# AI Chatbots in Digital Banking: Customer Perceptions of Satisfaction and Trust

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## ABSTRACT

This study exploreshow AI chatbots are transforming digital banking by improving customer satisfaction and shaping customer trust. Chatbots are now widely used by banks to provide quick, accurate and personalised support, making banking more convenient and available 24/7. The review of existing literature shows that chatbot quality—especially usability, reliability and empathy—strongly influences how satisfied customers feel during interactions. Higher satisfaction further strengthens customer trust, particularly when chatbots provide secure, consistent and human-like responses. At the same time, concerns related to privacy, bias and lack of emotional understanding continue to affect user confidence. Different cultural and regulatory environments also create variations in how customers respond to chatbot-based services. The overall findings suggest that while AI chatbots can significantly improve digital banking experiences, their success depends on responsible design, transparent data practices and emotionally aware interactions. When implemented effectively, chatbots help banks enhance service quality and build long-term, trust-based relationships with customers.

## INTRODUCTION

These days the way people deal with their money has completely changed because of digital banking . Customers no longer want to visit branches or wait in long lines they expect instant and easy help at any time. To meet their demand, many banks are now using AI chatbots that can talk with customers, answer questions, and it even helps users to complete their transactions. These chatbots are becoming an important part of modern banking because they save time for both customers and staff while improving service quality.Across the world, large banks like HDFC Bank, Bank of America, and HSBC have introduced AI chatbots that handle millions of customer conversations every month. Recent reports shows that banks using chatbots can cut customer-service costs by around 30% and improved overall response times this change has made customer interaction faster,smoother and more user focused,allowing bank to handle growing demand ,manage queries 24*7 and improve overall satisfaction among customers and employees . Chatbots not only help customers check balances or transfer money but also provide personalised suggestions, such as investment tips or spending insights. This change shows that chatbots are doing more than answering questions they are helping banks to build stronger relationships with their customers.Alongside this changes automation has changed how banks work internally. Many repetitive tasks that once required employees are now managed automatically, allowing staff to focus on complex or high-value tasks. AI chatbots also collect useful data about customer behaviour, which helps banks to design better products and predict future needs. This raises an important question that how much efficiency do banks actually gain from these tools, and how do these changes affect employee roles and customer trust? Although chatbots have made banking faster and more convenient, challenges still exist. Many customers hesitate to trust an AI system with personal financial information, and not all chatbots can handle complicated or emotional conversations. Poorly designed bots can frustrate users instead of helping them. There is also a question of whether heavy reliance on AI might reduce the human touch that customers still value in financial services.This study looks at how AI chatbots are changing digital banking by improving customer experience and helping banks work more efficiently. This research also focuses on what makes them successful, what problems still limit their impact, and how banks can balance between automation and human interaction to build trust and long- term satisfaction while ensuring that technology continues to serve human needs effectively.

# LITERATURE REVIEW

Artificial Intelligence (AI) has been a disruptive force in digital banking, especially through conversational AI tools that provide personalised offerings, automated customer service and increase accessibility. As banks increasingly depend on conversational AI to deal with customers, it has become highly important to comprehend how these tools help in managing customer satisfaction and building trust. This review explores how Trust Theory, Technology Acceptance Model (TAM) and e-SERVQUAL explain customer attitudes toward AI chatbots in banking. It also examines key factors such as empathy, accuracy, personalisation, responsiveness and privacy while identifying gaps in existing research.

The base for understanding how users adopt chatbot technology is provided by the Technology Acceptance Model (TAM). Al-Oraini (2024) established that trust, perceived competence, and warmth significantly impacted satisfaction with AI chatbots implying the integration of trust as a core element in TAM. The research proved that customers are more inclined to embrace and be satisfied with chatbots they feel competent, emotionally appealing and trustworthy. This result generalizes TAM by underlining the significance of both affective and cognitive trust-users need to perceive chatbots as useful and easy to use but also emotionally reassuring.

The e-SERVQUAL model aims digital service quality dimensions that impacts user experience. Chatbots and Conversational AI in Banking: Assessing Operational Efficiency and Customer Trust (n.d.) states that service quality attributes like empathy, accuracy, personalization and omnipresence affects satisfaction and loyalty directly. The research also highlighted privacy and data security as new determinants of trust, indicating ethical customer data management is key to maintaining satisfaction in AI-based services.

In the same vein, The Influence of AI Chatbots in Fintech Services on Customer Loyalty in the Banking Sector (n.d.) emphasized how responsiveness and reliable performance reinforce user loyalty. Research indicated that emotionally intelligent chatbots that can empathize and personalize, build more robust affective trust. This is in support of Trust Theory's assumption that both rational evaluation (cognitive trust) and emotional connection are crucial to sustained participation.

Overall, these studies identify that trust and customer satisfaction with AI chatbots depend on both technical capability and emotional intelligence. Responsiveness, accuracy and competence influences cognitive trust, but empathy and warmth influences affective trust. Yet

little research exists in developing countries, where technological and cultural contexts may alter these correlations. Additionally, scant research has considered the systematic incorporation of emotional intelligence into chatbot design. Future studies may explore trust relationships in various contexts and include emotional adaptability as a primary feature of customer satisfaction models in digital banking.

# RESEARCH METHODOLOGY AND MODEL

This study adopted a quantitative descriptive research design to explore customer perceptions of AI chatbots in digital banking, with a specific focus on customer satisfaction and customer trust. The quantitative survey approach was appropriate as it allowed the collection of standardized responses from users and enabled the use of descriptive statistics to summarize user experiences.

To ensure measurement relevance, questionnaire items were adapted from previously validated scales used in digital service and AI interaction research. Items measuring chatbot quality were adapted to capture three key dimensions: usability, reliability, and empathy. Customer satisfaction items reflected users' overall evaluation of their chatbot interaction experience, while customer trust items assessed users' confidence in the chatbot's reliability, security, and intention.

All constructs were measured using a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Multiple items were used for each construct, and individual responses were averaged to create composite scores representing each construct for descriptive analysis.

## Variables and Constructs

- Chatbot Quality – representing user's evaluation of the chatbot's performance, including:
- Usability – clarity, ease of use, and navigation
- Reliability – consistency and accuracy of responses
- Empathy – perceived personalisation and human-like interaction
- Customer Satisfaction – the degree of overall contentment with chatbot interactions.
- Customer Trust – the level of user confidence in the chatbot's reliability, security, and intentions.

## Data Collection and Analysis

Primary data were collected through an online structured questionnaire distributed to users of digital banking chatbots. A total of 50 valid responses were obtained and included in the analysis.

Data were analysed using SPSS. Descriptive statistics were computed to summarise respondent perceptions of chatbot usability, reliability, empathy, customer satisfaction, and customer trust. Mean values and standard deviations were calculated for each construct to understand overall trends, while frequency distributions were examined to observe the spread of responses across the Likert scale.

Composite scores for each construct were created by averaging the item responses provided by each respondent. These scores were then used to present an overall descriptive assessment of customer experiences with AI chatbot services in digital banking.

# FINDINGS, DATA INTERPRETATION & DISCUSSION

## Descriptive Statistics

Descriptive statistics were used to analyse respondents' perceptions of AI chatbots in digital banking. Mean scores and standard deviations were calculated to summarise overall responses across the measured constructs.

| Construct | Mean | Std. Deviation |
|---|---|---|
| Usability | 4 | 0.894 |
| Reliability | 3.5 | 1.28 |
| Empathy | 4.2 | 1.024 |
| Customer Satisfaction | 3.7 | 1.1 |
| Customer Trust | 3 | 1.414 |

**Distribution of Responses**

To provide deeper insight into the mean values, the distribution of responses for each construct is presented below.

**1)Distribution of Usability Responses (N = 50)**

| Response Value | Frequency |
|---|---|
| 5 | 15 |
| 4 | 25 |
| 3 | 5 |
| 2 | 5 |
| Total | 50 |

**2)Distribution of Reliability Responses (N = 50)**

| Response Value | Frequency |
|---|---|
| 5 | 14 |
| 4 | 12 |
| 3 | 10 |
| 2 | 7 |
| 1 | 7 |
| Total | 50 |

### 3)Distribution of Empathy Responses (N = 50)

| Response Value | Frequency |
|---|---|
| 5 | 16 |
| 4 | 22 |
| 3 | 7 |
| 2 | 3 |
| 1 | 2 |
| Total | 50 |

### 4)Distribution of Customer Satisfaction Responses (N = 50)

| Response Value | Frequency |
|---|---|
| 5 | 14 |
| 4 | 16 |
| 3 | 12 |
| 2 | 8 |
| Total | 50 |

### 5)Distribution of Customer Trust Responses (N = 50)

| Response Value | Frequency |
|---|---|
| 5 | 10 |
| 4 | 14 |
| 3 | 10 |
| 2 | 8 |
| 1 | 8 |
| Total | 50 |

# Data Interpretation

The descriptive results indicate generally positive perceptions of AI chatbots in digital banking, with most construct means above the midpoint of the scale.

**Empathy (M = 4.2, SD = 1.024)** received the highest mean score. As shown in Table 5.4, a majority of responses fall in the 4 and 5 range, indicating that users often perceive chatbot interactions as polite, helpful, and somewhat human-like.

**Usability (M = 4.0, SD = 0.894)** also shows strong positive perception. Table 5.2 demonstrates that most respondents rated usability highly, suggesting that chatbots are generally considered easy to use and navigate.

**Reliability (M = 3.5, SD = 1.280)** reflects moderately positive perceptions but with greater variability. Table 5.3 shows a wider spread of responses, including lower ratings, indicating that some users experienced inconsistent or inaccurate chatbot performance.

**Customer Satisfaction (M = 3.7, SD = 1.100)** suggests overall favourable experiences. However, the distribution in Table 5.5 shows variation, meaning that satisfaction levels differ depending on individual interactions.

**Customer Trust (M = 3.0, SD = 1.414)** has the lowest mean and highest variability. Table 5.6 shows responses spread across the scale, suggesting mixed confidence in relying on chatbots for digital banking services.

# Discussion

The findings suggest that ease of use and empathetic interaction are key strengths of AI chatbots in digital banking. Most respondents find chatbot systems accessible and appreciate conversational responses that resemble human interaction.

However, reliability and trust appear as areas for improvement. The variation in reliability ratings indicates that system performance is not always consistent, which may contribute to hesitation in fully trusting chatbot services. Trust remains the most variable construct, highlighting the importance of improving transparency, accuracy, and perceived security. Differences in satisfaction levels further suggest that user experiences vary depending on the quality of individual chatbot interactions. Addressing performance consistency and improving responses to complex queries could enhance overall customer perceptions. Overall, the results show that while AI chatbots are well received in terms of usability and interaction quality, strengthening reliability and building user trust remain important priorities for digital banking services.

# CONCLUSION

AI-powered chatbots are being used more and more in banking because they save time, offer personalized service, and can handle many tasks at once. Our review of policy documents and reports, including BIS Working Papers, OECD AI guidelines, and IBM Watson case studies, shows that while chatbots improve customer engagement, they also bring challenges around ethics, governance, and trust. The main issues include privacy risks, possible bias in AI, lack of transparency, and different rules in different countries, which make it hard to have consistent AI standards. Banks are working to follow data protection laws and reduce bias, but finding the right balance between innovation and responsible AI is still tricky.

Looking closely at privacy, bias, and transparency, we found that many banks protect customer data and get consent, but chatbots are often not easy to understand or explain. Chatbots also usually lack emotional understanding, which affects customer satisfaction. Multilingual support is becoming important, but it is not always implemented consistently.

Based on these findings, banks should take several practical steps. They should improve chatbot empathy and understanding to give better customer experiences. Clear communication about how customer data is used and how decisions are made can build trust. Banks should check for bias carefully, especially when chatbots make automated decisions. Regular monitoring, staff training, and teamwork across departments are also important to make sure AI is used responsibly and follows regulations.

This study has some limitations. We mainly looked at reports and case studies from a few countries, so results may not apply everywhere. There is limited research on how customers see chatbots and how this affects their trust over time. Future research should explore using explainable AI in chatbots, see how they work in different countries and cultures, and include larger international samples. Studying how emotional AI, multilingual features, and customer trust work together can give more guidance on the best chatbot design.

In conclusion, AI chatbots can transform banking if used responsibly. By focusing on privacy, bias, transparency, and emotional engagement, banks can improve efficiency while building stronger, trust-based relationships with their customers.

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