

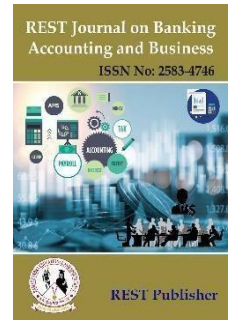


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Impact of Artificial Intelligence in Banking Sector

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Abstract: Artificial intelligence is known as “machine intelligence” is intelligence demonstrated by machine that differ from human intelligence. AI is term that is frequently used to characterise robots that are also associated with brain such” learning and problem solving”. Artificial intelligence in banking, enhance applications and it has ability to analyse data across multiple variables, fraud detection, customer relationship and many more. Artificial intelligence is the banking as it brings the power of advanced data analytics to combat fraudulent transactions and improve compliance. AI algorithm accomplishes anti money laundering activities in few seconds, otherwise take hours and days. AI also enables banks to manage huge volume of data at record speed to derive valuable insights from it. Features such as AI bots, Digital payment advisers and biometric fraud detection mechanism lead to higher quality of services to a wider customer base. All this translate to increased revenue, reduced cost and boost in profits. The future of artificial intelligence in banking and finance is promising yet plagued with uncertainties, despite the concerns, it is obvious that AI will play a more vital role in the sector, affecting the way users interact and maintain their financial stability AI system offer, anticipate execute personalized financial advice to customer, as well as acquire information on financial strategies lending rate and future market progress.

Keywords: Machine intelligence, Data interpretation, Fraud detection, Problem solving, digital marketing, Portfolio management.

1. INTRODUCTION

Artificial intelligence is transforming in the banking sector and leading it towards a new era of digitalisation it has the potential to make banking operations more efficient, secure, and personalised. In this blog, we will explore the impact of AI solutions in the banking sector, highlighting its benefits, applications and solutions and future prospectus. Artificial intelligence is an advanced technology which has positioned itself as one of the revolutionary technologies. As a result of increased adoption of new technical advancements, the artificial intelligence industry has grown at an unprecedented rate and is now being implemented in a wide variety of fields. Artificial intelligence systems have the potential to alter the banking industry whole operations and to enhance the banks performance. They are referred to as (AI) and are met with excitement owing their capacity to make human-like judgement and avoid human-like mistake. While artificial intelligence has been implemented more broadly in certain sectors than others, the banking industry is one of the few that has shown a reasonable degree of acceptance and implementation of this technology.

Evolution: While we have only recently witnessed the use of AI, its history can be traced back to the 1950s, when Alan Turing released a paper on the prospects of machines with real intelligence. Although Artificial Intelligence as a phrase was coined in the 1960s, no implementation of the case or the Artificial Intelligence approach was used until the late 1990s. The artificial Intelligence pace increased only after 2011 when major corporations such as Facebook, IBM, Microsoft, and Google began to invest in commercial applications using AI.

2. REASONS FOR ADOPTION OF AI IN THE BANKING SECTOR

There are several reasons why the banking sector has been increasingly adopting artificial intelligence (AI) technologies. Here are some of the key reasons:

Enhanced Customer Experience: AI-powered chat bots and virtual assistants can provide personalized customer support, address inquiries, and offer 24/7 assistance. These systems can handle routine tasks, such as balance inquiries, transaction history, and account management, allowing customers to access information quickly and conveniently.

Fraud Detection And Prevention: AI algorithms can analyse large volumes of transactional data in real time, identifying patterns and anomalies that may indicate fraudulent activity. This helps banks detect and prevent fraud more effectively, protecting customers and minimizing financial losses.

Risk Assessment and Credit Scoring: AI algorithms can analyze vast amounts of customer data, including financial history, credit scores, and online behavior, to assess creditworthiness accurately. This enables banks to make more informed decisions when granting loans or evaluating risk, leading to better credit management and reduced default rates.

Process Automation: AI technologies can automate manual and repetitive tasks within banking operations, such as data entry, document processing, and compliance checks. This improves efficiency, reduces costs, and frees up human employees to focus on more complex and strategic activities.

Personalized Financial Recommendations: By leveraging AI algorithms, banks can analyze customer data to offer tailored financial advice and product recommendations. This can include investment opportunities, personalized savings plans, or loan options that match specific customer needs, leading to improved customer satisfaction and engagement.

Advanced Data Analytics: AI can analyze vast amounts of structured and unstructured data, extracting valuable insights and identifying market trends. Banks can leverage this information to make data-driven decisions, refine business strategies, and develop innovative financial products and services.

Regulatory Compliance: AI technologies can assist banks in monitoring transactions, detecting money laundering activities, and ensuring compliance with regulatory frameworks. AI-powered systems can continuously analyze transactions and flag any suspicious activities, helping banks meet their legal obligations and reducing the risk of non-compliance.

Operational Efficiency: AI can optimize back-office processes, automate workflows, and improve operational efficiency across various banking functions. By streamlining processes, reducing errors, and increasing productivity, banks can achieve cost savings and provide faster and more reliable services to customers. It is important to note that while AI brings numerous benefits to the banking sector, ensuring data privacy, security, and ethical use of AI remains crucial. Banks must prioritize safeguarding customer information and implementing transparent and accountable AI systems.

3. REVIEW OF LITERATURE

EMMANUEL MOGAJI TAIWO O. SOCTAN TAIANH KIWU 2020: The impact of artificial intelligence is important for banking sector vulnerable customers. This paper examines impact of artificial intelligence in banking sector in relation to vulnerable customers. Highlighting the key implications in the collection, processing and delivery information, as well as the importance of human connection for optimal customers. This study provides a theoretical frame work to financial services providers, AI developers, markets, policy makers, and academics, aiding the understanding of the precarious conditions facing vulnerable customers, and the ways in which they can more effectively be reached.

MR. AMER AWAD ALZAIDI (2018) explained implementation of Artificial intelligence in banking sector and understand its impact. The data collected was also quantitatively analysed using SPSS21.0 software.

MR.C. VIJAY (2019) in his paper how Artificial Intelligence is used in the Indian banking sector, what are the benefits and what are the Challenges facing India 's Artificial Intelligence. Development that Artificial Intelligence offers to FinTech and the different ways in which it can improve the operations of an Indian banking sector.

(SONI, 2021)- This report will look at how Criminals are using numerous cyberspaces to promote criminality as information technology advances. The banking and financial industries are attempting to utilize artificial intelligence to combat cybercrime and cyber risks. AI approaches offer a variety of benefits to the banking sector, including increased prosperity and expansion. It is critical to maintaining transparency and explain ability in artificial intelligence to preserve trust. Artificial intelligence tools provide information on a customer's behaviour and interests. Artificial intelligence-based fraud detection systems help to prevent and identify cybercrime. Implementation, on the other hand, and Artificial intelligence requires a high level of maintenance. In addition, the unemployment rate has risen.

(KAYA, 2019)- Researched the environment where banking competition is becoming increasingly fierce thanks to data-driven financial services providers such as FinTech start-ups and large technology firms that are challenging traditional banking business models – banks' ability to quickly implement AI technologies could be critical to their survival.

(SMITH & NOBANE, 2018)- This report will look at how artificial intelligence has been implemented in the banking business. There have been many differing viewpoints on artificial intelligence (AI) and its ability to improve efficiency in a

variety of industries. It's no different in the banking industry. Artificial intelligence may also hurt the financial business, according to certain reports.

(SABHARWAL, 2014)- The major goal of this study work is to see if the selected Indian banks are employing Artificial Intelligence (AI) based technical applications, and if they are, what are the distinct goals for which they are using them. This was followed up with a structured interview of branch heads from the 16 scheduled banks in Meerut (U.P.). The researcher questioned the branch heads of chosen banks using a questionnaire and compared the responses to the ideal state using the GAP Analysis Worksheet.

(VIEIRA & SEHGAL, 2018)- Business intelligence will be transformed into a fully predictive probabilistic framework thanks to Artificial Intelligence (AI) algorithms. AI will be able to completely change the world or automate a variety of business tasks, such as pricing, budgeting, and so on. Detection of fraud and security This chapter will discuss some advanced strategies analytics and give some examples of how AI is assisting in the financial sector. Small company credit scoring is being refined, internet behaviour is being studied, and customer service is being improved. We'll also look at how traditional integration works.

(KAUR, 2020) - In this research paper author examine how Artificial intelligence is changing the banking sector -A case study of the top four Commercial Indian Banks (SBI, HDFC, ICICI, AXIS). Examine the areas where machine Intelligence is being introduced to banks and the main use of AI commercial banks in India. There is progress in traditional banking and gradually banks are using these new technologies such as AI, blockchain, cloud computing but banks are yet to reach the stage of the AI revolution, the human touch is still important. The Indian banking sector is exploring ways in which AI can be implemented that improve banking performance and improve customer service shortly.

OBJECTIVES:

- To investigate the impact of artificial intelligence on the expansion of the banking sector.
- To investigate how AI is transforming the view of modern banks.
- To foresee the future of AI in the banking sector.
- To provide better financial services through artificial intelligence a driven of financial sector.
- To study about positive and negative impact of artificial intelligence in banking sector.

4. RESEARCH METHODOLOGY

This study is of descriptive nature and tells about the meaning and reasons of artificial intelligence along with the impact of positive and negative impacts of artificial intelligence in banking sector. Hence, we make use of secondary data. The entire study is based only on observation and documentary analysis. The required and relevant secondary data are collected from various research papers, journals, and publications. Websites and many others. Some books have also have been referred for theoretical information on the topic is required.

Positive Impacts of Ai For Banking Sector: AI can help the bank understand the expenditure pattern of the customer, the bank can come up with a customized investment plan & assist the customers for budgeting, banks can send the notification about the advice for keeping a check on the expenses and investments based on the data, the transactional & other data sources can be tracked to help understand the customer's behaviour and preferences to improve their experience. Artificial intelligent can sift through massive amounts of data and identify patterns that might elude human observers, one area where this capacity is particularly relevant is in fraud prevention, Artificial intelligence and machine learning solutions are deployed by many financial service providers to detect fraud in real time AI has had several positive impacts on the banking sector. Here are some key benefits:

Improved Customer Experience: AI-powered chatbots and virtual assistants enable banks to provide personalized and timely customer support. These systems can handle customer inquiries, provide account information, and assist with transactions, enhancing overall customer experience and satisfaction.

Enhanced Fraud Detection and Prevention: AI algorithms can analyse large volumes of data in real time to identify patterns and anomalies associated with fraudulent activities. This helps banks detect and prevent fraud more effectively, protecting customers and minimizing financial losses.

Efficient Risk Management: AI enables banks to assess creditworthiness accurately by analysing extensive customer data. This helps in making informed decisions regarding loan approvals, risk mitigation, and credit scoring, leading to improved risk management practices.

Process Automation: AI technologies automate manual and repetitive tasks in banking operations, such as data entry, document processing, and compliance checks. This reduces human error, increases operational efficiency, and allows employees to focus on more complex tasks that require human expertise.

Personalized Financial Services: AI algorithms analyze customer data to offer personalized financial recommendations and tailored product offerings. Banks can provide customized investment options, savings plans, and loan packages, improving customer satisfaction and engagement.

Advanced Data Analytics: AI enables banks to analyze vast amounts of data, both structured and unstructured, to extract valuable insights and identify market trends. This helps in making data-driven decisions, developing targeted marketing campaigns, and creating innovative financial products and services.

Regulatory Compliance: AI technologies assist banks in monitoring transactions and ensuring compliance with regulatory frameworks. AI-powered systems can identify suspicious activities, detect money laundering patterns, and help banks meet their regulatory obligations effectively.

Cost Savings and Operational Efficiency: AI-driven automation reduces manual efforts and streamlines banking processes, resulting in cost savings and improved operational efficiency. This enables banks to optimize resource allocation, reduce processing time, and provide faster and more reliable services to customers.

5. NEGATIVE IMPACTS OF AI FOR BANKING SECTOR

While AI brings numerous benefits to the banking sector, there are also potential negative impacts that need to be considered. Here are some of the key concerns:

Job Displacement: The automation of routine tasks through AI may lead to the displacement of certain job roles within the banking sector. For example, chatbots and virtual assistants can replace some customer service positions, potentially resulting in job losses for human employees. However, it's worth noting that AI also creates new job opportunities in areas such as AI development, data analysis, and system maintenance.

Data Privacy and Security Risks: The increased reliance on AI technologies in banking requires handling vast amounts of customer data. This raises concerns about data privacy and security. Banks must ensure robust security measures to protect sensitive customer information from unauthorized access, breaches, and potential misuse.

Algorithmic Bias and Discrimination: AI algorithms learn from historical data, which may inadvertently reflect biases and discriminatory practices. If these biases exist in the training data, AI systems can perpetuate them, leading to unfair treatment of certain individuals or groups. Banks must be vigilant in monitoring and addressing algorithmic biases to ensure fair and ethical decision-making.

Technical Limitations and Errors: AI systems are not immune to errors or technical limitations. Incorrect data inputs or flawed algorithms can lead to inaccurate decisions or outcomes. Banks must invest in robust testing, validation, and monitoring processes to minimize the risk of AI-related errors and ensure the reliability of AI systems.

Dependency on Technology: Overreliance on AI technology can create vulnerabilities in the banking sector. Technical failures, system downtime, or cyber-attacks can disrupt banking operations, potentially impacting customer service and causing financial losses. Banks should have contingency plans and robust backup systems in place to mitigate such risks.

Lack of Human Interaction: While AI can enhance customer experiences and provide efficient services, some customers may still prefer human interaction for certain complex or sensitive matters. Overreliance on AI technologies without offering human alternatives might result in dissatisfaction among customers who value personalized human assistance.

Ethical Concerns: AI applications in banking raise ethical considerations, such as transparency, accountability, and fairness. The decision-making processes of AI algorithms may be perceived as opaque or difficult to understand, making it challenging to hold them accountable for their actions. Banks must prioritize ethical considerations and establish transparent and explainable AI systems.

6. CONCLUSIONS

The world of banking is shifting faster than ever, with Artificial Intelligence (AI) leading the way in bringing in sea change in the banking industry. Various AI technologies have been applied in banking in fields such as core banking,

operational performance, customer support and analytics. For AI, banking is no longer just physical branches, but a brand-new world of modern banks. The introduction of new banking services by modern day banks is helping them to grow and expand. Technology is enabling increased penetration of the banking system, increased cost effectiveness and is making small value transactions possible. Effective use of technology has a multiplier effect on growth and development of banks. Hence with the introduction of artificial intelligence, more customers are attracted, and it is helping the banks to grow more. Banks can apply AI to improve the client experience by empowering frictionless, round the clock client association - however AI in banking applications isn't simply restricted to retail banking services. Overall, AI has positively impacted the banking sector by enhancing customer experience, improving fraud detection, enabling efficient risk management, automating processes, offering personalized services, facilitating advanced data analytics, ensuring regulatory compliance, and driving cost savings. It is important to recognize these potential negative impacts and actively address them through responsible AI implementation, robust governance frameworks, and ongoing monitoring and evaluation processes. Striking a balance between the benefits of AI and the mitigation of potential risks is crucial for the sustainable adoption of AI in the banking sector.

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