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Digital-Payment Confidence Among First-Time Financial-Technology Users

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Abstract

The expansion of financial technology has made digital-payment services increasingly accessible to consumers who have limited prior experience with app-based or technology-mediated financial transactions. For first-time users, however, technical availability does not necessarily translate into confident adoption. Digital-payment confidence emerges from a combination of perceived security, trust in the provider and technological infrastructure, interface usability, digital financial literacy, transaction transparency, institutional assurance, and the perceived ability to recover from payment errors. This study examines the formation of digital-payment confidence among first-time financial-technology users through a structured integrative review and conceptual synthesis of research on FinTech adoption, mobile payments, technology acceptance, perceived risk, trust, security, and digital financial capability. Rather than presenting fabricated survey findings, the study develops an evidence-informed First-Time Digital Payment Confidence Framework and supplements the conceptual analysis with a clearly identified illustrative simulation of 100 hypothetical first-time-user confidence scores.

The literature indicates that trust and perceived security occupy a central position because users entering an unfamiliar financial environment must depend simultaneously on the technological system, service provider, transaction process, and institutional safeguards. Ease of use and perceived usefulness facilitate initial interaction, but intuitive interfaces alone are insufficient when users remain concerned about privacy, fraud, failed payments, unauthorized transactions, hidden fees, or uncertainty regarding dispute resolution. Digital financial literacy further strengthens confidence by improving users' ability to understand payment procedures, security signals, transaction records, and potential risks. The study proposes that sustainable adoption depends on moving users through a confidence-building pathway comprising comprehension, secure initiation, successful transaction experience, recoverability, and repeated competent use. The findings have practical implications for FinTech firms, banks, payment providers, regulators, and financial-inclusion programs. Providers seeking to convert first-time trial into continued use should therefore treat confidence as an experiential and institutional outcome rather than simply a consequence of technological convenience.

Keywords: Digital Payments; FinTech Adoption; First-Time Users; Consumer Confidence; Trust; Perceived Security; Digital Financial Literacy; Perceived Risk; Mobile Payments; Financial Inclusion

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1. Introduction

Digital financial services have become an important component of contemporary financial inclusion, enabling individuals to transfer funds, purchase goods and services, receive payments, manage accounts, and interact with financial institutions without relying exclusively on physical branches or cash. The World Bank's Global Findex 2025 is based on nationally representative surveys of approximately 148,000 adults across 141 economies and includes updated information on account use, payments, mobile connectivity, internet access, and digital safety. The continuing expansion of digital finance has consequently shifted research attention from simple technological availability toward the quality, safety, inclusiveness, and sustainability of actual user engagement.

This transition is particularly important for first-time financial-technology users. Experienced users can evaluate a digital-payment service using prior transactions, accumulated familiarity, learned security practices, and knowledge of what should happen when a payment succeeds or fails. A new user does not possess the same experiential reference points. The first transaction therefore involves a distinctive form of uncertainty: the individual must determine whether the application is legitimate, whether personal and financial information will remain protected, whether money will reach the intended recipient, whether fees are transparent, and whether assistance will be available if something goes wrong. Contemporary FinTech trust research consequently emphasizes that trust can involve dependence on organizations, technologies, systems, processes, privacy arrangements, and governance mechanisms rather than a single institutional object.

Technology-adoption research has long demonstrated the importance of perceived usefulness and ease of use, while later payment research has extended these models by incorporating security, trust, innovativeness, compatibility, and risk. Oliveira and colleagues, for example, found that perceived technological security formed part of the determinants associated with mobile-payment adoption and recommendation, whereas de Kerviler and colleagues demonstrated that financial and privacy risks must be considered alongside the benefits and convenience of proximity mobile payments. For first-time users, such factors may become especially salient because the user is evaluating an unfamiliar payment environment before possessing a history of successful transactions.

Trust is therefore not merely a favorable attitude toward a FinTech brand. It functions as a psychological mechanism that permits users to accept vulnerability under conditions of incomplete knowledge. Empirical and review research consistently links FinTech and mobile-payment adoption with trust, security, perceived risk, and system reliability. Jafri and colleagues' systematic review identified trust and security as prominent themes in FinTech adoption research, while Lim and colleagues demonstrated the importance of perceived security and knowledge for continued use of mobile FinTech payment services. Similar work has shown that trust can strengthen adoption intentions while perceived risk can weaken trust and technology acceptance.

Despite this substantial literature, relatively less conceptual attention has been given to the confidence-development process at the point of first use. Adoption intention, actual adoption, continuance intention, and satisfaction are related but conceptually distinct outcomes. A person may try a digital-payment application because of necessity, promotional incentives, peer influence, or merchant requirements while remaining uncertain about its safety or personal competence. The present study therefore focuses specifically on digital-payment confidence as the user's developing belief that a digital transaction can be understood, initiated, completed, verified, and—if necessary—corrected without

unacceptable financial or informational risk. The paper develops a framework explaining how this confidence can be established during early-stage FinTech use.

2. Objectives of the Study

2.1 To Identify the Foundations of First-Use Payment Confidence

The first objective is to identify the technological, psychological, informational, and institutional factors that contribute to confidence when an individual begins using a digital-payment service. Particular emphasis is placed on trust, perceived security, ease of use, perceived usefulness, transparency, financial knowledge, and perceived risk.

2.2 To Explain the Transition from Initial Trial to Confident Use

The second objective is to distinguish simple adoption from confidence formation. The study examines how successful transactions, confirmation mechanisms, understandable interfaces, error recoverability, and accumulated experience can transform tentative trial into more stable digital-payment confidence.

2.3 To Develop a Practical Confidence-Building Framework

The third objective is to develop an evidence-informed framework that FinTech providers, banks, financial educators, and policymakers can use to design more supportive first-use experiences without assuming that access to technology automatically produces safe or confident financial behavior.

3. Review of Literature

3.1 Trust, Security, and Perceived Risk in Digital Payments

Trust has emerged as one of the most persistent constructs in FinTech research. Devlin and colleagues' review emphasizes that the object of trust in FinTech can include service providers, technologies, processes, governance structures, privacy protection, system reliability, and communication. Their analysis also identifies network resilience, usability, data privacy, and security as important areas for understanding FinTech trust.

Jafri and colleagues similarly concluded from a systematic review that trust and security occupy important positions within FinTech adoption research. Empirical work by Ali and colleagues demonstrated that perceived benefits positively influenced trust while perceived risk negatively affected trust, with trust subsequently showing a strong positive relationship with FinTech adoption intention.

Mobile-payment research reinforces this relationship. Shao and colleagues examined trust-building mechanisms in third-party mobile-payment platforms, while de Kerviler and colleagues found that financial and privacy risks form important elements of users' mobile-payment evaluations.

For first-time users, perceived security may be particularly important because little experiential trust has yet developed. Visible transaction confirmation, authentication procedures, recognizable institutional identity, clear privacy communication, fraud warnings, and transparent dispute mechanisms may therefore serve as confidence signals during early interactions.

3.2 Ease of Use, Usefulness, and First-Transaction Experience

The Technology Acceptance Model introduced perceived usefulness and perceived ease of use as foundational explanations of information-system acceptance. Later technology-adoption models

expanded this perspective by incorporating social influence, facilitating conditions, perceived value, habit, and other contextual variables.

Within digital payments, Oliveira and colleagues integrated UTAUT2-related concepts with innovation attributes and security, reporting that compatibility, security, performance expectancy, innovativeness, and social influence contributed to mobile-payment adoption and recommendation.

Ease of use is especially relevant during onboarding. A first-time user who cannot identify the recipient, confirm the transaction amount, understand authentication steps, or locate transaction history may experience cognitive uncertainty even when the technological system itself is secure.

However, interface simplicity should not be confused with confidence. An extremely simple payment flow that provides insufficient explanation may actually increase vulnerability if users do not understand confirmation screens, permissions, fees, or fraud risks. Confidence should therefore arise from comprehensible simplicity, not merely reduction in the number of interface steps.

3.3 Digital Financial Literacy and User Capability

Confidence also depends on the user's capacity to interpret digital financial information. Digital financial literacy extends conventional financial knowledge by including the ability to operate digital interfaces, recognize risks, protect authentication credentials, interpret transaction information, and make informed decisions in technology-mediated financial environments.

Research on digital financial literacy increasingly connects financial capability with digital financial behavior and well-being. Choung, Chatterjee, and Pak, for example, examined digital financial literacy in relation to financial well-being, while FinTech research has repeatedly identified knowledge as relevant to secure and continued digital-payment use. Lim and colleagues specifically found perceived security and knowledge to be important in explaining continued intention to use mobile FinTech payment services.

For new users, digital financial literacy can reduce uncertainty by helping individuals recognize legitimate requests, evaluate security warnings, understand transaction status, preserve credentials, identify suspicious communication, and know when to seek assistance. Confidence without such competence can be dangerous because excessive confidence may expose users to scams or poor financial decisions. The desired outcome is therefore calibrated confidence—confidence supported by sufficient understanding of both the benefits and risks of digital payments.

4. Research Methodology

4.1 Research Design

The study adopts a structured integrative literature-review and conceptual-synthesis design. Because no original participant dataset was supplied, the paper does not claim to report a newly conducted survey of first-time FinTech users.

The study combines established technology-adoption theory with contemporary FinTech research concerning trust, perceived security, risk, knowledge, usability, and continued use.

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4.2 Search and Evidence Selection

The literature base was developed from peer-reviewed journal research and authoritative institutional evidence relevant to digital payments and FinTech adoption. Priority was given to empirical studies, systematic reviews, conceptual research, and established technology-adoption frameworks.

The principal evidence themes were:

- FinTech trust and security;
- mobile-payment adoption;
- perceived financial and privacy risk;
- perceived usefulness and ease of use;
- digital financial literacy;
- continuance intention;
- system reliability and transaction transparency; and
- digital financial inclusion and safety.

Table 1: Methodological Framework

Methodological Element	Specification
Research approach	Structured integrative review
Study orientation	Conceptual and analytical
Primary domain	First-time digital-payment use
Evidence types	Empirical studies, systematic reviews, theoretical studies, institutional evidence
Key constructs	Trust, security, risk, usability, usefulness, literacy, transparency and recoverability
Main analytical unit	First-time-user confidence-building factor
Empirical participant data	Not collected
Supplementary analysis	Reproducible illustrative simulation
Simulated observations	100 hypothetical first-time-user confidence scores
Ethical position	Simulation is not presented as real participant data

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4.3 Analytical Synthesis

Evidence was coded according to whether a factor primarily strengthened confidence, reduced uncertainty, increased perceived value, improved user capability, or strengthened the recoverability of a failed transaction.

The resulting framework distinguishes five stages:

Comprehension → Secure Initiation → Transaction Verification → Error Recoverability → Confident Repetition

This sequence assumes that first-use confidence is developmental rather than instantaneous.

4.4 Illustrative Histogram Procedure

A reproducible synthetic dataset of 100 hypothetical first-time users was created exclusively to demonstrate how a future empirical study could examine the distribution of payment-confidence scores. The simulation generated confidence values on a 0–100 scale. The resulting illustrative dataset had:

- **Mean:** 69.45
- **Standard deviation:** 12.08
- **Minimum:** 36.21
- **Maximum:** 95.00

These numbers do not represent actual respondents and should not be interpreted as population estimates.

5. Analysis

5.1 Determinants of First-Time Digital-Payment Confidence

The literature synthesis indicates that confidence is most plausibly understood as a multidimensional outcome rather than a simple attitude toward technology.

Table 2: Proposed First-Time Digital-Payment Confidence Matrix

Confidence Driver	Principal User Concern	Expected Effect on Confidence	Provider Response
Perceived security	Unauthorized access or financial loss	Strong positive when security is credible	Authentication, encryption, fraud alerts and secure-device guidance
Institutional trust	Whether provider/system can be depended upon	Positive	Clear institutional identity, governance and accountability
Ease of use	Difficulty completing payment correctly	Positive when combined with clarity	Simple onboarding and understandable transaction flow
Digital financial literacy	Lack of knowledge about digital transactions	Positive	Contextual education, security prompts and explanatory support
Transaction transparency	Hidden fees or uncertainty about payment status	Positive	Display recipient, amount, fees and status before confirmation
Perceived risk	Fraud, privacy loss, failed	Negative when	Risk disclosure and preventive

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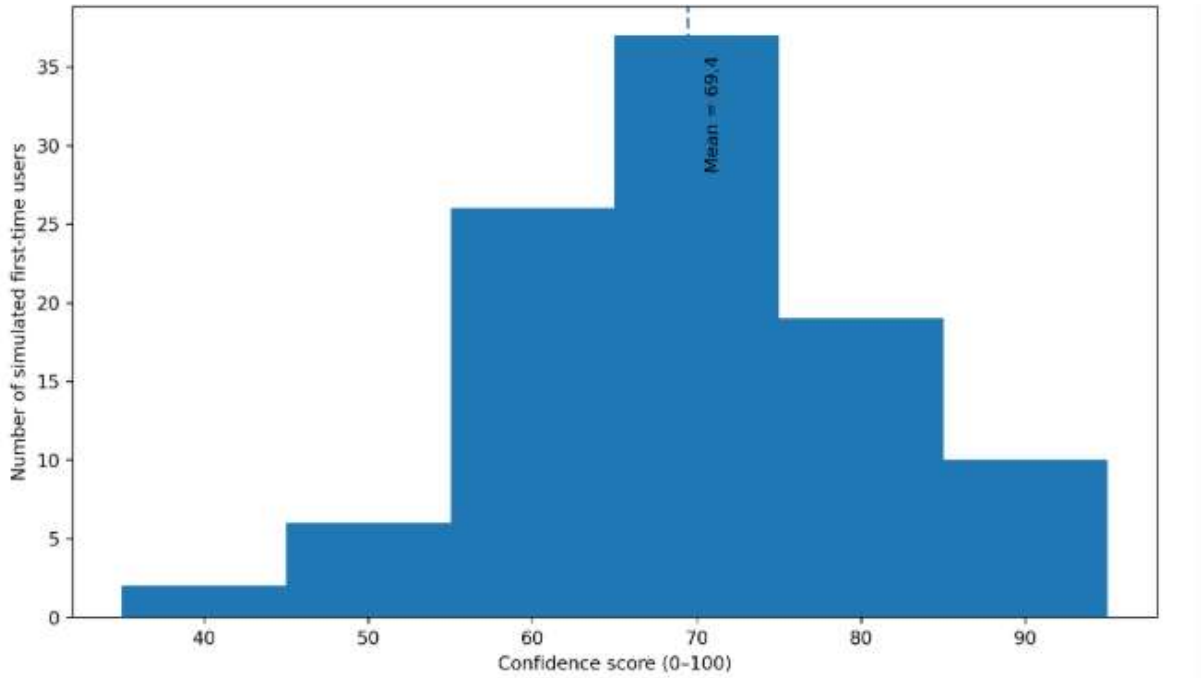
Confidence Driver	Principal User Concern	Expected Effect on Confidence	Provider Response
	payment or incorrect transfer	unmanaged	controls
Error recoverability	Fear of irreversible mistakes	Strong confidence-supporting effect	Accessible support, dispute process and traceable transaction history

Source: Author's synthesis based on reviewed literature. Trust, security, risk, and usability are repeatedly identified as material issues in FinTech adoption research.

5.2 Histogram of Illustrative Payment-Confidence Scores

Figure 1: Illustrative Distribution of Digital-Payment Confidence



The simulated distribution is concentrated predominantly in the 65–74 confidence range, with an illustrative mean of 69.45. The purpose of the histogram is methodological: it demonstrates that an empirical study should examine the complete distribution of confidence rather than reporting only an average score.

A moderately high mean can conceal a meaningful group of hesitant users. In the simulation, several hypothetical observations remain below 55, illustrating how aggregate adoption indicators could overlook individuals who technically use a payment system while retaining substantial uncertainty.

This distinction is particularly important in financial services because a low-confidence first-time user may complete a transaction through external pressure or necessity without becoming a sustainable user.

5.3 The First-Time Digital Payment Confidence Framework

The synthesis supports a five-stage confidence-building model.

Stage 1: Comprehension. The user must understand the purpose of the service, transaction process, payment amount, recipient, fees, and fundamental security responsibilities.

Stage 2: Secure Initiation. Registration, identity verification, authentication, account linking, and the first transaction should produce visible indications of security without creating unnecessary complexity.

Stage 3: Transaction Verification. The user should receive immediate and unambiguous confirmation of payment status, recipient identity, amount, timestamp, and transaction reference.

Stage 4: Error Recoverability. Users need confidence that an error, duplicate payment, unauthorized transaction, or service failure can be investigated through an understandable support and dispute pathway.

Stage 5: Confident Repetition. Repeated successful interactions convert provisional trust into experience-based confidence. At this stage, users become more capable of distinguishing ordinary transaction procedures from unusual or suspicious events.

6. Discussion

6.1 Adoption and Confidence Are Not Equivalent

A central contribution of this study is the distinction between using a digital-payment system and feeling competent and appropriately secure while using it.

Technology-adoption studies frequently focus on behavioral intention, adoption, or continuance intention. These remain important outcomes, but they do not fully capture the psychological position of a first-time user.

A person may adopt a service because cash is unavailable, a merchant requests a particular payment method, a family member assists with installation, or a promotional incentive encourages experimentation. Such adoption does not demonstrate that the individual understands privacy, security, dispute mechanisms, or the transaction process.

6.2 Trust Must Be Earned Through the Transaction Experience

FinTech trust research suggests that trust is multidimensional and may involve institutions, technological artifacts, processes, governance, privacy, security, communication, and reliability.

This perspective has direct implications for first-time users. Advertising that claims a payment service is “safe” cannot substitute for an experience that demonstrates safety.

Confidence is more likely to develop when users can observe:

- recognizable authentication;
- accurate transaction details;
- explicit confirmation before transfer;
- immediate proof of completion;
- accessible transaction records;
- understandable security warnings; and
- credible procedures for resolving problems.

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6.3 Financial Inclusion Requires Calibrated Confidence

The World Bank's inclusion framework increasingly incorporates connectivity and digital safety alongside conventional indicators of financial-service access and use. This development is important because expanding access without supporting safe use may leave newly connected consumers exposed to unfamiliar digital risks.

FinTech providers and financial-inclusion programs should consequently avoid maximizing confidence through reassurance alone. Overconfidence can reduce vigilance. Effective user education should communicate both the capability and the limitations of digital-payment systems.

The desirable outcome is calibrated digital-payment confidence: users should feel sufficiently confident to transact while remaining alert to fraud, credential theft, social-engineering attacks, suspicious links, unauthorized requests, and incorrect payment details.

Such confidence is particularly important during early adoption because habits established during first use may influence subsequent digital financial behavior.

7. Conclusion

Digital-payment confidence among first-time FinTech users represents an important but insufficiently differentiated component of financial-technology adoption. This study argues that initial use should not be treated as evidence of complete acceptance, competence, or trust. First-time users encounter a distinctive combination of technological, financial, informational, and psychological uncertainty because they have not yet accumulated the experience necessary to evaluate transaction reliability through repeated use.

The literature synthesis identifies perceived security, institutional and technological trust, ease of use, digital financial literacy, transaction transparency, perceived risk, error recoverability, and successful early experience as central elements of confidence development. These factors operate interactively. Ease of use without security can generate vulnerability; strong security without comprehensible design can discourage adoption; and trust without financial literacy may produce excessive dependence on the system.

The proposed First-Time Digital Payment Confidence Framework conceptualizes confidence development through five stages: comprehension, secure initiation, transaction verification, error recoverability, and confident repetition. This framework shifts attention from the narrow question of whether consumers adopt a FinTech payment service toward the more meaningful question of whether they can use it safely, competently, and with appropriately calibrated trust.

The illustrative histogram demonstrates how future empirical research could examine variation in payment-confidence levels, but the simulated observations reported in this paper should not be interpreted as real participant findings. Future studies should administer validated confidence measures to genuine first-time users and test the proposed framework through longitudinal designs that follow consumers from onboarding through repeated payment experience.

For FinTech providers and policymakers, the practical implication is clear: the first digital transaction should be designed not merely to succeed technically, but to teach the user why the transaction can be understood, verified, trusted, and recovered when difficulties occur. Sustainable digital financial inclusion requires not only access to payment technology but informed confidence in using it.

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