

## IMPACT OF ARTIFICIAL INTELLIGENCE IN BANKING SECTOR

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### Abstract

A prelude to the revolutionary upheaval currently impacting the banking industry is an increased focus on consumers. Customers who regularly use and are accustomed to using cutting-edge technology want banks to make simple interactions easy. In order to address these expectations, banks have broadened their industrial landscape to include retail, IT, and telecommunications with services like mobile banking, e-banking, and real-time money transfers. Even while these advancements have made it feasible for customers to access the bulk of financial services whenever they want, the banking sector has paid a price for them. In the Indian finance sector, the paper explores the benefits and drawbacks of artificial intelligence. All necessary material was gathered from a variety of publications and published works because this investigation is descriptive in character.

**Keywords:** tech-savvy customers, customer-centricity, electronic banking, real-time money transfers, and mobile banking.

### I. INTRODUCTION

Each economic sector is analyzing its options and putting new value-creation techniques into practice in a world where technology rules. The banking sector is undergoing significant change, most notably a stronger focus on the customer. Customers that regularly use and comprehend cutting-edge technology expect banks to provide flawless services. Banks have expanded into retail, information technology, and telecommunications to fulfill these demands, making it possible for services like real-time

money transfers and mobile banking. Although the banking sector has paid a price as a result of these improvements, the bulk of financial services are now available to clients whenever and wherever they choose. The advantages and disadvantages of artificial intelligence in the Indian banking industry are also highlighted in this paper.

Dr. Monica Sharma (2020)[1] detailed the evolution of AI deployments in the Indian financial sector in her research paper. Her entire thesis focused on how artificial intelligence (AI) has changed banking and how it has an impact on human authority. Mr. C. Vijay[2] examines the advantages and difficulties of implementing artificial intelligence in the Indian banking sector in his article from 2019. The different ways that developments in artificial intelligence-based financial technology could enhance Indian financial operations are highlighted. The effects of applying artificial intelligence in the finance sector were examined by AmerAwadAlzaidi (2018)[3].

### II. PURPOSES OF THE RESEARCH

- To comprehend the function of artificial intelligence.
- Study how artificial intelligence is being used in the financial industry.
- To examine the potential positive and negative effects of artificial intelligence on the finance sector.

### THE THIRD PART : RESEARCH METHODS

The importance of artificial intelligence, its guiding principles, and its possible benefits and drawbacks for Indian banking are all discussed in this paper. As a result, it makes use of secondary data. In this inquiry, observation and document analysis were the sole techniques used. Secondary data that is crucial and pertinent is also gathered from a range

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of research papers, journals, magazines, websites, and other sources. Literature references were also used to provide theoretical information on the subject.

## **FINDINGS**

Artificial intelligence applications in the financial sector  
Artificial intelligence applications have both beneficial and bad consequences on the financial services sector.

Artificial intelligence (AI) establishes the foundation for replicating human intelligence by creating and implementing algorithms that are integrated into a dynamic computing environment[4]. The goal of artificial intelligence (AI) is to accurately imitate human thought and behavior in robots. This depends on the following three components:

Administration of information and data, state-of-the-art AI methods, and computerized systems

More data and computational power are needed when a more human-like outcome is desired.

## **III. AI'S BENEFITS FOR THE FINANCIAL SECTOR**

Understanding a customer's spending patterns, creating a personalized investment strategy, helping consumers create budgets, sending alerts with data-driven advice on how to manage spending and investments, and keeping an eye on transactional and other data sources are all possible with artificial intelligence. Huge volumes of data can be examined by artificial intelligence to find patterns that human observers would miss. This ability is necessary for a number of jobs, including guarding against deception. To identify true fraud, several financial service providers use machine learning and artificial intelligence algorithms[5].

### **Improving the capabilities of online and mobile banking:**

Online and mobile banking is becoming more and more popular as a 24/7 transactional tool. Banks may now gather customer information with the use of AI, including entire

demographics, website analytics, and online and offline transaction histories.

### **Methodology for assessing risk:**

Artificial intelligence (AI) has the potential to manage and streamline this process by analyzing key facts about a possible borrower. Artificial intelligence may be able to recognize possible credit risk by combining and analyzing data relevant to current financial activity, market patterns, and transactions. The evaluation of credit risk calls for accuracy and discretion. It is a challenging but necessary process.

### **Transactions that is quick and secure:**

Artificial intelligence is being developed to identify fraud in transactions based on a specified set of parameters, and any online transaction for a substantial sum of money from a client account with a history of minor transactions can be recognized right away. Artificial intelligence is based on a transactional behavior analysis and is made to identify questionable actions. Banks must be open for business in order to enable quick and secure transactions.

### **Protecting personal information:**

This application field has enormous potential for the banking and financial industries since AI-based fraud detection can resist such attempts. Artificial intelligence (AI) is essential for data security as cybercrime is on the rise. Mobile application development and security

### **Hedge fund traders and managers:**

Hedge fund management and trading may be done on the go with the use of AI-based mobile app solutions for the banking sector[6]. These tools give users the ability to employ AI models to examine a range of financial markets, get real-time data from a range of international financial marketplaces, and use AI to make quick judgments.

**Superior defense is offered:**

Banks and other financial institutions can use the application to understand client behavior and offer a tailored experience. Banks don't need to hire more people because they can run customer-focused operations effectively and cheaply. The financial sector can gain significantly from AI security.

**Assigning work to other people:**

The Bank has computer systems that carry out repetitive tasks, starting with those that automatically react to information requests from external auditors. Costs are decreased, reaction times are sped up, people are informed of the most recent regulatory developments, and the time needed to prepare reports is decreased when tasks are transferred from humans to AI.

**Customer satisfaction and staff effectiveness:**

Artificial intelligence increases employee efficiency and consumer satisfaction by giving customers personalized emails and other offers. boosts the production and earnings of sales agents With services like card management, bill payments, cash transfers, and other functions, AI improves accuracy and precision while raising client happiness. All of these chores are made simple by gadgets like desktop computers, mobile phones, and others[7].

**Detecting unauthorized transactions:**

Machine learning is utilized in the banking industry to lower operating costs and boost profitability. Both front- and back-office tasks are part of many institutions' activity in this subject. It is possible to stop a sizable fraction of fraudulent claims using machine learning algorithms, which can analyze thousands of data points in real-time and flag suspect or fraudulent activities.

**Increasing efficiency and accuracy:**

Based on the amount of initial margin reduction in the past under various conditions, a bank can decide the best

combination of first margin reduction transactions at a certain moment. Large data sets can be processed using artificial intelligence, which can also increase the accuracy, speed, and effectiveness of mathematical operations. a variety of unique professions.

**Improvements to customer service:**

According to a number of data points, customers favor self-service solutions that let them interact with virtual assistants in a way that is similar to that of real customer support representatives. Virtual assistants have already been included into voice response systems, chatbots, and mobile applications by the great majority of top financial institutions. Artificial intelligence (AI)-powered chatbots (virtual assistants) learn from every interaction with users[8]. They are able to continually adapt and learn more about their clients as a consequence. Virtual assistants can now provide better customer service because to AI. It also offers sentiment analysis, allowing a virtual assistant to recognize customers' rage and express it right away to a real person.

**Additional banking services:**

Artificial intelligence speeds banking processes and improves customer service. Banks are able to satisfy client expectations thanks to comprehensive digital support. Greater precision and precision are made possible by artificial intelligence. AI has the potential to greatly improve client satisfaction for your company in areas like money transfers, bill payments, card administration, and other support services. All of these responsibilities may be handled very easily by computers, mobile phones, and other portable devices.

**Fraud detection:**

The banking industry is having difficulty identifying and preventing fraud as a result of the sharp increase in bank fraud. Numerous institutions have made an effort to pinpoint the problems' underlying causes and workable solutions—and failed. However, investigators are helped in

their work by artificial intelligence since it makes it simpler to recognize components of fraud. Utilizes cutting-edge fraud protection strategies to increase financial security. Artificial intelligence is employed in the banking sector as a real-time fraud solution to handle complex scenarios and strategies. Artificial intelligence can spot fraud by using intricate data processing to identify unusual transactions. Additionally, it builds the user profile for the client, fostering a secure environment.

### **Advanced data analysis:**

Artificial intelligence's ability to boost productivity by successfully automating challenging jobs is one of its main benefits. AI can quickly process and comprehend enormous amounts of data at an accelerated rate by using a machine learning technique. Faster processing speeds improve the efficiency of financial services while also enabling the development of more specialized consumer offers. Moreover, AI moves more fast while also making decisions.

## **IV. AI'S IMPACTS ON THE BANKING SECTOR THAT ARE DEFECTIVE.**

A computer with artificial intelligence is very difficult to build and expensive to maintain. Artificial intelligence (AI) systems are made up of complex software programs that need to be updated frequently to keep up with the demands of a changing environment. The process of recovering the system and finding missing codes in the case of a catastrophic breakdown could be time-consuming and expensive.

### **Incorrect connections:**

AI has the capacity to develop and learn, but it is not yet capable of making judgments. AI may never be able to make decisions as humans can since they can take into account various circumstances and the requirement for judgment. Artificial intelligence could cause ecosystems of people and objects to behave irrationally if it substitutes adaptive processes.

**Power management:** One persistent worry is that AI will displace or topple people. Artificial intelligence has the potential to give a tiny group of people tremendous power. Since AI breaches human autonomy and dehumanizes behavior in multiple ways, it is dangerous.

### **Joblessness:**

If machines take the place of workers, the unemployment rate could drastically increase. Furthermore, when AI spreads, people will become totally dependent on it and lose their ability to think creatively. Socially, the topic of unemployment is awkward. Some people may act badly toward themselves when they are bored. No matter what sector it is used in, artificial intelligence has the potential to significantly raise the unemployment rate.

### **Ecosystems acting irrationally:**

Humans are able to take into account certain situations and exercise discretion when making decisions, in contrast to artificial intelligence (AI), which may get better with time. AI could cause illogical behavior in human ecosystems of people and things if it takes on the role of adaptive human behavior.

### **Risk Elements:**

If AI is misused, it can be dangerous to humanity since it includes risk, undercuts human control, and degrades behavior in many different ways. When AI is ruled by a select few people, it has tremendous power. If people start thinking destructively, they might seriously harm these sophisticated processors.

### **Employment Exchange:**

AI makes it possible for computers to replace workers, which could lead to high unemployment rates. Humans will become less creative and more dependent on robots when AI is used more widely. AI may raise unemployment, whether in the financial industry or another one, which can encourage negative behavior.

## V. CONCLUSION

By improving financial services, artificial intelligence is steadily growing the banking sector. Bank account administration and financial transactions are increasingly done online in these times of social exclusion and seclusion. Given these advantages, it's practically a given that most banks and financial institutions will use AI to improve customer service and keep a competitive edge. The machine learning algorithm does, however, have some shortcomings. His ability to make decisions could become a concern as he develops and learns more. Banks must use artificial intelligence to better serve their customers in light of the loss in human labor. According to our report, artificial intelligence is essential if the banking sector is to lessen its reliance on human labor.

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