

# Awareness and Impact of Artificial Intelligence Technology in Banking: A Study Among Bank Employees in Changanacherry Municipality, Kerala, India

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## ABSTRACT

Artificial Intelligence (AI) is a rapidly evolving technology with widespread applications in various industries, including banking and finance. This research aims to explore the awareness and impact of AI technology in banking among bank employees in India. The study also investigates the influence of AI on the performance of banking functions. The research commences with an introduction to AI and its historical roots, dating back to 1956 when the concept was first introduced by John McCarthy and other experts. AI is defined as the ability of digital computers or computer-controlled robots to perform intelligent tasks such as reasoning, learning, and problem-solving. The integration of AI in banking has led to significant disruptions, making the sector more customer-centric and technologically relevant. The study mainly covers the awareness, importance, attitude of bank employees, challenges in implementing AI technology in banks. Training Programs are the main sources of awareness about AI technology used in banking. AI helps to reduce the complications of the banking work. Trust Deficit is a major challenge in implementing AI.

## 1. Introduction

Artificial Intelligence (AI) is an evolving technology in the world. The concept of artificial intelligence was first introduced in 1956 at a seminar in University of Dartmouth by John McCarthy and some experts. According to Britannica, Artificial Intelligence is “the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings such as the ability to reason, discover meaning, generalize, or learn from past experience”. It provides results that are extremely accurate, replacing and in some cases supplement human efforts. Nowadays, artificial intelligence technology has a wider in the area like agriculture, commerce, education, and service industries.

Artificial intelligence has emerged as a pivotal force driving transformation across numerous industries, notably banking and finance. The integration of AI into banking apps and services has not only fostered a more customer-centric approach but also heightened technological relevance within the sector. It provides a scope for continuous improvement. AI helps to improve work efficiency, reduce the chance of errors and improve the overall competitiveness of the industry. AI-powered solutions enable banks to enhance productivity significantly and make decisions based on information beyond the comprehension of a human agent, resulting in substantial cost reduction. Also, intelligent algorithms are able to spot fraudulent information in a matter of seconds. Operations of the organization changed drastically due to the introduction of AI.

In future years, it is going to acquire even the core activities of the organisation. The use of AI has shown ways to perform complex actions and perform activities like Even though the application is wider, still it can't be used in all activities AI technology can be used to perform repetitive tasks but still the decision making is done by the humans.

## 2. Experimental Methods or Methodology

The bank employees for the study was mainly selected from Changanacherry Municipality. Primary data has been collected using a sample survey. For this 200 questionnaires has been given to the bank employees. The data collected from the survey was analyzed with the help of SPSS software. Descriptive statistics were used to describe and summarize the data collected from the respondents. The common measures such as frequency, percentage, mean and standard deviation were used. As the study analyzed the awareness, importance, attitude and challenges of AI technology used in banking, the study measured these variables by using a five-point Likert scale. The Cronbach’s Alpha for awareness (0.778), importance (0.700), attitude (0.893) and challenges (0.762) are well above 0.7 the benchmark suggested by Nunnally (1978) reliability. It thus indicates that the measurement scales used for the construct of awareness, importance, attitude and challenges are reliable. Table 1 shows the Reliability statistics of measurement scales.

**Table 1 Reliability statistics of measurement scales**

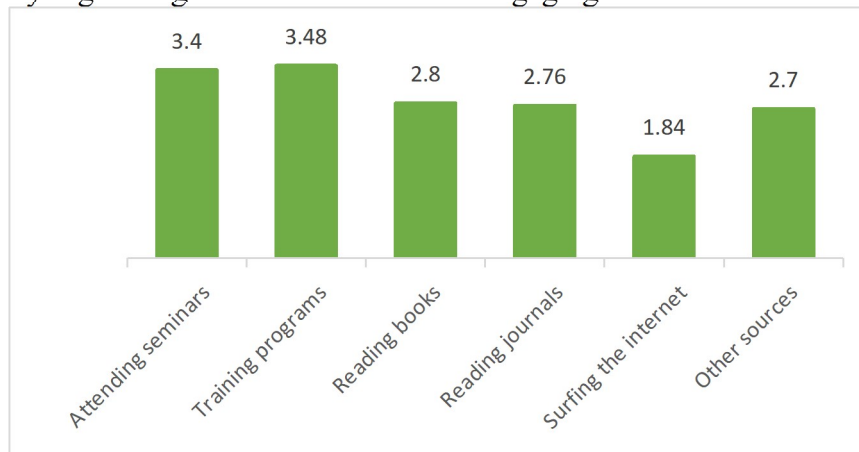
Scale	Cronbach’s Alpha
Source of Awareness	0.778
Importance	0.700
Attitude	0.893
Challenges	0.762

Fig. 1 displays the different sources of awareness, while Fig. 2 illustrates the significance of AI adoption. Employee attitudes towards AI are depicted in Fig. 3, and Fig. 4 outlines the challenges faced in implementing AI technology in the banking sector.

## 3. Results and Discussion

### 3.1 Source of Awareness

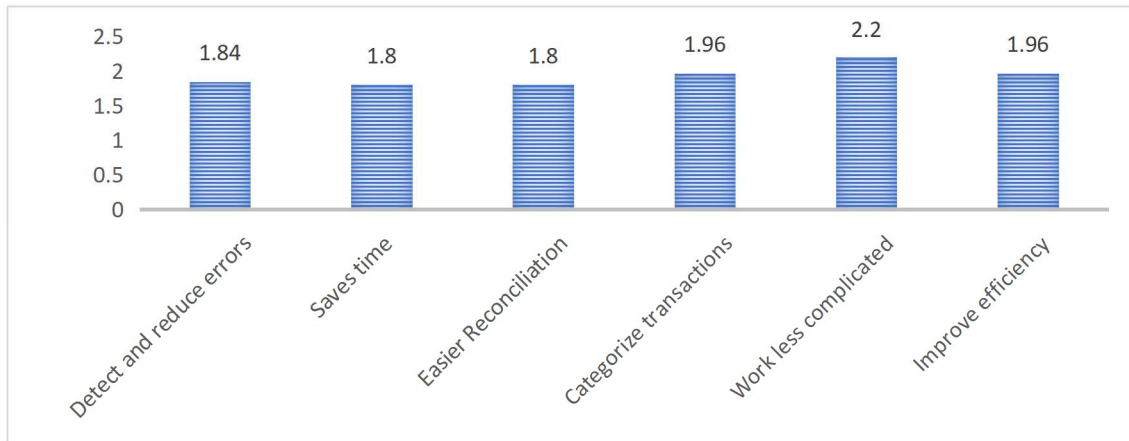
Fig. 1 displays the average values of different sources of awareness. Training programs are the main source of awareness about AI followed by Seminars. Internet is the least preferred source of awareness. Increase the focus on seminars and training programs as sources of awareness about AI technology in banking, as they have shown lower agreement rates compared to other sources. This can be achieved by organizing more informative and engaging events



**Fig. 1. Source of Awareness**

### 3.2 Significance of AI

Fig. 2 illustrates the average values of Significance of AI adoption such as Improve efficiency, Detecting and reduce errors, Saving time, Easier Reconciliation, Categorizing transactions and making work less complicated. The main importance is reducing the complication of the banking work. Emphasizing the role of AI technology in improving efficiency in banking operations, as this was identified as the most important aspect by the employees.



**Fig. 2. Significance of AI in Banking**

### 3.3 Attitudes of employees towards AI

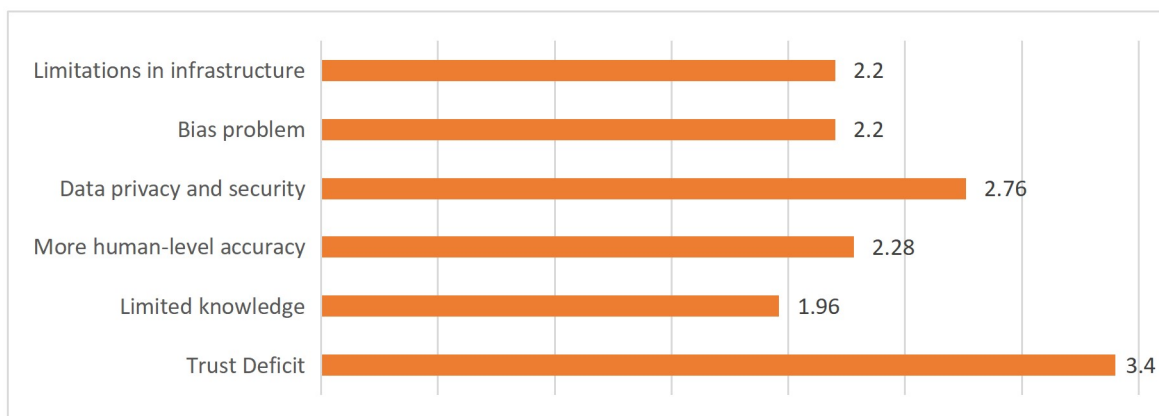
The average values of Employee’s attitudes towards AI are depicted in Fig. 3. A mixed opinion can be observed. Developing awareness campaigns helps to address the perception that AI technology leads to unemployment, highlighting the potential for AI to augment human capabilities and create new job opportunities.



**Fig. 3 Attitudes of employees towards AI**

### 3.4. Challenges faced in implementing AI technology

The average values of the challenges faced in the implementation are shown in Fig.4. Proper steps should be taken to acknowledge and address concerns related to data privacy and security in the implementation of AI technology in banking. Highlight measures taken to protect customer information and ensure compliance with regulations.



**Fig. 4. Challenges faced in implementing AI technology**

## CONCLUSION

Based on the findings of the study, it is evident that there is a considerable level of awareness about AI technology in banking among the surveyed respondents. However, certain gaps and challenges need to be addressed to fully leverage the potential of AI in the banking sector. Education and training play a crucial role in enhancing awareness and knowledge about AI. Offering specialized courses and workshops can further empower bank employees and equip them with the necessary skills to effectively utilize AI technology.

The bank employees think that AI technology will increase the total time in work completion. It is found that Trust deficit is a major challenge in implementing the AI technology in banking. It is also found that there is significant difference between work experience and awareness about AI technology used in banking. Efforts should be made to address concerns and misconceptions regarding AI technology, such as the fear of unemployment.

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