# Ai Powered Banking: A Catalyst For Economic Growth In India

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Abstract

The application of artificial intelligence (AI) in the banking sector has emerged as a potential catalyst for economic growth in India. This research intends to investigate how AI-powered banks affects the economy of the country. The objectives of the study are to investigate the various applications of AI technology in the banking sector and to analyse its contribution to economic growth. Through a comprehensive literature review and analysis of relevant data, the study examines the implementation of AI in areas including management of risks, identifying fraudulent activities, and relationship building, and process automation. Additionally, the study evaluates the potential benefits of AI-powered banking, including improved efficiency, enhanced customer experience, and increased financial inclusion. The findings highlight the transformative potential of AI in driving economic growth in the Indian banking sector.

Keywords: AI technology, Banking sector, Economic growth, Chatbots, Data analytics, Process automation.

## 1.1 Introduction

In the present era, the world is undergoing a transformative phase driven by technological advancements. Information technology has played a significant role in bringing about technological changes across various sectors. Consequently, there is a growing demand for artificial intelligence (AI) in different industries. Let's begin by understanding the concept of artificial intelligence. According to **Latimore (2018)**, AI can be defined as the ability of a machine or computer to imitate and apply knowledge and skills from natural

sources. When a machine replicates human thinking and decision-making processes, it is referred to as artificial intelligence.

In recent times, the banking sector has also recognized the importance of artificial intelligence, as it offers a a competitive edge. Nevertheless, comparable with various sectors, the widespread use of artificial intelligence (AI) in the Indian banking industry has been sluggish, possibly due to the need for human involvement in banking operations. Nevertheless, there is a continuous requirement for AI in the banking sector, as it assists in customer retention, digital documentation, and the provision of real-time solutions through virtual assistance. Furthermore, In everyday business, businesses are using AI-based solutions for combating money laundering, fraud detection, and lending assessment.

According to **Latimore (2018),** Intelligent technology in accounting refers to software that can draw conclusions and take actions previously requiring direct human involvement. An online survey conducted by the National Business Research Institute in April-May 2016 involved 112 respondents and analyzed their views on artificial intelligence. The results revealed that 32 percent of the respondents confirmed using AI technologies, while 12 percent expressed concerns about the technology being relatively new and uncertain about its security, leading to their decision not to use AI. The paper also highlighted how the business sector's utilization of cognitive technologies may result in over $47 billion in income by 2020, with banking being the leading sector in this regard.

In a post written by **Maskey (2018)**, the founder of Fuse machines, on the Forbes website, it was discussed how artificial intelligence is benefiting financial institutions. The article emphasized that artificial intelligence is playing a crucial role in the growth of financial institutions, with estimates suggesting that AI could save the banking industry over $1 trillion by 2030. Furthermore, the article highlighted that the banking industry has begun leveraging artificial intelligence to address various traditional banking challenges.

Artificial Intelligence (AI) has a profound impact on the world, influencing various economic aspects and bringing both benefits and drawbacks. AI is being utilized to transform lives and become pervasive in economies, leading to a shift from shifting from labor-intensive to capital- and technology-intensive sectors will boost output and modernisation. According to **Somjai et al. (2020)**, the adoption of AI has an initial and subsequent positive impact on economic indicators, such as increasedcapital expenditures, economic production, capital come back and salaries for the staff force already in place. The continued implementation of AI will further assist the economy by leveraging predictive algorithms to enhance production efficiency and boost sales volume across different sectors.

It is crucial to remember, however, that a number of research efforts have shown how AI has a detrimental impact on job opportunities, including technical unemployment and displacement of labor. The effects on job opportunities may lead to wage inflation and unfairness, and a reduction in the tax base. Additionally, AI has the potential to disrupt the economy and affect global relations, potentially widening the gap between countries **(Szczepanski, 2019)**.

### 1.2 Methodology

**1.3** The study's scientific and descriptive approach is in line with its stated goal of "The basis of AI in Finance and its Contribution in Economic Expansion." Additional avenues are used to obtain data.

### 1.3 Result and Discussion

#### 1.3.1 AI: Application in Banking


**Figure: 1.1**

**Application of AI in banking and FinanceSources:** https://www.bing.com/images/blob?bcid=r02SDt8bVLAFUw

- **Identification of Fraudulent Transactions:**

The finance industry utilizes machine learning to reduce operational costs and increase profitability. Machine learning algorithms analyze real-time data points to identify and flag suspicious or fraudulent transactions, preventing fraudulent claims and enhancing security across multiple institutions.

- **Increase in Efficiency, Accuracy:**

Artificial intelligence boosts the efficiency, accuracy, and speed of mathematical calculations. With the ability to handle large volumes of data, banks can optimize their trades by finding the best combination of initial margin reduction based on historical data and specific trade combinations.

- **Better Customer Support:**

Shoppers appreciate self-service solutions that let them communicate with AI virtual assistants just as they would with actual customer support agents. The audio responses systems, smartphone apps, and internet chats of top banks already include AI-powered assistants. Every engagement with artificial intelligence is seen as an opportunity for education, enabling chatbots (virtual

assistants) to continuously improve their understanding of customers.

- **Hedge Fund Trading & Management:**

Hedge money buying and administration on the fly are made possible by AI-based mobile software technologies in the field of banking. These AI tools gather real-time data from various financial markets worldwide, enabling analysis and faster decision-making for clients.

- **High Security Offerings:**

AI enhances security measures in the banking sector. AI-powered mobile applications ensure quicker and more secure transactions, as they can identify individual behaviour and provide personalized experiences. This allows banks to manage customer-oriented operations efficiently while reducing the need for additional staff.

- **Employee Effectiveness & Customer Experience:**

Through targeted communications and individualized offers, smart technology increases staff performance and improves the consumer interaction, leading to increased sales and productivity for sales representatives. AI provides greater precision and accuracy in various operations such as money transfers, bill payments, and card management, thereby enriching consumer happiness. Computers, cellphones, and other portable computers may all be used to handle these tasks with ease.

### 1.3.2 AI and Economic Growth

Artificial Intelligence (AI) has the potential to significantly impact economic growth by driving innovation, productivity, and efficiency across various sectors. Here are some key points highlighting the participation of AI in economic growth:

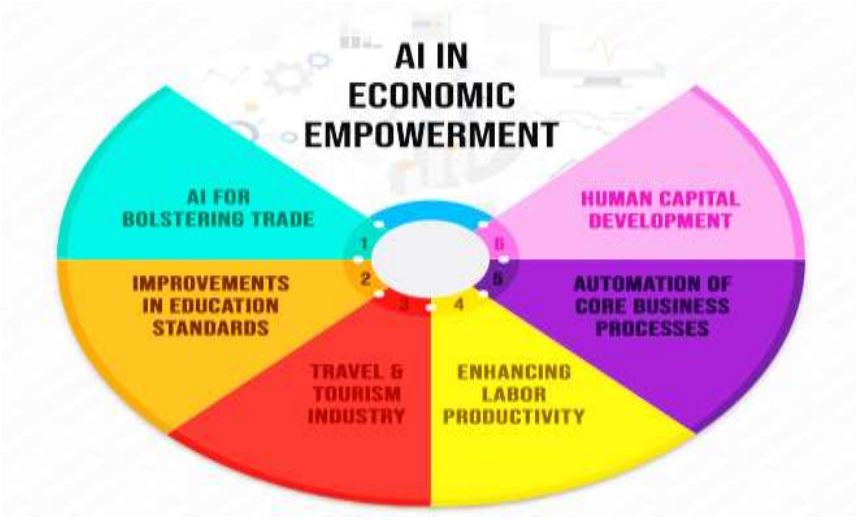


**Figure:1.2**

**AI in Economic Growth**

**Source:**https://aiworldschool.com/wp-content/uploads/2020/12/AI-in-economic-empowerment-Artboard4.jpg

- **AI promotes Labor Productivity**

Artificial intelligence (AI) has the potential to both enhance productivity and replace jobs, impacting various occupations. Singapore, known for attracting labor-intensive industries, focuses on providing education to equip its population with diverse skills **(Shaimerdenova & Zamor, 2017)**. Investments in machinery and equipment contribute to capital productivity and improve the quality of labor **(Korkmaz, 2017)**.

Investments in human capital and employment play a significant role in economic growth **(Maitra, 2016)**. Singapore prioritizes education and science and technology development to foster a knowledge-based economy. The study also highlights the causal impact of human capital investment and the labor force on economic growth in both developed and developing countries. Technological progress and productivity advancements are crucial drivers of economic growth, as observed in Japan.

- **AI promotes high-technology export**

Strong export growth, particularly in high-tech goods, is viewed as advantageous for economies regarding the creation of new capital, profitability, the shipment of capital products, and rivalry with foreign businesses. Several studies have established a positive relationship between high-tech exports and economic growth, emphasizing the role of technological transformation in driving real GDP growth. This connection has been observed in OECD countries and is expected to be a significant driver of economic growth in the Asia-Pacific region. Singapore, in particular, has demonstrated efficiency in utilizing R&D expenditures for knowledge generation, leading to its development as an industrial nation with a focus on high-tech industries. The efficient exploitation of domestic R&D is crucial for countries to harness technological advancements and propel their economies forward.

### 1.4 Conclusion

AI-powered banking in India has revealed the widespread application of AI technology in the sector and its significant contribution to economic growth. The study highlights the adoption of AI solutions such as chatbots, data analytics, and robotic process automation, which have revolutionized the banking industry by automating tasks, predicting customer behaviour, and improving decision-making processes. The findings indicate that AI-powered banking enhances operational efficiency, customer experiences, and financial inclusion. It is expected that the continued integration of AI technology in the banking sector will drive innovation, improve productivity, and contribute to the overall development of the Indian economy.

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