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ETHICAL ASPECTS OF ARTIFICIAL INTELLIGENCE IN BANKING

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Abstract

The following study aim to analyse the ethical concerns related to the use of Artificial Intelligence in banking. By using AI, many ethical issues were identified which includes the wrong credit scoring, sharing of wrong information, miss selling, and unauthorised trading in the banking. The AI applications and methods significantly changed and enhanced the entire financial and non-financial framework of the banking sectors but there is always a risk of the data losses which are associated with the artificial intelligence (AI). Due to the fact, that the new technologies can exploit threats in AI and machine learning systems. So, it can be recommended to establish a committee that will ensure ethical compliance and validate the human concerns regarding unsafe platforms. The organisation needs to think about preventing the potential harm caused by AI-assisted content creation. Hence, friendly, and ethical AI system is mandatory for the human existence.

Keywords: Artificial intelligence, Machines, Ethical concerns, Banks.

Introduction

Artificial intelligence (AI) is the case where machine/computer performed processes and task, which is generally perceive to be perform by Human being. Few examples of many are generalization, interpretation, reasoning, problem solving, learning from the past events or experiences. The first AI base program was developed by Christopher Strachey (1951), and in 1952 this program was capable with decent speed to play checker. Later on, he builds another program with an imaginary world where only eight shops, so when machine was instructed to purchase item, program check it in all of the shops until program find the same. On the second round when that item required machine directly go to that shop where machine found it earlier (same as human brain remember things from his past learning) (Copeland. B.J). In today's world humans have developed machines/computers based on AI technology which are capable of performing many jobs, examples of the few are Siri, Alexa & Cortona.

AI also play an important role in the development of financial institution, through the application of AL financial institution can increase its efficiency and improve its effectiveness. In financial institutions AI program can be utilize in number of different ways/activities, few of the them are, to predict ATM cash withdrawals requirement, identify frauds and predict its trend, find out anti money laundering activities, alert about future default, identify customer payment behaviour, risk management, chatbots, data collection and analysis, regulatory compliance and management, cybersecurity and many more.

Research problem of this paper is "Ethical concerns related to the use of Artificial Intelligence in banking."

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In financial institution, on one hand artificial intelligence improve turn around time, better predictions, quick decision making, better customer support, others but on the contrary with AI ethical issues are also evident. As we implement any solution there is always a probability to loss of data, compromise on customer personal information, wrong credit approval/rejection base on previous trend and many more. To handle these issues, first we have to understand possible ethical issues in any relevant solution and parallel with knowing, we also have to take good care that these issues will be minimize in implementing those solutions.

As humans do not always take logical decisions and at times humans take biased decisions. Same is the case with machines, previously machines have no decision-making capability but now after introduction of artificial intelligence (AI), machine can produce biased results. And if machines become biased then the probability of ethical issues and concerns will increase. If we talk about ethical issues of using artificial intelligence in banking (Liaqat et al., 2021), we encounter many ethical concerns such as miss selling, wrong credit scoring, unauthorize trading, wrong information sharing, manipulation etc. on one side artificial intelligence enhanced bank's potential to forward and receive data to take timely decisions. AI also complement and enhances automation and digitization in the banking industry and improve digital payments, bots, biometrics verifications, credit reports transformations etc. To establish standard first three ethical codes of conducts for machines were developed by Isaac Asimov (1942), in 1986 Isaac Asimov added one more code in the list. List of his four codes of conducts is listed below.

1. A robot may not injure a human being or, through inaction, allow a human being to be harmed;

2. A robot must obey the orders given it by human beings except where such orders would conflict with the first law;

3. A robot must protect its own existence as long as such protection does not conflict with the first or second law;

4. A robot may not harm humanity or, by inaction, allow humanity to suffer harm.

Covid has also played important role to bring the importance of AI in better and effective governance (The Economist). But when we review regulations, we found the significant concern over machine biasness and AI black box issue (human do not know the reason of the taken decision).

One former US secretary Henry Kissinger said 'We may have created a dominating technology in search of a guiding philosophy'

AI application in the financial industry may augment financial and non-financial risk and also augment consumer and investor protection issues (OECD 2021). Consumer and investor are always had high concern of their shared data, they have high concern of the linkages of their personal and professional information with third party. In the banking industry if customer want loans, they are not happy with banks to share their personal information with third party to verify addresses and shared information. Now banks are working to complete their verification process with machines, there are companies who offer such

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solutions that perform all verification with the help of machines, and the resultant may be consume in the credit decisioning process. Now the question arises as the AI model trained (with the passage of time) it started taking decision independently based on their past results, meaning the without sharing the reason of taken decision. To understand this case, here is an example, like if the specific area people started default on bank loans and AI based model learn this with the passage oof time, then going forward if someone applies from the same location his application scores go down or may the case be rejected based on past experience. Another example is like if people belong to specific segment of the society and their loan started performing bad so going onward if some one applies form the same segment of the society, AI base machine learning model lower his application scores just because that he or she belong to the specific segment of the society.

Literature Review

AI based system should be developed and deployed is such a way that it must not impact human autonomy and also must not harm and comply fairness in all manners. It I also recommended to establish a committee that will ensure ethical compliance (The Economist Intelligence Unit, 2020).

There must be some committee who is responsible to establish, monitor and compliance of ethical guidelines by machine. This is significant to establish standardization in AI base intelligent machine manufacturing. They believe that AI in banking industry is still is in infancy stage and the room for growth is enormous (The Economist Intelligence Unit, 2020).

It is also not sure what type of challenges AI may create in future (The Economist Intelligence Unit, 2020). AI base solutions are self-correcting models and they take decision as they learn with the passage of time. And that learning is not visible, meaning that for example if a transaction is approved or rejected base on self-learning AI model then how come we know what is the reason behind that decision. Therefore, if AI algorithm bias is there then banks may suffer financial loss and even bank's stability may be at stake (The Economist Intelligence Unit, 2020). Therefore, we have to instil such a process where we must see how AI base solution take decision, meaning that reason to accept or a reason to reject must be known.

There is also a potential risk associated with the use of AI, if customer data is lost then institution may lose their operational license (KPMG March 2019). If bank lose customer data, then there is a potential risk that regulator may penalise. Even like central bank do not allow to place customer data on cloud, banks are instructed to host all application in house so that customer data secrecy will be maintained. Institutions are working on automation and digitization to reduce operational cost and to optimize returns (KPMG March 2019). But the risk of customer secrecy is on stake, if the customer secrecy is compromise, then it will impact a lot on banks reputation.

According to (Copeland 2020) the definition of artificial intelligence, is the digital or computer-controlled program generally associated with intelligent being and the attributes associated with it such as the skill to find meaning, reasoning, or to learn from previous experience etc. In the banking industry we have a growing use of AI, and out of many we have digital financing scoring model. The model is supposed to score customer based on digitally available

information, this digital financing platform work on the basis of its previous learning, meaning that model trained itself. It is an auto corrective model, the model itself learn and grow. Predictability of the digital financing platform will increase with the passage of time as it learns bad and good decisions.

According to author, due to digital transformation and use of artificial intelligence (AI) cause lots of ethical issues. They also suggested to study AI socio impact to save any negative outcome. As AI system works alternative to human so it operates independent of human involvement and with the passage of time AI become more intelligent and take independent decision at their own. Apparently, AI is a rational decision-making system. But potential harm is always there, due to its use individual privacy is on risk with other related concerns such as legal and moral issues. An AI system which is based on strong moral will even pass human capabilities. An ethical and friendly AI system is mandatory for human existence. Asimov's laws for AI have played major role in building of machine ethics. An autonomous system must be banned and a meaningful human control should be in place to save human being due to machine ethical issue like the case of S model Tesla car road accident happened in 2016 killed man which he was not detecting till the last moment, initially it was detected as unknown, then vehicle, and then bicycle. People generally believe that machines are unbiased but in reality, researcher identified machine biasedness in decision making on the basis of age, gender bias in employment, race biasness in calculating creditworthiness etc. Researcher also pointed out that a decision which is made by machine and said that it is a black box took the decision which is unclear and even we don't know why this decision have been taken made problem with AI base solution (Gordon. J.S. & Nyholm. S 2021).

According to study, artificial intelligence (AI) is to create human mental qualities in machines. He also suggested that same as we human need ethics so that for machines we do also need machine ethics. Al or machine ethics are the method through which ai or machine interact with humans or machines. AI base researches have provided following benefit to the society in the form of providing solution to the field of medicine, engineering, geology, chemistry etc. AI can also see social, legal and moral behaviour objectively. AI base solution can also perform useful and repetitive tasks. He argued that strong artificial intelligence means a similar set of minds we human have thus it produces the same results. According to AI scientist, there is no difference between human mind and machine. Implicit ethical agent means the machine is program in such a manner that it would not misbehave or at-least machine is capable to avoid unethical behaviour. Whereas, in case of explicit ethical agent machine would be able to calculate the best possible action in line with ethics (Nath. R. & Sahu.V 2020).

Ethical Issues

Potential Harm

According to Winter and Carusi (2022), artificial intelligence has the potential to do a lot of good, but humans should be concerned about AI in the hands of bad actors. As technology advances, artificial intelligence (AI) has the potential to do significant harm if misused. Many businesses are already considering these issues and preparing for hostile AI attacks. New technologies can exploit threats in AI and machine learning systems. AI technology improves intelligence; it will be able to change the structure by making them more

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invisible, unpredictable in appearance, threats, sensitive to protocols and settings, and effective at finding and exploiting system flaws.

King et al. (2020) posited that artificial intelligence (AI) and digital transformation significantly harm the work alternatives and create issues as they operate and take the independent decision in the present decades. In addition, they also provide several benefits to human as it has the power to resolve ethical issues, but potential harm is always there. As Ashta et al. (2021) suggested, AI can be considered rational decision-making. It can validate the human concerns regarding unsafe platforms, which incorporate amplification, messages, and distorted data. Thus, it can be inferred that artificial intelligence (AI) plays a vital role in the entire structure but needs further improvement due to the criminals and terrorist attacks. Moreover, digital transformation and AI innovative systems are required for the existence of humans as they can give free rein to the system in a short amount of time.

The first and foremost potential harm of using an AI in banking sector is that, due to wrong outputs of data in previous archives the AI may produce wrong results and it may cost monetary loss to the banks. Secondly, implementing an AI system cut off the human employment by half or more which is a loss of society and eventually creating a big employment gap which would have harsh outcomes on the GDP of the country (King et al., 2021).

Risk of Malicious use

Also, machine learning service providers should be aware of their clients' identities, particularly those providing on-demand cloud-based services. Assume that malicious individuals used unsafe platforms to plan AI attacks or other operations. In such an event, states will begin to tighten and follow up on the culprits, implementing "Know Your Customer (KYC)" procedures the same way that financial institutions do. If such individuals do not want to be on the wrong side of the regulatory cycle, they must become wiser and ensure that their consumers are aware of their actions and who they are on their platforms. Therefore, it can be inferred that the malicious use of the AI system and machine learning services increases the risks of cyber-attacks and data hindrance if the individual cannot follow the proper procedures (Zhang et al., 2022).

Risk of Misinformation

Price Gerke and Cohen (2022) posited that AI systems have evolved to the unethical features of creating fake photographs, chats, videos, and other media types. Everything people see, hear, and read; she is viewed with scepticism. Bots are widely believed to have played a role in disseminating political disinformation during the 2016 US Presidential election. These fake profiles on social media sites contributed to misinformation on the internet, seeking voter misdirection and fanning the flames of polarisation. Hence, the fake chats and different types of misinformation on social media spread the risk and harm massive ethical compliances such as consumer data, data secrecy, and AI attacks.

Although AI system is hard to hack but in this technological advance era it is not possible. A data hack can cause a drawback for the whole banking sector that may take at-least a decade to overcome the impact of a data breach.

Seemingly, AI is fast for financial organizations but it is so much expensive and requires years to settle in, in a flawless manner (Ashta et al., 2021).

Limited Control over Content Generation

Bots, unlike humans, never get tired of working 24 hours a day and can produce a large amount of data in a short amount of time. When this news, whether actual or fake, is re-tweeted and re-tweeted by others, it swiftly spreads and becomes unstoppable. These bots are adept at disseminating fake or significantly distorted data, message amplification, and implanting thoughts and ideas in people's minds. Criminals and terrorists can employ fabricated pictures or audio messages to bring commercial or personal harm or disrupt state activities. All it takes now is a few malevolent actors circulating misleading accusations to traumatise public opinion and swiftly affect the public's attitude (Winter, and Carusi, 2022).

Businesses will need to think about preventing the potential harm caused by AI-assisted content creation. Most organisations and enterprises are advised to treat false information as a threat to security and respond appropriately. Uncertainty, propaganda, blackmail, hostile interference, and other forms of "information crime" can ruin systems just as electronic and physical attacks. The world is ready for AI to be unleashed on those who haven't been safeguarded. When it comes to controlling consumer content, corporations that freely sell it risk the same consequences as governments (Winter and Carusi, 2022).

Implementing an AI system in banking sector is rationale but not a milestone which can be achieved in days or months, it requires years to be settled in perfectly in the banking sector with precautious data inputs into the system. Operations of banking sector would be flawlessly faster but an error in already inputted data may cause devastating impact which may include loss of money to the banks and loss of confidential data (Zhang et al., 2022).

Conclusion

From the above study discussion, it can be inferred that artificial intelligence (AI) plays a vital role in producing biased results. In the banking industry, they improve automation and digitisation, digital payments, biometrics verifications, credit reports transformations, and bots. In addition, different AI application in financial firms enhance the financial and non-financial risk and verify and addresses personal shared information. In the banking sector, AI provides and offers such solutions and performs complete verification through machines, and the results may be consumed in the credit decisioning process. The above study discussion recommended that the organisations establish standardisation in AI base intelligent machine manufacturing so that it should not impact human autonomy and also must not harm and comply with fairness in all manners if the AI base model and algorithms system works alternative to human so it operates independently of human involvement with time.

Artificial intelligence (AI) has the potential to do significant harm if misapplied, so businesses must consider these issues and prepare according to them. Hence, there is a need for an ethical and friendly AI system mandatory for human existence. In the present decades, the AI-based solution can also perform valuable and repetitive tasks and provide several benefits to society by offering solutions regarding the issues such as engineering, medicine, and geology. The

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malicious use of the AI system and machine learning services increases the risks of cyber-attacks and data hindrance if the individual cannot follow the proper procedures. Moreover, social media's unethical features and different types of misinformation spread the risk and harm massive ethical compliances such as consumer data, data secrecy, and increased AI attacks.

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