

# Health, Social, and Technology Drivers of Mobile Banking and Digital Payment Use: A Systematic Review and Research Agenda

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## Abstract

Mobile banking is now a standard channel for payments and account management, yet usage remains uneven across customer groups. Evidence on what drives actual use is dispersed across technology acceptance research, fintech trust and risk studies, and work on disruption-driven behavior. This systematic review brings these strands together and examines how disruptions such as the coronavirus disease 2019 (COVID-19) pandemic can reshape the determinants of mobile banking and closely related digital payment usage. Database searches (Scopus, Web of Science, and Google Scholar) covering 2000 to January 2026 identified peer-reviewed empirical studies, which were screened using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) procedures. The evidence is organized into six determinant families: technology beliefs and channel features; trust, security, privacy, and perceived risk; social and institutional influence; enabling resources and digital capability; disruption-related threat and coping appraisals; and post-adoption dynamics (satisfaction and habit). Across contexts, perceived usefulness and perceived ease of use show the most consistent associations with usage, while facilitating conditions and perceived risk often become more salient during disruptions. An integrative framework is proposed to connect disruption appraisals with technology beliefs and usage and to guide more comparable measurement and stronger causal designs in future research.

**Keywords:** Mobile Banking Usage, Systematic Review, Technology Acceptance Model, Unified Theory of Acceptance and Use of Technology, Health Belief Model

## Introduction

Mobile banking (MB) is now the main interface for transfers, bill payments, and routine account management. It gives customers access when branch visits are costly, inconvenient, or disrupted. It also helps banks reduce pressure on front-line services and extend service

reach (Nguyen & Dao, 2024; Souiden et al., 2021). MB is often framed as a tool for digital financial inclusion (World Bank, 2021; Klapper et al., 2025).

Technology acceptance research has long relied on the Technology Acceptance Model (TAM; Davis, 1989) and the Unified Theory of Acceptance and Use of Technology (UTAUT) and its consumer extension (UTAUT2) to explain mobile banking behavior. Across these models, perceived usefulness and perceived ease of use capture core cognitive evaluations, while social influence and facilitating conditions reflect social and resource-based supports (Venkatesh et al., 2003; Venkatesh et al., 2012). Meta-analytic evidence generally confirms a strong role for usefulness, with ease of use operating partly through usefulness rather than as a stand-alone driver (Marikyan et al., 2023; Tamilmani et al., 2021).

Mobile banking is no longer treated as a niche add-on. Recent reviews show that research attention has shifted toward continuance, barriers, and feature-level use, not only initial adoption (Souiden et al., 2021). This shift makes it especially useful to synthesize evidence based on observed usage outcomes, particularly in disruption contexts where convenience, risk, and support may be weighted differently.

Several gaps still limit what can be concluded from the existing evidence. Much of the literature relies on intention measures rather than observed use, which complicates inference about real behavior (Sheeran & Webb, 2016). Evidence from disruption contexts remains fragmented, and cross-study comparisons are often difficult because outcome definitions, measurement choices, and sampling frames vary widely.

Disruptions such as pandemics, financial shocks, mobility restrictions, or temporary branch closures can change the trade-offs people perceive when using mobile banking and digital payment channels. During COVID-19, digital channels were often framed as safer than in-person banking, which likely heightened health-related threat appraisals and coping motives (Walrave et al., 2020). FinTech evidence similarly suggests that perceived COVID-19 threat can shift perceived value and continuance intentions for mobile payments (Daragmeh et al., 2021; Sreelakshmi & Prathap, 2024). Crisis-era studies also link protective motives to observed m-wallet and mobile banking use, implying that risk-avoidance can influence actual usage, not only intentions (Chauhan, 2024).

### *Purpose and Research Questions*

This systematic review synthesizes evidence on mobile banking and closely related digital payment usage, focusing on disruption periods such as COVID-19. The review maps the theories used, consolidates determinants into a small set of families, and identifies the predictors that show the most consistent associations with usage. It then proposes an integrative framework and a research agenda for future testing.

The review is organized around four questions. It maps the theoretical models and determinant families studied in mobile banking and closely related digital payment usage, with attention to disruptions such as COVID-19. It then identifies which determinants show the most consistent associations with usage outcomes across settings and study designs. Next, it examines whether evidence patterns differ by region, service type, and outcome definition (e.g., adoption vs. continuance vs. intensity). Finally, it develops a consolidated

framework and research agenda to support more comparable and decision-relevant future work.

Eligibility criteria are summarized in Table 2. A completed PRISMA 2020 checklist is provided as a supplementary file for editorial review.

### *Significance and Contributions*

Beyond summarizing prior findings, the review provides a structured map of what has been studied, where it has been studied, and how usage has been measured. Determinants are grouped into a small set of mechanism-based families so that results can be compared across settings and disruption conditions.

This framing helps explain why some predictors remain stable while others become more influential during shocks (e.g., lockdowns, service interruptions, or heightened health risk). It also highlights practical gaps in the literature, including uneven outcome definitions, limited reporting of sampling frames, and a heavy reliance on cross-sectional self-reports.

These contributions have both theoretical and practical value. For researchers, the synthesis separates robust predictors from context-dependent drivers and shows how measurement and design choices limit inference. For banks and policymakers, it clarifies which levers, such as usability, enabling support, and trust-building, are most likely to increase usage during disruptions and among underserved groups.

The framework also supports comparisons across related digital financial services (mobile banking, mobile payments, and e-wallets). It helps identify when determinants differ by service type, user segment, and crisis conditions. This perspective matters as retail finance shifts toward app-based ecosystems and as intermittent crises disrupt in-person service access.

The synthesis tracks the direction and consistency of evidence, flags relationships that appear context-dependent, and notes recurring measurement and design limitations that weaken inference.

### **Methodology**

A protocol guided the search, screening, coding, and synthesis. Reporting follows PRISMA 2020 principles (Booth et al., 2022; Page et al., 2021; Xiao & Watson, 2019). Search terms are summarized in Table 1, and eligibility rules appear in Table 2. Coding decisions are documented to support auditing and reproducibility. The PRISMA checklist and flow diagram are provided as supplementary files.

### *Scope of the Review*

The review includes empirical studies on mobile banking use, defined as actual use and, where necessary, usage intention. Included studies had to examine at least one core technology-acceptance belief (e.g., perceived usefulness, perceived ease of use, or facilitating conditions) or a disruption-related construct (e.g., threat appraisal, coping beliefs, or cues to action). Studies of mobile wallets or QR payments were included when these channels functioned as the main banking interface or when results were clearly relevant to mobile banking determinants.

The review covers consumer mobile banking and closely related retail digital payment channels (e-wallets, mobile payments, and mobile money). Many determinants and mechanisms are shared across these channels, and disruption-era studies often treat them as substitutes. Studies focused only on technical architectures, or on organizational and back-office systems, were excluded.

#### *Search Strategy and Databases used*

Searches were run in Scopus and Web of Science because they provide curated coverage and strong metadata. Google Scholar was used as a supplementary source to improve recall, especially for emerging-market outlets. Searches were limited to English. Keywords combined mobile banking with usage outcomes (use, adoption, continuance) and determinant terms (acceptance, usefulness, ease of use, trust, risk, and health-belief constructs). The complete search string is shown in Table 1.

Screening had two stages: title/abstract, then full text. A pilot screening was used to align interpretations of the criteria, and disagreements were resolved through discussion. Full-text screening favored studies that clearly defined usage outcomes and reported enough methodological detail for appraisal.

#### *Inclusion and Exclusion Criteria*

The main synthesis focuses on peer-reviewed English journal articles that test relationships between at least one determinant and a usage outcome among consumers or retail customers. Usage outcomes include observed use (e.g., logs), self-reported use (frequency, intensity, or feature breadth), and continuance. Studies that measured intention only were coded separately as supplementary evidence for mechanisms, but they were not treated as primary evidence on actual usage.

The core synthesis excludes conference papers, theses, working papers, and non-peer-reviewed reports. Studies were also excluded if they did not measure a usage outcome, if they focused only on organizational or back-office systems, or if they were purely technical and did not analyze user behavior. Table 2 summarizes the criteria.

#### *Screening and Study Selection Process*

Records were de-duplicated and screened in two steps: title/abstract, then full text. Decisions and reasons for exclusion were recorded to support PRISMA 2020 reporting (Page et al., 2021). Criteria were calibrated on a pilot set and then applied consistently. Disagreements were resolved through discussion and reference to predefined rules. Rayyan was used to manage screening and adjudication (Ouzzani et al., 2016).

#### *Data Extraction and Synthesis Methods*

For each included study, the review coded context and sample, design and measures, theory, determinants and outcomes, and headline findings. Coding focused on broad determinant families, how usage was defined (intention, continuance, or observed behavior), and whether the study was set in a disruption context.

Search strings combined mobile banking and digital payment terms with determinants and disruption keywords (e.g., COVID-19, pandemic, disruption, and lockdown). Studies were

eligible if they were peer-reviewed empirical articles focused on consumer mobile banking or closely related digital payment outcomes, reported at least one usage measure (e.g., actual use, frequency, intensity, or feature breadth), and provided statistical evidence on determinants. Conceptual papers, editorials, dissertations, and non-peer-reviewed proceedings were excluded.

### *Quality Appraisal*

A structured extraction form captured study context, design, sample characteristics, theory, focal determinants, outcome definitions, and main findings. For synthesis, determinants were grouped into six families spanning technology beliefs and channel attributes, trust/security/privacy and perceived risk, social and institutional influence, enabling resources and capability, disruption-related threat and coping appraisals, and post-adoption dynamics. In synthesis, more weight was placed on studies with clearer sampling frames, validated measures, and transparent reporting of model specifications.

To reduce the influence of weaker evidence, two considerations guided the synthesis. Evidence based on actual use or continuance was prioritized over intention-only measures. In addition, greater weight was assigned to studies with transparent sampling frames, validated measures, and clear reporting of key diagnostics (Xiao & Watson, 2019).

### *Data synthesis*

The next sections summarize the included studies and synthesize findings by determinant family. The review first describes the scope of the evidence base and recurring methodological features, then consolidates results across the six determinant families. It concludes by presenting a disruption-informed acceptance-use framework and outlining priorities for future research.

Table 1

#### *Search Strategy Concept Blocks and Example Keywords*

Search component	Example keywords (to be adapted by database syntax)
Channel terms	"mobile banking" OR "m-banking" OR "digital payment" OR "mobile payment" OR "e-wallet" OR "mobile wallet"
Outcome terms	usage OR "use behavior" OR "actual use" OR continuance OR "post-adoption" OR frequency OR intensity OR "feature use"
Determinant terms	"perceived usefulness" OR "ease of use" OR "facilitating conditions" OR trust OR security OR privacy OR "perceived risk" OR "Health Belief Model" OR susceptibility OR severity OR "self-efficacy" OR "cues to action" OR COVID OR pandemic

Table 2

*Eligibility Criteria for Study Inclusion (Screening Rules)*

Include	Exclude
Peer-reviewed journal articles (English)	Conference papers, theses, reports (core synthesis)
Consumers/retail customers	Purely technical papers without user behavior
Mobile banking and/or closely related digital payment channels	Back-office / organizational banking IS only
Outcome includes observed or self-reported usage (frequency, intensity, breadth, continuance)	Studies reporting intention only (coded separately)

**Results and Discussion**

This section reports the PRISMA-informed results and synthesizes evidence across determinant families. Most included studies are peer-reviewed papers in information systems, marketing, and fintech journals. They rely heavily on TAM/UTAUT constructs, with increasing attention to trust/risk and post-adoption dynamics. Qualitative studies are rare, and cross-sectional surveys analyzed with partial least squares structural equation modeling (PLS-SEM) dominate.

The synthesis integrates evidence at two levels. Study-level extraction tables record each paper's context, theoretical model, focal determinants, and the direction of reported relationships. A cross-study mapping then groups determinants into common families and summarizes whether evidence is consistent, mixed, or context-dependent.

After de-duplication and eligibility screening, the final corpus comprised peer-reviewed studies that examined determinants of mobile banking and closely related digital payment usage outcomes. The PRISMA 2020 flow diagram and record counts are provided as supplementary material.

Table 3 reports the quality appraisal at the corpus level, highlighting recurring risks of bias such as cross-sectional self-report designs and limited reporting of sampling frames. Tables 4 and 5 summarize study-level extractions, including context, theoretical model, focal determinants, and usage outcomes. Table 6 consolidates determinant families and mechanisms, while Table 7 summarizes the direction of evidence across key relationships to distinguish consistently supported determinants from mixed or context-dependent predictors.

Most studies draw on TAM/UTAUT-type models and often add fintech-specific constructs such as trust, perceived risk, and security/privacy. The evidence base is methodologically uneven: cross-sectional surveys analyzed with PLS-SEM dominate, sampling frames and response rates are not always reported, and usage is usually self-reported rather than captured through transaction logs or bank records. These limitations are particularly visible in disruption-focused studies, where stronger designs are most needed.

*How usage outcomes were measured*

How studies define use is a major source of heterogeneity. Many measure behavioral intention or continuance intention. Fewer measure actual use, such as self-reported

frequency, feature breadth (transfers, bill payments, QR purchases), or transaction logs. This distinction matters because intentions often do not translate into behavior, especially when habits, constraints, and enabling support shape what is feasible and routine (Sheeran & Webb, 2016).

When studies model post-adoption behavior, they often draw on continuance theories. Confirmation and satisfaction tend to support continued use, while habit reduces reliance on deliberate evaluation over time (Bhattacharjee, 2001; Limayem et al., 2007; Venkatesh et al., 2012). This suggests that feature-level measures and longitudinal designs can help separate short-term crisis substitution from longer-term routinization.

#### *Key Determinants: Thematic Synthesis*

The next sections synthesize evidence within each determinant family and highlight common mechanisms. Where findings differ, likely boundary conditions are noted (e.g., user experience, service type, and institutional context). Table 7 provides a structured summary of whether associations with usage are generally supportive, mixed, or weak.

#### *Technology Acceptance Factors (Benefits and Usability)*

Across crisis and post-crisis settings, basic technology beliefs remain the most dependable predictors of digital finance uptake. Reviews repeatedly point to perceived usefulness/value and perceived ease of use/effort as central, often alongside trust and security concerns (Kajol et al., 2022; Neves et al., 2023). In mobile payments, newer reviews also suggest a shift from interface-only evaluations to broader value and experience judgments (convenience, compatibility, and feature-specific benefits) as use becomes routine (Ha et al., 2024; Leong et al., 2022).

Perceived usefulness (or value) is the most consistently supported technology belief: when users see clear benefits and convenience, they report higher usage across mobile banking and payment contexts. Perceived ease of use is also reliably linked with usage, though effects are often slightly smaller. When examined, app or service quality (reliability, speed, and interface design) tends to support both ease beliefs and usage, indicating that quality often works through usability.

In short, TAM/UTAUT constructs are important, but they rarely explain crisis-era adoption or post-crisis routinization on their own. Perceived usefulness and ease of use are proximal beliefs that can change when context changes. During disruptions, threat appraisal, protective motives, and institutional assurances may reshape these beliefs and, in turn, their links with usage (Ha et al., 2024; Neves et al., 2023; Venkatesh et al., 2003).

#### *Trust, Security, Privacy, and Perceived Risk*

During disruptions, the practical side of these beliefs becomes more prominent. When physical access is constrained or risky, users may value convenience and reliability over novelty. Digital channels can be seen as more useful because they substitute for in-person services, and ease of use can matter more when support is limited and users must navigate features on their own. The core message remains stable: people use systems they find useful and easy to use, even if the reasons shift with context.

Trust is a common extension in FinTech research, but findings are less uniform than for usefulness or ease of use. Trust in the bank, provider, or ecosystem tends to support usage, particularly when fraud concerns are salient. Security and privacy perceptions often matter because they reduce perceived risk, yet risk effects vary with how risk is defined (financial, privacy, performance, or service risk). During disruptions, perceived risk may also broaden beyond financial and privacy concerns to include health exposure and service continuity.

Future synthesis should separate types of trust (institutional, technology-based, and ecosystem trust) and types of risk (cyber/financial risk versus situational crisis risk). Studies should also test whether trust and risk mediate or moderate the effects of social influence and enabling conditions on adoption and continuance (Jafri et al., 2023; Ha et al., 2024).

#### *Social Influence and Social Learning*

Social influence matters, but results differ because “influence” takes several forms. It can be normative (pressure to use) or informational (learning and reassurance), and it can come from peers, family, or media. Recent reviews indicate that informational influence often reduces uncertainty and strengthens ease-of-use beliefs, whereas normative pressure does not always increase perceived utility or intention (Ha et al., 2024; Leong et al., 2022). In crisis contexts, social cues may work more through risk perceptions and protective attitudes than through direct pressure to adopt (Chauhan, 2024).

Social influence is often significant, but it is not always measured in the same way. Many studies combine normative pressure and informational support into a single construct, which can hide meaningful differences. Across the evidence, informational social learning (recommendations, demonstrations, and practical help) shows a more consistent link with usage than pure pressure to conform. During disruptions, institutional signals (government campaigns or bank communications) may play a larger role by shaping perceived safety and legitimacy. Treating normative pressure and learning/support as distinct components would improve comparability across studies.

#### *Facilitating Conditions and Enabling Resources*

Facilitating conditions and other enabling resources (device access, stable internet, and user support) show consistent positive links with usage, especially during disruptions when branch support is limited. Effects also vary by segment: enabling resources tend to matter more for older users, rural residents, and less digitally experienced groups. Practically, the evidence suggests that better usability is not enough on its own; sustained usage also depends on reducing access barriers and providing concrete support.

Disruptions can make enabling conditions even more important. When branches are closed or risky, users who lack devices, connectivity, onboarding support, or reliable service recovery may be excluded. Some may rely on informal intermediaries. This makes the link between inclusion, digital skills, and consumer protection central to explaining digital finance usage, not a peripheral add-on (Kajol et al., 2022; Vik et al., 2024).

#### *Health Threat and Coping Appraisals Under Disruption*

Disruptions change both motives and constraints. During COVID-19, digital payments rose across many markets because digital channels substituted for cash handling and branch visits

(Fu & Mishra, 2022). In these conditions, adoption is not driven only by positive technology beliefs; it also reflects perceived threat, policy restrictions, and what is practically feasible. This helps explain why crisis-era predictors may differ from patterns observed in pre-crisis adoption studies (Kajol et al., 2022).

When health threats are salient, digital finance can function as a protective behavior by reducing exposure to crowded branches and physical cash. Evidence from QR-based payments links threat appraisals to technology beliefs and intentions, consistent with protection-motivation logic (Hamzah, 2024). More broadly, health behavior research shows that threat appraisal and coping beliefs, including self-efficacy, predict preventive action during COVID-19 (Hedayati et al., 2023; Zewdie et al., 2022). These findings support using threat and coping constructs to study crisis-era mobile banking usage.

Crisis effects are also likely to vary over time. Protective motives may peak when perceived threat is high and fade as restrictions ease. In contrast, cyber and fraud concerns may grow as many new users enter digital channels quickly. Future studies should model changes in threat salience over time and distinguish short-run crisis substitution from longer-run routinization and continuance (Chauhan, 2024; Neves et al., 2023).

#### *Behavioral Dynamics: Satisfaction, Habit, and Continuance*

As mobile banking becomes routine, post-adoption factors receive more attention. Habit and satisfaction are usually linked with continued use, while switching barriers and perceived lock-in show mixed implications. Some studies also emphasize service recovery and trust repair after disruptions, suggesting that crisis-period experiences can shape longer-term behavior. Continuance measures, however, vary widely across studies, which makes this part of the evidence base harder to synthesize than findings on usefulness and ease of use.

Habit often bridges crisis-era use and post-crisis routinization. UTAUT2 suggests that habit can sustain use directly and reduce the incremental role of effort-based beliefs once routines form (Venkatesh et al., 2012; Neves et al., 2023). At the same time, crisis-triggered adoption does not always produce stable habits. Routines may weaken when perceived threat declines, service quality is poor, or users experience fraud. Future work could test when crisis-driven use becomes durable and when use falls back once constraints ease (Fu & Mishra, 2022; Chauhan, 2024).

Figure 1 summarizes the core mechanism. In disruptions (pandemics, service outages, or mobility constraints), perceived threat and control can change the perceived costs and benefits of using digital channels. These changes can shift which determinants matter most and how they operate. The next section states propositions based on this mechanism.

To make these quality and design constraints explicit, Table 3 summarizes the predominant study designs, common methodological limitations, and an interpretive confidence assessment for each determinant family.

Table 3

*Study Design Characteristics, Common Limitations, and Interpretive Confidence by Determinant Family*

Determinant family	Predominant designs in the corpus	Common quality limitations	Interpretive confidence for observed usage
Technology beliefs and channel attributes	Mostly cross-sectional surveys using SEM (often PLS-SEM); some meta-analytic and multi-context syntheses.	Self-report usage measures are common; causal ordering is typically assumed; usability effects may be stage-dependent.	Moderate to high (supported across many contexts; strongest when usage is measured behaviorally)
Trust, security, privacy, and perceived risk	Predominantly cross-sectional surveys; increasing number of systematic reviews and multi-country studies.	Construct heterogeneity (trust layers, risk facets); limited experimental identification; potential endogeneity (trust ↔ use).	Moderate (robust correlates, but mechanisms and causality vary by context)
Social and institutional influence	Cross-sectional surveys; some studies include institutional trust or normative cues as moderators/mediators.	Mixed operationalizations (normative vs informational influence); potential overlap with cues to action; context dependence.	Low to moderate (effects are heterogeneous and sensitive to design and context)
Enabling resources and digital capability	Cross-sectional surveys; a smaller subset uses objective access indicators or panel data.	Facilitating conditions are sometimes proxied coarsely; digital skills and capability measures vary; selection bias may remain.	Moderate (consistent feasibility mechanism, but measurement inconsistency reduces comparability)
Threat and coping appraisals under disruption	Mostly disruption-era cross-sectional studies (2020–2024) integrating HBM/PMT constructs; evidence base is emerging.	Threat salience is time-varying; outcomes often measure intentions; limited longitudinal tracking of post-crisis persistence.	Low to moderate (conceptually plausible; stronger designs are needed to confirm persistence and mediation pathways)
Behavioral dynamics: satisfaction, habit, and continuance	Post-adoption surveys; some longitudinal or repeated-measure designs in continuance research.	Habit and satisfaction can be endogenous to use; many studies rely on self-report; feature-level measures are uneven.	Moderate (supported in continuance theory, but design limitations constrain causal claims)

Table 4

*Summary of Key Empirical and Synthesis Studies Referenced in This Review*

<b>Study</b>	<b>Theory / model</b>	<b>Focal constructs (examples)</b>	<b>Outcome focus</b>	<b>Context / sample (as reported)</b>
Abdennebi et al. (2023)	Mediated adoption model (technology beliefs + additional mechanisms)	Technology beliefs (e.g., usefulness/ease); trust–risk mechanisms; mediators	M-banking adoption	Developing countries focus; sample Not reported in current extraction
Chauhan (2024)	Crisis/protective behavior framing (risk suppression)	Protective behavior; perceived risk; crisis-related appraisals	M-wallet/banking use	India (urban–rural comparison); sample Not reported
Cull et al. (2023)	Macro/structural determinants framework	Banking infrastructure; human capabilities; digital regulation; preconditions	Digital payments (shock response)	Multi-country; macro evidence (country-level)
de Luna et al. (2019)	Technology-contingent adoption framing	Payment technology type; usability/friction factors	Mobile payment adoption	Context/sample Not reported
Fu & Mishra (2022)	Cross-country fintech diffusion framing	Pandemic shock; enabling conditions; adoption drivers	FinTech adoption	Global cross-country evidence; sample Not reported
Ha et al. (2024)	Systematic review	Adoption and use drivers; gaps and agenda	Mobile payment adoption and use	Systematic review; number of studies Not reported in current extraction
Hamzah et al. (2024)	Protection Motivation Theory (PMT)	Fear/threat appraisal; coping appraisal; response efficacy	QR-based mobile payment adoption	Context/sample Not reported
Jafri et al. (2023)	Systematic review (trust & security lens)	Trust; security; privacy; risk	FinTech adoption in banking	Systematic review; number of studies Not reported in current extraction
Kajol et al. (2022)	Narrative review	Determinants of digital financial transactions; agenda	Digital financial transactions (adoption/use)	Review; number of studies Not reported
Leong et al. (2022)	Framework-development review	Core constructs in mobile payment research; integrative framework	Mobile payment research (adoption/use)	Review; number of studies Not reported

Lythreatis et al. (2022)	Digital divide review	Access, skills, and outcome divides; inclusion barriers	Digital inclusion affecting DFS use	Review; number of studies Not reported
Neves et al. (2023)	Meta-analysis	Barriers and facilitators of digital financial services	Adoption and use of DFS	Meta-analysis; sample Not reported in current extraction
Nguyen & Dao (2024)	Extended Expectation–Confirmation Model (ECM)	Confirmation; satisfaction; trust (moderator)	Continuance intention (mobile banking)	Context/sample Not reported
Spinelli et al. (2024)	Innovation Resistance Theory (IRT) + clustering	Usage barriers; resistance profiles	Mobile payment usage	Italy; sample Not reported
Veronika et al. (2025)	Systematic review (continuance)	Continuance intention mechanisms across mobile apps	Continuance intentions in mobile apps	Systematic review; number of studies Not reported
Wisniewski et al. (2024)	Cash-to-cashless switching framing	Shock/policy conditions; habit/constraints; switching dynamics	Switching to cashless payments	Context/sample Not reported
Yousafzai et al. (2010)	TRA / TPB / TAM comparison	Attitudes, norms, control, usefulness/ease (model comparison)	Internet banking behavior	Context/sample Not reported
Zhou (2012)	Elaboration Likelihood Perspective (trust formation)	Initial trust; information processing routes; cues	Mobile banking initial trust & adoption	Context/sample Not reported
Hedayati et al. (2023)	Meta-analysis (Protection Motivation Theory pathways)	Threat appraisal; coping appraisal; protective behavior determinants	Preventive health behaviors (evidence base for crisis framing)	Meta-analysis; sample Not reported in current extraction

Table 5

*Construct-Outcome Evidence Map for Mobile Banking and Digital Payment Usage*

Determinant (construct)	Overall pattern for usage/continuance	Boundary conditions / notes	Representative sources (examples)
Perceived ease of use / effort expectancy	Generally positive (often indirect via usefulness or satisfaction)	More salient among less-experienced users and when onboarding/friction is high	Yousafzai et al. (2010); Zhou (2012)
Facilitating conditions / infrastructure support	Positive enabling effect for continued use (availability of support, compatibility, access)	Often interacts with digital skills and service environment (e.g., pandemic restrictions)	Cull et al. (2023); Fu & Mishra (2022); Lythreathis et al. (2022)
Trust / security / privacy assurances	Positive for adoption and continued usage; trust can strengthen other drivers	Trust can moderate confirmation → continuance; security cues can substitute for experience in early-stage adoption	Nguyen & Dao (2024); Jafri et al. (2023); Zhou (2012)
Perceived risk (financial, privacy, performance)	Typically negative, but effects can be context-dependent	In crisis contexts, protective motives can suppress perceived risk or shift its role; risk may operate via trust	Chauhan (2024); Jafri et al. (2023); Spinelli et al. (2024)
Social influence / cues from others	Mixed; can support awareness and trial but may not translate to sustained usage	Normative pressure may weaken when choice is constrained or when utility is already obvious	Yousafzai et al. (2010)
Habit / satisfaction / confirmation (continuance mechanisms)	Consistently important for sustained use/continuance	Operationalized as routine use, loyalty, or post-adoption satisfaction; often stronger than initial adoption drivers	Nguyen & Dao (2024); Veronika et al. (2025)
Health-threat appraisal (fear, perceived severity/susceptibility)	Often increases propensity to shift toward digital channels during disruptions	Threat effects can be indirect (via perceived value/benefit or reduced branch visits) and may fade post-crisis	Hamzah et al. (2024); Hedayati et al. (2023); Wisniewski et al. (2024)
Coping appraisal (self-efficacy, response efficacy)	Positive; supports actual use when threat is salient	Low self-efficacy can translate into resistance/friction even when usefulness is high	Hamzah et al. (2024); Hedayati et al. (2023); Lythreathis et al. (2022)
Innovation resistance / barriers (value, tradition, image, usage, risk)	Negative; barrier profiles help explain non-use or discontinuance	Barrier salience differs by segment; clustering reveals heterogeneous resistance configurations	Spinelli et al. (2024); de Luna et al. (2019)

*Note. Evidence is synthesized qualitatively (not a meta-analysis); directions reflect the dominant pattern across sources.*

*Integrated Framework and Propositions*

In plain language, mobile banking and digital payment use reflects six interacting forces: perceived benefits and usability, trust and perceived risk, social and institutional influence, enabling resources and capability, disruption-related threat and coping appraisals, and post-

adoption dynamics such as satisfaction and habit. The propositions below state these mechanisms as testable claims.

### *Core Mechanisms*

Figure 1 distills the review into an integrative framework. The core idea is that disruptions can change usage not only through access constraints, but also through threat appraisals (severity and susceptibility), coping beliefs (self-efficacy), and cues to action (media or institutional messaging). These appraisals feed into technology beliefs (usefulness/value and ease/effort) and can also shift the importance of trust/risk perceptions and enabling conditions. Technology beliefs and enabling resources then drive use and continuance, while satisfaction and habit help sustain repeated use. This logic helps explain why classic predictors remain strong, yet often differ in strength between disruption and routine periods. For empirical testing across contexts, the framework is summarized as the following propositions:

P1: Under disruption, threat appraisal (susceptibility and severity) is positively associated with perceived usefulness of mobile banking and digital payments as exposure-reducing channels.

P2: The association between threat appraisal and perceived ease of use is conditional. It is more positive when facilitating conditions and digital capability are high (motivated learning) and weaker, or even negative, when support resources are low (avoidance).

P3: Coping appraisal (e.g., self-efficacy; Bandura, 1986) strengthens the translation of threat-driven motivation into usage by reducing perceived effort and increasing persistence during early learning.

P4: Cues to action (institutional prompts, bank communications, trusted public messaging) increase trial and early usage; with accumulated experience, their effects increasingly operate through perceived usefulness, trust, and uncertainty reduction.

P5: Security/privacy perceptions influence usage primarily through trust and perceived risk; these judgments also moderate whether disruption-driven adoption persists into post-disruption continuance.

P6: In later stages, satisfaction and habit become dominant predictors of continuance, reducing the incremental effects of ease of use and social influence (Bhattacharjee, 2001; Venkatesh et al., 2012).

### *Boundary Conditions and Heterogeneity*

Across studies, three moderators appear repeatedly. Usage measures vary (frequency, feature-level use, or continuance), and this affects observed relationships, particularly for trust and risk. Effects also differ by customer segment: age, education, digital literacy, and urban-rural residence often condition the role of facilitating conditions and perceived ease of use. Finally, disruption severity matters; evidence collected during lockdowns, health surges, or strong policy campaigns tends to show larger roles for threat/coping constructs and institutional cues. Together, these moderators help explain why results can differ across countries and time periods.

To support cumulative research, Table 6 summarizes how determinant families typically operate across adoption stages and disruption contexts. Table 7 provides a qualitative

summary of evidence direction within each family and highlights recurring mechanisms and boundary conditions.

Table 6

*Determinant Salience by Adoption Stage and Disruption Context (Conceptual Synthesis)*

<b>Adoption stage / context</b>	<b>Routine (non-disruption)</b>	<b>Disruption (high threat/constraints)</b>	<b>Post-disruption (recovery/normalization)</b>
Pre-adoption / activation (trial)	Technology beliefs (PU/PEOU); baseline trust–risk; perceived value/compatibility; social/institutional cues.	Threat and coping appraisals; protective convenience; facilitating conditions (access/onboarding); credible institutional cues; cyber/fraud risk salience.	Instrumental value (PU/PEOU) and trust–risk dominate again; threat effects attenuate; residual security concerns remain.
Early use / learning	Ease of use and support resources; guided learning via peers/banks; early experience quality.	Facilitating conditions and digital capability become decisive; informational support reduces effort; threat motives sustain effort only when resources enable competent use.	Confirmation and satisfaction consolidate routines; usability becomes a threshold; support shifts to problem resolution and service reliability.
Continuance / habit	Satisfaction and habit; service quality; trust maintenance; switching costs.	Service continuity, fraud prevention, and dispute resolution shape sustained use; risk shocks can interrupt habits; enabling resources buffer disruption.	Habit and integrated value (convenience + reliability) dominate; trust and risk operate mainly as “hygiene factors” preventing disengagement.

*Note. Conceptual synthesis; effect sizes are not pooled.*

Table 7

*Evidence-Direction Summary by Determinant Family (Narrative Synthesis)*

Determinant family	Typical constructs	Typical pattern for observed usage	Key mechanisms and boundary conditions (synthesis)
Technology beliefs and channel attributes	Perceived usefulness/value; perceived ease of use/effort; convenience; compatibility; feature-level benefits	Usefulness/value is consistently positive; ease-of-use is often positive but more stage-dependent (threshold effect in post-adoption contexts).	Instrumental value drives trial and continuance; usability supports initial learning but may attenuate with experience/habit. Disruptions can reframe usefulness toward exposure and service-continuity benefits (Bhattacharjee, 2001; Fu & Mishra, 2022; Ha et al., 2024; Neves et al., 2023).
Trust, security, privacy, and perceived risk	Institution-based and technology-based trust; perceived security; privacy concern; perceived risk (financial, cyber, and situational)	Trust/security typically support observed use; perceived risk tends to suppress use; privacy effects are more heterogeneous across contexts and measurement choices.	Security and institutional safeguards often operate through trust; risk can mediate or moderate the effects of usefulness and social influence. Crisis conditions add situational risks (e.g., exposure, continuity) and can shift tradeoffs between cash/branch and digital channels (Featherman & Pavlou, 2003; Fu & Mishra, 2022; Ha et al., 2024; Jafri et al., 2023).
Social and institutional influence	Subjective norms; social influence; word-of-mouth; expert/institutional endorsement; policy and messaging cues	Mixed and context-dependent: informational influence more consistently supports use than normative pressure; effects are often stronger for novices and higher uncertainty settings.	Influence can function as learning support (raising perceived ease of use) and uncertainty reduction (supporting trust). Normative pressure may not translate into sustained use once users have experience, and effects vary by culture, age, and voluntariness (Ha et al., 2024; Leong et al., 2022; Venkatesh et al., 2012).
Enabling resources and digital capability	Facilitating conditions; device/connectivity access; onboarding/support;	Typically positive and especially relevant for observed use (feasibility) rather than intention; salience	Resources constrain whether motivated trial becomes regular use; capability can

	digital skills/literacy; service availability	increases under disruption and among vulnerable segments.	moderate usability and threat-driven learning effects. Digital divide evidence suggests that access alone is insufficient without skills and support (Lythreathis et al., 2022; van Deursen & van Dijk, 2011; Venkatesh et al., 2012).
Threat and coping appraisals under disruption	Perceived susceptibility and severity; fear of disease; self-efficacy; response efficacy; cues to action	Emerging but increasingly supported during disruptions: threat appraisal can increase perceived value/usefulness of contactless channels; effects are conditional (capability, trust, and perceived risk).	Threat appraisal may motivate protective channel choice, while low self-efficacy or high cyber-risk concerns can produce avoidance. Effects are likely strongest when health risk is salient and alternatives are constrained, and may attenuate in recovery periods (Hamzah, 2024; Hedayati et al., 2023; Wisniewski et al., 2024).
Behavioral dynamics: satisfaction, habit, and continuance	Confirmation; satisfaction; service quality; habit; switching costs and inertia	Consistently positive for continuance outcomes: satisfaction/confirmation and habit commonly dominate post-adoption use; they may reduce the incremental role of ease of use and social influence over time.	Reinforcing feedback loops shift decision drivers from deliberative beliefs to routines. Strong early experience quality supports habit formation and durable use beyond disruption-driven substitution (Bhattacharjee, 2001; Limayem et al., 2007; Souiden et al., 2021; Venkatesh et al., 2012).

*Note. Patterns are summarized qualitatively because constructs and effect statistics are not fully comparable across studies.*

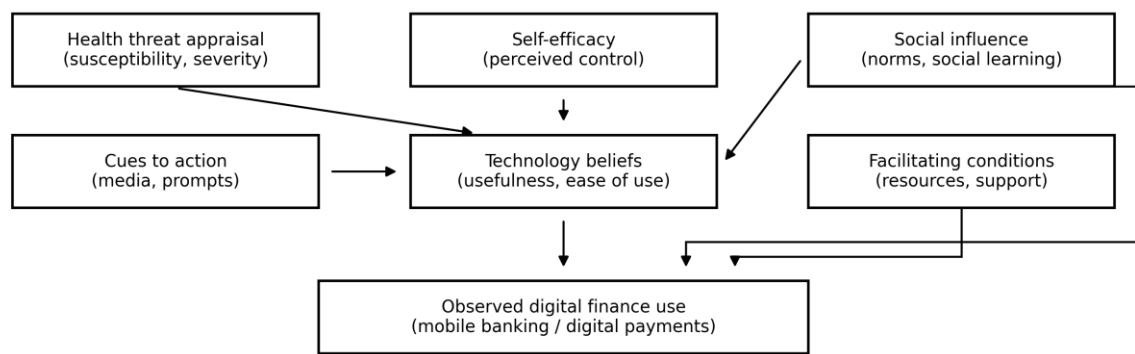


Figure 1. Integrative Framework Linking Disruption Appraisals and Classic Acceptance Determinants to Observed Usage Outcomes.

### Research Gaps and Implications

The synthesis suggests a focused agenda for building cumulative knowledge and improving practical relevance. Priorities include better measurement of behavior, clearer specification of mechanisms (including competing pathways), and treating boundary conditions as core explanations rather than afterthoughts.

#### *Research Agenda*

Future work would benefit most from a few practical improvements. Usage should be measured more consistently (frequency, breadth, and intensity) and, where possible, supplemented with objective logs. Stronger designs are also needed to support inference, including panel data, natural experiments, and policy-related discontinuities. In addition, social influence should be decomposed into normative pressure versus informational support. Finally, disruption appraisals deserve more explicit modeling, including how behavior adapts as contexts shift from crisis to routine. More transparent reporting, especially on sampling frames, response rates, and robustness checks, would further strengthen the evidence base.

### Implications for Practice and Policy

For banks, two levers stand out across settings: clear value and practical support. Value improves when the app reliably enables core tasks (transfers, bill payments, and account management) with fast, error-resistant execution and clear feedback. Support through onboarding, in-app guidance, and responsive help reduces learning costs and helps motivated users become regular users. During disruptions, brief and credible communication that links remote-channel benefits to safety and convenience can also act as an effective cue to action. For policymakers and regulators, durable inclusion depends on enabling conditions and trust infrastructure. Clear consumer protection, fast dispute resolution, and visible anti-fraud measures build trust and lower perceived risk. Standards for authentication and incident response can reduce systemic vulnerability. Finally, investments in digital capability, especially for older adults and lower-income groups, help people turn access into meaningful use and reduce inequalities.

### Limitations

This review also has limits. Despite a systematic search and citation chaining, some relevant work may have been missed, particularly in fast-moving FinTech outlets. A meta-analysis was not feasible because studies use different measures and report results inconsistently, so the synthesis is narrative. Quality appraisal depends on what authors report, which means unreported practices cannot be evaluated. The focus on disruptions strengthens relevance to crisis contexts, but generalization to stable periods may be limited. For that reason, the framework is presented with explicit boundary conditions.

### Conclusion and Implications

Mobile banking and digital payments are now central to retail finance. Evidence suggests that usage is shaped by more than stable preferences. Across contexts, usefulness and ease-of-use beliefs, trust and perceived risk, social and institutional influences, and facilitating conditions all matter. During disruptions, threat and coping appraisals become more salient because digital channels can reduce exposure and maintain access.

By organizing determinants into a clear taxonomy and specifying a simple mechanism (Table 6; Figure 1), the review explains why findings vary across settings and stages. It also offers testable propositions and a research agenda that emphasize behavioral outcomes and stronger designs. For practice, it highlights actionable levers such as usability, practical support, and trust infrastructure that can sustain inclusive digital finance use in both routine and disruptive conditions.

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