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# Impact of Artificial Intelligence (AI) In Banking Sector: A Customer Perspective

**Mansi Vora, Prof. Sneha Vadavi, Dr Samrat Ray**

ASBM Student, Alard University, Pune, India

Research Guide, ASBM, Alard University, Pune, India

Dean, School of Management, Alard University, Pune, India

**ABSTRACT:** Artificial intelligence (AI) is changing how clients interact with banks. AI-generated tools, such as chatbots, may detect fraud more quickly than human teams and respond to common questions in a matter of seconds. Artificial Intelligence (AI) has emerged as an essential tool in current banking, revolutionising the provision of services and the way clients engage with financial institutions. This study looks at how AI is affecting the banking industry from the viewpoint of the consumer, emphasising usage trends, happiness, trust, and the main obstacles to AI adoption. The research work is centred on secondary data from previously published works as well as analytical conclusions, such as driving power and dependence power analyses of the variables affecting the use of AI. The findings show that although consumers like the comfort, speed, and accessibility provided by AI tools like chatbots, several problems, including a lack of personalisation, a restricted capacity for problem-solving, and technical difficulties, significantly lower customer happiness and confidence. These fundamental issues act as significant obstacles to the broader use of AI services. Overall, AI has great potential to transform financial services, but its success depends on ongoing development that is in line with consumer expectations.

**KEYWORDS:** Artificial intelligence adoption, banking sector, customer comfort, digital transformation, chatbot services, customer trust, data privacy, financial services.

## I. INTRODUCTION

The banking sector has emerged as a leading implementer of artificial intelligence (AI) technology. The integration of AI within this field has particularly surged due to the rise of online banking and self-service branch systems. Modern banking has been greatly transformed by the power of artificial intelligence (AI). Today, banking transactions can be completed within seconds, making financial services faster and more efficient. AI also helps in several important areas such as fraud detection, quick balance updates, and instant investment decisions for the future. Although customers may not always realise it, AI plays a major role in providing the speed, security, and convenience they enjoy in everyday banking. In the ever-evolving landscape of banking and finance, the integration of artificial intelligence (AI) technology has emerged as a game-changer, revolutionising traditional practices and reshaping industry dynamics (Subburayan, Sankarkumar, Singh & Mushi, 2024)

### 1.1 Background

Artificial intelligence (AI) has emerged as a quiet but effective part of current banking. Many ordinary duties like fraud alerts, short stability updates, and immediate app pointers are powered via way of means of AI structures operating in the back of the scenes. Customers regularly revel in the velocity and convenience, although they'll no longer usually observe that AI is supporting them. Increase content material here.

### 1.2 Implications of AI banking in Real-Life

Consider a not-unusual place situation. A customer notices a suspicious transaction on their debit card.

- At one bank, they'll wait on keep for 15 minutes to speak to a human agent.
- At every other bank, an AI chatbot responds instantly, explains the transaction, allows locking the card, and reviews the issue. This short aid feels useful and impressive. But if the chatbot misunderstands the problems, which nevertheless happens, clients can also experience being stuck, misunderstood, or frustrated. These studies strongly form how clients view AI in banking.

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### 1.3 Problem statement

People's money, trust, and emotions are all involved in banking; even little AI mishaps can affect a customer's confidence. Understanding client concerns becomes crucial as AI systems take on more responsibilities, such as fraud detection, customer support, and tailored financial advice. Through speed, personalisation, and efficiency, AI may significantly improve the banking customer experience. However, for AI to actually improve banking relationships, consumer trust, privacy issues, and the need for human help must be addressed.

### 1.4 Purpose of the study

This study looks at how consumers view artificial intelligence in banking. It investigates what advantages consumers experience, what worries or dangers they are concerned about, the impact of AI on consumer trust how banks can safely employ AI while maintaining human-centred services Through speed, personalisation, and efficiency, AI may significantly improve the banking customer experience. However, for AI to actually improve banking relationships, consumer trust, privacy issues, and the need for human help must be addressed.

## II. LITERATURE REVIEW

(Gyau, 2024) This study aims to fill this gap by investigating how AI technology innovation influences the financial performance of banks across a diverse panel dataset encompassing 20 countries by utilising a novel variable for measuring banking AI technology innovation. By leveraging cross-country panel data analysis, the research seeks to provide empirical evidence on the pathways through which AI innovations enhance banks' operational efficiencies, risk management practices, and customer engagement strategies.

(Jain, 2024) The study examined a number of ways that AI technologies are changing conventional banking procedures and advancing financial services. Leading to faster opportunities for Banks as well as for the customer

(G, 2023) Artificial Intelligence (AI) is leading a transformation in the financial sector, which is changing more quickly than ever. Numerous AI technologies have been used in the banking industry in areas including analytics, customer service, operational performance, and core banking. AI views banking as a whole new universe that involves modern banks rather than simply physical locations. Today's banks are growing and expanding owing to a rise of new financial services.

(GHANDOUR, 2021) The whole banking industry has been impacted by a significant digital disruption brought on by AI technology in the 21st century. This is mainly due to the fact that AI solutions may assist financial organisations in innovating, making better judgments, and effectively and efficiently resolving complicated issues. Additionally, banks may utilise neural networks, machine learning, predictive analytics, and other AI technologies to generate more accurate forecasts and react correctly and quickly to new problems

(Noreen, 2023) The banking industry underwent a gradual transition. The banking industry had a significant transition from conventional banking in 1472 to AI-based banking starting in 2017. This movement will be more noticeable in areas such as core banking, operational performance, and customer service. This study aims to understand the challenges of integrating AI and the aspirations of customers about the deployment of AI in the banking sector. The main reason for this is that banking processes have been significantly restructured using AI, especially since the COVID-19 recovery.

(Polireddi, June, 2024) From Banking 1.0, which relies on conventional banking techniques, to Banking 4.0, which heavily utilises AI and incorporates cutting-edge technology everywhere, the banking sector has come a long way. In order to remain competitive and relevant, banks have been utilising cutting-edge technologies.

## III. OBJECTIVE OF THE STUDY

1. To study the impact of AI on customer satisfaction.
2. To study the relationship between loyalty & productivity on the application of AI.

**Hypothesis**

**$H_0$- AI has no significant impact on customer satisfaction**

**$H_1$ – AI has a significant impact on customer satisfaction**

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**$H_0$- AI has no significant impact on customer loyalty & productivity of the banking system**
**$H_1$ - AI has a significant impact on customer loyalty & productivity of the banking system**

## IV. SCOPE OF THE STUDY

The application of AI in retail banking, where clients deal directly with financial services, is the main emphasis of this study.

- AI products that consumers frequently use, such as chatbots, virtual assistants, automated help lines, and mobile banking recommendations, are included in the scope.
- AI solutions (fraud detection, automated loan processing, risk alerts) that have an indirect impact on the consumer experience.
- Customer opinions about convenience, privacy, ease of use, trust, and contentment.

## V. RESEARCH METHODOLOGY

This descriptive research explains artificial intelligence's definition, motivations, and both good and bad effects on the banking industry. We thus considered secondary data. The study's pure roots are observation and documentation analysis. Suitable as well as necessary secondary data is gathered.

From several studies, articles, and journals. websites and a lot more. While a basic understanding of the subject is needed, particular sources have also been acknowledged. (Bansal, 2024)

5.1 Research design
The researcher has applied the descriptive and analytical research design to explore the effects of artificial intelligence (AI) on the banking industry from the perspective of the client.

**Type of data used -**
Secondary information was gathered between the Time period 2024–2025

- Annual reports from banks
- Government and RBI data
- Journals, Case studies, and articles about AI in banking

The study "Analysis of barriers to AI banking chatbot adoption in India & offers values (Driving Power and Dependence Power) for twelve significant obstacles that users encounter while engaging with AI chatbots. Customer perceptions were compared with published findings, and supporting charts were made using this data.

5.2 Sampling Techniques

- Sampling Technique**:** Convenience Sampling
- Respondents**:** Active bank customers aged 18–45

5.3 Tools for Data Analysis
Microsoft Excel , Visual representation (bar charts, column charts),Charts of comparison , based on secondary data, Interpretation in graphic and tabular forms.

5.4 Data Used for Chart Formation
The research paper identified 12 key barriers affecting AI chatbot adoption in India.
Each barrier was assigned two variables:

- Driving Power – How strongly a barrier influences other barriers
- Dependence Power – How much a barrier is influenced by other barriers

Table No. 5.1 Identified 12 key barriers affecting AI chatbot adoption in India

| Barrier Code | Barrier Name | Driving Power | Dependence Power |
|---|---|---|---|
| B1 | Lack of trust | 1 | 1 |

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| | | | |
|---|---|---|---|
| B2 | Lack of awareness | 1 | 1 |
| B3 | Privacy concerns | 1 | 3 |
| B4 | Data security issues | 2 | 3 |
| B5 | Lack of transparency | 3 | 1 |
| B6 | Poor understanding of queries | 3 | 1 |
| B7 | Limited emotional intelligence | 1 | 6 |
| B8 | Technical issues | 4 | 6 |
| B9 | Lack of personalisation | 6 | 4 |
| B10 | Limited problem-solving capability | 6 | 8 |
| B11 | Language barriers | 1 | 1 |
| B12 | Low satisfaction | 7 | 1 |

Source : Researcher Own Analysis

The secondary data analysis of the adoption hurdles for AI banking chatbots is shown in the following figures. These charts aid in comparing customer views with previous research and graphically represent the driving and dependency powers of each barrier.

**Driving Power (Influence Level)**

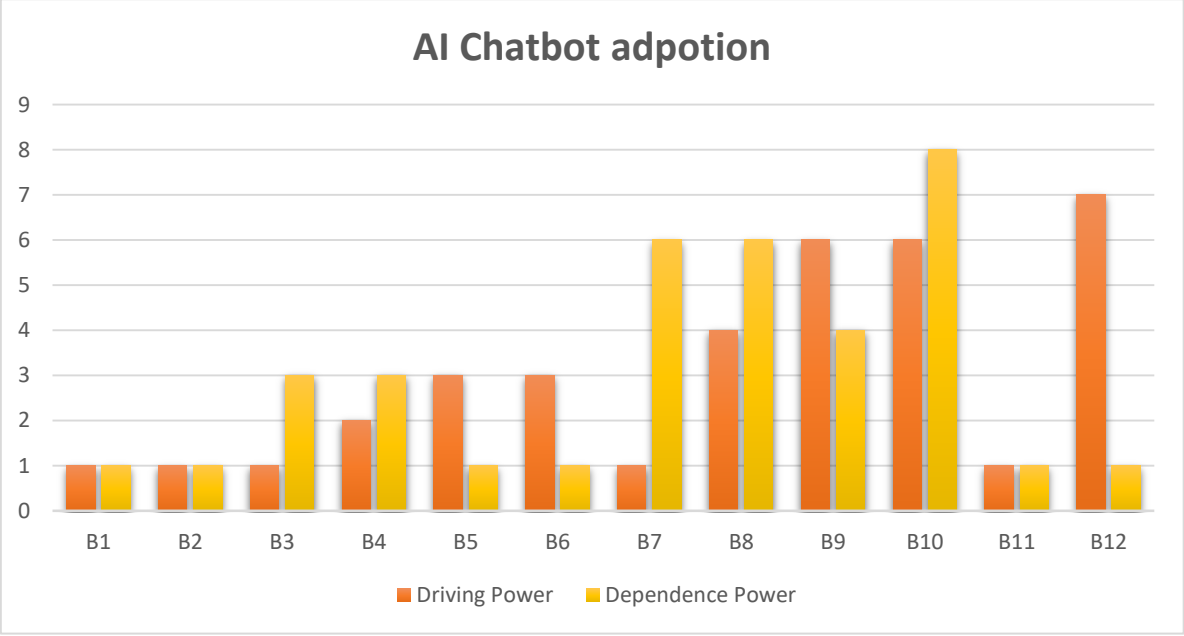
Meaning:

Driving Power measures how strongly a barrier influences other barriers in the system.

**Dependence Power (Dependency Level)**

Meaning:

Dependence Power measures how much a barrier is influenced BY other barriers.




## ANALYSIS & INTERPRETATIONS OF DATA

### Hypothesis 1: INTERPRETATIONS OF DATA

Customer Satisfaction

The results clearly show that AI tools, particularly chatbots, have an impact on consumer happiness. Important obstacles, including poor customer satisfaction, a lack of personalisation, and a restricted capacity for problem-solving,

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show a strong driving power, which means they have a direct impact on how clients view AI services. Customers' satisfaction declines, and their willingness to stick with AI solutions is impacted when they believe chatbots are unable to comprehend complicated questions, provide generic answers, or constantly encounter technical difficulties. However, fixing these significant problems results in quick enhancements to the consumer experience. As a result, the evidence rejects $H_0$, which claims that AI does not affect customer satisfaction, and supports $H_1$: AI has a large impact on consumer satisfaction.

**Hypothesis:2 Customer Loyalty & Productivity**

The report also demonstrates how consumer loyalty and the banking system's claimed efficiency are impacted by AI-related flaws. Long-term loyalty is directly impacted by obstacles, including insufficient problem-solving skills, inappropriate personalisation, and technological problems that erode client confidence and deter repeat usage of AI-based services. However, these problems reduce productivity, suggesting that advancements in AI performance, such as accuracy, contextual awareness, and affective intelligence, would boost total output. AI has a big impact on customer loyalty and operational productivity since the majority of dependent barriers immediately improve when fundamental AI capabilities are improved. Thus, $H_0$ is rejected because the results show that AI significantly affects productivity and consumer loyalty.

According to research, data analysis shows the biggest AI-related barriers have the greatest driving power, which means they have a significant impact on the customer experience. These obstacles include low customer satisfaction, a lack of personalisation, and a restricted capacity for problem-solving. These problems have a direct negative impact on user happiness and willingness to adopt AI products. Emotional constraints and technical problems have high dependence power, suggesting that they result from more fundamental issues in AI performance. Although they are not the primary motivators, lower-impact barriers like trust, awareness, and language nonetheless have an impact on usage. Overall, the findings support the alternative hypotheses ($H_1$) for both groups by demonstrating that AI performance greatly influences customer pleasure, loyalty, and banking productivity.

## VI. CONCLUSION

The future of banking is rapidly being shaped by artificial intelligence, which makes services quicker, more effective, and available 24/7. However, this study demonstrates that how consumers interact with these technologies has a significant influence on the actual impact of AI. Customers value automation and simplicity, but when AI technologies don't provide tailored responses, have trouble solving problems, or encounter technical difficulties, their satisfaction declines. These fundamental obstacles have a significant impact on consumer confidence, adoption readiness, and general perceptions of AI's value in the banking industry.

In the meantime, the data shows that many linked disorders, such as emotional disconnection, confusion, or language limitations, naturally decrease when these fundamental issues are treated. This suggests that banks should prioritise enhancing AI precision, responsiveness, and personalisation. Banks can boost acceptance, improve trust, and fully realise the potential of AI-driven banking services by concentrating on customer-centric AI development. In summary, AI has a bright future in banking, but its efficiency depends on ongoing development that is focused on client demands and expectations.

## VII. FINDINGS

The findings demonstrate that AI significantly affects consumer happiness since the main problems, including low satisfaction, a lack of personalisation, and a lack of problem-solving skills, directly affect the customer experience. Consumers still want individualised support, and their trust and willingness to use AI declines when AI technologies give generic or incorrect answers. Errors and confusion are examples of technical issues that further lower satisfaction. Even though they have less of an impact, things like limited awareness and language obstacles still have an impact on overall utilisation. Enhancing AI's accuracy, personalisation, and problem-solving capabilities can automatically lower a number of interdependent problems and improve customer satisfaction, loyalty, and the financial system's productivity.

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