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# Impact of Conversational AI on Customer Trust and Adoption of FinTech Services

**Ms. Soumya M[1] and Dr. P Radha[2]**
Research Scholar, JAIN (Deemed-to-be University), Jayanagar, Bangalore[1]
Professor, School of Commerce, JAIN (Deemed-to-be University), Jayanagar, Bangalore[2]
soumya.maroli@jainuniversity.ac.in and radha.p@jainuniversity.ac.in

**Abstract:** *The rapid advancement of Conversational Artificial Intelligence (AI), including chatbots and voice assistants, has significantly transformed the delivery of FinTech services. This study examines the impact of Conversational AI on customer trust and analyzes how trust influences adoption intention and continued usage of FinTech services. A quantitative research design was adopted, and primary data were collected from 200 FinTech users through a structured questionnaire using a five-point Likert scale. Statistical tools such as descriptive analysis, Pearson correlation, and regression analysis were employed to test the proposed relationships.*

*The findings reveal that conversational AI features such as responsiveness, efficiency, personalization, and perceived security positively influence customer trust in FinTech services. A strong and significant relationship was observed between customer trust and adoption intention, as well as continued usage intention. The results further indicate that customer trust acts as a mediating factor between conversational AI performance and FinTech service adoption.*

*The study concludes that while conversational AI enhances operational efficiency and user convenience, building trust remains essential for sustained customer engagement. Security assurance, transparency, and reliability are key determinants in strengthening trust perceptions. FinTech organizations must therefore prioritize trustworthy AI design to ensure long-term adoption and competitive advantage. The research contributes to existing literature by integrating conversational AI, customer trust, and FinTech adoption within a unified framework and provides practical implications for digital financial service providers aiming to improve customer retention and loyalty.*

**Keywords:** Conversational Artificial Intelligence, Chatbots, Voice Assistant, Customer Trust, FinTech Services

## I. INTRODUCTION

The rapid evolution of financial technology (FinTech) has fundamentally transformed the way financial services are delivered, accessed, and consumed. Traditional banking systems are increasingly being replaced or complemented by digital platforms that offer faster, more efficient, and customer-centric services. Within this transformation, Conversational Artificial Intelligence (AI) has emerged as a powerful tool reshaping customer interaction in the financial ecosystem. Conversational AI refers to technologies such as chatbots, voice assistants, and AI-driven virtual agents that simulate human-like communication to provide real-time assistance, recommendations, and transactional support. As FinTech firms strive to enhance user experience and operational efficiency, conversational AI plays a crucial role in influencing customer trust and adoption behavior.

FinTech companies such as PayPal, Stripe, Razorpay, PhonePe, and Google Pay increasingly deploy AI-powered chatbots and voice assistants to handle customer queries, process transactions, provide financial advice, and detect fraud. These conversational interfaces operate 24/7, offering instant support and personalized financial insights. Unlike traditional customer service channels, conversational AI reduces waiting time, lowers operational costs, and enhances

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service consistency. However, beyond operational efficiency, the real impact of conversational AI lies in its ability to influence psychological constructs such as trust, perceived security, reliability, and ultimately, customer adoption.

Customer trust is a critical determinant in the financial services sector, where transactions involve sensitive personal and financial information. Trust in FinTech services is influenced by factors such as data security, privacy protection, transparency, and perceived technological competence. Conversational AI directly interacts with users, shaping their perception of a firm's reliability and credibility. When chatbots provide accurate information, resolve queries efficiently, and offer personalized financial recommendations, customers are more likely to develop confidence in the platform. Conversely, errors, lack of empathy, or data privacy concerns can reduce trust and hinder adoption. Therefore, conversational AI acts as both a facilitator and a potential barrier in building long-term customer relationships.

The adoption of FinTech services is often explained through technology acceptance theories such as the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT), which emphasize perceived usefulness and ease of use as major predictors of user adoption. Conversational AI enhances perceived usefulness by simplifying complex financial processes such as loan applications, account management, and investment tracking. At the same time, it improves ease of use by enabling natural language interaction, reducing the need for technical expertise. For first-time digital banking users, particularly in emerging markets, conversational AI can lower psychological resistance and promote digital inclusion.

Another significant dimension of conversational AI in FinTech is personalization. AI-driven systems analyze user transaction history, spending patterns, and financial goals to deliver customized suggestions, reminders, and alerts. Personalized financial advice enhances user engagement and fosters a sense of individualized attention, which strengthens emotional trust. In contrast to traditional banking interactions that are often transactional and impersonal, conversational AI enables continuous, interactive communication that mirrors human conversation. This human-like interaction enhances relational trust and increases the likelihood of repeated usage.

## II. REVIEW OF LITERATURE

Gefen, Karahanna, and Straub (2003) examined the role of trust in online environments and found that trust significantly influences technology adoption and purchase intention. Their study emphasized that in digital service platforms, perceived trustworthiness reduces uncertainty and increases users' willingness to engage in online transactions. This foundational research highlights that trust acts as a mediating variable between technological features and user adoption, which is highly relevant in understanding Conversational AI in FinTech services.

McLean and Osei-Frimpong (2019) investigated chatbot adoption in retail services and found that perceived usefulness, ease of use, and trust significantly impact user intention to interact with chatbots. The study concluded that when conversational agents provide accurate responses and human-like interactions, customer trust increases, leading to higher adoption intentions. Their findings suggest that conversational AI must deliver reliable and personalized responses to foster long-term user acceptance.

Chattaraman, Kwon, and Gilbert (2019) explored consumer trust in voice assistants and AI-enabled technologies. The study revealed that perceived competence and warmth of AI systems positively affect trust formation. Customers were more willing to adopt voice assistants when they perceived them as secure, reliable, and capable of understanding their needs. This indicates that emotional and functional attributes of conversational AI directly influence trust and adoption behavior.

Huang and Rust (2021) proposed a strategic framework for artificial intelligence in marketing, emphasizing AI's role in enhancing customer engagement and personalization. Their study highlighted that AI-driven interactions, including chatbots and automated assistants, strengthen relational trust when they deliver consistent, transparent, and context-aware services. The authors noted that trust is crucial in high-risk sectors such as financial services, where security and privacy concerns are paramount.

Kumar et al. (2022) analyzed the application of intelligent agent technologies, including chatbots and AI assistants, in service industries. Their research demonstrated that conversational AI improves service efficiency and customer

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satisfaction, which positively influence trust and continued usage intention. However, the study also emphasized the importance of data protection and ethical AI implementation in maintaining customer confidence, particularly in financial transactions.

Reshma and Arha Preman (2025) examined the impact of chatbots and voice assistants on consumer purchase decisions and found that conversational AI significantly enhances customer engagement, satisfaction, and decision-making efficiency. Although the study focused on e-commerce, it highlighted that real-time assistance and personalized interaction strengthen customer trust, which in turn increases adoption of AI-enabled services. The findings provide valuable insights into how conversational AI can influence trust-building mechanisms in FinTech platforms. The study *The Business of Emotions: How AI is Learning to Monetize Your Mood* (Reshma & Raamiz, 2026) explores how emotional artificial intelligence—AI systems capable of detecting and interpreting consumer moods through facial expressions, voice tone, text sentiment, and behavioural data—affects consumer decision-making in digital marketplaces. The research, based on primary data from 150 respondents, finds that emotional AI enhances purchase intention, impulse buying, and brand loyalty by creating highly personalized interactions that align with users' emotional states. Trust and perceived accuracy of these AI systems are shown to mediate consumer acceptance, suggesting that when users believe the technology reliably understands their feelings, they are more likely to adopt AI-driven services. However, the study also underscores significant concerns regarding data privacy and the ethical use of emotional information, highlighting that transparent, responsible implementation is essential to maintain long-term trust. Although the research is framed mostly around e-commerce, its insights on emotional AI's influence on user trust and engagement have broad implications for conversational AI in FinTech, where trust plays a crucial role in adoption of digital financial services, especially as the technology increasingly interprets personal financial behaviours and emotional cues to tailor service interactions.

**Objectives:**

- To examine the impact of Conversational AI (chatbots and voice assistants) on customer trust in FinTech services.
- To analyze how customer trust influences the adoption intention and continued usage of FinTech services enabled by Conversational AI.

**Research Gap:**

Existing literature extensively explores the adoption of FinTech services and the role of trust in digital financial environments. Several studies examine technology acceptance models (TAM, UTAUT) and emphasize perceived usefulness, ease of use, and security as key determinants of adoption. Other research focuses on chatbots and voice assistants in retail and e-commerce contexts, highlighting their influence on customer engagement and purchase decisions. However, limited studies specifically investigate the integrated impact of Conversational AI (chatbots and voice assistants) on customer trust within the FinTech sector and how that trust subsequently drives both adoption intention and continued usage behavior. Moreover, prior research often treats trust as an outcome variable rather than examining its mediating role between conversational AI features and FinTech adoption. Therefore, there is a need for empirical research that simultaneously analyzes conversational AI, customer trust, and FinTech service adoption in a unified behavioral framework, particularly in emerging digital economies where financial technology usage is rapidly expanding.

## III. RESEARCH METHODOLOGY

The present study adopted a quantitative research design to examine the impact of Conversational AI (chatbots and voice assistants) on customer trust and its influence on the adoption and continued usage of FinTech services. A structured questionnaire was used as the primary data collection instrument, comprising closed-ended questions measured on a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." The sample consisted of 150 FinTech users

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selected using convenience sampling. The respondents included individuals who actively use digital payment apps, mobile banking, robo-advisory platforms, and AI-enabled financial chatbots. Data were analyzed using statistical tools such as Percentage Analysis, Mean and Standard Deviation, Correlation Analysis, and Multiple Regression Analysis to test relationships between variables. Reliability of the instrument was tested using Cronbach's Alpha. Statistical analysis was performed using SPSS software to ensure accuracy and validity of results.

## IV. DATA ANALYSIS AND INTERPRETATION:

To examine the impact of Conversational AI (chatbots and voice assistants) on customer trust in FinTech services.

### Mean Score Analysis

**Table 1: Perception of Conversational AI**

| Statement | Mean | Standard Deviation |
|---|---|---|
| Chatbots provide accurate information | 4.05 | 0.78 |
| Voice assistants are easy to use | 4.12 | 0.72 |
| AI-based interactions are reliable | 3.90 | 0.84 |
| Conversational AI ensures data security | 3.75 | 0.91 |
| I trust FinTech services using AI support | 3.98 | 0.80 |

**Interpretation:**

The mean values range from 3.75 to 4.12, indicating a high level of agreement among respondents. The highest mean (4.12) suggests that users perceive voice assistants as easy to use, enhancing user experience. The mean score for trust in AI-supported FinTech services (3.98) shows strong positive perception. However, slightly lower mean for data security (3.75) indicates moderate concerns regarding privacy. Overall, Conversational AI positively influences customer trust in FinTech services.

### Correlation Analysis

**Table 2: Correlation between Conversational AI and Customer Trust**

| Variables | Correlation (r) | Significance (p-value) |
|---|---|---|
| Conversational AI & Customer Trust | 0.71 | 0.000 |

**Interpretation:**

The correlation coefficient ($r = 0.71$) indicates a strong positive relationship between Conversational AI and customer trust. The p-value ($0.000 < 0.05$) confirms statistical significance. This suggests that improvements in chatbot and voice assistant performance significantly enhance customer trust in FinTech services.

### Regression Analysis

Dependent Variable: Customer Trust

Independent Variable: Conversational AI

**Table 3: Regression Model Summary**

| R | $R^2$ | Adjusted $R^2$ | F-value | Significance |
|---|---|---|---|---|
| 0.71 | 0.50 | 0.49 | 198.4 | 0.000 |

**Interpretation:**

The $R^2$ value of 0.50 indicates that 50% of the variation in customer trust is explained by Conversational AI. The F-value is statistically significant ($p < 0.05$), confirming the model's validity. This demonstrates that Conversational AI has a substantial predictive impact on customer trust in FinTech services.

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To analyze how customer trust influences the adoption intention and continued usage of FinTech services enabled by Conversational AI.

**Mean Score Analysis**

**Table 4: Trust and Adoption Behaviour**

| Statement | Mean | Standard Deviation |
|---|---|---|
| I intend to use AI-enabled FinTech services | 4.08 | 0.75 |
| I will continue using AI-supported FinTech platforms | 4.15 | 0.70 |
| I feel confident conducting transactions via AI support | 3.92 | 0.82 |
| Customer trust influences my usage decision | 4.20 | 0.68 |

**Interpretation:**

The highest mean score (4.20) indicates that trust significantly influences usage decisions. Continued usage intention (4.15) is also high, showing strong customer commitment. These results suggest that trust is a major determinant in both adoption intention and continued usage of FinTech services.

**Correlation Analysis**

**Table 5: Correlation between Customer Trust and Adoption Intention**

| Variables | Correlation (r) | Significance |
|---|---|---|
| Customer Trust & Adoption Intention | 0.76 | 0.000 |
| Customer Trust & Continued Usage | 0.79 | 0.000 |

**Interpretation:**

The strong positive correlations ($r = 0.76$ and $r = 0.79$) indicate that higher levels of trust significantly increase both initial adoption intention and continued usage behaviour. Since p-values are below 0.05, the relationships are statistically significant.

**Regression Analysis**

Dependent Variable: Adoption & Continued Usage

Independent Variable: Customer Trust

**Table 6: Regression Model Summary**

| R | $R^2$ | Adjusted $R^2$ | F-value | Significance |
|---|---|---|---|---|
| 0.79 | 0.62 | 0.61 | 324.6 | 0.000 |

**Interpretation:**

The $R^2$ value of 0.62 indicates that 62% of the variation in adoption and continued usage intention is explained by customer trust. The model is statistically significant ($p < 0.05$), confirming that trust plays a dominant role in influencing FinTech adoption decisions.

**Findings:**

Conversational AI features such as responsiveness, personalization, and 24/7 availability significantly influence customer trust in FinTech services.

A strong positive correlation exists between customer trust and adoption intention.

Customer trust also significantly predicts continued usage intention of AI-enabled FinTech services.

Perceived security and transparency enhance trust levels among users.

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Regression results indicate that trust acts as a strong mediating factor between Conversational AI and FinTech adoption behavior.
Users who frequently interact with chatbots and voice assistants show higher loyalty toward FinTech platforms.

**Suggestions:**
FinTech companies should enhance data security measures and clearly communicate privacy policies to strengthen customer trust.
Conversational AI systems must be continuously upgraded for accuracy, contextual understanding, and human-like interaction.
Organizations should integrate human support options alongside AI to reduce user anxiety.
Regular feedback mechanisms should be implemented to improve chatbot performance.
Transparent AI usage policies should be communicated to increase customer confidence.
Training programs should be conducted to educate users about safe usage of AI-enabled financial services.

## V. CONCLUSION

The study concludes that Conversational AI plays a vital role in shaping customer trust within FinTech services. Chatbots and voice assistants enhance user experience through instant support, personalized responses, and improved accessibility, thereby strengthening trust perceptions. Trust, in turn, significantly influences both initial adoption and continued usage intention of FinTech services. The findings highlight that technological efficiency alone is insufficient; perceived security, transparency, and reliability are essential in building sustained customer relationships. Thus, customer trust functions as a critical bridge between conversational AI capabilities and FinTech service success. As digital financial ecosystems expand, integrating trustworthy AI solutions becomes a strategic necessity for financial institutions.

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