

Determinants Influencing the Adoption of Fintech Services in Public Sector Banks: An Empirical Study

Dr.J.Prabhakaran¹, Prof. (Dr.) Ravinder Rena²

¹ PDF Scholar, Lincoln University College, Malaysia; ² Professor of Economics, DUT Business School, Faculty of Management Sciences (FMS) Durban University of Technology

Email ID : pdf.prabhakaran@lincoln.edu.my ravinder.rena@gmail.com

Abstract

The digital transformation of the banking sector has accelerated significantly with the emergence of Financial Technology (Fintech), reshaping traditional banking operations and customer interactions. In India, public sector banks (PSBs) play a dominant role in financial inclusion and economic development. Although these banks have adopted various Fintech applications such as mobile banking, digital wallets, UPI platforms, and AI-enabled customer services, customer adoption remains inconsistent across demographic and regional segments. This study aims to examine the determinants influencing the adoption of Fintech services in public sector banks by integrating technological, behavioral, psychological, and social factors. Drawing upon established technology adoption theories, the study investigates the influence of perceived ease of use, perceived usefulness, performance expectancy, social influence, facilitating conditions, hedonic motivation, perceived risk, perceived benefits, attitude, and behavioral intention on Fintech adoption. The study addresses critical research gaps related to public sector banking, behavioral dimensions, government policy influence, and sustained Fintech usage. The findings are expected to offer valuable insights for policymakers, banking institutions, and Fintech developers to design inclusive, secure, and user-centric digital banking solutions.

Keywords

Fintech Adoption, Public Sector Banks, Behavioral Intention, Attitude, Perceived Risk, Digital Banking, Technology Acceptance, India

1. Introduction

Financial Technology, commonly referred to as Fintech, represents the convergence of financial services with modern digital technologies such as mobile applications, artificial intelligence, blockchain, cloud computing, and big data analytics. Fintech has fundamentally transformed the manner in which financial services are delivered, accessed, and consumed. Customers today expect banking services that are fast, convenient, secure, and accessible anytime and anywhere.

In India, the adoption of Fintech gained unprecedented momentum during and after the COVID-19 pandemic. Lockdowns, social distancing norms, and safety concerns compelled individuals and businesses to shift toward digital payment systems and online banking platforms. Government initiatives such as *Digital India*, *Jan Dhan Yojana*, *UPI*, and *Aadhaar-enabled payment systems* further accelerated the digital transformation of the banking ecosystem.

Public sector banks, which account for a significant share of India's banking network, cater to a diverse customer base including rural, semi-urban, and economically weaker sections. While these banks have introduced various Fintech solutions, customer adoption is influenced by multiple factors beyond mere availability. Issues related to usability, trust, security, awareness, technological readiness, and psychological comfort significantly affect adoption behavior. Therefore, a comprehensive examination of the determinants influencing Fintech adoption in public sector banks is essential to ensure inclusive digital growth.

2. Problem Statement

Despite significant investments by public sector banks in Fintech infrastructure and digital platforms, a substantial portion of customers remains reluctant to adopt or continuously use Fintech services. While some customers actively engage with mobile banking and digital payment systems, others prefer traditional banking methods due to fear of fraud, lack of trust, limited digital literacy, and perceived complexity of technology.

Most existing studies on Fintech adoption focus on private banks, Fintech startups, or urban customers, overlooking the unique challenges faced by public sector banks and their customers. Moreover, limited attention has been given to behavioral and psychological factors such as attitude, perceived risk, and hedonic motivation in influencing Fintech adoption. This creates a critical gap in understanding customer adoption behavior in public sector banking environments. Hence, there is a need for an empirical study to identify and analyze the key determinants influencing Fintech adoption in public sector banks.

3. Review of Literature

Several scholars have examined the adoption of technology in banking using models such as the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Innovation Diffusion Theory (IDT).

3.1 Perceived Ease of Use and Perceived Usefulness

Davis (1989) emphasized that perceived ease of use and perceived usefulness significantly influence users' attitudes toward technology adoption. Studies in digital banking contexts confirm that customers are more likely to adopt Fintech services when applications are easy to navigate and offer clear functional benefits.

3.2 Performance Expectancy

Performance expectancy refers to the extent to which users believe that using Fintech services will enhance their banking efficiency. Research suggests that customers adopt Fintech applications when they perceive improvements in transaction speed, accuracy, and convenience.

3.3 Social Influence

Social influence plays a crucial role in shaping technology adoption, especially in collectivist societies like India. Recommendations from peers, family members, and bank officials significantly impact customers' decisions to use Fintech services.

3.4 Facilitating Conditions

Facilitating conditions such as availability of internet connectivity, smartphone access, customer support, and training programs are critical for successful Fintech adoption. Lack of infrastructure and technical assistance often acts as a barrier, particularly in rural areas.

3.5 Hedonic Motivation

Hedonic motivation relates to the enjoyment and satisfaction derived from using technology. User-friendly interfaces, interactive features, and attractive designs enhance customer engagement and encourage continued usage of Fintech applications.

3.6 Perceived Risk and Perceived Benefits

Perceived risk, including concerns about data privacy, cyber fraud, and financial loss, negatively affects Fintech adoption. Conversely, perceived benefits such as convenience, cost savings, transparency, and time efficiency positively influence customer attitudes and intentions.

Despite extensive research, most studies concentrate on initial adoption rather than sustained usage and rarely integrate multiple behavioral and psychological variables in the context of public sector banks.

4. Research Gap

Based on the literature review and the PPT content, the following research gaps are identified:

1. Limited Regional Focus

Existing studies predominantly focus on urban populations and developed economies, neglecting semi-urban and rural customers who form the backbone of public sector banks.

2. Neglect of Public Sector Banks

Most research emphasizes private banks and Fintech startups, leaving public sector banks underrepresented in Fintech adoption studies.

3. Underexplored Behavioral and Psychological Factors

Psychological constructs such as trust, perceived risk, attitude, and hedonic motivation remain inadequately examined in public sector banking contexts.

4. Limited Integration of Multiple Theoretical Constructs

Many studies rely on a single adoption model, whereas this study integrates multiple determinants to provide a holistic understanding.

5. Overlooked Role of Government Policies

The influence of initiatives like Digital India and regulatory frameworks on Fintech adoption in public sector banks has not been sufficiently explored.

6. Lack of Focus on Sustained Usage

Existing research emphasizes initial adoption, with limited attention to long-term usage, engagement, and customer retention.

7. Technological Evolution Challenges

The integration of emerging technologies such as AI, machine learning, blockchain, and biometric authentication within public sector banks remains an under-researched area.

5. Research Hypotheses

Based on the review of literature, identified research gaps, and the conceptual framework derived from technology adoption theories such as TAM and UTAUT, the present study proposes a set of hypotheses to examine the determinants influencing the adoption of Fintech services in public sector banks. The hypotheses are structured to analyze the relationships among perceived factors, attitude, behavioral intention, and actual adoption of Fintech services.

5.1 Hypotheses Related to Attitude toward Fintech Apps

Attitude plays a central role in shaping customers' acceptance of Fintech services. Positive perceptions regarding usability, usefulness, performance, and benefits are expected to enhance favorable attitudes, whereas perceived risks may negatively influence attitudes.

- **H1:** Perceived Ease of Use has a significant and positive influence on users' attitude toward Fintech applications.
- **H2:** Perceived Usefulness has a significant and positive influence on users' attitude toward Fintech applications.
- **H3:** Performance Expectancy has a significant and positive influence on users' attitude toward Fintech applications.
- **H4:** Social Influence has a significant and positive influence on users' attitude toward Fintech applications.
- **H5:** Facilitating Conditions have a significant and positive influence on users' attitude toward Fintech applications.
- **H6:** Hedonic Motivation has a significant and positive influence on users' attitude toward Fintech applications.
- **H7:** Perceived Risk has a significant and negative influence on users' attitude toward Fintech applications.
- **H8:** Perceived Benefits have a significant and positive influence on users' attitude toward Fintech applications.

5.2 Hypotheses Related to Behavioral Intention to Use Fintech Apps

Behavioral intention reflects the likelihood of users adopting and continuing to use Fintech services. Various technological, social, and motivational factors are expected to directly influence behavioral intention.

- **H9:** Performance Expectancy has a significant and positive influence on users' behavioral intention to use Fintech applications.
- **H10:** Social Influence has a significant and positive influence on users' behavioral intention to use Fintech applications.
- **H11:** Facilitating Conditions have a significant and positive influence on users' behavioral intention to use Fintech applications.
- **H12:** Hedonic Motivation has a significant and positive influence on users' behavioral intention to use Fintech applications.
- **H13:** Perceived Risk has a significant and negative influence on users' behavioral intention to use Fintech applications.
- **H14:** Perceived Benefits have a significant and positive influence on users' behavioral intention to use Fintech applications.

5.3 Hypotheses Related to Mediation and Adoption

Attitude and behavioral intention are considered key mediating variables in technology adoption models. This study examines their mediating effects on Fintech adoption in public sector banks.

- **H15:** Attitude toward Fintech applications has a significant and positive influence on users' behavioral intention to adopt Fintech services.
- **H16:** Behavioral intention has a significant and positive influence on the actual adoption of Fintech applications in public sector banks.

5.4 Summary of Hypotheses Structure

The hypotheses collectively examine:

- The impact of technological, social, motivational, and risk-related factors on attitude
- The direct influence of these factors on behavioral intention
- The mediating role of attitude and behavioral intention in Fintech adoption

This comprehensive hypothesis framework enables a deeper understanding of both initial adoption and sustained usage of Fintech services in public sector banks.

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