



Research Article

Antecedents of Banking Chatbot Adoption: A Narrative Review of Technological, Psychological, and Institutional Drivers

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Abstract

The rapid digital transformation of the banking sector has accelerated the deployment of artificial intelligence enabled conversational agents, commonly referred to as banking chatbots. These systems are increasingly used to automate customer service, enhance operational efficiency, and provide personalized financial assistance. Despite substantial investments by financial institutions, customer adoption of banking chatbots remains uneven across markets. Existing studies largely rely on traditional technology adoption frameworks and fragmented empirical investigations, limiting theoretical integration and conceptual clarity regarding adoption drivers. This narrative review synthesizes multidisciplinary literature to identify and classify the antecedents influencing banking chatbot adoption. Drawing from information systems, consumer behaviour, service marketing, and human-computer interaction literature, the study organizes adoption determinants into technological, psychological, social, risk related, and institutional dimensions. The review further highlights emerging constructs such as algorithmic trust, AI anxiety, perceived humanness, and transparency perceptions that extend beyond conventional models. The paper proposes an integrative conceptual framework and outlines future research directions to advance chatbot adoption research in digital banking ecosystems. The findings contribute to both academia and practice by offering a consolidated understanding of factors shaping customer acceptance of conversational banking technologies.

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1. INTRODUCTION

Artificial intelligence (AI) has fundamentally transformed service delivery mechanisms across the financial services industry, enabling institutions to shift from traditional human-centric models to intelligent, data-driven service ecosystems. Among the most significant AI-driven innovations, banking chatbots have emerged as a prominent tool for enhancing customer interaction and service automation. These conversational agents leverage natural language processing and machine learning to provide continuous customer support, execute transactions, respond to queries, and deliver personalized financial advice in real time (Cheng *et al.*, 2022; Dwivedi *et al.*, 2021) ^[1, 6].

Banks are increasingly adopting chatbot technologies to reduce operational costs, improve service efficiency, and enhance customer engagement and accessibility. Chatbots enable 24/7 availability and instant response capability, thereby improving service responsiveness and scalability (Adam *et al.*, 2021) ^[3]. Additionally, they support financial institutions in managing large volumes of customer queries while ensuring consistency and standardization in service delivery. However, despite these operational advantages, the mere availability of advanced technology does not guarantee user adoption or continued usage.

A significant proportion of customers still prefer human interaction over AI-based systems due to concerns related to trust, privacy, emotional connection, and perceived reliability. In financial services, where transactions involve high levels of perceived risk, users are particularly sensitive to issues such as data security, transparency, and accuracy of automated decisions (Luo *et al.*, 2019; McLean & Osei-Frimpong, 2019) ^[16, 18]. As a result, understanding the determinants that influence customers' acceptance of banking chatbots has become a critical research priority in the digital banking literature.

Existing research has primarily examined chatbot adoption through established theoretical lenses such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). While these frameworks provide a strong foundation for understanding user behavior, they tend to focus mainly on functional beliefs such as perceived usefulness and ease of use. Consequently, they often overlook AI-specific, psychological, and institutional factors such as perceived humanness, algorithmic transparency, trust formation, and regulatory assurance that are particularly relevant in AI-enabled financial environments (Dwivedi *et al.*, 2021) ^[9].

Moreover, banking chatbots differ significantly from traditional digital systems because they not only perform automated tasks but also simulate human-like conversational interactions while handling sensitive financial information. This dual nature introduces unique behavioral dynamics, where users evaluate both technical performance and social-emotional attributes of the system simultaneously. Therefore, a more comprehensive and integrated approach is required to understand adoption behavior in this context.

Recent studies emphasize the need for multidisciplinary frameworks that incorporate technological, psychological, social, and institutional dimensions to better explain AI

adoption in financial services (Cheng *et al.*, 2022; Adam *et al.*, 2021) ^[6, 3]. Such integration is essential for capturing the complexity of user decision-making processes in AI-mediated environments.

Accordingly, this study adopts a narrative review approach to synthesize fragmented literature and develop an integrated conceptual framework of banking chatbot adoption. The study aims to address the following research question:

What antecedents influence customers' adoption of banking chatbots in digital financial services?

By answering this question, the study seeks to contribute to a deeper theoretical understanding of AI-driven service adoption and provide practical insights for improving chatbot design and implementation in banking.

The objectives of this paper are:

1. To synthesize existing literature on banking chatbot adoption.
2. To identify emerging constructs extending beyond traditional adoption theories.
3. To classify adoption antecedents across multiple dimensions.
4. To propose an integrated conceptual framework for future research.

2. RESEARCH GAPS

Despite rapid growth in AI-driven banking services, existing research on chatbot adoption still presents several important gaps. First, most studies rely heavily on traditional models such as TAM and UTAUT, which primarily focus on perceived usefulness and ease of use, while ignoring emotionally rich and AI-specific constructs such as perceived humanness, algorithmic transparency, and AI-related financial concerns. This limits the explanatory power of existing models in modern conversational AI contexts.

Second, although individual studies have examined factors like trust, risk, or service quality separately, there is a lack of an integrated framework that simultaneously combines technological, psychological, social, and institutional factors in a single model. As a result, the combined effect and interaction between these dimensions remain underexplored.

Third, emerging constructs such as algorithmic transparency and perceived humanness are still underdeveloped in banking contexts, even though they are critical in shaping trust and user acceptance of AI-based financial decision systems. Similarly, the role of regulatory assurance and bank reputation is often treated as peripheral rather than central determinants in chatbot adoption models.

Fourth, limited research has explored how social influence, digital literacy, and habit formation interact together to shape long-term chatbot usage behavior, especially in developing economies where digital readiness varies significantly.

Finally, most studies focus on initial adoption intention, while neglecting post-adoption behavior and continuous usage, which are essential for understanding real-world chatbot success in banking services.

3. METHODOLOGY OF NARRATIVE REVIEW

A narrative review approach was adopted to provide conceptual integration rather than statistical aggregation. Unlike systematic meta-analysis, narrative reviews allow theoretical interpretation across interdisciplinary domains where constructs evolve rapidly.

Relevant studies were identified from peer-reviewed journals in information systems, marketing, fintech, and human-computer interaction domains. Literature published between 2000 to 2025 was prioritized due to the emergence of conversational AI during this period.

Search keywords included:

- Banking chatbot adoption
- Conversational AI in banking
- AI service agents
- Fintech chatbot acceptance
- Customer interaction automation
- Studies addressing chatbot usage, AI-enabled service adoption, and digital banking interaction were included. Conceptual papers, empirical studies, and review articles were synthesized to identify recurring determinants influencing adoption behaviour.

4. Conceptual Foundations of Banking Chatbots

Banking chatbots represent intelligent conversational systems capable of understanding user queries and delivering responses through machine learning and natural language processing techniques. Unlike traditional mobile banking applications, chatbots introduce interactional intelligence that mimics interpersonal communication.

This shift transforms banking service encounters from interface-based interaction to conversation-based engagement. Consequently, adoption decisions are influenced not only by system performance but also by emotional, cognitive, and relational evaluations.

Chatbot adoption involves three simultaneous evaluations:

- Assessment of technological capability
- Trust in algorithmic decision-making
- Comfort with non-human interaction

These characteristics justify the need for broader theoretical perspectives integrating technology acceptance, service experience, and psychological trust mechanisms.

5. Antecedents of Banking Chatbot Adoption

5.1 Technological Antecedents

5.1.1 Perceived Usefulness

Perceived usefulness (PU), a central construct of the Technology Acceptance Model proposed by Fred Davis (1989) [7], refers to the degree to which an individual believes that using a particular technology enhances their performance, and it plays a crucial role in the adoption of banking chatbots. In digital banking contexts, perceived usefulness is reflected in the ability of chatbots to deliver fast, efficient, and convenient services such as instant query resolution, 24/7 accessibility, and seamless transaction execution, which significantly improve the

overall customer experience. Users are more inclined to adopt chatbot services when they perceive clear functional benefits, including reduced waiting time, improved service accuracy, and enhanced accessibility, particularly in environments where traditional banking channels are time-consuming or less accessible (Davis, 1989; Venkatesh *et al.*, 2003) [7, 27]. Furthermore, the usefulness of banking chatbots extends beyond operational efficiency to include decision-support capabilities, such as providing personalized financial advice, expenditure tracking, and tailored recommendations, thereby assisting users in making informed financial decisions (Luo *et al.*, 2019) [16]. Personalization further strengthens perceived usefulness by offering context-aware and relevant interactions, although it may simultaneously raise privacy concerns that can influence user acceptance (Cheng *et al.*, 2022) [6]. Additionally, the integration of chatbots with broader banking systems, such as mobile applications and payment platforms, enhances their utility by enabling a unified and streamlined service experience. Empirical evidence consistently demonstrates that perceived usefulness significantly influences users' behavioral intention to adopt AI-based financial technologies, making it a foundational determinant in chatbot adoption research (McLean & Osei-Frimpong, 2019) [18]. Overall, perceived usefulness in banking chatbot adoption encompasses not only efficiency and performance benefits but also cognitive and personalized value, thereby positioning it as a multidimensional construct critical to understanding user acceptance behavior.

5.1.2 Ease of Interaction

Ease of interaction, also known as perceived ease of use, is a crucial factor influencing the adoption of banking chatbots, as it reflects how simple and effortless users find the interaction process. Derived from the Technology Acceptance Model by Fred Davis (1989) [7], it suggests that technologies requiring less effort are more readily accepted. In chatbot contexts, ease of interaction depends on clear communication, quick responses, and intuitive design, enabling users to complete tasks without confusion. Recent studies show that simple and user-friendly chatbot interfaces enhance adoption intention and satisfaction while reducing frustration (Iancu & Iancu, 2023; Mariani *et al.*, 2023) [14, 17]. Moreover, ease of interaction indirectly influences usage by improving perceived usefulness and trust (Alshammari & Babu, 2025). Overall, a smooth and effortless interaction experience significantly encourages users to adopt and continue using banking chatbots.

5.1.3 Personalization Capability

Personalization capability refers to the extent to which banking chatbots can tailor their responses, recommendations, and services according to individual user preferences, behaviors, and financial history, making interactions more relevant and engaging. In AI-driven banking contexts, personalization enhances user experience by delivering customized financial advice, transaction reminders, and product suggestions that align with specific customer needs. Research indicates that personalized chatbot interactions significantly improve customer satisfaction and perceived service quality, thereby increasing adoption intention (Tam & Ho, 2006; Xu *et al.*,

2023) [24, 30]. Advanced AI and machine learning techniques enable chatbots to analyze user data and provide context-aware responses, which strengthens perceived usefulness and engagement (Huang & Rust, 2021) [13]. However, while personalization improves service relevance, it also raises concerns regarding data privacy and security, which may negatively affect user trust if not properly managed (Cheng *et al.*, 2022) [6]. Recent studies further suggest that personalization positively influences emotional connection and user loyalty, as customers tend to prefer services that recognize their individual needs (Mariani *et al.*, 2023) [17]. Overall, personalization capability acts as a critical driver of banking chatbot adoption by enhancing both functional value and user experience, although its effectiveness depends on maintaining a balance between customization and privacy protection.

5.1.4 System Reliability and Accuracy

System reliability and accuracy refer to a chatbot's ability to consistently deliver correct and dependable responses. In banking, where financial transactions are sensitive, high reliability and accurate information build user trust and confidence, enhancing perceived usefulness and adoption intention (Huang & Rust, 2021; Mariani *et al.*, 2023; Xu *et al.*, 2023) [13, 17, 30]. Errors or inconsistent performance, however, reduce satisfaction and discourage usage. Overall, reliability and accuracy are critical for fostering trust and encouraging sustained use of banking chatbots.

5.2 Psychological Antecedents

5.2.1 Trust in AI Systems

Trust in AI systems is a critical factor influencing banking chatbot adoption, as it reflects users' belief that the chatbot is competent, reliable, and will act in their best interest. In financial services, trust is especially important due to the sensitivity of personal and financial data, and users are more likely to adopt chatbots when they feel confident that the system will provide accurate information and secure transactions (Huang & Rust, 2021; Cheng *et al.*, 2022) [13, 6]. Lack of trust, caused by errors, opaque processes, or perceived risk, can significantly reduce adoption intention. Therefore, building trust through consistent performance, transparency, and data security is essential for encouraging user engagement with AI-driven banking services.

5.2.2 AI Anxiety

AI anxiety refers to users' apprehension or discomfort when interacting with artificial intelligence systems, including banking chatbots, and can significantly hinder adoption. It arises from fears of losing control, misunderstanding AI behavior, or making errors during financial transactions. In the banking context, users with higher AI anxiety may avoid using chatbots despite their functional benefits, as the perceived emotional and cognitive effort outweighs convenience (Gursoy *et al.*, 2023; McLean & Osei-Frimpong, 2019) [12, 18]. Reducing AI anxiety through intuitive design, clear guidance, and hybrid human-AI support can enhance user confidence and encourage adoption. Overall, addressing AI anxiety is essential to improve

trust, ease of use, and the likelihood of engaging with AI-driven banking services.

5.2.3 Perceived Humanness

Perceived humanness refers to the extent to which users perceive a chatbot as exhibiting human-like qualities such as empathy, warmth, and conversational naturalness. In banking contexts, higher perceived humanness reduces the impersonal nature of automated interactions and enhances user engagement by creating a sense of social presence. Chatbots that use personalized responses, natural language, and emotionally adaptive communication are more likely to be perceived as socially intelligent, which fosters trust and comfort during financial interactions. Prior studies show that anthropomorphic design cues significantly influence user attitudes, trust, and behavioral intentions toward AI systems (Xiao Luo *et al.*, 2019; Julian Araujo, 2018) [16, 5]. This aligns with the Computers as Social Actors paradigm, which explains that users apply social norms when interacting with technology (Clifford Nass & Youngme Moon, 2000). Additionally, perceived humanness enhances social presence and satisfaction, thereby positively influencing chatbot adoption, although excessive human-likeness may lead to user discomfort (Gerrit van der Goot & Sanneke van den Bosch, 2021).

5.2.4 Perceived Control

Perceived control refers to the extent to which users believe they can influence, manage, and regulate their interactions with chatbot systems. In the context of banking chatbots, perceived control plays a crucial role in reducing uncertainty and enhancing user confidence, particularly in high-risk financial transactions. Features such as the ability to review and correct inputs, track transaction progress, and switch to human assistance increase users' sense of autonomy and security. When users feel in control of the interaction process, they are more likely to trust the system and develop positive attitudes toward its use. Prior research highlights that perceived behavioral control is a significant determinant of technology adoption, as it directly influences users' intentions and actual behavior (Icek Ajzen, 1991) [4]. Similarly, unified models of technology acceptance emphasize that facilitating conditions and user control perceptions enhance usage intentions, particularly in complex digital environments (Viswanath Venkatesh *et al.*, 2003) [27]. Therefore, higher perceived control over chatbot interactions can significantly improve adoption and continued usage in digital banking services.

5.3. Risk and System Reliability and Accuracy

5.3.1 Privacy Concerns

Privacy concerns refer to users' apprehension regarding the collection, storage, and potential misuse of their personal and financial information by chatbot systems. In banking contexts, these concerns are particularly critical because interactions often involve sensitive data such as account details, transaction history, and personal identifiers. High levels of privacy concern can reduce trust in chatbot services and discourage users from engaging with AI-enabled platforms. Users tend to evaluate

whether adequate safeguards, such as data encryption, secure authentication, and transparent data policies, are in place before adopting such technologies. Prior research indicates that privacy concerns significantly influence individuals' willingness to disclose information and adopt digital services (Alessandro Acquisti *et al.*, 2015) ^[1]. Similarly, studies in information systems highlight that perceived privacy risk negatively affects trust and behavioral intention toward online and AI-based services (Paul Pavlou, 2011) ^[21]. Therefore, addressing privacy concerns is essential for enhancing trust and promoting the adoption of banking chatbots.

5.3.2 Perceived Financial Risk

Perceived financial risk refers to the potential monetary loss that users associate with using chatbot-based banking services, such as transaction errors, fraud, or system failures. In AI-driven financial interactions, the absence of human oversight can heighten users' concerns about the accuracy and security of transactions, thereby negatively influencing adoption intentions. When users perceive higher financial risk, they are less likely to trust and engage with chatbot services. Conversely, reducing perceived risk through secure systems and reliable performance enhances user confidence and acceptance. Prior research suggests that perceived risk is a critical barrier to the adoption of electronic services and directly affects trust and usage behavior (Featherman Maurya & Paul Pavlou, 2003) ^[10]. Similarly, trust-based frameworks indicate that minimizing financial risk is essential for fostering customer confidence in service interactions (Jagdeep Singh & Sirdeshmukh, 2000) ^[23].

5.3.3 Algorithmic Transparency

Algorithmic transparency refers to the extent to which users can understand how a chatbot processes information and generates decisions or recommendations. In banking chatbot contexts, transparency plays a crucial role in reducing uncertainty and building trust, as users are more likely to accept AI-driven services when they are provided with clear explanations of how outcomes are derived. Lack of transparency may lead to perceptions of opacity and bias, thereby negatively affecting adoption intentions. Conversely, explainable AI mechanisms, such as providing reasoning behind recommendations or transaction outcomes, enhance perceived fairness and user confidence. Prior research highlights that transparency in automated decision-making systems is essential for fostering trust and accountability (Sandra Wachter *et al.*, 2017) ^[29]. Similarly, studies on interpretable machine learning emphasize that explainability improves user understanding and acceptance of AI systems (Finale Doshi-Velez & Kim, 2017) ^[8].

5.4 Social and Behavioral Antecedents

5.4.1 Social Influence

Social influence refers to the extent to which individuals perceive that important others such as friends, family, or peers believe they should use a particular technology. In the context of banking chatbots, social influence plays a significant role in shaping users' attitudes and adoption intentions, especially for emerging AI-based services. Positive recommendations, peer

usage, and social norms can increase users' confidence and reduce uncertainty associated with chatbot interactions. Conversely, negative feedback may discourage adoption. Prior research highlights that social influence is a key determinant of technology acceptance, particularly in early stages of adoption (Viswanath Venkatesh *et al.*, 2003) ^[27]. Similarly, foundational studies in technology acceptance demonstrate that external social pressures and subjective norms significantly impact users' behavioral intentions (Fred Davis, 1989) ^[7].

5.4.2 Digital Literacy

Digital literacy refers to the ability of individuals to effectively access, understand, and interact with digital technologies. In the context of banking chatbots, higher digital literacy enhances users' confidence and reduces perceived complexity, thereby facilitating adoption. Users with strong digital skills are more capable of navigating chatbot interfaces, interpreting automated responses, and completing financial transactions, which leads to more positive attitudes toward AI-enabled services. Conversely, low digital literacy can act as a barrier due to uncertainty and lack of familiarity with digital systems. Prior research highlights that digital literacy is a key determinant of technology adoption and effective digital participation (Alexander van Deursen & Jan van Dijk, 2014). More recent evidence further confirms that digital literacy significantly improves technology adoption and financial inclusion in emerging economies, emphasizing its critical role in digital service usage (Nabil Adel, 2024) ^[2].

5.4.3 Habit and Prior Experience

Habit and prior experience refer to the extent to which users' past interactions with digital technologies shape their current behavior toward chatbot adoption. In banking contexts, users with prior experience in digital banking are more likely to adopt chatbots due to familiarity, reduced effort, and increased confidence. Habitual use further strengthens this behavior, as repeated interactions lead to automatic usage patterns over time. Research indicates that habit becomes a stronger predictor of technology use as experience increases, often surpassing conscious intention in later stages of adoption (Viswanath Venkatesh *et al.*, 2023) ^[28]. Moreover, recent studies confirm that habit significantly facilitates the continued use of emerging technologies, including AI systems (Kim, 2026). Additionally, contemporary research highlights that prior experience enhances readiness and positively influences adoption decisions in digital environments (Redondo-Rodríguez *et al.*, 2024).

5.5 Institutional and Service-Related Antecedents

5.5.1 Bank Reputation

Bank reputation refers to customers' perception of a bank's credibility, reliability, and overall trustworthiness. In the context of banking chatbots, reputation plays a crucial role in reducing perceived uncertainty and increasing user confidence in AI-driven services. Customers are more willing to interact with chatbot systems when they believe the bank has a strong history of security, compliance, and customer satisfaction. Recent studies show that institutional trust and corporate

reputation significantly enhance user acceptance of AI-based banking services by reducing perceived risk and increasing perceived reliability (Yogesh K. Dwivedi *et al.*, 2021) ^[9]. Similarly, empirical evidence in banking chatbot adoption confirms that brand reputation strongly influences customer trust and satisfaction in digital financial services (Subburaj Alagarsamy *et al.*, 2023).

5.5.2 Service Quality Expectations

Service quality expectations refer to users' anticipated performance of chatbot services in terms of responsiveness, accuracy, empathy, and reliability. In digital banking, customers expect chatbots to provide fast, error-free, and consistent support comparable to human agents. When these expectations are met, users develop higher satisfaction and stronger adoption intentions. Recent research highlights that chatbot service quality especially reliability, assurance, and responsiveness significantly affect customer satisfaction and continuance intention in banking services (Omer Aftab Qureshi *et al.*, 2024). Furthermore, AI service quality is increasingly recognized as a key determinant of user experience and trust in financial technologies, especially in generative AI-based banking systems (Yogesh K. Dwivedi *et al.*, 2024) ^[9].

5.5.3 Regulatory Assurance

Regulatory assurance refers to users' perception that chatbot-based banking services are governed by strong legal, cybersecurity, and data protection frameworks. In financial environments, regulatory assurance reduces perceived risk and increases trust by ensuring compliance with privacy laws, financial regulations, and consumer protection standards. Recent studies emphasize that governance frameworks, transparency, and regulatory alignment are essential for the safe deployment of AI systems in financial services (Sandra Wachter *et al.*, 2023). Moreover, emerging research shows that regulatory clarity and compliance mechanisms significantly enhance trust and reduce user concerns in AI-enabled banking ecosystems (Rainer Böhme & Moore, 2024).

6. Integrated Framework of Banking Chatbot Adoption

The integrated framework of banking chatbot adoption combines technological, psychological, social, risk-related, and institutional factors into a single holistic model that explains why customers accept or reject chatbot services in digital banking. Rather than viewing adoption through isolated constructs, this framework shows that user behavior is the result of interacting influences that jointly shape attitude and behavioral intention.

At the technological level, factors such as perceived usefulness, ease of interaction, personalization capability, system reliability and accuracy service quality expectations determine how users evaluate the functionality and usability of chatbots. These variables influence whether the system feels understandable, reliable, and user-friendly.

At the psychological level, constructs such as trust in AI system, perceived control, perceived humanness, and AI anxiety explain users' emotional and cognitive responses. For

example, higher transparency and control reduce perceived risk, while humanness increases trust and emotional comfort.

At the risk and System Reliability and Accuracy level, factors privacy concern, perceived financial risk, algorithmic transparency explain privacy concern and algorithmic transparency is essential for adoption.

The social dimension includes social influence, digital literacy, and habit/prior experience. These factors highlight that adoption is not only individual but also shaped by social norms and users' technological capability and familiarity with digital systems.

At the institutional level, bank reputation and regulatory assurance act as trust-building mechanisms. A strong bank reputation reduces uncertainty, while regulatory frameworks ensure users feel legally protected in digital transactions.

Overall, the framework suggests that behavioral intention to adopt banking chatbots is formed when positive technological experience, psychological trust, social acceptance, and institutional confidence align together. These factors collectively shape user attitude → intention → actual usage behavior, making adoption a multidimensional and interdependent process rather than a single-factor decision.

7. Implications

Theoretical Implications

This study extends existing technology adoption theories such as TAM and UTAUT by incorporating AI-specific constructs like perceived usefulness, ease of use. It provides a more comprehensive and holistic framework by integrating technological, psychological, social, and institutional dimensions in a single model. This improves the explanatory power of adoption theories in the context of AI-driven banking services.

Managerial Implications

For banking institutions, the findings suggest that chatbot design should prioritize transparency, user control, and human-like interaction to enhance user trust and satisfaction. Strengthening data privacy protection, ensuring regulatory compliance, and maintaining strong bank reputation are essential for reducing perceived risk. Furthermore, improving customers' digital literacy and integrating seamless human support options can significantly increase acceptance and continued usage of banking chatbots.

8. CONCLUSION

This study developed a comprehensive and integrated framework to explain customers' adoption of banking chatbots by synthesizing technological, psychological, social, and institutional factors. The findings highlight that chatbot adoption in banking is a complex decision-making process shaped by both rational evaluations and emotional perceptions. Key determinants such as perceived humanness, algorithmic transparency, perceived control, service quality expectations, privacy concerns, and perceived financial risk significantly influence user trust and attitude formation. In addition, social influence, digital literacy, habit, prior experience, bank reputation, and regulatory assurance further strengthen or

weaken customers' intention to adopt and continuously use chatbot-based banking services.

The study also demonstrates that traditional technology acceptance models alone are insufficient to fully explain adoption behavior in AI-driven financial environments. Unlike conventional systems, banking chatbots simulate human-like interaction while simultaneously performing automated financial decision support, which introduces new psychological and trust-related complexities. Therefore, the integration of AI-specific constructs with established behavioral theories provides a more realistic and holistic explanation of user behavior in digital banking contexts.

Overall, the proposed framework contributes to a deeper understanding of how customers evaluate and accept AI-based financial technologies. It emphasizes that successful adoption is not only dependent on technological efficiency but also on transparency, trust-building mechanisms, emotional comfort, and institutional credibility. The findings suggest that financial institutions must adopt a human-centred and transparent design approach while ensuring strong regulatory compliance and data protection practices to enhance customer confidence.

In conclusion, banking chatbot adoption is driven by a dynamic interplay of technology perception, human-like interaction, risk assessment, and institutional trust. Addressing these dimensions collectively is essential for improving user acceptance and ensuring the long-term success of AI-driven customer service systems in the banking sector.

9. LIMITATIONS

This study is subject to several limitations. As a narrative review, it relies on the qualitative synthesis and interpretation of existing literature rather than a systematic review or meta-analysis, which may introduce a degree of subjectivity in the selection and classification of studies. The review primarily focuses on published academic research and may not fully incorporate insights from industry reports, practitioner perspectives, or emerging grey literature. Additionally, the proposed conceptual framework is derived from the existing body of knowledge and has not been empirically tested, limiting its immediate generalizability. The review also draws upon studies conducted across diverse cultural, geographical, and regulatory contexts, where customer perceptions and adoption behaviours toward banking chatbots may differ significantly. Furthermore, given the rapid advancement of artificial intelligence technologies, including generative AI and increasingly sophisticated conversational agents, the factors influencing chatbot adoption are likely to evolve over time. Therefore, the findings should be interpreted within the context of the reviewed literature and may require further empirical validation and periodic reassessment in future research.

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