

Reaping Benefits through Implementing “Artificial Intelligence” applications in Banking Sector

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Abstract

Implementation of Artificial intelligence (AI) applications in the Banking sector is accelerating rapidly, with the introduction of digital technologies. The rapid development of the banking sector in India and globally highlights the importance of the implementation of artificial intelligence technologies. Even though there are many challenges and bottlenecks still holding the implementation of AI technologies in the banking sector, these applications promise safer and more reliable alternatives than the conventional systems which are still in practice. These applications have gained importance due to the seamless experience they are providing to the customers when compared with conventional systems. This article highlights and discusses some of the benefits reaped through implementing artificial intelligence applications in the banking sector.

Keywords: Artificial Intelligence (AI), Banking Sector, Conventional systems.

Introduction

Artificial intelligence is a branch of science that aims to create intelligent machines or applications that can solve complex problems like human beings. These machines or applications are capable of performing tasks that require human intelligence by borrowing characteristics of human intelligence. AI applications are developed based on some of the following components of human intelligence:

- Learning and Reasoning.
- Perception
- Analysis
- Problem-solving etc.

These applications are also known as expert systems as their analysis is based on studying human behaviour such as how the human brain thinks, and solves an issue, and aids in the decision-making process.

This made artificial intelligence an essential part of many industries and the banking industry is one among them. Some of the important applications of AI are in Manufacturing robots, social media

monitoring and trend analysis, medical diagnosis, Automated financial investing, game playing, speech recognition, Smart assistants, online shopping, search engines and many more.

Need for the Study

Disruptive technologies are redefining almost all industries and changing the way businesses function. Every industry is assessing the options available to them and adapting to the new technologies which are driving the present-day business. The banking sector is one industry that is at the forefront of implementing the latest technologies witnessing rapid changes. This is due to the reason that it is customer-centric and also new tech-savvy generation customers. The development of internet and web technologies further created opportunities for the sector, and to cater to the new-age customers, there is a need for implementation of technologies such as Artificial Intelligence etc. This study concentrates on the benefits that the banking sector is going to obtain through the implementation of Artificial Intelligence.

Objective of the study

This paper aims to highlight the various benefits reaped by the banking industry through implementing artificial intelligence applications.

Limitations of the study

The present study is based on purely secondary data only which has been collected from various journals, research papers and websites. Many new technologies have been implemented in the banking sector, but this article has concentrated only on the applications of artificial intelligence technologies.

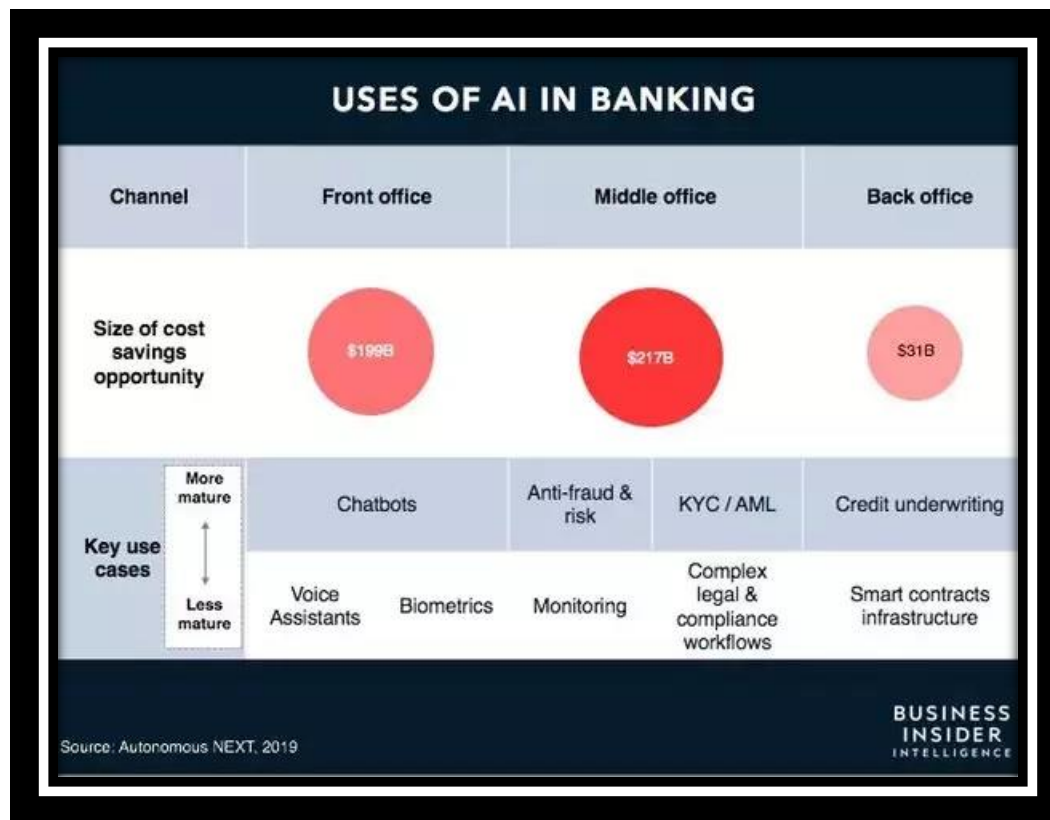
AI and Banking Sector

Artificial Intelligence has applications in many FinTech solutions. It is providing solutions to many challenges faced by businesses like customer experience personalization, brand and loyalty building, fraud prevention etc.

The banking industry has always been dynamic and is willing to invest a lot in new technologies for development. Therefore, there is no wonder that digital technologies, artificial intelligence and other new technologies are shaping the banking infrastructure these days.

The beginnings of AI in the banking industry started to improve the operation of banks through computers in the 1950s. The obvious reason for their introduction of them is the accountants wanted to use computers to make calculations much faster and more accurately than real people could.

With rapid innovations in the field of information technology, AI is present in every area of a bank's operations as well as various departments such as corporate affairs, human resource, marketing etc.



Banking Sector-Benefits Reaped through Artificial Intelligence

The following are some of the areas where the banking sector has got benefitted from the applications of Artificial Intelligence:

1. Improving sales and marketing process

Banks and other financial institutions can achieve improvement in their processes by improving sales and marketing processes. Artificial Intelligence applications improve these processes by the optimization of the operations of B2B and B2C sales. Artificial intelligence allows a bank to accurately reach the selected target group and personalize the messages for them. Segmentation of customers based on their requirements not only shortens the entire purchasing process but also affects the number of users of financial products. Indian banks, including state-owned SBI and Bank of Baroda, have started deploying artificial intelligence (AI) in a big way to improve efficiency, detect human behaviour and reduce operational costs. Private sector banks too are using the advanced innovative technology for improving workforce productivity and enhancing the customer experience. Supratim Chakraborty, Associate Partner, Khaitan & Co, said that given the immense competition in the banking sector, push for process-driven services and the demand from customers to provide more customized solutions, many banks are opting for technologies using AI.

2. Boosting revenue growth

Pricing optimization is a powerful lever for revenue growth, but it is very difficult for many firms to implement it. This is because traditional pricing optimization methods can be both complex to implement and limited in their ability to accurately capture the full range of factors that can impact pricing. Artificial intelligence can be an instrumental tool for increasing business revenue when leveraged correctly, and that applies to all sorts of businesses of any size. It upsurges revenue by identifying and maximizing sales opportunities.

AI applications are well-suited to pricing optimization problems, both for their ability to handle complex features, as well as their ability to generalize to various situations. These technologies also boost the revenue through shortening sales cycles, improving logistical performance etc.

3.Reduction of cost

The main objective of AI is to provide viable solutions by analyzing massive amounts of unstructured data. This reduces the cost of doing business. This is possible as there may be a chance of human error if the data has to be analyzed manually. Artificial intelligence improves efficiency and can help to minimize mistakes. It helps the banks to identify targeted customers proactively. Through actionable sales intelligence, banks and financial institutions can analyze a particular customer requirement in a better manner whether it is regarding a loan or deposit or any other transaction. Such strategies are helping the banking sector to make the entire process smooth and well planned. More transparency can be created while reducing the cost of complex business practices by implementing these applications.

4. Reduction of risk

Banks that have leveraged high on artificial intelligence technologies can anticipate and proactively manage risk better than their competitors. Today, the banking sector is leading other industries in the adoption of artificial intelligence, particularly for risk management functions. The field of risk management has gained importance since the global financial crisis, with banks, financial institutions, and regulators are focused on how risk can be detected, reported, and managed. Adding to this, by replacing human processes with AI-based technologies, banks can impose audit and regulatory control where they wanted to have such controls, and by replacing humans with intelligent, automated assistants, banks not only improve their risk management but they can improve their human resources on higher-value tasks, such as client relationship management and customer service.

5.Improving employee productivity

Artificial Intelligence can improve employee experience, productivity, morale, and motivate them by matching them to the right jobs. Nowadays, Human Resource managers are using AI-based technologies to assess job applicants' personalities and skills to match them to a position that best suits their capabilities. It also helps an employer to know whether a selected candidate is a right fit in the company culture, which benefits both the enterprise and the employee.

Digital personal assistants and chatbots which are applications of AI have revolutionized the customer care departments and business communication of the banking industry. From assisting people in

performing daily tasks to giving them a personalized experience, they have reduced the extra burden on employees.

6. Improving process efficiency

There will be pressure from regulatory bodies on banks and other financial services providers to comply with various regulations. Banks and financial firms are facing competition from fintech firms with new business models. Improved customer experience and operational efficiency is the only way the banking sector can compete with these fintech firms. Technologies such as Artificial Intelligence (AI) and Machine Learning (ML) etc. are enabling increased operational efficiency in business processes to address the needs of the banking sector.

AI streamlines the workflows. prioritize the end-to-end processes, Improve Technology Integration, and Improve Data Capture and Reporting which results in improving process efficiency. An example of quality service provided by these technologies is chatbots.

A chatbot or digital personal assistant is an AI software that allows users to communicate with a system interactively. Chatbots can chat with users in natural language using deep learning algorithms that translate conversations using a rule-based approach. In banking, chatbots create an interactive experience while reducing simple queries that a customer needs to refer to a human agent. A chatbot can operate 24 hours per day, 365 days, making it a highly efficient member of the workforce. The banking sector across various countries have implemented this chatbot technology and the Indian banking sector is not an exception. Many Public sector banks, as well as private banks, have introduced this technology.

For example, State Bank of India, India's largest lender, has SBI Intelligent Assistant (SIA) -- a smart chat assistant, evolved from the "cutting edge technology of artificial intelligence, that efficiently resolves queries of NRI customers, similar to that of a bank representative. It provides instant solutions on everyday banking queries in the chatbox on the SBI portal.

Another public sector bank, Bank of Baroda has evolved an innovative concept by setting up of hi-tech digital branch equipped with advanced gadgets like an artificial intelligence robot named Baroda Brainy and Digital Lab with free Wi-Fi services.

7. Enhanced security and data protection

In the Banking sector, there will be a huge amount of personal and confidential data which has to be safeguarded at any cost. Banks have a responsibility to keep their clients' money and personal information safe from all sorts of data mishandling and theft.

The digital age is prone to cybercriminals who operate remotely, making them hard to trace and punish. It has become inevitable for banks to enhance their security as much as they can, and Artificial Intelligence comes to their rescue.

AI-based systems are very difficult or nearly impossible to hack.

AI-enhanced security measures can also help prevent fraud as they enable bank systems to flag suspicious transactions before they are completed.

Biometrics such as fingerprints, iris, and voice recognition are now prevalent within banking for better security. Biometric characteristics are nearly impossible to forge, making them the perfect replacement for traditional banking passwords and PINs. Caixa Bank in Spain claims to be the first to allow customers to withdraw money from an ATM using facial recognition.

9.Data Management and Business Analytics

Artificial Intelligence technology works on the principle of data collection and analysis. AI systemssuccess depends on better data sets. A mobile banking app bundled with AI-based technology can collect all the relevant and useful data of the customers to improvise the learning process about them and enhance the overall experience to the customers. After collecting, accumulating and analyzing the data, the mobile application can be made more personalized.

the expenditure pattern of the customers can be easily understood from the data obtained from their financial transactions. This enables the bank to come up with a customized investment plan accordingly and also assist the customers in the process. Banks can even send advice regarding their expenses and help them in budgeting.

9. Personalized and enhanced customer services

AI is also able to carry out a detailed analysis of client decisions, which makes it offer only exact or related products that a given person needs. It creates recommendation models which are robust in nature. Banks will be in a position to deliver meaningful and personalized experiences by using their strong database and everyday customer touchpoints created through these models. These recommendation models created for banks are much more complicated than those used in typical e-commerce.

The Boston Consulting Group has estimated that only by personalizing customer interactions, a bank can garner up to \$300 million in revenue growth for every \$100 billion it has in assets. (<https://www.bcg.com/publications/2019/what-does-personalization-banking-really-mean>)

Conclusion

Globally banking sector is influenced by disruptive technologies and given the challenges, the sector is investing a lot in various digital technologies. Many banks worldwide and also the Indian banking industry is undergoing tremendous changes by adopting technologies like artificial intelligence. Implementation of these technologies will shape the future of the banking sector. With the introduction of AI, the banking sector can detect human behaviour, increase efficiency in automated processes and reduce the cost of operations. AI technologies are sure to improve the banking sector in terms of customer retention, satisfaction, revenue creation, and revenue generation, and also in many other aspects. Therefore, it is inevitable for the banking sector to implement AI technologies for its' development and survival.

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