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Role of Artificial Intelligence and its Applications in Indian Banking Sector

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ABSTRACT

The applications and use of AI in certain industries has been much more in data driven organisations when associated with the other industries in certain industries especially in banking and financial service sector and banking in particular. After the implementation of AI in Banks it is difficult to access some of them and at the starting stage people not ready to take risk. However innovations decide the sustainable growth and purpose of organisations in modern times, the application of Artificial Intelligence (AI) in enterprises offers tremendous opportunities and possibilities while captivating data driver division making. The concept of AI has to be understood as a recreation of human knowledge by optimising machine proficiency for taking organisational decision making. Mechanisations have transformed the routine and manual transactions to technology driven mechanical processes. The present article focuses on AI's applications in the banking sector, as well as the changes it has brought to India's commercial banks. The adaptation of AI in the banks not only bring better customer experience and engaged platforms, rather it helps the banks in taking choices that improve the competence and effectiveness which has direct effect on the success of organisations.

Keywords: Artificial Intelligence, Technology, Financial Sector, Banking Industry, Commercial Banks.

INTRODUCTION

The rapid application of technologies has amplified the requirement of IT in the financial services sector, especially in banking. AI is applied in banking sector that is implemented to perceive the fraud, resolve the customer query, tracking customer behavior and approving personalized service to them. Nowadays banks have gone a long way from computerisation to core banking platforms, CRM to Enterprise systems, and further ahead by using business intelligence solutions to dig out useful data from the internal and external sources while operating in the highly modest business environment. Maximum of the leading banks in India use business intelligence solutions especially artificial intelligence to generate new businesses and retain their esteemed customers. Further, these intelligent systems also open out substantial opportunities for banks in various features of banking business including human asset management. Although the use and adoption of AI in Indian banks is not so advanced yet, most of the banking organisations have recognised the benefits of implementation of AI while operating in the turbulent business environment. The present study aims at enlightening various ways through which banks derive benefits from the implementation of AI systems.

ROLE OF ARTIFICIAL INTELLIGENCE USED IN BANKING INDUSTRY

Artificial intelligence holds a lot of promise for the banking industry's advancement and expansion. It automates and streamlines the working process. Here are some of the most important reasons for banks to use AI: In the banking industry, there are numerous problems.

- Extensive trials in the banking sector.
- Thrust for an activity that is based on interaction.
- Self-administration should be started in the branches.
- Condense workload.
- Obtain substantial insights by collecting and analysing relevant data.
- Boost banking revenue
- Systemize your risk management.

- To reduce the odds of being a victim of fraud
- Investing management
- Assisting consumers in making rapid and productive decisions

ARTIFICIAL INTELLIGENCE IN BANKING SECTOR

Artificial Intelligence is the future of banking as it brings the power of advanced data analytics to combat fraudulent transactions and improve compliance. AI algorithm accomplishes anti-money laundering activities in few seconds, which otherwise take hours and days. AI also enables banks to manage huge volumes of data at record speed to derive valued insights from it. Features such as AI bots, digital payment advisers and biometric fraud detection mechanisms lead to higher quality of services to a wider customer base. All this translates to increased revenue, reduced costs and boost in profits.

REVIEW OF LITERATURE

Chan Kok Thim and Eric Seah (2011) In this study, we look at how to use neural networks to increase the feasibility of artificial intelligence in the real world. This paper describes the Efficient Frontier of Markowitz Theory and creates a neural framework heuristic to help finance professionals of all levels better grasp how AI can build appropriate portfolio capacity and deliver yields. Ryoji Kashiwagi (2015) in his study examines how synthetic man-made AI is set foot in its third flowering phase, following a process referred as profound learning. Artificial intelligence is being applied in the financial sector for a range of applications. Businesses in the financial sector should make better use of artificial intelligence by using open innovation initiatives.

Simran Jewandah (2018) indicates that the banking industry can't stay away from innovation if it wants to be serious about providing individualised service to its customers. Artificial intelligence enables customised financial administrations, smart wallets, underwriting, voice aided banking, application to assist with loan choices, client assistance, and digitization. It discusses AI's application and recommendations for India's leading banks. Computer-based intelligence has benefited in the detection of frauds, cost reductions, and revenue growth, all of which have improved the client experience. SBI, HDFC, ICICI, and Axis Bank were noted as having evolved into the advanced period through the usage of chatbots and automated programming.

Sunil Kumar (2018) examines the growth of artificial intelligence (AI) from its inception in the late 1950s and early 1960s to the present day, as computer storage and computational capabilities have grown. Renowned scholars have highlighted concerns about existential threats, safety, the economic slump, unemployment, and other challenges. Healthcare, education, cyber security, law, finance, information surfing, transportation, virtual assistants, ecommerce, customer service, and energy were all explored as part of the international AI scenario. The researchers looked at policy documents from the United States, the United Kingdom, Japan, Singapore, and even China. The paper concluded with a discussion of AI advancements in India. TCS, IBM, and Infosys are just a few of the IT behemoths that have made important contributions to AI development. India has a wealth of knowledge.

Vijai (2019) explains AI's conceptual understanding, types, and history, as well as its contribution to the banking sector's growth through the formation and support of various regulatory bodies, enabling for speedier adoption of cutting-edge technologies like AI and block chain technology. India's emergence as a tech hub has been aided by the establishment of regulatory organisations, university research divisions by various institutions, and the presence of significant IT corporations in the country. It has had a significant impact on business operations and customer service. The research also discusses the advantages and pitfalls of AI applications in India. Both governmental and private funding models should be supported in India to promote AI research growth.

Noreen et al. (2023) suggested that the banking industry can use suitable methods based on artificial intelligence in order to improve the quality of customer services as well as the banks' performance indicators. Karbassi Yazdi et al. (2022) argued that service industry is essential for a sustainable the economic development, especially because unlike traditional sectors the dependence on conventional resources is much reduced and it is open to the application of new and innovative business models. Birau et al. (2021) also suggested that the banking system is a vital mechanism in terms of reaching a sustainable level of development of the global economy.

RESEARCH METHODOLOGY

This section discusses the methods used to collect data. The goal of the research is to improve the banking industry's grasp of artificial intelligence. Study based on secondary data. Secondary data was collected in order to acquire a better grasp of the research issue. Secondary data for the study was gathered from papers in online libraries and journals, publications, and other sources.

OBJECTIVES

- ❖ To know about artificial intelligence's application in the banking business.
- ❖ To investigate the influence of artificial intelligence in the banking sector and how AI is changing the profile of banking

ARTIFICIAL INTELLIGENCE USED IN THE BANKING INDUSTRY

Artificial intelligence is being used in the banking industry to scale new heights in customer relationship management. AI's transformative impact has been profound since its advent, changing how enterprises, including those in the banking and finance sector, operate and deliver services to customers. The introduction of AI in banking apps and services has made the sector more customer-centric and technologically relevant. AI-based systems are now helping banks reduce costs by increasing productivity and making decisions based on information unfathomable to a human. Also, intelligent algorithms can spot fraudulent information in a matter of seconds.

This sector is implementing this from the ground level with a principal aim of climbing heights in customer-centric approaches. A significant part of the banking industry concerning its customers is customer relationship management, which includes communicating with them.Artificial intelligence (AI) technology is being used more and more by banks and other financial institutions for a variety of purposes, such as improving customer service through the use of virtual assistants or credit scoring to correctly determine a borrower's risk. But the battle against fraud and money laundering is one of the most significant applications of AI in banking sector.

The entirety of AI is supported by a series of vital and interconnected technologies centred on machine learning and natural language. Importantly, AI is about more than just improved innovation. It's not about faster processing, more informational indices, or even a large number of strictly implemented rules. These advancements have produced incredible results; but they are now executing old tasks better. One of AI's main strengths is its ability to respond probabilistically to legitimate sources of input. The four main AI applications today are Analytics, Chatbots, Robotic Process Automation (RPA), and Report Generation, which are based on the basic breakthroughs and applied in a banking setting. The outline beneath portrays the core AI connections between fundamental advances and banking applications, all of which depend on huge measures of information, AI's backbone.The banks can hardly wait to begin on their artificial intelligence venture since they should contend in a future loaded up with creative and pattern setting innovation.

Drive-thru Banking Service - If you use this service, the banking exchanges should be possible without getting out from the vehicle. There is a way where the client can share data through a window. In July 2018, Clinc, an Ann Arbor-based start-up that created voice controlled AI platforms for banking sector in the year of 2015, volunteered to help with a drive-through assembly. Its conversational AI development could understand orders even if people spoke with a heavy accent or had language barriers, and it could improve the dialogue.

Bank Stations - Artificial intelligence can be utilized at the front, centre, and administrative centres of banks. The bank stations are a collection of self-service terminals that provide customers with a wide range of important e-administrations, such as bill payments, government e-administrations, and so on

Passbook update kiosks – In recent years, the Indian banking sector has advanced from a people-headed to a machine-driven model. A passbook printing kiosk is a self-service machine that serving the clients. Banks named State Bank of India and BOB, have done an outstanding job of introducing this feature. They have introduced selfservice passbook counters, which allow consumers to print their own passbooks.

Cash Deposit Machines - Cash Deposit Machines are self-aid terminals that permit you to put aside a cash deposit at any time. This help takes out the need to stand by in huge lines at banks to deposit cash. Each completed transaction generates a receipt for the customer. This machine can also be used to make payments to various accounts.

ATM Machine Helpline - These aid customers in contacting their banking firm in the event of a crisis, and client services are also available at ATMs. In addition, AI has been shown in ATMs. The following are the fragments that have been offered. Machine learning in action includes AI for ATM security, machine vision ATM cameras, facial recognition for security and improved client experience, ATM machine care, and analysing ATM cash requests.

Mobile Banking - Mobile phones are becoming smarter all over the world. A major number of individuals are dedicated to mobile banking services, and that implies that versatile applications of banking appeal to them. Clients have promptly progressed to phone banking services. Having a personal attendant, regardless of whether it's Siri (Apple) or Alexa (Amazon) is delightful. Clients all across the world have praised it and expressed their delight with it.

Banking and Block chain Technology - A block chain is a distributed, decentralised, and sophisticated record. It is a database of digital data that is open to the public. AI is the cerebrum or motor that enables decision making and aids in data analysis. Block chain includes encoded information, and Artificial Intelligence is the intellect that enables directing and controlling and assists in data analysis. Block chain technology is beneficial to the digital currency sector; however this is not the case. Data security, fraud prevention, and other challenges associated with computerised transactions are addressed with block chain technology

APPLICATION OF ARTIFICIAL INTELLIGENCE IN STRATEGIC DECISION MAKING IN BANKING SECTOR

Important recent developments, such as demonetization and government reinforced efforts aimed at establishing digital India, have pushed economy in India to go cashless, but have also amassed a big amount of data in banks, needing quick, precise, and predictable record upkeep. Automation has been the backbone of modern banking since the 1990s, and the banking industry has long considered computers to be a vital part of its operations. Cash withdrawals, fund transfers, check book requests, and so on are examples. Because of critical changes in the economy, like expanded work volume, changes in purchaser inclinations, client mentalities, destinations, populace development, contenders, managerial essentials, and the need to have strong

admittance to the executives and a safe financial climate for trades, the financial area has started to utilize AI to digitise the dreary labour-intensive operations. As a result, traditional branch banking has been changed into internet banking.The objective of 'Advanced India' is to change India into a carefully empowered and informed economy. Technological advancements in computing, storage, mobile phones, and widespread usage of social media are assisting and supporting this movement. 'Digital India' aims to transform India into a digitally enabled and informed economy.

Organizations are heavily reliant on interconnection, computerization, machine learning, and continuing data processing in this era of change to combine actual creation/administrations with advanced innovations. This shift is referred to as Industry 4.0, or the fourth modern revolution. It is a perfect platform for integrating digitalized advancements, such as artificial intelligence, with banking duties, which provides Banks with significant opportunities for profit while also reducing reaction time for their customers. As a result, both customers and banks will become increasingly interested in using AI to enable more productive, rapid, and unbroken processes.

CONCLUSION

Artificial Intelligence (AI) has shown to be an important part of future success. When judged by current banking features, AI has improved its reputation, but these features have dominated today's actual banking reality. At this time, just a few banks have begun to use AI or have adapted to new technologies. Despite the fact that AI is still in its infancy, banks are moving away from traditional banking and toward comfort banking. The banking industry can benefit from artificial intelligence in a variety of ways. Through an app, banks and financial institutions may learn about their customers' habits and provide them with personalised information and a better experience. In India, banking services are considered standard and the country is eager to embrace AI technology. To hold on aware of the competition and to remain as an innovative organization, AI has become a critical device in the banking sector

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