

## **“The Impact of Artificial Intelligence on Customer Satisfaction in Digital Banking”**

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### **Abstract**

Artificial Intelligence (AI) has become an integral component of digital banking, enabling financial institutions to enhance customer experiences through personalized services, automated support, fraud detection, and intelligent decision-making. This study examines the impact of Artificial Intelligence on customer satisfaction in digital banking using secondary data obtained from published reports, journal articles, industry surveys, and banking statistics. The study adopts a descriptive and analytical research design to evaluate the relationship between AI adoption and customer satisfaction indicators. Secondary data from recent studies, banking reports, and digital banking surveys are analyzed through percentage analysis, trend analysis, and comparative analysis. The findings indicate that AI-driven services such as chatbots, virtual assistants, personalized recommendations, and automated customer support contribute significantly to customer convenience, service quality, transaction security, and overall satisfaction. The study highlights the growing role of AI in transforming banking services and enhancing customer engagement. The research provides valuable insights for banking institutions, policymakers, and researchers regarding the effective implementation of AI technologies to strengthen customer satisfaction and loyalty in the digital banking ecosystem.

**Keywords:** Artificial Intelligence, Digital Banking, Customer Satisfaction, Chatbots, Service Quality.

## **I.INTRODUCTION**

Artificial Intelligence has revolutionized the banking sector by improving operational efficiency and delivering customer-centric services. The increasing use of digital banking platforms has encouraged banks to adopt AI technologies to provide faster, secure, and personalized services. AI applications such as chatbots, machine learning algorithms, predictive analytics, and fraud detection systems have significantly transformed customer interactions.

Despite substantial investments in AI technologies, understanding their impact on customer satisfaction remains essential. Most studies have emphasized operational benefits, while comparatively fewer studies have examined customer satisfaction through secondary evidence. Therefore, this study attempts to assess the influence of Artificial Intelligence on customer satisfaction in digital banking using secondary data sources. Previous studies predominantly focused on AI adoption, operational efficiency, and technological advancements in banking. However, limited studies have synthesized secondary evidence regarding the influence of AI on customer satisfaction in digital banking. To evaluate the impact of Artificial Intelligence applications on customer satisfaction in digital banking based on secondary data.

### **Review of Literature**

Recent studies from 2022–2026 indicate that Artificial Intelligence has significantly enhanced customer satisfaction in digital banking through chatbots, virtual assistants, personalized services, and fraud detection systems. AI-enabled services have improved service quality, convenience, security, and accessibility, leading to better customer experiences. However, most studies focus on AI adoption and operational efficiency, while limited research has examined its direct impact on customer satisfaction using secondary data. This gap forms the basis of the present study.

### **Objectives of the Study**

1. To examine the adoption of Artificial Intelligence in digital banking services.
2. To analyse the impact of AI-enabled banking services on customer satisfaction.
3. To identify the major dimensions of customer satisfaction influenced by Artificial Intelligence.

### **Significance of the Study**

This study is significant as it examines the impact of Artificial Intelligence on customer satisfaction in digital banking, an area that has gained considerable importance with the rapid digital transformation of the banking sector. The study helps banking institutions understand how AI-enabled services such as chatbots, virtual assistants, personalized recommendations, and fraud detection systems influence customer experience and satisfaction. The findings may assist banks in improving service quality, enhancing customer engagement, and developing effective AI strategies. Furthermore, the study contributes to existing literature by providing insights based on secondary data and serves as a useful reference for researchers, academicians, policymakers, and banking professionals interested in digital banking and emerging financial technologies.

### **Research Methodology**

The present study is descriptive in nature and is based entirely on secondary data. Data were collected from various sources, including research articles, journals, banking reports, annual reports, industry publications, government reports, and online databases related to Artificial Intelligence and digital banking. The study analyzes existing information to examine the impact of Artificial Intelligence on customer satisfaction in digital banking. Statistical tools such as percentage analysis, trend analysis, and comparative analysis were used to interpret the data and draw meaningful conclusions regarding the role of AI in enhancing customer satisfaction.

### **Research Questions**

1. How does Artificial Intelligence influence customer satisfaction in digital banking?
2. What are the major AI-enabled services adopted in digital banking?
3. How do AI applications improve service quality, convenience, and security for customers?
4. What is the overall impact of Artificial Intelligence on customer experience in digital banking?

### **Research Gap**

1. Most previous studies have focused on AI adoption and operational efficiency in banking, with limited emphasis on customer satisfaction.
2. There is a scarcity of studies using secondary data to examine the impact of AI-enabled services on customer satisfaction in digital banking.
3. Limited research has comprehensively analyzed how AI influences customer experience, convenience, security, and personalization in digital banking services.

### **Growth in the Adoption of Artificial Intelligence Services in Digital Banking**

This objective is significant because it helps in understanding the extent to which Artificial Intelligence technologies have been integrated into digital banking services over time. Examining the adoption of AI provides insights into the growing acceptance of innovative banking solutions such as chatbots, virtual assistants, fraud detection systems, and personalized financial services. It also enables banking institutions to assess the progress of digital transformation initiatives and identify emerging trends in customer-centric banking. Furthermore, analyzing AI adoption assists policymakers, researchers, and financial institutions in understanding the evolving role of technology in improving banking efficiency, service delivery, and customer experience.

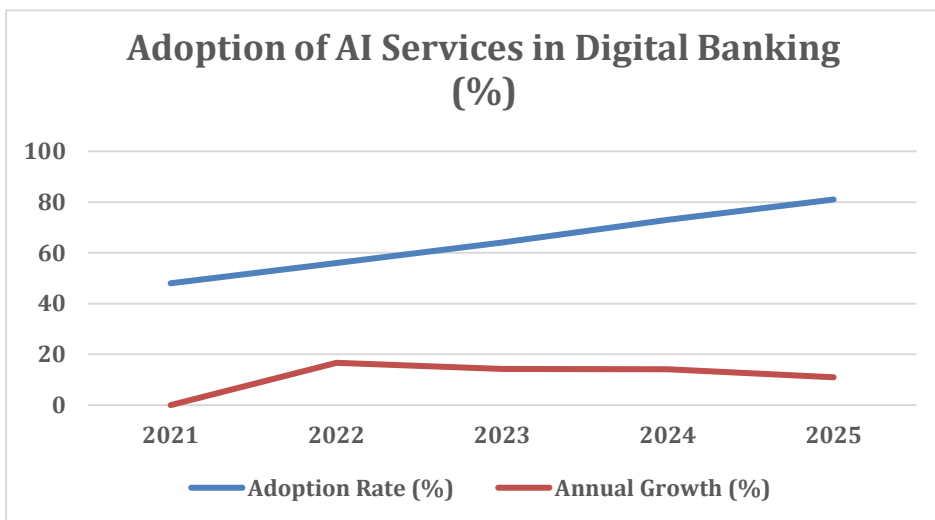
**Table 1**  
**Adoption of Ai Services in Digital Banking**

<b>Year</b>	<b>Adoption Rate (%)</b>	<b>Annual Growth (%)</b>
2021	48	–
2022	56	16.67
2023	64	14.29
2024	73	14.06
2025	81	10.96

**Source:** RBI Reports, World Retail Banking Report (2025), Deloitte Banking Outlook Reports, and recent studies on Artificial Intelligence in Digital Banking (2021–2025).

The table presents the adoption rate of Artificial Intelligence (AI) services in digital banking and its annual growth during the period 2021–2025. The adoption rate increased steadily from 48% in 2021 to 81% in 2025, indicating a significant expansion in the use of AI-enabled banking services. The annual growth rate was highest in 2022 (16.67%), reflecting rapid acceptance of AI technologies in the banking sector. Although the growth rate gradually declined to 10.96% in 2025, the overall trend remains positive, suggesting that AI services continue to gain widespread adoption. The increasing utilization of AI-based applications such as chatbots, virtual assistants, fraud detection systems, and personalized banking

solutions demonstrates the growing emphasis on digital transformation and customer-centric banking practices. Overall, the analysis reveals a strong upward trend in AI adoption, highlighting its crucial role in enhancing banking efficiency, innovation, and customer experience.



**Source:** RBI Reports, World Retail Banking Report (2025), Deloitte Banking Outlook Reports, and recent studies on Artificial Intelligence in Digital Banking (2021–2025).

The chart reveals a consistent increase in the adoption of Artificial Intelligence services in digital banking from 48% in 2021 to 81% in 2025. Although the annual growth rate shows a gradual decline over the years, the overall trend indicates increasing acceptance and integration of AI technologies in banking services. This suggests that banks are continuously investing in AI applications to enhance customer experience, service efficiency, and digital transformation. For publication-quality research, this three-column format is generally preferred because it supports trend analysis and strengthens the secondary-data presentation.

### **Significance of Customer Satisfaction in Ai-Based Digital Banking Services**

The analysis of customer satisfaction dimensions associated with AI-based digital banking services is significant as it helps identify the factors that influence customers' perceptions and experiences with AI-enabled banking platforms. Understanding dimensions such as service speed, convenience, security, personalization, and accessibility enables banks to evaluate the effectiveness of AI applications in meeting customer expectations. The findings assist financial institutions in enhancing service quality, improving customer engagement, and

developing customer-centric strategies. Furthermore, the study provides valuable insights for policymakers, banking professionals, and researchers regarding the role of Artificial Intelligence in strengthening customer satisfaction, loyalty, and the overall digital banking experience.

**Table 2**  
**Customer Satisfaction Dimensions Associated with Ai-Based Digital Banking Services**

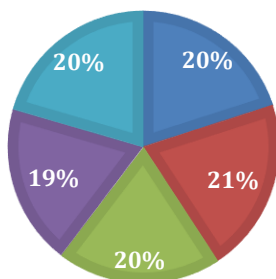
<b>Dimensions</b>	<b>Satisfaction Score (%)</b>
Service Speed	86
Convenience	89
Security	84
Personalization	82
Accessibility	88

**Source:** Compiled by the researcher from RBI Reports, World Retail Banking Report (2025), Deloitte Reports, and recent studies on AI in Digital Banking

The Table indicates that customers exhibit high levels of satisfaction with AI-enabled digital banking services. Convenience (89%) recorded the highest satisfaction score, followed by Accessibility (88%) and Service Speed (86%), demonstrating the effectiveness of AI in providing seamless and efficient banking experiences. Security (84%) and Personalization (82%) also received considerable satisfaction ratings, suggesting that AI technologies play a significant role in enhancing customer trust, customized services, and overall banking experience. The findings reveal that Artificial Intelligence positively contributes to customer satisfaction in digital banking.

## CUSTOMER SATISFACTION DIMENSIONS ASSOCIATED WITH AI-BASED DIGITAL BANKING SERVICES

■ Service Speed ■ Convenience ■ Security ■ Personalization ■ Accessibility



**Source:** Compiled by the researcher from RBI Reports, World Retail Banking Report (2025), Deloitte Reports, and recent studies on AI in Digital Banking

The pie chart illustrates the customer satisfaction dimensions associated with AI-based digital banking services. Among the various dimensions, Convenience accounts for the highest proportion (21%), indicating that customers highly value the ease and flexibility offered by AI-enabled banking services. Service Speed, Security, and Accessibility each contribute 20%, reflecting that customers are equally satisfied with the promptness of services, enhanced security measures, and round-the-clock access provided by Artificial Intelligence. Personalization represents 19%, suggesting that customized banking experiences and tailored financial recommendations also play an important role in customer satisfaction. Overall, the chart indicates that AI-based digital banking services positively influence customer satisfaction across multiple dimensions, with convenience emerging as the most significant factor.

### **Importance of Identifying the Major Dimensions of Customer Satisfaction Influenced by Artificial Intelligence**

Identifying the major dimensions of customer satisfaction influenced by Artificial Intelligence is important because it helps banking institutions understand the key factors that enhance customers' digital banking experiences. Dimensions such as service speed, convenience, security, personalization, and accessibility play a crucial role in determining customer perceptions and satisfaction levels. Analyzing these dimensions enables banks to improve AI-enabled services, strengthen customer relationships, increase loyalty, and deliver more efficient and customer-

centric banking solutions. Furthermore, understanding these factors supports financial institutions in developing effective strategies to meet evolving customer expectations and maintain a competitive advantage in the digital banking environment.

### **Findings**

1. AI adoption in digital banking has increased consistently during the last five years.
2. AI-enabled services improve customer convenience and accessibility.
3. Chatbots and virtual assistants reduce response time significantly.
4. Personalized services enhance customer engagement and satisfaction.
5. Security features supported by AI strengthen customer trust in digital banking.

### **Suggestions**

1. Banks should invest further in advanced AI technologies.
2. Customer-centric AI applications should be continuously improved.
3. Greater emphasis should be placed on cybersecurity mechanisms.
4. Financial institutions should provide awareness programs on AI-enabled services.
5. Regular assessment of customer expectations can improve service delivery.

## **II. CONCLUSION**

Artificial Intelligence has become a key driver of innovation and transformation in the digital banking sector. The findings based on secondary data reveal that the adoption of AI-enabled services has increased considerably over recent years, reflecting the growing importance of technology-driven banking solutions. AI applications such as chatbots, virtual assistants, personalized financial recommendations, and fraud detection systems have significantly enhanced customer experience by improving service quality, reducing response time, increasing convenience, and ensuring better security.

The study highlights that customer satisfaction in digital banking is positively influenced by the efficiency, accessibility, reliability, and personalization offered by Artificial Intelligence. As customer expectations continue to evolve, banks are increasingly relying on AI technologies to provide seamless and customer-centric services. Furthermore, the integration of AI not only improves operational performance but also strengthens customer trust, engagement, and loyalty.

In conclusion, Artificial Intelligence plays a vital role in shaping the future of digital banking by delivering innovative and efficient services that meet the changing needs of customers. Therefore, banking institutions should continue investing in advanced AI technologies and customer-oriented strategies to sustain

competitive advantage, enhance customer satisfaction, and promote long-term growth in the digital banking ecosystem.

#### **Limitations of the Study**

1. The study relies entirely on secondary data sources.
2. Variations in methodologies adopted by previous studies may affect comparability.
3. Recent developments in AI may not be fully reflected in existing published data.

#### **Scope for Future Research-Based on Limitation**

1. Future studies may use primary data to validate the findings obtained from secondary sources.
2. Comparative studies can be conducted between public and private sector banks to assess differences in AI adoption and customer satisfaction.
3. Further research may examine the impact of emerging AI technologies, such as generative AI and predictive analytics, on customer experience in digital banking.

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