

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/360782923>

A STUDY OF APPLICATIONS OF ARTIFICIAL INTELLIGENCE IN BANKING AND FINANCE SECTOR

Article in International Journal of Innovative Research in Science Engineering and Technology · May 2022

CITATIONS

0

READS

773

1 author:



[Lakshkaushik Dattatraya Puri](#)

Vinayakrao Patil College

10 PUBLICATIONS 2 CITATIONS

SEE PROFILE

A STUDY OF APPLICATIONS OF ARTIFICIAL INTELLIGENCE IN BANKING AND FINANCE SECTOR

Dr. Lakshkaushik Dattatraya Puri

Assistant Professor, Department of Commerce,
Vinayakrao Patil Mahavidyalay, Vaijaur, Dist .Aurangabad

ABSTRACT:

Artificial Intelligence (AI) is reckless growing as the go-to technology for companies across the world to personalize experience for individuals. The technology itself is getting enhanced and smarter day-by-day, allowing more and newer industries to adopt the AI for various applications. Banking sector is becoming one of the first adopters of AI. And just like other segments, banks are exploring and implementing the technology in various ways.

The rudimentary applications AI include bring smarter chat-bots for customer service, personalizing services for individuals, and even placing an AI robot for self-service at banks. Beyond these basic applications, banks can implement the technology for bringing in more efficiency to their back-office and even reduce fraud and security risks.

This paper focuses on the application of Artificial Intelligence in the banking sector.

Keywords: AI, Banking etc.

BACKGROUND:

The 2011 quiz competition called 'Jeopardy' in the US was unique. One of the 3 contestants was a different person. Surprisingly, the same 'person', won that prestigious competition. By the way, the other two players were not Lechepe. One of them had an unbroken tradition of being undefeated 72 times in a row, while the other had won the biggest prize ever. But the difference between the 'people' who loses these two giants is that he is not a human being, but a computer system. This system, called IBM Watson, defeated humans in its own competition. This phenomenon brought to light such an intelligent system used in computers, that is, the subject of artificial intelligence (AI) behind it.

If a computer system starts doing the work where human beings need special intelligence, it can be called 'artificial intelligence' (AI). Diagnosing scans like X-rays, translating, detecting fraud in many financial transactions, and playing chess are not easy. He needs great intelligence. The same work is now being done by such computer systems.

We live in the time where a lot of work is taken over by machines, software, and various automatic processes. In this regard, artificial intelligence has a special place in all the advancements made today. As the AI systems are used on a day-to-day basis in our life, it is not wrong to say that our lives have also become advanced with the use of this technology, like controlling the temperature of our room, getting answers for our doubts, for helping us to drive our car etc. AI powers product pricing on Amazon, movie recommendations on Netflix, predictive maintenance for machinery and fraud detection for your credit card. AI will do everything for you and as of now it is an added luxury to our lives.

OBJECTIVE OF THE STUDY:

- To understand the concept of Artificial Intelligence
- To know the applications of Artificial Intelligence in Banking Sector

REVIEW OF LITERATURE:

1. **Dr.C.Vijai** in his article explained that “how Artificial intelligence is changing business processes and customer-facing services in the banking sector in India. It is also being used to meet regulatory compliance, detect fraud, and assess individual creditworthiness. The application of AI has the potential to create more efficient business processes, offer personalized services, and assist in larger goals such as financial inclusion.”

2. **Margaret A. Boden** concluded in her research paper that some creative ideas have already been generated by AI-programs, though usually by merely exploratory (or combinational) procedures. Transformational AI-originality is only just beginning. The two major bottlenecks are:

- (1) domain-expertise, which is required for mapping the conceptual space that is to be explored and/or transformed; and
- (2) Valuation of the results, which is especially necessary-and especially difficult-for transformational programs.

METHODOLOGY:

The study is descriptive in nature and is based on secondary data. The data are collected from various reports, journals, news articles, various bank portals, and RBI portal and internet sources.

WHAT IS ARTIFICIAL INTELLIGENCE?

Artificial intelligence is an area of computer science focused on creating intelligent machines that function like humans. AI computers are designed to perform human functions including learning, decision making, planning, and speech recognition. In other words, artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction.

In a bank, artificial intelligence is used to manage transactions, invest in shares as well as manage assets. In August 2001, the robot lost man in an artificial buying and selling competition. In hospitals, artificial intelligence systems are used for scheduling of beds, changing the working hours of staff, and providing medical information.

THE FLOW IN ARTIFICIAL INTELLIGENCE:

There are two main currents in artificial intelligence. Conventional A.I. and Computational Intelligence.

Conventional artificial intelligence is divided into machine learning and statistics. This is also called symbol based, logical, neat A.I. and good old fashioned A.I. It involves for Expert system - This system draws conclusions using causality. This system concludes by analysing a huge amount of information. Case based reasoning. Basin network. Behaviour based intelligence - Departmental method of creating man-made artificial intelligence .allowing methods:

The computer intelligence method involves frequent sequential creation or learning. Education is based on assumed information and deals with non-symbolic, scruffy A.I. and soft computing.

Efforts are also underway to create a hybrid intelligence by combining these two main groups. The rules of proof can be made using highly specialized nerve networks or the rules of creation can be made using statistically trained systems. Artificial Intelligence Amplification This method suggests how artificial intelligence can be created from the effects of technology on enhancing human intelligence.

BANKING AND FINANCE:

Artificial intelligence (AI) is disrupting diverse industries, but banking is projected to benefit the most out of incorporating AI systems in the next couple of years. The banking industry has started to seriously consider artificial intelligence-based solutions for resolving many traditional banking problems. An AI system can examine millions and billions of data points, and find patterns and trends that people may miss, and even predict future patterns.

The need for AI powered solutions in Banking & Finance:

- a) Improve the ability to compete with the peers
- b) Increase the standing as an innovative company
- c) Identify opportunities in data that would be otherwise missed.
- d) Increase workforce productivity

MAJOR APPLICATIONS OF AI IN BANKING AND FINANCE:

Chat bots

It can act as an answering machine and serve the customers continuously throughout a day. It can answer the simple questions of the users of customized banking app and redirect them to the bank's website if necessary. Direct and basic operations including opening or closing the account, transfer of funds, etc. can be done with the help of chat bots.

Personalized Customer Service:

Banks are using AI to increase client satisfaction, improve efficiency and maintain customer loyalty in many ways. With AI in finance, it's possible to create intelligent products that can learn from the customer's financial data and determine what's working for them and what's not, and help them track their financial activities better.

Handle Risk Management:

While extending loans is a complex and critical process, it requires both accuracy and confidentiality. AI can combine & analyse the data related to the latest transactions, market trends, and the most recent financial activities to identify the potential risks in giving the loan. Banks can also get an idea of the client's behaviour with AI-based risk assessment process. AI can minimize the probability of error in identifying even the slightest probability of fraud.

Compliance & Fraud Detection:

With AI, it is possible to simulate umpteen situations where a fraud or cybercrime may occur. It follows a proactive approach to making the financial services' environment safe and breach-proof. AI is helping the field of finance to innovate freely by securing its products and services through a continuous understanding of human psychology. Besides, AI in finance also helps to keep a strict regulatory oversight. AI ensures that all policies, regulations, and security measures are being sincerely followed while designing and delivering any financial service.

AML Pattern Detection:

In most cases, money launderers hide their actions through a series of steps that make it look like money that came from illegal or unethical sources are earned legitimately. Most of the major banks across the globe are shifting from rule based software systems to artificial intelligence based systems which are more robust and intelligent to the anti-money laundering patterns. Over the coming years, these systems are only set to become more and more accurate and fast with the continuous innovations and improvements in the field of artificial intelligence.

Process Automation:

Process automation is one of the key drivers of automation in financial institutions. It's also evolving into cognitive process automation, where AI systems are able to perform more complex automation. AI in finance implies thorough research, understanding, and learning over long periods of time and vast volumes of data.

Cost Reduction:

AI in finance has automated processes and drastically reduced the cost of serving customers. While AI has, on one hand, reduced the cost of financial services, on the other, it has made financing extremely convenient to avail.

Voice Assisted Banking:

This technology empowers customers to use banking services with voice commands rather than a touch screen. The natural language technology can process queries to answer questions, find information, and connect users with various banking services.

Algorithmic Trading

Plenty of Hedge funds across the globe are using high end systems to deploy artificial intelligence models which learn by taking input from several sources of variation in financial markets and sentiments about the entity to make investment decisions on the fly. Reports claim that more than 70% of the trading today is actually carried out by automated artificial intelligence systems. Most of these hedge funds follow different strategies for making high frequency trades (HFTs) as soon as they identify a trading opportunity based on the inputs.

Predictive Analytics and wealth management for clients:

Many consumers want some help when it comes to personal finance advice. Consumers want to be warned and reminded of important information about their own financial data, not told about issues after the fact. AI engines can provide insights on how to best service their high-net-worth clients. By automating large parts of the wealth management process, they would be able to offer personalized, tax-optimized investments to clients, who have far less in investable assets than what would usually qualify for professional wealth management.

CONCLUSION:

Robust and rapid processing needs, advent of mobile technology, data availability, and proliferation of open-source software offer AI a huge scope in the banking sector. Though AI has been used in banking for decades, it remained unnoticed. In today's app-driven world, the banking sector eyes on leveraging with the help of mobile app development companies. In all these ways, AI in banking is continuing to transform the industry to provide a greater level of value to their customers, reduce risks, and increase opportunities as the financial engines of our modern economy.

REFERENCES:

1. Dr.C.Vijai, Artificial Intelligence In Indian Banking Sector: Challenges And Opportunities, International Journal of Advanced Research, Vol. 7(5),1581-1587
2. Margaret A. Boden, Creativity and Artificial Intelligence, Elsevier, Volume 103 , Issues1- 2, August 1998 , Page 347-356
3. <https://maharashtratimes.com/editorial>
4. <https://www.loksatta.com>
5. <https://mr.wikipedia.org/wiki>