Beyond Initial Acceptance: A Multitheoretical Synthesis of Mobile Banking Use and Consumer Risk.

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Abstract:

Mobile banking has transitioned from a supplementary financial tool to the primary channel through which consumers manage everyday transactions. Despite widespread smartphone penetration and substantial institutional investment in digital infrastructure, adoption rates continue to fall short of projected benchmarks, underscoring persistent behavioural and perceptual barriers among users. This paper presents a narrative thematic review of the extant literature on mobile banking adoption, synthesising insights from both foundational and contemporary theoretical frameworks, including the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), Innovation Diffusion Theory (IDT), the Decomposed Theory of Planned Behaviour (DTPB), and Perceived Risk Theory. Drawing on empirical evidence from diverse consumer markets, the review identifies and categorises the principal determinants of adoption into enabling factors—namely perceived ease of use, time efficiency, convenience, and lifestyle compatibility—and inhibiting factors, encompassing multi-dimensional perceived risk (financial, privacy/ security, performance, time, and social), interface complexity, and opaque cost structures. The analysis reveals that adoption decisions are shaped by a complex interplay of cognitive, emotional, and contextual variables that vary significantly across demographic and geographic segments. Synthesising these findings, the paper proposes an integrated conceptual framework and six testable research propositions, identifies critical gaps in the current body of knowledge—particularly regarding longitudinal adoption trajectories, underbanked populations, and cross-cultural generalizability—and proposes directions for future empirical inquiry. The findings carry practical implications for financial institutions, UX designers, and policymakers seeking to accelerate inclusive digital financial participation.

1. Introduction and Background Context

The integration of information and communication technologies (ICTs) into the banking sector has fundamentally restructured the architecture of financial service delivery, displacing traditional branch-based interactions in favor of continuous, platform-driven digital engagement. Over the past two decades, financial institutions worldwide have committed unprecedented capital to digital transformation initiatives, pursuing the dual objectives of operational efficiency and expanded market reach. Yet a persistent and theoretically significant paradox has emerged: despite the proliferation of sophisticated mobile banking infrastructure, consumer adoption rates consistently fall short of institutional projections, revealing a structural disconnect between technological capability and behavioral uptake (Souiden, Ladhari, & Chaouali, 2020). Understanding the forces that govern this gap is not merely an

academic exercise—it carries direct implications for financial inclusion, institutional competitiveness, and the long-term viability of digital banking ecosystems.

Mobile banking, broadly defined as the use of mobile devices and wireless networks to access and execute financial services, occupies an increasingly central position in the global financial landscape. From peer-to-peer fund transfers and bill payments to investment management and insurance procurement, its functional scope has expanded dramatically, rendering it an indispensable instrument of everyday economic life. Global mobile banking users surpassed 2 billion active accounts by 2023 and are projected to grow steadily through the latter half of the decade (Statista, 2023); yet adoption remains uneven, with pronounced regional and demographic disparities, particularly across developing economies where digital financial inclusion remains a policy priority.

This paper contributes to the growing body of scholarship on mobile banking adoption by conducting a multitheoretical narrative review that synthesizes evidence across five established theoretical lenses: the Technology Acceptance Model (TAM; Davis, 1989), the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2; Venkatesh, Thong, & Xu, 2012), Innovation Diffusion Theory (IDT; Rogers, 1995), the Decomposed Theory of Planned Behavior (DTPB; Taylor & Todd, 1995), and Perceived Risk Theory (Bauer, 1960; Featherman & Pavlou, 2003). While prior reviews have tended to focus on individual or paired frameworks—for example, Bashir et al. (2023) restricted their systematic review to UTAUT and UTAUT2 applications, and Souiden et al. (2020) organized 76 manuscripts under five behavioral perspectives—the present review is distinguished by its explicit multitheoretical scope, its taxonomy of enabling and inhibiting factors, and its derivation of an integrated conceptual framework with testable propositions.

The remainder of this paper is organized as follows. Section 2 describes the review methodology. Section 3 presents the five theoretical frameworks. Section 4 examines enabling factors, and Section 5 addresses inhibiting factors with particular attention to the multi-dimensional nature of perceived risk. Section 6 introduces the integrated conceptual framework and research propositions. Section 7 provides a study summary. Section 8 identifies research gaps, Section 9 discusses practical implications, and Section 10 concludes.

2. Review Methodology

This paper adopts a narrative thematic review approach, which differs from a systematic review in that it does not follow a formal protocol such as PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) or employ a statistically structured inclusion and exclusion process. Instead, the review is organized around five theoretical frameworks as

analytical lenses, using a framework-driven thematic synthesis to categorize and interpret the existing empirical and conceptual literature on mobile banking adoption.

2.1 Scope and Search Strategy

The review targets peer-reviewed journal articles, conference proceedings, and book chapters published between 1989 (the year Davis introduced TAM) and 2025. Relevant literature was identified through searches of Google Scholar, ScienceDirect, SSRN, ResearchGate, and the EBSCO Business Source databases. Search terms included combinations of: 'mobile banking adoption,' 'mobile payment acceptance,' 'TAM mobile banking,' 'UTAUT2 mobile banking,' 'innovation diffusion theory banking,' 'perceived risk mobile banking,' 'technology acceptance model digital finance,' and 'decomposed theory of planned behavior banking.' Studies were selected on the basis of relevance to at least one of the five theoretical frameworks and their direct focus on consumer behavioral intention toward or actual use of mobile banking services.

2.2 Inclusion Criteria

Studies were included if they: (1) examined mobile banking adoption, acceptance, or intention to use; (2) applied one or more of the five theoretical frameworks specified above; (3) were published in English in peer-reviewed outlets; and (4) were grounded in primary empirical data or provided substantive theoretical contributions to the adoption literature. Studies exclusively focused on other digital financial services (e.g., cryptocurrency, robo-advisory) without reference to mobile banking were excluded. The final corpus synthesized in this review draws on approximately 24 core references; the authors acknowledge that a formal systematic search would yield a larger reference base and encourage future work to undertake a full PRISMA protocol review across this domain.

2.3 Analytical Framework

The primary analytical structure organizes findings along two dimensions: (a) a theoretical dimension, in which each framework's core constructs are identified and their explanatory contribution to mobile banking adoption is assessed; and (b) a factor-based dimension, in which the determinants of adoption are classified as either enabling (positively influencing behavioral intention) or inhibiting (negatively moderating adoption). This dual taxonomy is consistent with the organizing logic employed in prior reviews (Souiden et al., 2020; Bashir et al., 2023) and provides a structured basis for the integrated conceptual framework developed in Section 6.

3. Theoretical Frameworks

The five theoretical frameworks selected for this review collectively span cognitive, behavioral, diffusion-based, and risk-based traditions in technology adoption research. Each framework contributes distinct explanatory constructs that, in combination, offer a comprehensive account of mobile banking adoption behavior. The following subsections summarize the core constructs and their established relevance to the mobile banking context.

3.1 Technology Acceptance Model (TAM)

Introduced by Davis (1989), the Technology Acceptance Model represents the most widely applied theoretical lens in information systems adoption research. TAM posits that two primary cognitive perceptions—Perceived Usefulness (PU) and Perceived Ease of Use (PEOU)—together determine a user's Attitude Toward Use, which in turn shapes Behavioral Intention (BI) and ultimately leads to Actual System Use. In the mobile banking context, PU captures the degree to which users believe mobile banking will enhance their financial management efficiency, while PEOU reflects the perceived cognitive effort required to operate mobile banking interfaces (Luarn & Lin, 2005). Empirical studies consistently confirm the predictive power of both constructs across diverse markets (Hedau, 2025; Sankaran & Chakraborty, 2022), validating TAM as a foundational explanatory model even as more comprehensive successors have emerged.

3.2 Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)

Venkatesh, Thong, and Xu (2012) developed UTAUT2 as an extension of the original UTAUT (Venkatesh et al., 2003) to better address consumer technology adoption in non-organizational settings. UTAUT2 incorporates seven key constructs: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), Hedonic Motivation (HM), Price Value (PV), and Habit (HB). Three constructs added in UTAUT2—HM, PV, and HB—are particularly salient in the mobile banking context. Hedonic Motivation captures the intrinsic enjoyment derived from mobile banking interactions; Price Value addresses the cognitive trade-off between perceived benefits and monetary costs; and Habit reflects the automaticity of repeated mobile banking use over time. Studies applying UTAUT2 to mobile banking have documented significant variance explanation exceeding that achievable through TAM alone, particularly in markets where affective and experiential drivers of adoption complement cognitive utilitarian evaluations (Baptista & Oliveira, 2015; Sankaran & Chakraborty, 2022).

3.3 Innovation Diffusion Theory (IDT)

Rogers (1995) proposed that the rate at which an innovation diffuses through a social system is governed by five perceived characteristics: Relative Advantage, Compatibility, Complexity, Trialability, and Observability. In mobile banking adoption research, Relative Advantage—the degree to which mobile banking is perceived as superior to conventional branch-based banking—and Compatibility—its alignment with existing financial habits, values, and lifestyles—have consistently emerged as strong positive predictors of adoption (Koenig-Lewis, Palmer, & Moll, 2010). Trialability, which reflects the extent to which prospective users can experiment with mobile banking prior to full commitment, has been shown to reduce perceived risk and lower adoption barriers, particularly among technology-hesitant demographic segments. IDT thus enriches the adoption literature by situating mobile banking within the broader social and cultural context of financial service consumption, rather than treating adoption as an isolated individual decision.

3.4 Decomposed Theory of Planned Behavior (DTPB)

Taylor and Todd (1995) extended Ajzen's (1991) Theory of Planned Behavior by decomposing its antecedents into more granular belief structures drawn from TAM and IDT. In the DTPB, Attitude Toward Using Technology is decomposed into beliefs about usefulness, ease of use, and compatibility; Subjective Norm incorporates peer influence and superior influence; and Perceived Behavioral Control encompasses self-efficacy and facilitating conditions. This decomposition provides a more nuanced account of the determinants of behavioral intention than either TAM or the original TPB alone. In mobile banking contexts, DTPB has been particularly valuable in distinguishing between cognitive evaluations (usefulness, ease of use) and social normative pressures (peer and family influence) as co-determinants of adoption decisions (Taylor & Todd, 1995). The model's explicit attention to self-efficacy is especially relevant in contexts where users face technological literacy barriers or limited digital infrastructure.

3.5 Perceived Risk Theory

The conceptual foundation of Perceived Risk Theory in consumer behavior was laid by Bauer (1960), who observed that consumer action is inherently uncertain and may produce consequences the consumer cannot fully anticipate. Jacoby and Kaplan (1972) subsequently proposed a multi-dimensional decomposition of perceived risk into distinct facets. Featherman and Pavlou (2003) adapted this framework to e-services, identifying five risk dimensions—Performance, Financial, Time, Psychological, and Social Risk—as significant inhibitors of e-service adoption. In mobile banking research, perceived risk has been conceptualized both as

a unidimensional aggregate construct and as a multi-faceted variable. The latter approach, as demonstrated by Luo, Li, Zhang, and Shim (2010), provides substantially greater explanatory power by revealing the differential impacts of specific risk types on adoption intention. The multi-dimensional treatment of perceived risk is further elaborated in Section 5.

4. Enabling Factors in Mobile Banking Adoption

Enabling factors are constructs that positively and significantly influence consumers' behavioral intentions to adopt mobile banking. Drawing on the five theoretical frameworks, this section identifies the most empirically robust and theoretically grounded enablers: perceived ease of use and usefulness, time efficiency and convenience, lifestyle compatibility, social influence, and hedonic motivation.

4.1 Perceived Ease of Use and Perceived Usefulness

Perceived ease of use (PEOU) and perceived usefulness (PU) from TAM represent the foundational cognitive enablers of mobile banking adoption. PEOU refers to the degree to which a user expects the mobile banking interface to be effortless and intuitive, while PU captures the expectation that mobile banking will improve financial management effectiveness and efficiency. Empirical evidence consistently confirms that both constructs exert significant positive effects on behavioral intention across diverse geographic and demographic contexts (Davis, 1989; Luarn & Lin, 2005; Hedau, 2025). Studies conducted in India (Sankaran & Chakraborty, 2022), Iran (Hanafizadeh et al., 2014), and the United Kingdom (Koenig-Lewis et al., 2010) uniformly report strong positive associations between PEOU and PU on one hand and adoption intention on the other, though the relative magnitude of each construct's influence varies with demographic characteristics such as age, prior ICT experience, and educational attainment.

4.2 Time Efficiency and Convenience

Time efficiency and convenience represent transaction-level enablers that reflect the utilitarian benefits of mobile banking over conventional channels. Berry, Seiders, and Grewal (2002) conceptualized service convenience as reduced time and effort across five stages: decision, access, transaction, benefit, and post-benefit. In the mobile banking context, eliminating physical branch visits, enabling 24/7 transaction execution, and reducing queuing time collectively constitute a compelling value proposition for time-conscious consumers (Shankar & Rishi, 2020). Research in Australia, the United Kingdom, and South Asia documents that convenience perception is among the strongest predictors of mobile banking adoption intention, particularly for working professionals and urban consumers for whom opportunity cost of time is high.

4.3 Compatibility and Relative Advantage

Drawing on IDT, compatibility refers to how consistent mobile banking is with users' existing values, prior financial service experiences, and daily lifestyle routines. Relative advantage captures users' perception that mobile banking is superior to traditional banking channels. Koenig-Lewis et al. (2010) reported that young consumers who perceive mobile banking as compatible with their digital lifestyle exhibit significantly higher adoption propensity, independent of functional capability assessments. Rogers' (1995) diffusion framework further suggests that higher perceived compatibility accelerates diffusion across social networks, as compatible innovations require less behavioral reconfiguration and therefore face lower adoption resistance. This insight is particularly relevant in markets where existing mobile phone use for social and commercial purposes is already normalized.

4.4 Social Influence and Subjective Norm

Social influence—a construct shared across UTAUT2, the Theory of Planned Behavior, and IDT (through Observability)—captures the degree to which significant others' opinions and behaviors shape an individual's adoption decision. In mobile banking research, social influence consistently emerges as a moderately strong predictor of adoption intention, particularly among younger and more socially connected users (Baptista & Oliveira, 2015). This mechanism operates through both normative pressure (the sense that peers 'expect' one to use mobile banking) and informational influence (using peers' experiences to guide one's evaluation of the technology). In markets where word-of-mouth financial advice carries high cultural credibility—particularly in collectivist societies in South and Southeast Asia—social influence may outweigh purely functional considerations in determining adoption propensity.

4.5 Hedonic Motivation and Intrinsic Drivers

The inclusion of Hedonic Motivation (HM) in UTAUT2 reflects the recognition that technology adoption is not exclusively driven by instrumental evaluations of utility. HM captures the enjoyment, playfulness, and intrinsic satisfaction that users derive from engaging with mobile banking platforms. While hedonic motivations are more commonly associated with entertainment and gaming applications, research has demonstrated their relevance in mobile banking adoption, particularly among digitally native cohorts who evaluate financial applications using experiential as well as functional criteria (Venkatesh et al., 2012; Sankaran & Chakraborty, 2022). Gamified onboarding features, aesthetically refined interfaces, and interactive financial visualization tools represent practical design strategies through which financial institutions can activate hedonic motivations to complement utilitarian adoption drivers.

5. Inhibiting Factors in Mobile Banking Adoption

Inhibiting factors are constructs that negatively influence adoption intention by increasing perceived costs, uncertainties, or barriers associated with mobile banking use. The most prominent inhibitors documented in the literature include multi-dimensional perceived risk, interface complexity, opaque cost structures, and security concerns. Of these, perceived risk is the most theoretically rich and empirically robust inhibitor, and this review treats it with the multi-dimensional decomposition it demands.

5.1 Multi-Dimensional Perceived Risk

Consistent with Featherman and Pavlou (2003) and Luo et al. (2010), this review treats perceived risk as a multi-faceted construct rather than a unidimensional aggregate. Decomposing perceived risk into distinct dimensions is theoretically important because different risk types stem from different antecedents, require different institutional responses, and affect behavioral intention in heterogeneous ways. The five primary dimensions of perceived risk in mobile banking are as follows:

5.1.1 Financial Risk

Financial risk refers to the potential for monetary loss arising from unauthorized transactions, system errors, double-charging, or fraudulent activity during mobile banking operations (Featherman & Pavlou, 2003). It represents one of the most frequently cited inhibitors of mobile banking adoption across both developed and developing markets. Consumers with limited financial buffers—including large segments of the unbanked and underbanked populations targeted by financial inclusion initiatives—are disproportionately sensitive to financial risk perceptions. Research by Luo et al. (2010) established that financial risk exerts a significantly stronger inhibitory effect than performance risk in initial adoption contexts, where users lack prior experience to calibrate their risk assessments. Institutional safeguards such as deposit insurance communication, zero-liability fraud policies, and real-time transaction alerts have been identified as effective trust-building mechanisms that can attenuate financial risk perceptions.

5.1.2 Privacy and Security Risk

Privacy and security risk encompasses users' concerns about unauthorized access to personal and financial data, interception of mobile transactions, and third-party misuse of sensitive information (McKnight, Choudhury, & Kacmar, 2002). The escalating frequency and sophistication of cyberattacks on financial infrastructure —including phishing, SIM-swapping, and man-in-the-middle attacks—has amplified these perceptions. Privacy risk is conceptually distinct from security risk: while security risk concerns the integrity of transactions and data in

transit, privacy risk pertains to the longer-term implications of surveillance, data monetization, and identity exposure from mobile banking engagement. Both dimensions consistently emerge as among the strongest inhibitors of mobile banking adoption in quantitative studies (Zhou, Lu, & Wang, 2010; Srivastava & Vishnani, 2021). Introducing biometric authentication, end-to-end encryption standards, and transparent data governance policies is the most evidence-based approach to reducing this category of perceived risk.

5.1.3 Performance Risk

Performance risk reflects the possibility that mobile banking systems will fail to function as expected—due to system downtime, processing errors, transaction failures, or poor service quality—resulting in financial inconvenience or loss (Featherman & Pavlou, 2003). Performance risk is particularly salient in markets with unreliable telecommunications infrastructure or where mobile banking applications have a documented history of technical instability. For first-time adopters, the lack of prior experience means performance risk must be assessed based on institutional reputation, peer recommendations, and observable service-quality signals rather than direct personal experience. Financial institutions that invest in robust platform architecture, transparent service-level agreements, and accessible customer support channels can materially reduce performance risk perceptions.

5.1.4 Time Risk

Time risk captures the potential loss of time associated with mobile banking system failures, transaction processing delays, error resolution procedures, and the learning curve required to master mobile banking interfaces (Jacoby & Kaplan, 1972). While time efficiency enables mobile banking when it operates as intended, the anticipated downside of potential time loss creates a distinct inhibitory perception. Time risk is particularly consequential in urgent transaction contexts—such as bill payment deadlines or emergency fund transfers—where system failure is not merely inconvenient but potentially financially damaging. Interface design interventions that reduce operational complexity and clearly communicate transaction status can lower time-risk perceptions by giving users real-time feedback and confidence in task completion.

5.1.5 Social Risk

Social risk refers to the potential for embarrassment, loss of social standing, or negative peer evaluation arising from the use—or publicly visible misuse—of mobile banking services (Featherman & Pavlou, 2003). In collectivist cultural contexts, social risk is amplified by the visibility of financial transactions and the cultural significance of perceived financial competence. Research in South and Southeast Asian markets suggests that social risk can

meaningfully deter adoption, particularly among older and less digitally experienced consumers who fear being perceived as technologically incapable by peers or financial advisors. Strategies that normalize mobile banking through visible social endorsement, peer testimonials, and prominently publicized adoption statistics can reduce perceptions of social risk.

5.2 Interface Complexity

Interface complexity, corresponding to IDT's Complexity construct and TAM's PEOU dimension, captures users' perceptions of the cognitive and operational demands imposed by mobile banking application design. Overly complex navigation structures, non-intuitive transaction flows, and inconsistent interface conventions represent design-level barriers that disproportionately affect less digitally experienced users, including older consumers and first-time adopters in developing markets (Thakkar, 2024). The consequences of interface complexity extend beyond initial adoption resistance to include abandonment rates among trial users who encounter usability barriers during onboarding. UX design principles such as progressive disclosure, contextual help systems, and simplified transactional flows have shown efficacy in reducing perceived complexity.

5.3 Opaque Cost Structures and Price Value Perception

Opaque or poorly communicated fee structures represent a pricing-level barrier to mobile banking adoption that purely psychological models often overlook. UTAUT2's Price Value construct (Venkatesh et al., 2012) captures the consumer's cognitive trade-off between the perceived benefits of mobile banking and its associated monetary costs. When transaction fees, service charges, or data costs are poorly disclosed, consumers may default to conservative utility assessments that underestimate mobile banking's net value proposition. This is particularly problematic in markets where data costs are high or where low-income consumers operate under tight financial constraints. Transparent fee disclosure, competitive pricing structures, and active promotion of cost savings relative to traditional banking channels are actionable strategies to neutralize this inhibitor.

6. Integrated Conceptual Framework and Research Propositions

Building on the preceding synthesis, this section presents an integrated conceptual framework that organizes the five theoretical frameworks and their associated constructs into a coherent explanatory model of mobile banking adoption. The framework is structured around three analytical layers: (1) the theoretical input layer, comprising the constructs derived from TAM, UTAUT2, IDT, DTPB, and Perceived Risk Theory; (2) the mediating layer, comprising enabling and inhibiting factor categories that intervene between theoretical constructs and

behavioral intention; and (3) the outcome layer, comprising Behavioral Intention and Actual Mobile Banking Adoption. Figure 1 depicts the framework schematically.

The integrated framework is grounded in the established logic of the Technology Acceptance Model and UTAUT2—where cognitive and hedonic evaluations of a technology generate a behavioral intention that precedes actual use—and extends that logic by incorporating the inhibitory and moderating roles of perceived risk, cultural compatibility, and social normative pressure documented in IDT, DTPB, and Perceived Risk Theory. Importantly, the framework treats perceived trust as a mediating variable between the risk inhibitor layer and behavioral intention, reflecting the established finding that trust attenuates the negative effect of perceived risk in digital financial service contexts (McKnight et al., 2002; Luo et al., 2010).

Six research propositions are derived from the integrated framework. These propositions are intended as a structured agenda for future empirical research rather than claims validated by the present narrative review:

Proposition P1: Perceived ease of use (TAM) and performance expectancy (UTAUT2) jointly and positively predict behavioral intention to adopt mobile banking, with the relative weight of each construct moderated by prior ICT experience and technological self-efficacy (DTPB).

Proposition P2: Compatibility (IDT) and habit (UTAUT2) positively moderate the relationship between technology acceptance constructs and adoption intention, such that users whose financial behaviors are already digitally embedded exhibit stronger intention-to-adopt responses to equivalent levels of perceived usefulness.

Proposition P3: Attitude toward mobile banking, decomposed via DTPB into beliefs about usefulness, ease of use, and compatibility, partially mediates the relationship between TAM/UTAUT2 constructs and behavioral intention, with the mediation effect stronger in individualist than in collectivist cultural contexts.

Proposition P4: Multi-dimensional perceived risk (financial, privacy/security, performance, time, and social) significantly and differentially inhibits behavioral intention to adopt mobile banking, with financial and privacy/security risk exhibiting the largest negative effects in initial adoption contexts and performance and time risk becoming relatively more salient in post-adoption continuance decisions.

Proposition P5: Perceived institutional trust mediates the negative relationship between multi-dimensional perceived risk and behavioral intention, with the mediating effect of institutional trust stronger in developing market contexts where formal consumer protection frameworks are less established.

Proposition P6: The relative weight of enabling versus inhibiting determinants of mobile banking adoption intention is moderated by demographic variables (age, income, education) and contextual infrastructure factors (network reliability, regulatory environment), generating market-specific adoption profiles that resist universality.

Figure 1: Integrated Conceptual Framework

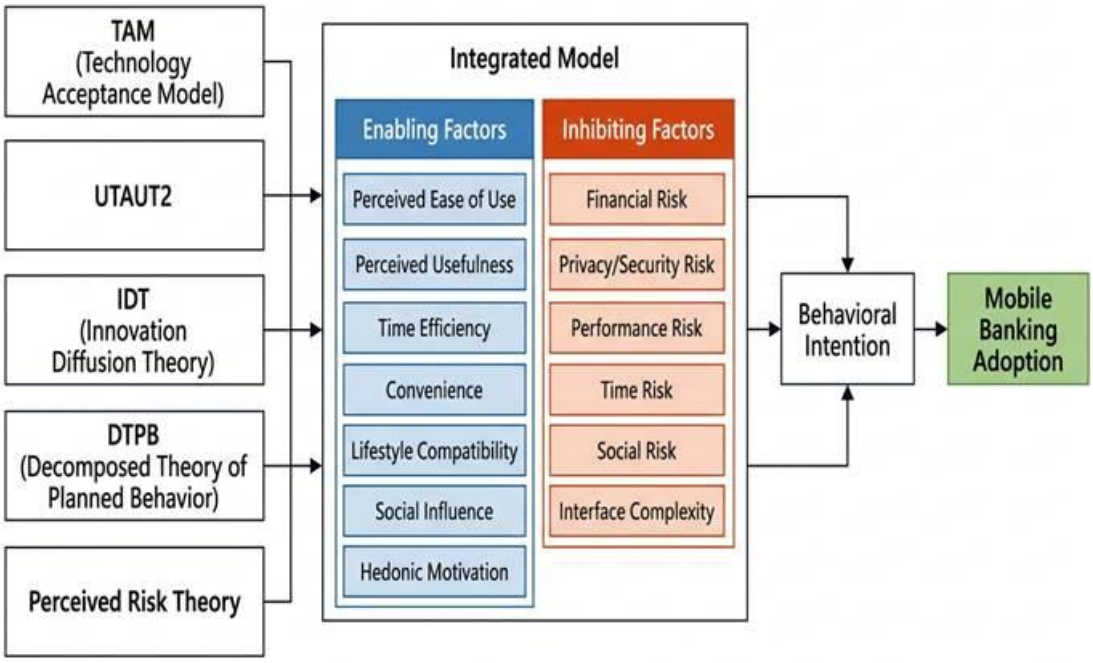


Figure 1. Integrated multitheoretical framework for mobile banking adoption. Enabling factors (blue) and inhibiting factors (orange) mediate the influence of the five theoretical frameworks on Behavioral Intention and Adoption.

7. Summary of Key Studies

Table 1 provides a structured overview of the principal empirical and theoretical studies informing this review, organized by author(s)/year, country or context, primary theoretical framework(s) employed, and key findings. The table illustrates the geographic and theoretical diversity of the literature as well as the progressive integration of multiple frameworks over time.

Author(s) / Year	Country / Context	Framework(s) Used	Key Finding
Davis (1989)	USA	TAM	PU and PEOU are the primary determinants of technology acceptance; PEOU positively influences PU.
Rogers (1995)	USA (theoretical)	IDT	Five innovation characteristics (relative advantage, compatibility, complexity,

			trialability, observability) determine adoption rates.
Taylor & Todd (1995)	Canada	DTPB	Decomposed TPB constructs improve prediction of IT usage intentions over the undifferentiated TPB.
Luarn & Lin (2005)	Taiwan	TAM + Trust	Trust and self-efficacy extend TAM to predict mobile banking behavioral intention.
Featherman & Pavlou (2003)	USA	Perceived Risk Theory	Multidimensional risk facets (financial, privacy, performance, time, social) independently inhibit e-service adoption.
Koenig-Lewis et al. (2010)	UK	TAM + IDT	Compatibility and convenience are dominant predictors of mobile banking take-up among young consumers.
Luo et al. (2010)	USA	Trust + Risk	Multi-dimensional trust and faceted risk jointly shape initial acceptance of emerging technologies.
Zhou et al. (2010)	China	TTF + UTAUT	Task-technology fit and UTAUT constructs together explain mobile banking adoption beyond either alone.
McKnight et al. (2002)	USA	Trust	Institution-based and disposition-to-trust beliefs are distinct antecedents of e-commerce trust.
Baptista & Oliveira (2015)	Portugal	UTAUT2 + Culture	Cultural moderators significantly alter the relative weights of UTAUT2 constructs in mobile banking adoption.
Shankar & Rishi (2020)	India	TAM + Convenience	Convenience dimensions mediate the relationship between platform capability and adoption intention.
Sankaran & Chakraborty (2022)	India	UTAUT2 + Trust	Perceived value and trust extend UTAUT2 to improve prediction of mobile banking usage in emerging markets.
Hedau (2025)	India	TAM	Perceived usefulness, ease of use, and self-efficacy jointly determine digital banking adoption across socioeconomic strata.
Souiden et al. (2020)	Multi-country (review)	Systematic Review	Mobile banking adoption is dominated by TAM/UTAUT; trust and risk are underintegrated; developing-country contexts remain underrepresented.
Bashir et al. (2023)	Multi-context (review)	UTAUT / UTAUT2 Review	UTAUT2 outperforms UTAUT in consumer adoption contexts; hedonic motivation and habit emerge as critical differentiators.

Table 1. Summary of key studies included in this review.

8. Research Gaps and Future Directions

Notwithstanding the substantial body of empirical work surveyed in this review, several critical knowledge gaps remain. These gaps delimit the theoretical and practical reach of current findings and constitute a structured agenda for future inquiry.

8.1 Longitudinal Adoption Dynamics

The overwhelming majority of existing studies employ cross-sectional designs that capture behavioral intention at a single point in time. Such designs offer limited insight into actual usage trajectories, adoption continuance, and the transition from initial adoption to habitual engagement — phases governed by substantially different determinant configurations. Future research should prioritize longitudinal panel designs capable of tracking these transitions and testing whether the enabling and inhibiting factor weights identified at adoption onset persist, attenuate, or reverse over extended usage periods (Venkatesh et al., 2012).

8.2 Underbanked and Financially Excluded Populations

The literature is disproportionately populated by studies conducted in urban, educated, and middle-to-upper-income segments — precisely the populations for whom mobile banking adoption is most structurally facilitated. Underbanked populations in sub-Saharan Africa, rural South Asia, and Latin American informal economies represent both the greatest opportunity for financial inclusion and the least-studied segment in the adoption literature. Research designs that sample these populations explicitly, and that incorporate structural barriers such as device ownership, data cost, and digital literacy as first-order constructs rather than control variables, are urgently needed (Hedau, 2025).

8.3 Cross-Cultural Generalizability

While a growing body of research has introduced cultural moderators — drawing on Hofstede's dimensions of individualism/collectivism and uncertainty avoidance — the majority of studies remain culturally bounded single-country investigations. The implicit assumption that adoption models validated in one national context transfer directly to others is empirically unsupported and theoretically unwarranted. Multi-country comparative designs that explicitly test moderation by cultural, institutional, and regulatory variables are needed to establish the boundary conditions of current frameworks and to support context-sensitive deployment strategies (Baptista & Oliveira, 2015).

8.4 Post-Adoption and Continuance Behavior

A persistent limitation of the mobile banking adoption literature is its conflation of initial adoption intention with sustained habitual use. Studies consistently demonstrate that determinants of continuance — primarily experiential satisfaction, interface consistency, and

behavioral routinization — differ substantially from those driving initial acceptance. Frameworks grounded in expectation-confirmation theory and habit formation models should be integrated with the enabling/inhibiting factor structure developed in this review to produce a more complete account of the full mobile banking user journey.

8.5 Integrated Risk-Trust Measurement

While this review has argued for the decomposition of perceived risk into five dimensions (financial, privacy/security, performance, time, and social), empirical implementation of full multidimensional risk-trust batteries remains rare. Most studies measure perceived risk as a single aggregate construct, which masks the differential inhibitory effects of its dimensions across population segments and interaction channels. Future research should develop and validate psychometrically rigorous multidimensional instruments for both risk and trust that can be deployed consistently across studies, enabling cumulative meta-analytic synthesis (Featherman & Pavlou, 2003; Souiden et al., 2020).

9. Practical Implications

9.1 Implications for Financial Institutions

Financial institutions seeking to accelerate mobile banking adoption should prioritize a trust-centered platform strategy rather than a capability-centered one. The evidence synthesized in this review consistently demonstrates that technical functionality is a necessary but not sufficient condition for adoption: users who perceive a platform as feature-rich but risky or untrustworthy remain non-adopters. Institutions should invest in transparent security communication, clear data governance policies, and robust consumer redress mechanisms — communicating these proactively rather than relegating them to terms-and-conditions documentation that users do not read.

Retention strategy must be distinguished clearly from acquisition strategy. The enablers of initial adoption — usefulness, trust, and risk tolerance — differ from those governing sustained habitual engagement, which are increasingly governed by interface consistency, experiential satisfaction, and behavioral routinization (Venkatesh et al., 2012). Institutions that invest disproportionately in acquisition campaigns while neglecting post-adoption experience design risk inflated adoption headline figures that mask high churn rates and limited long-term platform depth.

9.2 Implications for UX Designers and Product Teams

The interface complexity findings in this review establish a clear design mandate: security and usability must be treated as jointly optimizable objectives, not a zero-sum trade-off. Excessive authentication procedures, inconsistent navigation architectures, and opaque fee

disclosures all represent avoidable usability barriers that disproportionately affect the most financially vulnerable user segments. Universal design principles — including adaptable text sizes, biometric authentication alternatives, and offline-capable transaction confirmation — should be standard features rather than accessibility add-ons. Iterative usability testing with heterogeneous user panels, including older adults and lower-literacy users, should be a mandatory component of the product development lifecycle.

9.3 Implications for Policymakers and Regulators

Regulatory frameworks constitute a structural moderator of mobile banking adoption that operates independently of platform-level attributes. Jurisdictions with clear, consistently enforced consumer protection legislation, transparent data governance standards, and credible dispute resolution mechanisms provide the institutional trust substrate on which technology-level trust is built. Policymakers should recognize that digital financial inclusion strategies that focus exclusively on infrastructure provision — connectivity, device subsidies, agent networks — will be insufficient without corresponding investment in the regulatory quality that makes financial participation feel safe. Regional harmonization of digital financial consumer protection standards would also facilitate the cross-border platform deployments increasingly common in mobile money markets.

10.Conclusion

This review has presented a multitheoretical synthesis of the academic literature on mobile banking adoption, integrating the Technology Acceptance Model, UTAUT2, Innovation Diffusion Theory, the Decomposed Theory of Planned Behavior, and Perceived Risk Theory into a unified conceptual framework organized around enabling and inhibiting factors. The analysis confirms that mobile banking adoption is a fundamentally multidimensional phenomenon that cannot be adequately explained by any single theoretical lens.

Among enabling factors, perceived usefulness, time efficiency and convenience, lifestyle compatibility, social influence, and hedonic motivation emerge as the most consistently documented predictors of positive adoption intention across diverse markets and methodological approaches. Among inhibiting factors, perceived risk — decomposed into financial, privacy/security, performance, time, and social dimensions — is established as a structurally independent construct capable of overriding positive utility assessments entirely. Interface complexity and opaque cost structures represent additional barriers whose impact is disproportionately concentrated among the most financially vulnerable population segments.

The six research propositions derived from the integrated framework provide a structured agenda for future empirical inquiry, with particular emphasis on longitudinal designs,

underbanked populations, cross-cultural comparisons, and multidimensional risk-trust measurement. The practical implications articulated in Section 9 provide actionable guidance for financial institutions, UX practitioners, and policymakers committed to accelerating inclusive, trust-centered digital financial participation.

As mobile banking continues its transition from an early-adopter novelty toward a mass-market financial infrastructure, the stakes of adoption research extend beyond academic contribution: the frameworks and findings reviewed here bear directly on the financial welfare of billions of currently underserved consumers globally. The theoretical agenda outlined in this review is, in that sense, also a humanitarian one.

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