Fintech Adoption in Emerging Markets: A Longitudinal Analysis of Consumer Trust and Mobile Banking Integration

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ABSTRACT

Fintech adoption in emerging markets is driven by mobile integration and the systematic reduction of perceived financial risk, though consumer trust remains the primary mediator bridging traditional banking habits with digital-first solutions. [1, 2]

Think of consumer trust in fintech like a bridge built between an old fortress (traditional brick-and-mortar banks) and a new highway (mobile apps): no matter how fast or convenient the highway is, people will not drive on it until they believe the bridge will hold their weight safely. [1]

KEYWORDS- Fintech, markets, consumer, mobile, banking, digital

INTRODUCTION

Key Drivers of Trust and Mobile Banking Integration

- Trust as a Core Mediator: Empirical research via the Technology Acceptance Model (TAM) and Extended UTAUT frameworks shows that user trust directly reduces uncertainty, turning brand reputation, government backing, and perceived security into actual adoption intent. [1, 2]
- Longitudinal Trends (2011–2021 & Beyond): Longitudinal tracking (such as Global Findex data integrated across emerging economies) highlights that mobile infrastructure expansion and rising smartphone penetration have accelerated digital payment and micro-lending usage. [1, 2]
- Bridging the Unbanked: While urban middle classes often maintain strong trust in legacy brick-and-mortar institutions, unbanked, rural, and younger populations rapidly adopt fintech mobile wallets for daily utility, low-cost transfers, and alternative credit access. [1, 2]
- SME Performance Impact: Structural equation modeling on emerging market enterprises indicates that mobile banking and digital payment integration measurably cut transaction costs and improve operational cash flow. [1]
    - Enablers vs. Barriers Matrix

Category	Key Factors	Impact on Adoption
Enablers	• High smartphone & 4G/5G penetration • Perceived usefulness & daily convenience • Institutional/government support	Drives high frequency in peer-to-peer payments and micro-transactions.

	& brand image	
Barriers	• Trust deficits & fear of fraud • Regulatory & data privacy uncertainty • Limited digital/financial literacy	Slows down adoption for high-value savings, wealth management, and older demographics.

Chronological Evolution of Mobile & Fintech Integration

1. Digitization Phase (Legacy Online Banking): Early web portals mirrored physical bank branch mechanics with high friction and desktop dependency. [1]
2. Smartphone & App Expansion (Fintech 3.0 / 3.5): Proliferation of mobile-first payment gateways, lightweight wallets, and peer-to-peer transfers tailored to emerging economies. [1]
3. Ecosystem Integration & Neobanks (Fintech 4.0): Convergence of mobile banking with alternative credit scoring, embedded finance, and AI-driven personal services. [1, 2]

Risk & Mitigation Framework

- Perceived Security & Privacy Risk: Addressed through biometric authentication, multi-factor security, and clearer regulatory compliance. [1, 2]
- Institutional Credibility Deficit: Overcome when fintechs partner with or mimic the compliance standards of established commercial banks. [1]
- Downside Impact: Unmitigated trust failures or data breaches risk catastrophic churn, driving users back to cash or state-backed traditional institutions.[1,2,3]

DISCUSSION

Financial technology (FinTech) describes the implementation of modern technological solutions to deliver financial services that improve operational efficiency, individualized service delivery, and accessibility for both consumers and institutions [1]. Over the past decade, FinTech has transformed global financial services by disrupting conventional banking systems and creating new financial products such as mobile payments, peer-to-peer lending, robo-advisory services, and blockchain-enabled solutions. The expanding FinTech ecosystem includes startups, incumbent banks, technology providers, and regulators, who jointly drive financial innovation [2]. Consumer adoption of FinTech is pivotal as it prompts banks to revise their business models, foster innovation, and integrate technological advancements to remain competitive [3].

Various enablers, such as convenience, ease of use, and enhanced customer experiences and institutional support, encourage consumer adoption of FinTech [4]. By institutional support we mean policy, governance, and resource arrangements such as regulatory clarity, supervisory guidance, and shared digital infrastructure. At the same time, significant barriers—including trust issues, cybersecurity concerns, and inadequate financial literacy—continue to impede the widespread adoption of FinTech [2]. Together, these consumer-level dynamics shape banks' strategic responses, operational efficiency, customer engagement, and overall market competitiveness.[4,5,6]

The integration of FinTech presents both opportunities and challenges for traditional banks. On the one hand, banks can leverage FinTech to enhance their operational efficiency, offer improved

and personalized customer services, and develop new revenue streams through innovative products and services [2]. On the other hand, banks face considerable challenges in adapting to rapid technological changes, particularly in the context of maintaining customer trust and managing risks associated with digital transformations, related to data security, regulatory compliance, and potential disruptions in customer service [3]. We use digital transformation to describe an organization-wide, strategy-led redesign of processes and service models using digital technologies (e.g., APIs, mobile platforms, data analytics, and AI) to deliver measurable performance outcomes.

Academic interest in FinTech has expanded rapidly, particularly along two dimensions: (1) the factors that drive or hinder consumer adoption, and (2) the impacts of its adoption on bank performance. Several systematic reviews have mapped these domains in isolation; for example, the authors of [4] analyzed 16 studies on FinTech adoption. In doing so, they showed that trust, financial literacy, user attitudes, and perceived risk act as essential drivers according to the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) models. They examined payments, lending, crowdfunding, and blockchain to analyze relevant security aspects, legislative frameworks, and business model innovations. The authors of [5] performed a meta-analysis to synthesize empirical research on the determinants of the adoption of services such as mobile banking, mobile money, e-wallets, and internet banking. They analyzed these factors through the lens of established technology adoption models such as the TAM and UTAUT, then categorized and quantified the effects of various determinants of adoption and highlighted some research gaps, especially the under-representation of supply-side studies and large-scale field experiments. On the performance side, the authors of [6] studied both bank- and country-level FinTech metrics, compiling key determinants influencing bank profitability. They examined previous research methods and theoretical approaches, including disruptive innovation and consumer theory, before suggesting future research directions for Islamic banking, developing economies, and risk management. The authors of [7] used bibliometric and thematic methods to show how FinTech affects bank efficiency, profitability,[7,8,9] risk management, stability, and competitiveness. They also examined how regulatory frameworks and infrastructure can both support and hinder these effects. However, the existing body of review work lacks a comprehensive study connecting micro-level drivers of adoption to macro-level performance results. While adoption research is richly grounded in models such as the TAM, UTAUT, and the Theory of Planned Behavior (TPB), performance studies have typically remained empirical. Recent reviews still look at consumer adoption and bank performance as two separate areas. For example, Ref. [8] provided a review of the use of FinTech and how it affects financial inclusion, while Ref. [9] systematically analyzed how FinTech-based innovation affects financial performance and stability. While these studies contribute to the field, they are limited to one aspect of the adoption–performance dichotomy. Our systematic literature review is, to the best of our knowledge, the first to bring these two areas together into a unified framework. We combine these two research streams into thematic clusters that link consumer-level enablers of and barriers to the adoption of FinTech (e.g., digital literacy and ease of use) with bank-level outcomes (e.g., profitability, efficiency, and competitiveness). In this way, we offer a novel cross-level perspective that addresses a major gap in the literature.[10,11,12]

RESULTS

The rapid evolution of the financial sector, driven by fintech innovations underscores the importance of understanding the factors influencing mobile fintech adoption, especially in light of privacy and security concerns that hinder user acceptance. This study bridges a gap in the existing literature by proposing an integrated model synthesising perceived value and risk theories, offering a comprehensive framework for analysing mobile fintech adoption. Employing a dual-method approach that integrates Partial Least Squares Structural Equation Modelling (PLS-SEM) and fuzzy-set Qualitative Comparative Analysis (fsQCA), this study empirically investigates the interplay of various value and risk factors affecting adoption intentions among Chinese users. The PLS-SEM results reveal that the integrated model substantially enhances explanatory power, accounting for 46.27% of the variance in mobile fintech adoption. Utilitarian value, social value, performance risk, and time risk show statistically significant net effects on adoption. The fsQCA results identify seven distinct configurations associated with high-level mobile fintech adoption, and eight causal paths giving rise to its negation, highlighting the complexity of decision-making processes in this context. These findings have significant implications for both academic discourse and practical applications, advocating for the adoption of multifactorial frameworks in future studies to enhance understanding of technology acceptance in dynamic environments.

The financial sector is undergoing a fintech revolution, driven by the Covid-19 epidemic, accelerating the demand for contactless financial services via web-based platforms. This transformation has led to the widespread adoption of mobile fintech such as mobile payments (proximity, peer-to-peer, and remote payments) (Alalwan et al. 2024), digital currency, and intelligent transaction and financial management (Mazambani and Mutambara, 2020), fundamentally reshaping the global financial ecosystem (Zhao and Khaliq, 2024). Despite the numerous advantages of mobile fintech and its positive impact on economies and industries, this innovation also presents several challenges. As more businesses adopt mobile fintech and transition to digital platforms, customers face growing concerns over privacy and security risks (Jain and Raman, 2023; Ryu, 2018; Suzianti et al. 2022). Therefore, identifying the key factors influencing customers' adoption of mobile fintech is crucial for promoting its widespread adoption.[13,14,15]

Drawing from various technology adoption theories, numerous studies have identified key factors influencing individuals' intention to accept or use fintech services (Rahim et al. 2023; Zhong et al. 2021). However, a substantial body of empirical research focuses on mobile fintech adoption from the perspective of the 'bright side' theory, e.g., the theory of planned behaviour (TPB) (Mazambani and Mutambara, 2020), technology acceptance model (TAM) (Jünger and Mietzner, 2020; Shaikh et al. 2020), unified theory of acceptance and use of technology (UTAUT) (Khatun and Tamanna, 2021; Xie et al. 2021), and diffusion of innovation (DOI) (Pham and Ho, 2015). These studies primarily emphasise the benefits of mobile fintech adoption, while often overlooking potential risks, and failing to integrate value- and risk-related factors into a comprehensive model (Alalwan et al. 2024; Ryu, 2018; Zhao and Khaliq, 2024). As a result, the current understanding of consumer behaviour remains incomplete (Belanche et al.

2019). A comprehensive examination of the adoption decision-making process requires a multi-theoretical approach. Therefore, it is significant to explore strategies to encourage consumers to adopt mobile fintech from an integrated perspective, considering both its positive and negative consequences.

Moreover, empirical research on mobile fintech adoption predominantly relies on traditional analytical methods, such as regression analysis (Fan, 2022; Jünger and Mietzner, 2020), covariance-based structural equation modelling (CB-SEM) (Khatun and Tamanna, 2021; Rahim et al. 2023; Singh et al. 2020), and partial least square structural equation modelling (PLS-SEM) (Ali et al. 2021; Chan et al. 2022; Hu et al. 2019; Zhong et al. 2021). However, causal relationships between factors and outcomes tend to be asymmetric (Kourouthanassis et al. 2017; Wang et al. 2021), whereas these methods primarily emphasize symmetric relationships, which may not capture the full complexity of adoption behaviour (Fiss, 2011; Gligor and Bozkurt, 2020).

To bridge these research gaps, this study responds to the calls for a holistic approach to understanding the determinants of individuals' willingness to adopt and use mobile fintech. Drawing on a review of studies related to mobile fintech adoption, we develop an integrated theoretical model that incorporates both perceived value and perceived risk theories. These theories, widely employed in IS innovation adoption studies, provide a robust framework for explaining mobile fintech acceptance. This integrated model overcomes the limitations of relying on a single theoretical model to explain individual behaviour. We then employ both symmetric (PLS-SEM) and asymmetric (fsQCA) methods to explore how these determinants influence the intention to accept mobile fintech. This dual-method approach provides a more holistic understanding of the drivers behind mobile fintech adoption.[16,17,18]

CONCLUSION

While fintech innovations offer substantial benefits, there are equally significant risks that deter user adoption, especially concerning privacy, security, and trust. Traditional adoption models have often focused on either the positive or negative aspects of technology acceptance, leading to an incomplete understanding of the value-risk balance shaping user behaviour. Based on the perceived value theory and perceived risk theory, we employ both PLS-SEM and fsQCA to provide a comprehensive understanding of mobile fintech adoption through the examination of ten constructs related to value and risk. The dual-method approach reveals that utilitarian value has the strongest positive effect on users'[19,20,21] behavioural intention to adopt mobile fintech, corroborating its significance in previous literature. In contrast, enjoyment value shows no significant positive impact, suggesting that mobile fintech is perceived more as a utilitarian service rather than a hedonic one. Additionally, the study finds that social value plays a crucial role in adoption, with both methods identifying it as a core condition influencing behavioural intention. Conversely, while financial risk was anticipated to be a significant barrier, the analysis indicates a minimal impact, likely due to regulatory measures enhancing consumer confidence.

Performance risk emerges as a significant negative influence, reinforcing its role as a critical barrier to adoption. Furthermore, the fsQCA results unveil seven configurations associated with high behavioural intention and four configurations linked to low behavioural intention, highlighting the complexity of the interplay between various factors. This nuanced understanding underscores the importance of considering both positive and negative influences on mobile fintech adoption, providing valuable insights for researchers and practitioners aiming to enhance user engagement in the mobile finance sector.[22]

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