

ARTIFICIAL INTELLIGENCE ADOPTION IN DIGITAL BANKING AND CUSTOMER CONTINUANCE INTENTION: A CONCEPTUAL REVIEW

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Abstract

Artificial Intelligence (AI) has emerged as a transformative technology in the banking sector, enabling financial institutions to deliver personalized, efficient, and secure digital services. AI-driven applications such as intelligent chatbots, virtual assistants, fraud detection systems, robo-advisors, credit risk assessment, and predictive analytics have significantly improved customer experience and operational efficiency. While AI has accelerated the adoption of digital banking services, sustaining customers' continuance intention remains a significant challenge for banks. This paper presents a conceptual review of the relationship between Artificial Intelligence adoption and customer continuance intention in digital banking. The study synthesizes existing literature published between 2020 and 2026 and integrates the Technology Acceptance Model (TAM), Expectation Confirmation Model (ECM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Trust Theory to explain customers' continued usage behavior. The review identifies perceived usefulness, perceived ease of use, trust, customer satisfaction, service quality, and security as the primary determinants of continuance intention. The paper concludes that successful AI implementation should focus not only on technological innovation but also on enhancing customer trust, transparency, and satisfaction. The findings provide valuable insights for banking practitioners, policymakers, and researchers seeking to strengthen customer retention in AI-enabled digital banking.

Keywords: Artificial Intelligence, Digital Banking, Customer Continuance Intention, Customer Satisfaction, Trust, Technology Acceptance Model, FinTech.

1. Introduction

Digital transformation has fundamentally changed the global banking industry. The rapid advancement of Artificial Intelligence (AI), cloud computing, big data analytics, and machine learning has enabled financial institutions to improve service delivery and operational efficiency. AI has become one of the most influential technologies in banking by supporting intelligent decision-making, automating repetitive processes, strengthening cybersecurity, and delivering personalized financial services.

In India, government initiatives such as Digital India, increasing smartphone penetration, widespread internet connectivity, and the growth of digital payment systems have accelerated the adoption of AI-enabled banking services. Commercial banks increasingly utilize AI-powered chatbots, biometric authentication, fraud detection systems, automated loan approvals, and personalized investment recommendations to enhance customer experience.

Although AI has significantly improved banking efficiency, customer retention depends not only on technology adoption but also on customers' willingness to continue using AI-enabled banking services. Customer continuance intention has therefore become an important research area because long-term sustainability of digital banking depends on repeat usage rather than initial adoption. This paper reviews existing literature and proposes a conceptual framework explaining the relationship between AI adoption and customer continuance intention.

2. Statement of the Problem

Artificial Intelligence has enhanced banking efficiency and customer service; however, many customers discontinue using digital banking applications due to concerns regarding privacy, security, lack of trust, technological complexity, and poor user experience. While previous studies have extensively examined technology adoption, comparatively fewer studies have investigated the influence of AI adoption on customers' continuance intention, particularly in the Indian banking context. Understanding the factors that encourage customers to continue using AI-enabled digital banking services is essential for improving customer retention and achieving sustainable competitive advantage.

3. Research Gap

Existing literature primarily focuses on digital banking adoption, mobile banking acceptance, or FinTech adoption. Limited studies have specifically examined Artificial Intelligence as an independent determinant of customer continuance intention.

Moreover, relatively few conceptual studies integrate Technology Acceptance Model (TAM), Expectation Confirmation Model (ECM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Trust Theory into a comprehensive framework for explaining continuance intention in AI-enabled digital banking. This study addresses this gap through an integrated conceptual review.

4. Objectives of the Study

The study aims to:

- Examine the role of Artificial Intelligence in digital banking.
- Review existing literature on AI adoption and customer continuance intention.
- Identify factors influencing continued usage of AI-enabled banking services.
- Develop a conceptual framework integrating established technology adoption theories.
- Suggest managerial implications for enhancing customer retention.

5. Review of Literature

Recent studies indicate that AI significantly improves banking operations through automation, intelligent customer support, fraud detection, predictive analytics, and personalized financial services. Research based on the Technology Acceptance Model suggests that perceived usefulness and perceived ease of use positively influence customers' adoption of digital banking technologies. Studies based on the Expectation Confirmation Model emphasize that customer satisfaction is the strongest predictor of continuance intention.

Similarly, UTAUT highlights performance expectancy, effort expectancy, facilitating conditions, and social influence as key determinants of technology usage.

Recent empirical studies also indicate that trust plays a critical role in AI-enabled financial services. Customers are more likely to continue using AI-powered banking applications when they perceive them as secure, transparent, reliable, and capable of protecting personal information. Furthermore, AI-based personalization enhances customer engagement by providing customized financial recommendations, thereby improving customer satisfaction and loyalty.

Although existing literature provides substantial evidence regarding digital banking adoption, comparatively fewer studies examine the combined influence of AI adoption, trust, and customer satisfaction on continuance intention, particularly in developing economies such as India.

6. Theoretical Background

This study integrates four well-established theories.

Technology Acceptance Model (TAM): Proposed by Davis (1989), TAM explains that perceived usefulness and perceived ease of use influence technology acceptance. In AI-enabled banking, customers continue using digital services when they perceive AI applications as beneficial and easy to use.

Expectation Confirmation Model (ECM): Bhattacharjee (2001) argues that continuance intention depends on confirmation of expectations and customer satisfaction. If AI-based banking services meet or exceed customer expectations,

customers are more likely to continue using them.

Unified Theory of Acceptance and Use of Technology (UTAUT): Venkatesh et al. (2003) suggest that performance expectancy, effort expectancy, social influence, and facilitating conditions determine technology acceptance and continued usage.

Trust Theory: Trust is particularly important in financial services because customers share sensitive personal and financial information. AI systems that ensure privacy, transparency, and security positively influence customer confidence and long-term usage.

7. AI Applications in Digital Banking

Artificial Intelligence has transformed banking through several innovative applications:

- AI-powered chatbots providing 24/7 customer support.
- Machine learning algorithms detecting fraudulent transactions.
- Automated credit scoring and loan approval systems.
- Robo-advisory services for investment management.
- Personalized financial recommendations based on customer behavior.
- Voice assistants enabling convenient banking transactions.
- Predictive analytics supporting customer relationship management.
- Biometric authentication enhancing cybersecurity.

These applications improve operational efficiency while delivering superior customer experience.

8. Factors Influencing Customer Continuance Intention

Based on the reviewed literature, several factors significantly influence customers' intention to continue using AI-enabled banking services:

- Perceived usefulness
- Perceived ease of use
- Trust
- Customer satisfaction
- Service quality
- Security and privacy
- Personalization
- Performance expectancy
- Effort expectancy
- Facilitating conditions

Among these factors, trust and customer satisfaction consistently emerge as the strongest predictors of continuance intention.

9. Proposed Conceptual Framework

The proposed framework suggests that AI adoption positively influences perceived usefulness, perceived ease of use, customer satisfaction, trust, and service quality. These factors subsequently influence customer continuance intention toward digital banking services.

Independent Variable: Artificial Intelligence Adoption

Mediating Variables: Perceived Usefulness, Perceived Ease of Use, Trust, Customer Satisfaction, Service Quality

Dependent Variable: Customer Continuance Intention

10. Analysis

The reviewed literature consistently demonstrates that Artificial Intelligence is reshaping the banking industry by

improving operational efficiency, reducing transaction costs, and enhancing customer experience. However, technological innovation alone does not guarantee long-term customer retention. Customers continue using AI-enabled banking services when they perceive them as useful, convenient, secure, and trustworthy.

Customer trust remains particularly significant because AI systems handle highly sensitive financial information. Transparent AI practices, strong cybersecurity mechanisms, and effective grievance redressal systems strengthen customer confidence. Furthermore, personalized financial services generated through AI-based analytics improve customer satisfaction and encourage continued usage.

The integration of TAM, ECM, UTAUT, and Trust Theory provides a comprehensive understanding of customer continuance intention and offers valuable guidance for future empirical research.

11. Managerial Implications

Banks should prioritize customer-centric AI implementation by developing transparent, secure, and user-friendly digital platforms. Continuous investment in cybersecurity, employee training, AI governance, and ethical AI practices will enhance customer trust and satisfaction. Personalized financial recommendations and responsive AI-powered customer support can further strengthen long-term customer relationships.

12. Conclusion

Artificial Intelligence has become a strategic enabler of digital transformation in the banking sector. Existing literature indicates

that AI significantly improves banking efficiency, customer experience, and service quality. Nevertheless, sustainable success depends on customers' willingness to continue using AI-enabled banking services. This review highlights that perceived usefulness, perceived ease of use, trust, customer satisfaction, and service quality are the primary determinants of continuance intention. The proposed conceptual framework provides a useful foundation for future empirical research and offers practical guidance for banking professionals seeking to enhance customer retention in the digital era.

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