation and distribution. In the present times, the banks are using advanced technology like Artificial Intelligence (AI) so that there is an increase in the efficacy of the banks and they could provide quality services to the customers. Since more and more individuals are using e-commerce and digital platforms, it is imperative for the banks to introduce advanced technology-based applications so that enriched services could be provided to the customers. Artificial intelligence is the replication of human intelligence that helps in the development of better computers that can do human tasks in an intellectual manner. Artificial intelligence focuses on making computers work human-like but in a more efficient and convenient way. This research paper aims to discuss the variables of artificial intelligence that can be adopted or applied in the banking sector, specifically customer-centric or end-user AI functionalities in banking services.

KEYWORDS: Artificial Intelligence, Front-end Banking AI, Personalized Financial Services.

INTRODUCTION

Banks form the backbone of an economy because most of the business and commercial activities revolve around it. In recent times, there has been an increase in the use of advanced technology such as Artificial Intelligence (AI) in the banking organization that has helped to increase its efficacy to an optimized level. The use of technology not only provided ample growth opportunities to the banks but also enabled them to provide quality services to the customers.

Artificial intelligence is used in different forms such as analytics, chatbots, Robotic Process Automation (RPA) in the banking organization so that there is an enhancement in the working of the banks. It includes the use of different AI integrated technologies such as machine learning, processing, generation and natural language in the traditional operating system of the banks so that there is transformation of the conventional practices into modern means of financial transactions.

For example, by using AI-based techniques and applications, there is provision of customized financial services to the customers along with facilities of digital wallet and voice-assisted banking services. The provision of all these facilities help in extending customer support services that increase customer satisfaction with the bank services. For example, ICICI Bank in India is using an AI-based chatbot known as iPal that plays a major role in resolving customer queries by interacting with 3.1 million customers. The chatbot has answered more than 6 million queries of the clients by showing an accuracy rate of 90%. Therefore, it can be said that AI has been highly beneficial for the banks as well as the customers by fulfilling the needs of both parties (Bhuvana, Thirumagal & Vasantha, 2016).

Since more and more individuals are using e-commerce and digital platforms, it is imperative for the banks to introduce advanced technology-based applications so that enriched services could be provided to the customers. For example, the banking sector in the United Arab Emirates (UAE) provides quality services to its customers. The country is known to be a trendsetter in adopting advanced technology-based services so that individuals are provided with personalized services for executing financial transactions. The Emirates NBD which is the first gulf bank and Emirates Islamic Bank has adopted digital banking services with the help of advanced technology to bring potential transformations in the traditional banking practices. It has helped the bank to provide better ATM services, cash deposits, secure transactions and personalized service to the customers. The provision of all these facilities has certainly increased the satisfaction level of the customers and encourages them to use digital modes of financial transactions increasingly (Ghurair, 2018). Based on the above facts, it can be said that the current research focuses on determining the role of artificial intelligence in the banking sector from the perspective of end-users.

ROLE OF ARTIFICIAL INTELLIGENCE (AI) IN BANKING SECTOR

Artificial Intelligence is the replication of human intelligence that helps in the development of better computers that can do human tasks in an intellectual manner. Similar to a man's mind, artificial intelligence can think and make various decisions more precisely on the basis of the information which has been provided to it. Artificial intelligence is basically that intelligence which a machine displays, as opposed to the intrinsic knowledge that humans exhibit. It can also be defined as the capability of an artificial entity to resolve complicated problems using its own intellect. Artificial intelligence focuses on making computers work human-like but in a more efficient and convenient way.

Following are some of the variables of Artificial Intelligence that can be adopted or applied in the banking sector.

- 1. Customer Service:** Artificial intelligence can be used in providing personalized services for customers. For example, Chatbots can reply to queries of customers and provide relevant information about various banking products and services.
- 2. Fraud Detection:** Artificial intelligence can discover fraudulent activities in real-time by scrutinizing huge amounts of data, identifying the patterns and issuing alerts whenever needed.
- 3. Risk Management:** Artificial intelligence can also be used to detect credit risks by scrutinizing the customer data, financial statements and trends in the market to recognise potential risks and mitigate them.
- 4. Investment Analysis:** Artificial intelligence is also useful in investment recommendations to the customers and portfolio optimisation by keeping an eye on market trends with the help of artificial intelligence algorithms.
- 5. Anti-Money Laundering (AML):** Artificial intelligence can also be applied in identifying potential money-laundering activities by monitoring various transactions and detecting any signs of unusual behaviors or patterns.
- 6. Loan Processing:** Artificial intelligence can be used in automating the process of loan application and its approval as well as the process of risk assessment and credit scoring.
- 7. Predictive Analysis:** Artificial intelligence is also helpful in predicting the behaviors as well as preferences of the customers by analyzing the data which is historical in nature, which will allow the banks to provide personalized products and services.

Following are few of the variables, which have been identified, on which Artificial Intelligence in the banking sector can be studied or analyzed from the perspective of the end-users.

- 1. Personalized Recommendations:** Artificial intelligence algorithms are helpful in analyzing the customer data which will further help in providing personalized recommendations of various products and services that best fit the needs and preferences of each customer.
- 2. Chatbots:** Artificial intelligence powered chatbots are helpful in providing the customers with instant answers to their queries, which helps in reducing waiting time and improving the overall experience of the customers.

3. **Voice Assisted Banking:** Artificial intelligence enables the customers to access various banking services with their voice commands and touch screens. This will make the overall banking experience very convenient to the users.
4. **Cash Deposit Machines:** By using self service cash deposit machines, cash can be deposited at any time as well as payments can also be made to others' accounts. Because of this, the inconvenience of waiting in large lines to deposit one's cash at banks is resolved.
5. **Passbook Updation Kiosk:** Artificial intelligence made it possible to print passbooks using the automatic passbook updation kiosk, which again makes the overall experience for the customers very easy and convenient. It reduces the waiting line to get your passbook printed by a bank employee.
6. **ATM Machines:** With the help of artificial intelligence algorithms, ATMs now feature various functions such as face recognition for a better user experience and security, automated ATM cameras, anticipating ATM cash demands and so on.
7. **Mobile Banking:** These days every bank provides various mobile banking services since it has made routine tasks such as money transfers and payments more convenient for the customers. It enables the customers to do better financial planning and customers can get smart financial advice. The advent of artificial intelligence in mobile banking also helps in efficient and quicker transactions.
8. **Virtual Assistants:** Artificial intelligence powered virtual assistants can be helpful in providing customers with personalized advice and guidance on matters like financial planning, investments and so on.
9. **24/7 Availability:** Artificial intelligence powered systems can be helpful in providing customers with 24/7 access to various banking services such as account information, transactions history, and so on.
10. **Speedy Transaction Processing:** Artificial intelligence powered systems are helpful in processing transactions faster, which reduces the waiting time and improves the overall experience of the customers.

CONCLUSION

Banks form the backbone of an economy because most of the business and commercial activities revolve around it. In recent times, there has been an increase in the use of advanced technologies such as artificial intelligence in the banking organization that has helped to increase its efficacy to an optimized level. The use of technology not only provided ample growth opportunities to the banks but also enabled them to provide quality services to the customers. However, despite the several benefits that are provided by artificial intelligence, it has certain flaws that makes its implementation in the financial sector limited (Manning, 2018). Due to the use of artificial intelligence, there is extensive automation in different banking operations that result in loss of employment and earning opportunities by the human labor force. It negatively impacts the economy by increasing the percentage of unemployment in the country (Noonan, 2018). Due to the increased automation process, there are fewer monitoring and supervision activities. This negligence may cost the company heavily in case of a sudden breakdown of the machine. It may result in loss of data and cause loss to the reputation of the company. Moreover, the additional cost is associated with the restoring of the system and retrieving data which may reduce the profit earning capacity of the firm. Apart from this, skilled labor is also required to use automated technology which increases the cost of the company in terms of training of employees. The additional cost is to be paid in terms of including the new technology in the traditional business operation that may restrict its use to limited banking organizations. Hence, it can be said that the banking organizations that are thinking of implementing artificial intelligence must analyze their present operating system and the costs related to making changes as per the modern technology requirements, so that no issues can occur later on (Mannino et al., 2015).

REFERENCES

- Alzaidi, A. A. (2018). Impact of artificial intelligence on performance of banking industry in Middle East. *International Journal of Computer Science and Network Security*, 18 (10), 140-148.
- Ambika, D., Rafee, M., & Pasha, M. A. A Study On Impact Of Artificial Intelligence In Financial Services Of Private Banks In Bangalore.
- Bhuvana, M., Thirumagal, P.G., & Vasantha, S. (2016). Big data analytics- a leveraging technology for Indian commercial banks. *Indian Journal of Science and Technology*, 9 (32), 98643.
- Catalini, C., Foster, C., & Nanda, R. (2018). *Machine intelligence vs. human judgement in new venture finance*. Tech. rep., Mimeo.
- Donepudi, P. K. (2017). Machine learning and artificial intelligence in banking. *Engineering International*, 5 (2), 83-86.
- Dr. Rajeshi Mahajan & Dr. Jyotii Mahajan (2021). ARTIFICIAL INTELLIGENCE'S POSITION IN THE INDIAN BANKING SECTOR, 405 THE JOURNAL OF ORIENTAL RESEARCH MADRAS ISSN: 0022-3301 | APRIL 2021, 405.
- Eisazadeh, S., & Shaeri, Z. (2012). An analysis of bank efficiency in the Middle East and North Africa. *International Journal of Banking and Finance*, 9 (4), 28-47.
- El-Gohary, H., Thayaseelan, A., Babatunde, S., & El-Gohary, S. (2021). An Exploratory Study on the Effect of Artificial Intelligence-Enabled Technology on Customer Experiences in the Banking Sector. *Journal of Technological Advancements (JTA)*, 1(1), 1-17.
- Ghurair, A.A. (2018). Embracing artificial intelligence: Do UAE banks have a choice? *Khaleej Times*. Available at:
- [https://www.khaleejtimes.com/local-business/embracing-artificial-intelligence-do-uae-banks-hav e-a-choice](https://www.khaleejtimes.com/local-business/embracing-artificial-intelligence-do-uae-banks-hav-e-a-choice)
- Jewandah, S. (2018). How artificial intelligence is changing the banking sector–A case study of top four commercial Indian banks. *International Journal of Management, Technology And Engineering*, 8 (7), 525-530.
- Kaur, D., Sahdev, S. L., Sharma, D., & Siddiqui, L. (2020). Banking 4.0: 'The Influence of Artificial Intelligence on the Banking Industry & How AI Is Changing the Face of Modern Day Banks'. *International Journal of Management*, 11(6).
- Khatab, J. J. The Role of Artificial Intelligence in Improving Banking Performance: Empirical Evidence from Erbil/Iraqi.
- Lakshminarayana, P. N., & Deepthi, B. R. (2019). Advent of Artificial Intelligence and its Impact on Top Leading Commercial Banks in India–Case Study. *International Journal of Trend in Scientific Research and Development (IJTSRD)*, 3(4), 614-616.

- Makhija, P., & Chacko, E. (2021). Efficiency and Advancement of Artificial Intelligence in Service Sector with Special Reference to Banking Industry. *Fourth Industrial Revolution and Business Dynamics* (pp. 21-35). Palgrave Macmillan, Singapore.
- Manning, J. (2018). How AI is Disrupting the Banking Industry, International banker. Available at:
 - <https://internationalbanker.com/banking/how-ai-is-disrupting-the-banking-industry/>
- Mannino, A. (2015). Artificial Intelligence: Opportunities and Risks Policy Paper. *Effective Altruism Foundation*. Available at:
 - <https://ea-foundation.org/files/ai-opportunities-and-risks.pdf>
- Noonan, L. (2018) AI in banking: the reality behind the hype. *Financial Times*. Available at: <https://www.ft.com/content/b497a134-2d21-11e8-a34a-7e7563b0b0f4>
- Salunkhe, R. T. (2019). Role of artificial intelligence in providing customer services with special reference to SBI and HDFC Bank. *International Journal of Recent Technology and Engineering (IJRTE)*, 8(4), 12251-12260.
- Shirish, K., Jayantilal, S., & Haimari, G. (2016). Digital banking in the Gulf: keeping pace with consumers in a fast-moving marketplace.
- Thim, C.K., & Seah, E. (2010). Optimizing portfolio construction using artificial intelligence. 5th International Conference on Computer Sciences and Convergence Information Technology, 338-343.
- Veeranjanyulu Veerla (2021). To Study the Impact of Artificial Intelligence as Predictive Model in Banking Sector: Novel Approach, January 2021 | IJIRT | Volume 7 Issue 8 | ISSN: 2349-6002.
- Vijai, D. C. (2019). Artificial intelligence in Indian banking sector: challenges and opportunities.
 - *International Journal of Advanced Research*, 7(5), 1581-1587.
- Wall, L. D. (2018). Some financial regulatory implications of artificial intelligence. *Journal of Economics and Business*, 100, 55-63.