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AI Based Discourse For Banking Industry

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. [4]

Keywords- AI, Banking etc.

Introduction

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. [4]

OBJECTIVE OF THE STUDY

- To understand the concept of Artificial Intelligence
- To know the applications of Artificial Intelligence in Banking Sector [4]

Literature survey

Customer service/engagement (Chatbot)- Chatbots deliver a very high ROI in cost savings, making them one of the most commonly used applications of AI across industries. Chatbots can effectively tackle most commonly accessed tasks, such as balance inquiry, accessing mini statements, fund transfers, etc. This helps reduce the load from other channels such as contact centres, internet banking, etc.

Robo Advice- Automated advice is one of the most controversial topics in the financial services space. A robo-advisor attempts to understand a customer's financial health by analyzing data shared by them, as well as their financial history. Based on this analysis and goals set by the client, the robo-advisor will be able to give appropriate

General Purpose / Predictive Analytics- One of AI's most common use cases includes general-purpose semantic and natural language applications and broadly applied predictive analytics. AI can detect specific patterns and correlations in the data, which legacy technology could not previously detect. These patterns could indicate untapped sales opportunities, cross-sell opportunities, or even metrics around operational data, leading to a direct revenue impact.

Cybersecurity-AI can significantly improve the effectiveness of cybersecurity systems by leveraging data from previous threats and learning the patterns and indicators that might seem unrelated to predict and prevent attacks. In addition to preventing external threats, AI can also monitor internal threats or breaches and suggest corrective actions, resulting in the prevention of data theft or abuse

Credit Scoring / Direct Lending-AI is instrumental in helping alternate lenders determine the creditworthiness of clients by analyzing data from a wide range of traditional and non-traditional data sources. This helps lenders develop innovative lending systems backed by a robust credit scoring model, even for those individuals or entities with limited credit history. Notable companies include Affirm and [GiniMachine](#). [3]

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.[4]

FEATURES	CHALEENGES
Banks that offer Internet banking are open for business transactions anywhere a client might be as long as there is an internet connection, Apart from the periods of website maintenance, The services are available 24 hours a day and 365 days around the year.	Customer service can be below the quality that you're used to, Some people take comfort in being able to talk to another human being face-to-face if they experience a problem, Although most major banks employ a dedicated customer service department specifically for online users, going through the dreaded telephone menu can still be quite irritating to many.
if the internetconnection is unavailable, The customer services are provided round the clock via the telephone, where the actual time account balances and the information are availed, This has tens banking processes hence increasing their efficiency and effectiveness.	Not all Online transactions are immediate, Online banking is subject to the same business day parameters as traditional banking, So, printing out and keeping the receipts is still very important, even when banking online.
Online banking allows automatic funding of accounts from long-established bank accounts via electronic funds transfers, and the client can monitor his spending via a virtual wallet through certain banks and the applications and enable the payments.	Identity theft is a significant concern but some online banks take this risk more seriously than others, Before opening an online account, thoroughly investigate the bank's security policies and protections to ensure they meet your expectations, Security is the biggest concern surrounding internet banks , with the consumers worrying that hackers will get into their account and spend their money.
The speed of transaction is faster relative to use of ATM's or the customary banking, Online banking allows easier updating and maintaining of direct accounts, The time for changing mailing address is greatly reduced, ordering of additional checks are availed and provision of actual time interest rates.	The production & maintenance of artificial intelligence requires high costs as they are very complex machines, AI consists of advanced software programs that require regular updates to meet the needs of the changing environment, In the case of critical failures, the procedure to reinstate the system and recover lost codes may require enormous time & cost.[2]
The accounts can be automatically funded from a traditional bank account via electronic transfer, Most direct banks offer unlimited transfers at no cost, including those destined for outside financial institutions, They will also accept the direct deposits and withdrawals that you authorize such as payroll deposits and automatic bill payment.	Although Artificial Intelligence can learn & improve, it still can't make judgment calls, Humans can take individual circumstances and judgment calls into account when making decisions, something that AI might never be able to do, Replacing adaptive human behavior with AI may cause irrational behavior within ecosystems of humans & things.
Online accounts are easy to set up and require no more information than a traditional bank account, Many offer options of inputting your data online or downloading the forms and mailing them in, If you run into a problem, you have the option of calling or emailing the bank directly, One advantage of using online checks is that the payee's information is retained, which eliminates having to reenter the information on the subsequent checks to the same payee.	Complex encryption software is used to protect the account information, There are no perfect systems, So, The accounts are prone to hacking attacks, phishing , malware & illegal activities, Online banking is generally secure but it isn't always secure, Identity theft is running rampant, and banks are by no means immune, and when your information is compromised, It can take months or even years to correct the damage, and it can cost you thousands of dollars.

It is available all the time, You can perform your tasks from anywhere and at any time, even in the night when the bank is closed or on holidays, The only thing you need to have is an active internet connection, It is fast and efficient, The funds get transferred from one account to the other very fast, and you can also manage several accounts easily through Internet banking .	AI can offer a lot of power to the few individuals who are controlling it, so, AI carries the risk and takes control away from humans while dehumanizing actions in several ways, Artificial Intelligence delivered to wrong hands can turn out to be a serious threat to humankind, If individuals start thinking destructively, they can generate havoc with these advanced machines.
You can control your transactions and the account balance all the time, This facility also keeps your account safe, You can monitor your account at any time, you can know about any fraudulent activity or threat to your account before it can pose your account to severe damage.[1]	Nowadays, there is an app for everything, This includes AI-powered real-time traffic updates through services such as Google Maps, Using location data collected from users smartphones, these apps can predict and analyze traffic conditions in your local area so as to better inform your travel plans, These apps may may soon face direct competition from autonomous vehicles themselves.[2]

Conclusion

Robust and rapid processing needs, advent of mobile technology, data availability, and proliferation of opensource 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. processes to fully realize the benefits that AI promises to deliver. Even so, technological advances could potentially outpace industry adoption, even as banks embrace an accelerated journey toward modernization. To successfully realize the benefits that AI can deliver in the future, banks must stay the course today, which, for some, can be easier said than done.[4]

Reference:

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