How Artificial Intelligence Is Changing The Banking Sector –A Case Study of top four Commercial Indian Banks

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Abstract

Technology has changed the businesses are done and over the last couple of years.Sector-wise, technology is riding the horse of fortune and guiding companies to prolific growth, with ease. There is a growing need to use Artificial Intelligence (AI) and the Indian banking Sector is gradually shifting itself towards using AI. If one talks about the banking sector, the adoption has been gradual, when compared to other sectors. This can be due to the fact that banking is still a manpower-led sector, with operations that require human involvement .Yet the Indian Banking sector understands the need to cut down cost and the expenditure on redundant tasks. The Indian banking sector is exploring the ways by which it can harness the power of AI to improve the processes and enhance the Customer Service in the long run. The paper seeks to explore the areas where the AI is being used in the Banking Sector and its implication in the top banks in India.

Key words : Artificial Intelligence, Customer Service.

Introduction

Societies are on the verge of deep transformation due to IT developments in social networks, communications, artificial intelligence, and big data analytics. Understanding banking in these fluctuating times is a challenge. Banks today can't afford to be complacent. They need to constantly reevaluate their competitive advantages in light of profound changes driven by advances in information technology (IT) and competitive pressures. In light of the statement understanding the need to shift the focus from the traditional systems where mostly humans did majority of the back end operations which was not just time consuming but also did not result in enhancing the customer experience. There is growing need to adopt AI as it is not only able to retain clients, but also improves the processes and personalize the customer's

experience. Artificial Intelligence could be the key to transforming many of these crucial customer facing processes and retaining the competitive edge.

Artificial Intelligence (AI) has been around for decades, ever since John McCarthy defined it as "the science and engineering of making intelligent machines". But it is only lately that AI technology has undergone rapid evolution and raised significant interest among the Banking Sector. Artificial Intelligence is the theory and development of computer systems which are able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.

The Indian banking sector is beginning to adopt artificial intelligence (AI), quite aggressively. As per a PwC FinTech Trends Report (India) 2017, in the past year, global investment in AI applications touched $5.1 billion, up from $4.0 billion in 2015.

Objective of the study

1) To study the areas where the artificial intelligence is being used by the banks.
2) To study about the application of Artificial intelligence in Banking Sector .
3) To study about the applications of AI in use in the leading commercial banks in India: State Bank of India, HDFC, ICICI and Axis.

Research Methodology

The research is descriptive by nature, a qualitative method of data collection and analysis seems relevant and the data collected has been collected from authentic and reliable sources. The research focuses on Artificial Intelligence being used by banks ,its application in the Indian Banking Sector taking cue from the top four commercial banks of India. Descriptive research was conducted to know importance of using Artificial Intelligence especially in the Banks to reduce the dependency on the human element also to understand what can be the possible implications of the use of artificial intelligence.

Findings of the Study

Following are some of the areas of Artificial Intelligence can be used in banking sector

1) **Personalized Financial Services**

Personalized connect will reach new heights as automated financial advisors and planners provide expertise in making financial decisions. They analyze market temperament against the user's financial goals and personal portfolio, and offer recommendation regarding stocks and bonds.

2) **Smart Wallets**

Digital wallets are touted as the future of real-world payment technologies, with major players like Google, Apple, Paypal and others, jumping on the bandwagon and developing their own payment gateways. This decreases the dependence on physical cash, thereby expanding the reach of money to greater levels.

3) **Underwriting**

The insurance sector is also coming up with a storm as they are moving towards congruent automation. By utilizing AI systems that automate the underwriting process, the organizations come armed with more granular information to empower their decisions.

4) **Voice Assisted Banking**

Physical presence is slowly fading away as technology empowers customers to use banking services with voice commands and touch screens. The natural language technology can process queries to answer questions, find information, and connect users with various banking services. This reduces human error, systemizing the efficiency.

5) **Data-driven AI applications for lending decisions**

Applications embedded in end-user devices, personal robots, and financial institution servers are capable of analyzing a huge volume of data, providing customized financial advice, calculations and forecasts. These applications can also develop financial plans and strategies through research, regarding various customized investment opportunities, loans, rates, fees, etc and track the progress.

6) **Customer support**

As speech processing and natural language processing technologies mature, we are drawing closer to the day, when computers could handle most customer service queries. This would mark an end to waiting in line and hence result in happier customers.

7) **Digitalization instead of branch lines**

Banking is a lengthy process, with past records of long queues and sluggish response marring the productivity. Even opening a bank account was viewed in negative terms as harried consumers would run pillar to post, while getting the necessary documentation complete. Digitization of documentation eases that pain and creates a comprehensive platform, where the consumers and providers connect.

8) **Blockchain hastening payments**

The customer base that banks serve is going through a major shift in terms of buying behaviors and preferences, driven by the digital revolution, particularly social media and mobile. An increased demand for more choice and control in how they interact with a bank is on a rise. Sluggish payment processes will be a thing of the past as Blockchain is set to inculcate the advantage of real-time payment process, hastening up the procedure of payment, thereby increasing support and satisfaction.

AI applications within banking sector include the following:

- **Fraud detection**: AI has the ability to identify fraudulent activity in the real time behavior i.e. while it is happening, as well as identify what the next pattern of suspicious behavior will be by using location services.
- **Meeting regulatory requirements**: Technology can be used to ensure that regulatory requirements are met and that data is kept with monitoring done on a real-time basis. This can ensure that the regulations are followed in the spirit
- **Lowering costs and increasing revenue**: AI can offer the 's biggest opportunity by automating the frontline, by engaging with customers in a more automated and intelligent way offers significant cost savings, with the risk being spread over millions of customer interactions.
- **Improving the customer experience**: AI provides the opportunity for improved and faster decision making by deriving deep and actionable insights (e.g. customer behavior

patterns). Some of these interactions will be with new voice or chatbot technology while other applications will be behind the scenes, supporting marketing communication.

- **Boost customer engagement**: Artificial intelligence will assist in the creation of customized and intelligent products and services, with new features, more intuitive interactions (e.g. speech) and advisory skills (e.g. personal financial management).

Some of the AI applications in use in the leading commercial banks in India: State Bank of India, HDFC, ICICI and Axis:

- **State Bank of India (SBI)**

SBI the largest public-sector bank with 420 million customers has embarked on using AI by launching "Code For Bank " for focusing on technologies such as predictive analytics, fintech/ block chain, digital payments, IoT, AI, machine learning, BOTS and robotic process automation. SBI has also launched SIA, an AI-powered chat assistant that addresses customer enquiries instantly and helps them with everyday banking tasks just like a bank representative .

- **HDFC Bank**

HDFC Bank has developed an AI-based chatbot, "Eva", (which stands Electronic Virtual Assistant) Eva can assimilate knowledge from thousands of sources and provide simple answers in less than 0.4 seconds. By using Eva a customers can get information on its products and services instantaneously. It removes the need to search, browse or call. HDFC is also experimenting with in-store robotic applications. HDFC's IRA (stands for "Intelligent Robotic Assistant") robot

- **ICICI Bank**

ICICI Bank, India's second-largest private sector bank has deployed a software robotics (robotic software) a kind of software generally focused on automating office work . The bank is the first in the country to deploy the technology, which emulates human actions to automate and perform repetitive, high-volume and time-consuming business tasks. It has also enabled the bank's employees to focus more on value-added and customer-related functions. ICICI Bank has also launched a AI-based chatbot, named iPal(chatbot) which has interacted with 3.1 million customers, has answered about 6 million queries, with a 90 percent accuracy rate .The bank is also considering the process of integrating iPal with existing voice assistants such as Cortana, Siri and Assistant.

- **Axis Bank**

Axis Bank, India's third-largest private sector bank, launched an AI & NLP (Natural Language Processing) enabled app, Conversational Banking, to help consumers with financial and non-financial transactions, answer FAQs and get in touch with the bank for loan other products. Currently available on Face book and the Axis Bank website, it will soon be extended to mobile banking channels as well..

Conclusion

A digital boom is certainly taking place across all segments of industry especially banking, especially after demonetization .The traditional banking has evolved and more and more banks are adopting new technologies like AI, Cloud, block chain to cut down their operating expenses and improve efficiency. Though it is still in its nascent stage ,banks are still at cusp of an artificial intelligence revolution. Improvement and development in the AI industry, will increase productivity at a reduced cost. Managers across industries will have to raise their ante on skill-set up gradation.. There is no doubt that recent push towards digitalization is rapidly influencing the traditional banking models. However, it has also exposed the institutions to increasing cyber security threats and vulnerabilities. The banks are increasingly looking at emerging technologies such as blockchain and analytics in creating an active defense mechanism against cybercrimes.

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