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Digital Financial Literacy, Risk Perception, and Trust in Mobile Banking Services: A Systematic Literature Review

Dede Iman[1], Ratum[2*], Suryati Zamzam[3], Erdita Karina Noer[4], Margo Purnomo[5]
[1,2,3,4,5] Business Adminstration, Padjadjaran University

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Corresponding Author
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ABSTRACT: This systematic literature review examines how the relationships between risk perception and trust in mobile banking and digital banking services have been investigated, and how financial literacy, digital literacy, and digital financial literacy are conceptualized and operationalized within these relationships. Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 guidelines, 1,016 Scopus records retrieved through seven search strings were reduced to 902 unique records before screening against predefined criteria and eligibility assessment. The review includes 72 empirical journal articles published between 2008 and 2026. Evidence was synthesized across two groups: 48 studies examining direct or conditional relationships between risk perception, including perceived security and privacy, and trust, and 24 studies measuring literacy alongside risk or trust. Perceived security and privacy consistently foster trust, whereas the relationship between risk perception and trust remains inconsistent, with negative, nonsignificant, and occasionally positive effects reported, alongside bidirectional causal models. Literacy-related research in this domain remains relatively recent, with all 24 studies published since 2020, predominantly employing partial least squares structural equation modelling. Literacy is positioned as a predictor, mediator, or moderator, producing reinforcing, attenuating, or nonsignificant effects on trust-related pathways. No study examines literacy as a moderator of the risk–trust relationship. Literacy constructs are inconsistently labelled and mostly measured using global scores, while profession-specific populations remain unexplored. This review proposes digital financial literacy as a boundary condition of the risk–trust relationship through competing buffering and vigilance mechanisms, advances a literacy-based conceptual framework, and outlines a research agenda for occupational populations, particularly secondary school teachers in Indonesia.

INTRODUCTION

Mobile banking has become a primary channel through which consumers access financial services, yet its adoption and continued use remain uneven across markets and user groups. Previous reviews identify trust, security, risk perception, and privacy as among the most important determinants of mobile banking adoption, use, and loyalty (Hashim & Hassan, 2023), while the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) remain dominant explanatory frameworks (Souiden et al., 2021). Cross-cultural evidence further demonstrates that security, privacy, and trust shape behavioral intentions in both developed and emerging markets (Merhi et al., 2019), while perceived risk and institutional trust remain relevant even among technology-dependent millennials (Thusi & Maduku, 2020). Understanding how consumers assess mobile banking risks and whether they ultimately develop trust in these services is therefore essential to explaining their adoption and use.

In this literature, risk perception and trust are treated as closely interconnected constructs. Multidimensional perceived risk constitutes an important antecedent of mobile banking acceptance (Luo et al., 2010), while trust reduces perceived risk, which

subsequently lowers the intention to adopt internet banking (Kesharwani & Bisht, 2012). Trust may also moderate the relationship between perceived risk and behavioral intention (Kaur & Arora, 2021). A meta-analysis of 63 quantitative studies found significant relationships between mobile banking trust and risk-related factors and further demonstrated that Hofstede's cultural dimensions moderate most of these relationships (Kumar et al., 2023). Accordingly, the risk–trust relationship is theoretically central yet sensitive to the context in which it is examined.

Despite its theoretical significance, empirical evidence regarding the relationship between risk perception and trust remains inconsistent. Perceived risk has been found to have no significant effect on digital banking adoption intentions in Malaysia (Nguyen et al., 2024), no significant influence on trust among Indonesian university students (Kurniawan et al., 2024), and no direct effect on mobile banking application usage intentions for a major European bank (Muñoz-Leiva et al., 2017). Conversely, other studies report positive effects of perceived risk on trust in Indonesia and Pakistan (Addin et al., 2026; Malik et al., 2026). Among experienced digital banking users, perceived risk has also been found to exert no indirect effect through trust, which the authors interpret as a boundary condition for risk-based models (Dias et al., 2025). These divergent findings suggest that the relationship between risk perception and trust may depend on user characteristics, consistent with evidence that self-efficacy moderates how users develop initial trust in mobile banking (Zhou, 2012).

Literacy represents a plausible candidate for explaining these user-level contingencies. Digital financial literacy integrates financial knowledge with digital knowledge, awareness of digital financial services, practical skills, and the ability to protect oneself against digital fraud, and is associated with greater opportunities to use digital banking and other digital financial services (Pak et al., 2026). Financial literacy has been shown to reduce perceived risk (Shuhaiber et al., 2025), while digital financial literacy strengthens the effect of trust on the continued use of artificial intelligence assistants in digital banking (Nga & Tam, 2026). However, financial literacy has also been found to reduce initial trust in open banking, potentially by fostering skepticism (Chan et al., 2022). The relationship between literacy and mobile payment adoption is weaker and may even reverse in Indonesia compared with Bangladesh (Hunter et al., 2026), while financial literacy does not moderate the effect of perceived risk on FinTech engagement in a digitally mature market (Macedo et al., 2026). Thus, whether literacy attenuates or intensifies the influence of perceived risk on trust remains unresolved.

Existing reviews have not adequately addressed this question. Previous syntheses have mapped mobile banking adoption determinants and theoretical frameworks (Hashim & Hassan, 2023; Souiden et al., 2021), conducted meta-analyses of mobile banking trust (Kumar et al., 2023) and retail digital banking acceptance (Fares et al., 2026), and examined bibliometric trends in digital banking adoption in developing countries (Acosta-Prado et al., 2024) and the literature on financial literacy and FinTech (Janjanam & Subbalakshmi, 2025). However, no review has systematically examined how literacy is positioned within the risk–trust relationship or how literacy is conceptualized and measured in this context. Occupational groups are also largely absent from the existing evidence base. One study involving female schoolteachers in India examined their vulnerability to digital financial risks but did not investigate how risk perceptions translate into trust (Ajith et al., 2026).

This systematic literature review addresses these gaps by synthesizing empirical research on risk perception, trust, and literacy in mobile banking and digital banking. Following a two-level synthesis approach used in recent behavioral research reviews, this study first maps how the risk–trust relationship has been investigated and subsequently examines in greater depth how literacy is incorporated into this relationship. The review addresses the following three research questions:

- **RQ1.** How is the relationship between risk perception and trust in mobile banking and digital banking conceptualized and examined, and how consistent are the findings?
- **RQ2.** How is literacy (financial, digital, or digital financial) positioned in relation to risk perception and trust, and what effects are reported?
- **RQ3.** How is literacy conceptualized and measured in these studies?

In addressing these questions, this review makes four contributions. First, it synthesizes empirical evidence on the relationship between risk perception and trust in mobile banking and digital banking. Second, it proposes digital financial literacy as a boundary condition of the risk–trust relationship through two competing mechanisms: buffering and vigilance. Third, it advances a conceptualization of digital financial literacy tailored to risk–trust research. Fourth, it outlines a research agenda for occupational populations, with secondary school teachers in Indonesia serving as an illustrative case for future empirical investigation.

2. MATERIALS AND METHODS

2.1. Research Design

This study employed a systematic literature review reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 (PRISMA 2020) statement (Page et al., 2021). PRISMA 2020 was used as a reporting guideline rather than as a meta-analytic procedure. Because the review aims to map how constructs are conceptualized and examined rather than to aggregate effect sizes, the evidence was synthesized using a narrative and thematic approach. A two-level synthesis design was adopted. The first level broadly mapped the evidence concerning the relationship between risk perception and trust (RQ1), whereas the second level examined in greater depth how literacy was positioned and operationalized in the relevant studies (RQ2 and RQ3).

2.2. Data Source and Search Strategy

Scopus was selected as the primary database because of its extensive coverage of journals in business, management, finance, and information systems, as well as its provision of comprehensive metadata exports, including abstracts, author keywords, affiliations, and electronic identifiers (EIDs), which were required for duplicate removal. The search strategy comprised seven search strings combining four conceptual blocks: (1) mobile banking and digital banking services, (2) risk perception, security, and privacy, (3) trust, and (4) financial literacy, digital literacy, and digital financial literacy. Each search string was applied to the title, abstract, and author keyword fields (TITLE-ABS-KEY). The searches were conducted on October 29th 2026. Table 1 presents the search syntax and the number of records retrieved from each search string.

Table 1. Search strings and retrieved records

Search ID	Scopus search string (TITLE-ABS-KEY)	Records
S1	TITLE-ABS-KEY ("mobile banking" OR "m-banking" OR "mobile bank*" OR "digital banking" OR "internet banking" OR "online banking" OR "e-banking" OR "mobile financial service*" AND "perceived risk" OR "security risk" OR "privacy risk" OR "financial risk" OR "perceived security" OR "security concern*" OR "privacy concern*" AND trust* OR "customer trust" OR "consumer trust") AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp")) AND (LIMIT-TO (LANGUAGE , "English"))	327
S2	TITLE-ABS-KEY ("digital financial literacy" OR "financial literacy" OR "fintech literacy" OR "financial technology literacy" OR "digital financial capabilit*" OR "digital financial knowledge" OR "digital financial skill*" OR "digital literacy" AND "mobile banking" OR "m-banking" OR "mobile bank*" OR "digital banking" OR "internet banking" OR "online banking" OR "mobile financial service*" AND trust* OR "perceived risk" OR security OR adoption OR intention OR usage) AND PUBYEAR > 2017 AND PUBYEAR < 2027 AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp")) AND (LIMIT-TO (LANGUAGE , "English"))	159
S3	TITLE-ABS-KEY ("digital financial literacy" OR "financial literacy" OR "fintech literacy" AND "perceived risk" OR "security risk" OR "privacy risk" OR "financial risk" AND trust* AND "mobile banking" OR "digital banking" OR "internet banking" OR "online banking" OR fintech OR "digital financial service*" OR "mobile payment*" OR "e-wallet*") AND PUBYEAR > 2017 AND PUBYEAR < 2027 AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp")) AND (LIMIT-TO (LANGUAGE , "English"))	28
S4	TITLE-ABS-KEY ("financial literacy" OR "digital financial literacy" OR "fintech literacy" AND moderat* OR mediat* OR "interaction effect" AND "perceived risk" OR trust* AND "mobile banking" OR "digital banking" OR fintech OR "mobile payment*" OR "digital financial service*") AND PUBYEAR > 2017 AND PUBYEAR < 2027 AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp")) AND (LIMIT-TO (LANGUAGE , "English"))	64
S5	TITLE-ABS-KEY (teacher* OR educator* OR "school teacher*" OR "secondary school teacher*" OR lecturer* OR "civil servant*" AND "mobile banking" OR "digital banking" OR "internet banking" OR fintech OR "digital financial service*" OR "digital payment*" OR "mobile payment*" OR "e-wallet*" AND "financial literacy" OR "digital financial literacy" OR trust* OR "perceived risk" OR "cyber risk" OR "financial inclusion") AND PUBYEAR > 2017 AND PUBYEAR < 2027 AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp")) AND (LIMIT-TO (LANGUAGE , "English"))	44
S6	TITLE-ABS-KEY (indonesia* AND "mobile banking" OR "digital banking" OR "internet banking" OR "mobile payment*" OR fintech OR "e-wallet*" AND trust* OR "perceived risk" OR "financial literacy" OR "digital financial literacy") AND PUBYEAR > 2014 AND PUBYEAR < 2027 AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp")) AND (LIMIT-TO (LANGUAGE , "English") OR LIMIT-TO (LANGUAGE , "Indonesian"))	368

S7	TITLE-ABS-KEY ("systematic review" OR "literatur review" OR "meta-analysis" OR "systematic literatur review" OR bibliometric* AND "mobile banking" OR "digital banking" OR "internet banking" AND trust* OR "perceived risk" OR "financial literacy") AND PUBYEAR > 2014 AND PUBYEAR < 2027 AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp")) AND (LIMIT-TO (LANGUAGE , "English"))	26
Total records		**1,016**
Duplicates removed based on Scopus EID		**114**
Unique records after deduplication		**902**

All records were exported from Scopus in CSV format with complete bibliographic metadata. The search yielded 1,016 records, which were reduced to 902 unique records after 114 duplicates were removed based on Scopus electronic identifiers (EIDs). EID-based deduplication was employed because each Scopus-indexed document is assigned a unique electronic identifier, enabling the identification and removal of duplicate records retrieved across multiple search strings.

2.3. Eligibility Criteria

Eligibility was assessed in two stages (Table 2). The first stage determined whether a record represented an empirical journal study of individual users of digital services provided by banks that examined at least two of the three core constructs: risk perception (including perceived security, privacy, and cyber risk), trust, and financial literacy, digital literacy, or digital financial literacy. The second stage assessed whether a record addressed the research questions by examining the relationship between risk and trust or by measuring literacy in conjunction with risk or trust. The scope was restricted to bank-provided services because mobile money, electronic wallets, cryptocurrencies, and non-bank fintech services involve distinct sources of risk and institutional trust. No publication-year restriction was imposed to ensure that foundational studies could also be included in the review.

Table 2. Eligibility criteria

Code	Stage	Criteria
KI1	1	Primary empirical studies using quantitative, qualitative, or mixed-methods approaches.
KI2	1	Context of bank-provided digital services, including mobile banking, internet or online banking, e-banking, digital banks, neobanks, and open banking, including Islamic banking and AI-enabled features within banking applications.
KI3	1	Examines at least two of the three core constructs: risk perception (including security and privacy), trust, and literacy.
KI4	1	Individual users or prospective individual users as the unit of analysis.
KI5	1	English-language journal articles indexed in Scopus, published in final form or as articles in press, with no publication-year restriction.
EK1	1	Conference proceedings papers.
EK2	1	Publications written in languages other than English.
EK3	1	Systematic reviews, bibliometric analyses, meta-analyses, and other secondary studies.
EK4	1	Non-bank contexts, including general fintech, mobile money, electronic wallets, QR payments, peer-to-peer payments, cryptocurrencies, robo-advisors, peer-to-peer lending, buy-now-pay-later (BNPL), crowdfunding, investment platforms, and central bank digital currencies (CBDCs).
EK5	1	Studies with organizational or macro-level units of analysis, or studies focusing on technical system design.

EK6	1	Studies examining fewer than two core constructs, or studies in which the constructs are mentioned only as background information.
EK7	1	Non-empirical papers, including conceptual models without empirical data and normative legal analyses.
IN-A	2	Studies examining direct, mediating, or moderating relationships between risk perception, security, or privacy and trust.
IN-B	2	Studies measuring literacy as a predictor, mediator, or moderator, or reporting literacy as a qualitative theme, in conjunction with risk or trust.
EX-1	2	Studies modeling risk and trust only as parallel predictors of intention or usage, without examining a relationship between the two constructs.
EX-2	2	Studies in which literacy is mentioned only in the background, sample description, or implications and is not empirically measured.
EX-3	2	Studies whose outcomes fall outside the scope of the research questions, such as financial inclusion or scale development.

2.4. Study Selection Process

The study selection process comprised four steps. First, during the identification stage, 1,016 records were retrieved and imported, after which 114 duplicates were removed, leaving 902 records. Second, records that did not meet the document-type and language criteria were excluded prior to screening, comprising 259 conference proceedings papers and one record published in a language other than English. Third, the remaining 642 records were screened based on their titles, abstracts, and author keywords against exclusion criteria EK3–EK7. Fourth, the 227 records that passed the screening stage were assessed for eligibility against the second-stage criteria.

Title and abstract screening employed a structured, rule-assisted procedure. Contextual and construct-related indicators were coded for each record using a predefined terminology dictionary. For example, terms such as *mobile banking*, *internet banking*, and *digital banking* were used to identify the research context; *perceived risk*, *security*, *privacy*, and *fraud* were used to identify risk-related constructs; *trust* was used to identify trust-related constructs; and *financial literacy*, *digital literacy*, and *financial knowledge* were used to identify literacy-related constructs. Records that passed this rule-assisted coding process were subsequently reviewed manually based on their titles. The abstracts of approximately 100 records whose eligibility was uncertain were examined in full to refine and correct screening decisions. This stage resulted in the exclusion of 415 records: 24 secondary studies (EK3), 275 studies outside the scope of bank-provided digital banking services (EK4), 28 studies at the organizational, macro, or technical level (EK5), 79 studies that did not adequately address the core constructs (EK6), and nine non-empirical studies (EK7).

The second-stage eligibility assessment excluded 155 records: 146 studies that modeled risk and trust only as parallel predictors without examining the relationship between them, seven studies that mentioned literacy without measuring it, and two studies whose outcomes fell outside the scope of the research questions. The final review comprised 72 studies (Figure 1). Each screening decision and its corresponding exclusion reason were documented in a screening worksheet to maintain an auditable record of the selection process.

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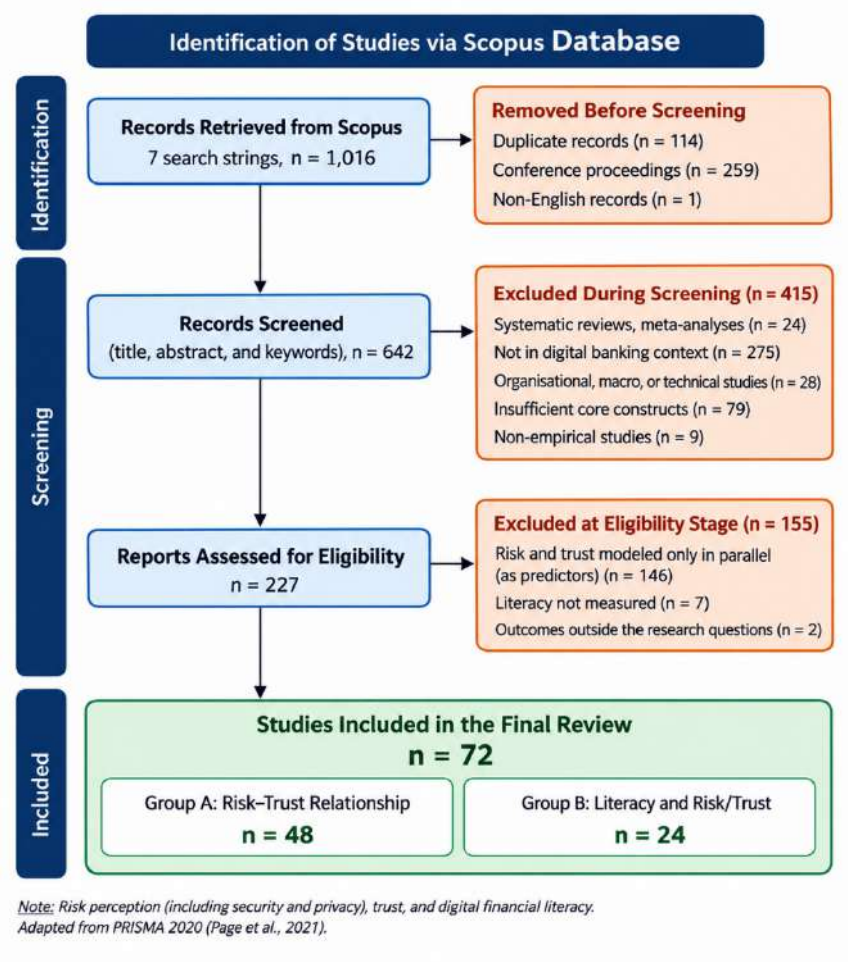


Figure 1. PRISMA 2020 Flow Diagram for Study Selection

2.5. Data Extraction and Coding Scheme

Data were extracted into a structured matrix using the items presented in Table 3. Construct labels were recorded as closely as possible to the terminology used by the original authors to preserve variations in operationalization rather than force them into standardized categories. Studies measuring literacy were assigned to Group B (n = 24), even when they also examined risk–trust pathways, whereas the remaining studies were classified into Group A (n = 48). Data extraction was based on titles, abstracts, and author keywords. Country, theoretical framework, or analytical technique was coded as "not reported" when the information was not provided in the abstract.

Table 3. Data Extraction Items and Coding Scheme

Data Extraction Item	Categories or Coding Rules
Study identification	Author(s), year, journal, DOI
Country	Country in which the study was conducted, as reported in the abstract; "not reported" if unspecified; "multicountry" if more than one country was involved
Service type	Mobile banking; internet, online, or e-banking; digital bank or digital banking; other bank-related digital services
Population	General customers, students or young users, older adults, employees, occupational groups

Theoretical framework	Explicitly reported theories (e.g., TAM, UTAUT/UTAUT2, ECM, commitment–trust theory)
Analytical technique	PLS-SEM; CB-SEM or SEM without further specification; qualitative analysis; regression or correlation; not reported
Risk conceptualization	Global; multidimensional; represented by perceived security or privacy
Risk–trust relationship (Group A)	Risk reduces trust; trust reduces perceived risk; security or privacy enhances trust; nonsignificant relationship; positive relationship contrary to expectations; trust as mediator or moderator
Literacy label (Group B)	Original author terminology: financial literacy, digital literacy, digital financial literacy, combined literacy, Islamic financial literacy
Literacy position	Predictor; mediator; moderator; qualitative or descriptive theme
Literacy pathways and effect direction	Examined pathways; reinforcing, attenuating, positive, negative, or nonsignificant effects
Literacy measurement	Objective (knowledge test) or subjective (self-report); global or multidimensional

2.7. Quality Appraisal and Use of Research Assistance Tools

A formal risk-of-bias or methodological quality appraisal was not conducted in this review. This decision was based on the review's primary objective of mapping how the focal constructs were conceptualized, examined, and operationalized across empirical studies, rather than assessing the overall quality of evidence or estimating pooled effect sizes. Accordingly, the findings should be interpreted as a synthesis of reported research patterns rather than as an assessment of the relative methodological strength of the included studies.

A large language model (Claude, Anthropic) was used to assist with preliminary coding and the formulation of screening decisions. The research author subsequently reviewed and verified the outputs to ensure that study selection, data extraction, coding, and interpretation remained consistent with the predefined eligibility criteria and coding scheme. The use of the language model was limited to research assistance, and responsibility for the screening decisions, data interpretation, and conclusions remained with the author.

3. RESULTS

3.1. Characteristics of the Included Studies

The 72 included studies were published between 2008 and 2026, with three-quarters of the studies (54) published since 2020 (Figure 2). The two research groups exhibited different publication patterns. Group A, which examined the relationship between risk and trust, was distributed across the review period, with 18 of its 48 studies published before 2020. In contrast, Group B, which examined literacy in relation to risk or trust, comprised exclusively studies published since 2020, with 13 of the 24 studies published in 2026. These publication patterns indicate that the integration of literacy into research on risk and trust in mobile banking represents a relatively recent and emerging research stream.

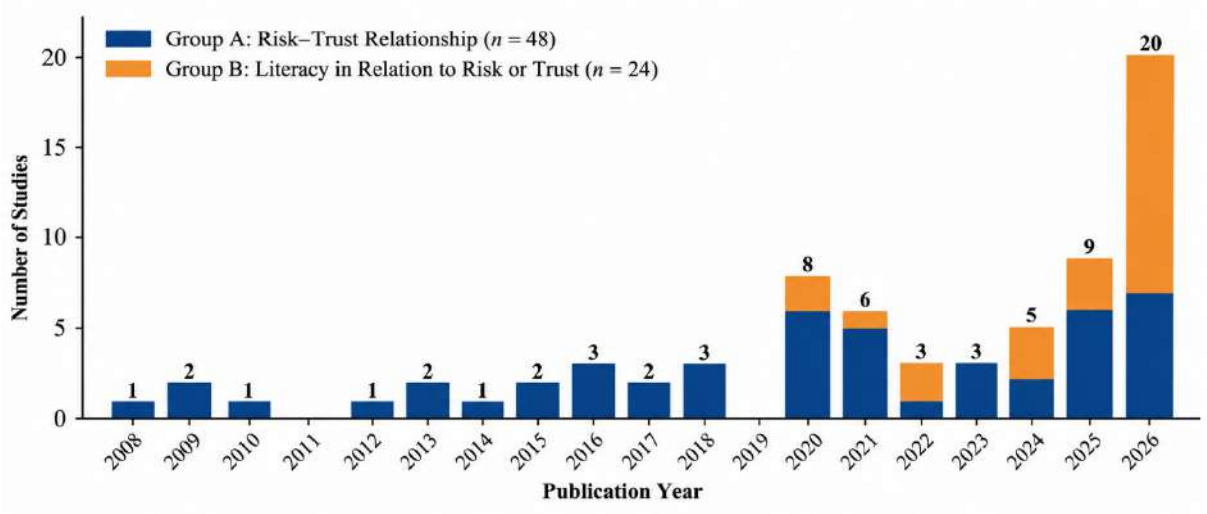


Figure 2. Annual Distribution of the Included Studies by Research Group (2008–2026)

The evidence base was concentrated in Asia (Table 4). Of the 54 studies that reported their country of study, 37 were conducted in a single Asian country, with Indonesia accounting for the largest share (10 studies, in addition to one Indonesia–Nigeria comparative study), followed by India (5 studies) and Vietnam (5 studies). Europe contributed eight single-country studies, Africa four, and Oceania two, while 18 studies did not specify the country of study in their abstracts. Mobile banking was the most frequently investigated service (35 studies), followed by internet banking, online banking, or e-banking (21 studies), and digital banks or digital banking in general (14 studies). Islamic banking emerged as a distinct research context in five studies, four of which were conducted in Indonesia (Addin et al., 2026; Amir et al., 2026; Dwi Nugraha et al., 2026; Kurniati et al., 2026), while one examined Indonesia and Nigeria comparatively (Yarmanti et al., 2025).

Table 4. Characteristics of the Included Studies (n = 72)

Characteristic	Category	Group A (n = 48)	Group B (n = 24)	Total
Publication Period	Before 2020	18	0	18
Publication Period	2020–2026	30	24	54
Digital Banking Service	Mobile banking	–	–	35
Digital Banking Service	Internet, online, or e-banking	–	–	21
Digital Banking Service	Digital banks or digital banking	–	–	14
Digital Banking Service	Other bank-related digital services	–	–	2
Analytical Method	PLS-SEM	16	11	27
Analytical Method	CB-SEM or SEM (unspecified)	15	2	17
Analytical Method	Qualitative analysis	1	3	4
Analytical Method	Regression or correlation	1	2	3
Analytical Method	Not reported in the abstract	15	6	21

The study populations were predominantly general banking customers and younger users. Eight studies in Group A sampled students, millennials, or young people (e.g., Koenig-Lewis et al., 2010; Malaquias & Hwang, 2016; Kurniawan et al., 2024; Watjatrakul, 2026). Two studies in Group B focused on older adults (Detthamrong & Chansanam, 2026; Lundell & Ahamed, 2026), while one examined salaried employees (Yadav et al., 2026). No study specifically examined teachers or other occupational groups. Theoretical foundations were predominantly based on technology acceptance models. TAM or its extensions were mentioned in 17 abstracts, while UTAUT or UTAUT2 appeared in eight. Other theoretical frameworks were mentioned only once or twice, including the expectation–confirmation model (Susanto et al., 2016; Vatanasombut et al., 2008), commitment–trust theory (Dias et al., 2025; Vatanasombut et al., 2008), security–risk–trust models and prospect theory (Ong & Lin, 2015; Thi, 2025), boundary and privacy concerns models (Chang et al., 2018; Terlizzi et al., 2026), innovation resistance theory (Dwi Nugraha et al., 2026), construal level theory (Lee & Zhou, 2026), and valence theory (Malik et al., 2026). More than half of the abstracts (39) did not identify a theoretical framework. PLS-SEM was the most commonly reported analytical technique, particularly in Group B.

3.2. Risk Perception and Trust: Conceptualization and Evidence (RQ1)

Risk perception was conceptualized in three ways. Some studies treated it as a global construct (e.g., Van et al., 2021; Almaiah et al., 2023), while others conceptualized it as a multidimensional construct encompassing financial, social, time, privacy, security, and performance-related facets (Aldás-Manzano et al., 2009; Van et al., 2020; Kaur & Arora, 2021; Nancyprabha & Sivakumar, 2023). A substantial group of studies instead examined perceived security or privacy as related constructs in the context of users' evaluations of digital banking services (e.g., Yousafzai et al., 2009; Tovmasyan et al., 2026). This distinction is important because perceived security and privacy appear to exhibit more consistent relationships with trust than global risk perception, as illustrated by the evidence presented below.

Table 5. Evidence on the Relationship between Risk Perception and Trust (Group A, n = 48)

Relationship	Studies	n
Perceived security or privacy positively contributes to trust	Vatanasombut et al. (2008); Yousafzai et al. (2009); Ong & Lin (2015); Malaquias & Hwang (2016); Susanto et al. (2016); Salimon et al. (2017); Ofori et al. (2017); Chang et al. (2018); Masrek et al. (2018); Chandra et al. (2020); Karim et al. (2020); Purwanto et al. (2020); Sun & Duang-Ek-anong (2021); Abdennebi (2023); Kurniawan et al. (2024); Garrouch et al. (2025); Jyoti et al. (2025); Yarmanti et al. (2025); Kurniati et al. (2026); Lisana & Abigael Christy (2026); Tovmasyan et al. (2026)	21

Risk perception negatively affects trust	Damghanian et al. (2016); Al Khasawneh et al. (2018); Van et al. (2020); Van et al. (2021); Almaiah et al. (2023); Thi (2025); Watjatrakul (2026)	7
Trust reduces risk perception or privacy concerns	Aldás-Manzano et al. (2009); Koenig-Lewis et al. (2010); Kesharwani & Bisht (2012); Loureiro (2013); Cheng et al. (2014); Al-Jabri (2015); Terlizzi et al. (2026)	7
Non-significant relationship	Salimon et al. (2020); Kurniawan et al. (2024); Dias et al. (2025)	3
Positive relationship contrary to the expected direction	Nguyen (2020); Addin et al. (2026); Malik et al. (2026)	3
Trust as a mediator or moderator of risk effects	Purwanto et al. (2020); Van et al. (2020); Esmaeili et al. (2021); Kaur & Arora (2021); Tangmanee & Sritadawut (2021); Nancyprabha & Sivakumar (2023); Guduri et al. (2025); Watjatrakul (2026)	8
Risk as a moderator of trust formation	Arruda Filho et al. (2022)	1
Trust formation under risky conditions (trust determinants examined)	Zhou (2013); Sundjaja et al. (2024)	2

Note: Studies examining multiple pathways are included in more than one row.

The most consistent finding is that perceived security and privacy contribute positively to trust. Twenty-one studies reported this relationship, ranging from early research on internet banking in the United Kingdom (Yousafzai et al., 2009) to a recent mobile banking study in Armenia, in which perceived security emerged as the strongest predictor of customer trust (Tovmasyan et al., 2026), and a study of Islamic mobile banking in Indonesia (Kurniati et al., 2026). Even the disclosure of security-related information on bank websites was found to strengthen trust among users who had visited those websites (Malaquias & Hwang, 2016). By contrast, only one study reported that perceived security did not predict e-trust (Salimon et al., 2020).

Evidence concerning global risk perception is less consistent, with relationships modeled in both directions. Seven studies conceptualized risk perception as a determinant of trust and reported negative effects (e.g., Damghanian et al., 2016; Van et al., 2021; Thi, 2025), whereas seven other studies modeled trust as reducing risk perception or privacy concerns (e.g., Kesharwani & Bisht, 2012; Al-Jabri, 2015; Terlizzi et al., 2026). The presence of these two specifications suggests that the causal ordering between risk and trust remains unsettled and may partly reflect modeling choices inherited from the theoretical frameworks adopted in individual studies. Ong and Lin (2015) proposed a third approach by treating perceived security as a common antecedent of both trust and risk perception.

A small number of studies reported nonsignificant or unexpected findings. Risk perception did not significantly affect trust among Indonesian university students (Kurniawan et al., 2024), nor did it exert an indirect effect through trust among experienced digital banking users in New Zealand, a finding interpreted by Dias et al. (2025) as a boundary condition for risk-based models. Conversely, trust was found to increase risk perception in Vietnam (Nguyen, 2020), while risk perception positively affected trust in studies conducted in Indonesia and Pakistan (Addin et al., 2026; Malik et al., 2026). Malik et al. (2026) suggested that users may interpret risk as a signal of system maturity or institutional responsiveness, whereas Addin et al. (2026) found that customers' knowledge of cyber threats reduced their trust in banks. These findings suggest that users' knowledge of risks may shape trust differently from their perceived level of risk associated with a service.

Trust was also examined as part of conditional mechanisms. It mediated the effects of risk perception on internet banking use (Tangmanee & Sritadawut, 2021), loyalty (Esmaeili et al., 2021), customer experience (Nancyprabha & Sivakumar, 2023), and satisfaction (Guduri et al., 2025), while moderating the relationship between risk perception and behavioral intention in two studies (Kaur & Arora, 2021; Van et al., 2020). Watjatrakul (2026) identified a serial pathway in which a short-term mindset increased privacy and security concerns, which subsequently reduced trust.

Table 6. Evidence Map of Literacy in Risk and Trust Research (Group B, n = 24)

Study	Country	Literacy Construct	Position	Related Pathway or Outcome	Reported Effect
Nga & Tam (2026)	Vietnam	Digital financial literacy	Moderator	Trust → continuance use of AI assistants in digital banking	Strengthens
Amir et al. (2026)	Indonesia	Islamic financial literacy	Predictor and moderator	AI acceptance → continuance intention (security and trust as antecedents)	Positive; strengthens
Al Doghan & Mirzaliev (2024)	Not reported	Digital literacy	Moderator	Cybersecurity awareness and other antecedents → trust in digital banking	Significant moderation
Rage (2026)	Somalia	Digital literacy	Moderator	Satisfaction → recommendation (trust-related facets as antecedents)	Strengthens
Lee & Zhou (2026)	Not reported	Financial literacy	Moderator	Sequential pathway through trust to subjective financial well-being	Significant moderation
Macedo et al. (2026)	Poland, Portugal, UK, USA	Financial literacy	Predictor and moderator	Engagement; pathways involving risk perception and social influence	No direct effect; no moderation
Chan et al. (2022)	Australia	Financial literacy	Predictor	Initial trust in open banking	Negative
Yadav et al. (2026)	India	Digital financial literacy	Predictor	Readiness, trust, and metaverse banking use	Positive; constrained by security concerns
Andreou & Anyfantaki (2021)	Cyprus	Financial literacy	Predictor	Internet banking usage frequency; reasons for non-use	Positive; low literacy associated with lack of trust
Jünger & Mietzner (2020)	Germany	Financial literacy and education	Predictor	Transition to FinTech services (alongside trust)	Positive; low trust also increases switching
Nihaya et al. (2026)	Indonesia	Financial and digital literacy	Predictor (trust as moderator)	Digital bank preference	Positive; trust strengthens the effect of digital literacy and weakens the effect of financial literacy
Abbes et al. (2024)	France	Digital and financial literacy	Predictor	Digital signature acceptance (alongside risk and trust)	Significant
Nguyen et al. (2024)	Malaysia	Financial literacy	Predictor	Digital bank adoption (risk was nonsignificant)	Positive

Kumari & Devi (2022)	Not reported	Financial literacy	Predictor	Intention to use blockchain in digital banking (alongside risk)	Significant
Dwi Nugraha et al. (2026)	Indonesia	Islamic financial literacy	Predictor	Adoption intention alongside risk-related barriers	Positive
Tobias et al. (2026)	Indonesia	Financial knowledge and self-efficacy	Predictor	Intention to use AI features in mobile banking	Nonsignificant
Detthamrong & Chansanam (2026)	Thailand	Digital literacy	Predictor	Continuance use among adults aged 60+ (alongside trust)	Positive
Elhajjar & Ouaida (2020)	Lebanon	Digital literacy	Predictor	Attitude toward mobile banking (alongside perceived risk)	Significant
Duci et al. (2025)	Albania	Digital literacy	Predictor	Online banking activation (alongside trust and security)	Low literacy is a barrier
Sharma & Kumar (2025)	India	Digital literacy	Predictor	Intention to use online banking (alongside trust)	Not reported in the abstract
Rabbi & Seraj (2026)	Bangladesh	Digital literacy	Mediator	Mobile banking use → trust; digital literacy → budgeting	Positive
Byron Tuazon & Renee Ching (2025)	Philippines	Financial literacy	Qualitative theme	Trust, security, and inclusivity in online communities	Literacy developed through peer advice
Lundell & Ahamed (2026)	Sweden	Digital financial literacy	Qualitative concept	Online banking use among older adults	Adaptive and context-dependent capacity
Singh & Mohamed Ali (2026)	Qatar	Literacy (domain unspecified)	Descriptive	Mobile banking and beliefs about security	Literacy identified as a weakness

As a predictor, literacy was generally associated with higher adoption, usage, or preference (e.g., Andreou & Anyfantaki, 2021; Nguyen et al., 2024; Detthamrong & Chansanam, 2026), although the evidence was not uniformly positive. Financial knowledge and self-efficacy did not significantly affect intentions to use AI-based features in mobile banking in Indonesia (Tobias et al., 2026), while financial literacy was negatively associated with initial trust in open banking in Australia (Chan et al., 2022). In Germany, households with higher levels of financial education but lower trust were more likely to switch to FinTech services (Jünger & Mietzner, 2020). Literacy and trust were also linked descriptively: respondents in Cyprus with lower financial literacy more frequently cited a lack of trust and confidence as reasons for not using internet banking (Andreou & Anyfantaki, 2021).

As a moderator, literacy generally strengthened the pathways examined. Digital financial literacy strengthened the relationship between trust and continuance use (Nga & Tam, 2026), while Islamic financial literacy strengthened the relationship between AI acceptance and continuance intention (Amir et al., 2026). Digital literacy strengthened the relationship between satisfaction and recommendation (Rage, 2026) and significantly moderated the relationships between cybersecurity awareness and other antecedents and trust in digital banking (Al Doghan & Mirzaliev, 2024). Financial literacy also moderated a sequential pathway involving trust (Lee & Zhou, 2026). The only study examining literacy moderation in a risk-related pathway found no moderating effect on the relationship between risk perception and FinTech user engagement (Macedo et al., 2026). No study identified in this review explicitly tested literacy as a moderator of the relationship between risk perception and trust. The closest evidence was provided by Al Doghan and Mirzaliev (2024), who found that digital literacy conditioned how cybersecurity awareness and other antecedents were associated with trust.

The roles of literacy and trust were occasionally reversed. Nihaya et al. (2026) treated trust as a moderator and found that it strengthened the effect of digital literacy but weakened the effect of financial literacy on digital bank preference in East Java. Yadav et al. (2026) found that digital financial literacy positively contributed to readiness, trust, and metaverse banking use, although security concerns constrained these relationships. Taken together, these studies suggest that literacy and risk-related perceptions may interact, although the configurations and pathways examined vary across studies.

3.4 Literacy Conceptualization and Measurement (RQ3)

Literacy was identified using five distinct labels: financial literacy or financial knowledge (nine studies), digital literacy (eight studies), digital financial literacy (three studies), combined financial and digital literacy (two studies), and Islamic financial literacy (two studies). These labels were rarely defined in ways that clearly distinguished their conceptual boundaries. Only two studies explicitly differentiated financial literacy from digital literacy within the same model (Abbes et al., 2024; Nihaya et al., 2026), while one study distinguished financial knowledge from financial self-efficacy (Tobias et al., 2026). In most studies, literacy was incorporated into the model as a single, overall construct.

Literacy measurement was rarely described in the abstracts. Two studies reported knowledge-based measures resembling objective assessments (Andreou & Anyfantaki, 2021; Macedo et al., 2026), whereas several studies employing structural equation modeling treated literacy as a latent construct; however, the specific measurement instruments were generally not described in the abstracts. Only one quantitative study explicitly described a multidimensional instrument encompassing digital banking competence, cybersecurity awareness, blockchain understanding, and the ability to operate virtual financial platforms (Yadav et al., 2026). Lundell and Ahamed's (2026) qualitative study went further by conceptualizing digital financial literacy as a context-dependent adaptive capacity rather than a fixed stock of knowledge. Protective dimensions, particularly the ability to recognize and avoid digital fraud, were explicitly represented in only two studies, despite their direct relevance to risk perception.

4. DISCUSSION

4.1 Explaining the Inconsistency in Risk Perception–Trust Relationships

This review reinforces previous syntheses that trust, security, and risk are central factors in mobile banking adoption and that technology acceptance models remain dominant in this research domain (Hashim & Hassan, 2023; Souiden et al., 2021). It extends these syntheses by identifying where empirical evidence converges and where it remains inconsistent. Perceived security and privacy consistently contribute to trust, in line with the security and trust dimensions identified in frameworks of retail digital banking acceptance (Fares et al., 2026). By contrast, global risk perception has been associated with negative, nonsignificant, and positive effects on trust, and has been modeled as both an antecedent and an outcome of trust.

Three characteristics of the literature help explain this inconsistency. First, **construct framing**. Perceived security and privacy represent specific evaluations of protective conditions, whereas global risk perception encompasses heterogeneous concerns. Studies that distinguish individual risk dimensions indicate that not all risk facets exert significant effects (Nancyprabha & Sivakumar, 2023), consistent with earlier evidence that perceived risk comprises multiple distinct dimensions (Luo et al., 2010). Second, **the stage of usage**. Trust appears to reduce perceived risk during the initial adoption stage (Kesharwani & Bisht, 2012; Koenig-Lewis et al., 2010), whereas the influence of risk perception may become less pronounced among experienced users (Dias et al., 2025). Third, **contextual conditions**. A meta-analysis indicates that cultural dimensions moderate several trust-related relationships in mobile banking (Kumar et al., 2023), while evidence from low-income users suggests that the relationships among literacy, trust, and adoption differ across markets with varying levels of digital maturity (Hunter et al., 2026).

What remains underdeveloped in the literature is a capability-based explanation of these relationships. The conditions examined thus far have predominantly involved dispositional or situational factors, such as short-term mindset (Watjatrakul, 2026), fear (Terlizzi et al., 2026), experience (Dias et al., 2025), and culture (Kumar et al., 2023). However, findings that deviate from expected relationships point to a potentially important role for users' knowledge and evaluative capabilities. Addin et al. (2026) found that knowledge of cyber threats reduced trust, even though perceived risk was positively associated with trust, while Malik et al. (2026) argued that users may interpret risk as a signal of institutional responsiveness. Both interpretations imply that users do not necessarily respond to risk perceptions uniformly; rather, their responses may depend on their ability to evaluate risk-related information. This capability-related dimension is closely associated with literacy, suggesting that literacy may provide a theoretically relevant lens through which the inconsistent risk perception–trust relationships can be further explained.

4.2 Digital Financial Literacy as a Boundary Condition: Two Competing Mechanisms

The synthesis suggests that digital financial literacy may condition the relationship between risk perception and trust through two competing mechanisms that predict contrasting moderating effects (Figure 3).

The first mechanism is **risk-buffering**. Literate users may be better equipped to assess whether perceived risks are manageable and whether the protective measures offered by banks are credible. Consequently, their trust may be less susceptible to vague or generalized risk perceptions. This mechanism is consistent with evidence that financial literacy reduces perceived risk (Shuhaiber et al., 2025), that users with low financial literacy more frequently identify a lack of trust as a reason for not using banking services (Andreou & Anyfantaki, 2021), that digital literacy conditions how cybersecurity awareness translates into trust (Al Doghan &

Mirzaliev, 2024), and that digital financial literacy facilitates the translation of trust into continuance use (Nga & Tam, 2026). Taken together, these findings provide indirect support for the possibility that literacy-related capabilities help users maintain trust when perceived risks are ambiguous or manageable.

The second mechanism is **risk-vigilance**. Literate users may be better able to recognize actual threats, scrutinize security claims, and evaluate potential vulnerabilities. Accordingly, their trust may become more responsive to perceived risks when those risks are specific, credible, and consequential. This mechanism is consistent with evidence that financial literacy is negatively associated with initial trust in open banking (Chan et al., 2022), that households with higher financial education but lower trust are more likely to switch to FinTech providers (Jünger & Mietzner, 2020), that trust weakens the effect of financial literacy on digital bank preference (Nihaya et al., 2026), and that knowledge of cyber threats is associated with reduced trust (Addin et al., 2026). These findings suggest that literacy may not uniformly increase trust but may instead enhance users' capacity to critically evaluate financial service providers and their associated risks.

The two mechanisms are not necessarily mutually exclusive. Taken together, they suggest that literacy may contribute to more calibrated trust, making users less reactive to ambiguous risk perceptions while more responsive to specific and credible threats. Rather than implying that literacy uniformly strengthens or weakens trust, this perspective suggests that its moderating role may depend on the nature and credibility of the perceived risk, as well as the particular literacy dimensions involved. The following propositions translate this argument into testable hypotheses for future empirical research.

- **P1 (Buffering mechanism).** The negative relationship between global perceived risk and trust in mobile banking is weaker among users with higher levels of digital financial literacy.
- **P2 (Vigilance mechanism).** The negative relationship between specific, threat-based perceived risks (e.g., digital fraud and data breaches) and trust in mobile banking is stronger among users with higher levels of digital financial literacy.
- **P3 (Dimensional proposition).** Protective dimensions of digital financial literacy, particularly the ability to recognize and avoid digital fraud, exert a stronger moderating influence on the relationship between perceived risk and trust than general financial knowledge.
- **P4 (Contextual proposition).** The moderating role of digital financial literacy in the relationship between perceived risk and trust is more pronounced in markets characterized by high exposure to digital fraud and uneven institutional protection.

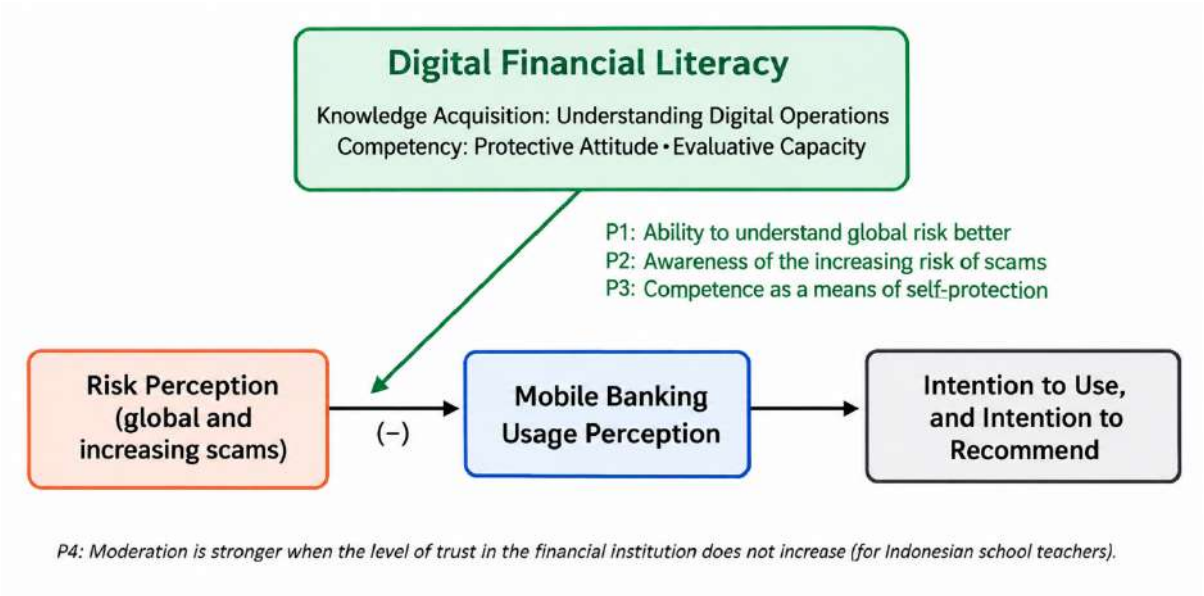


Figure 3. Conceptual Framework of Digital Financial Literacy as a Boundary Condition in the Relationship between Risk Perception and Trust

These propositions also help explain why the only study examining literacy moderation in a risk-related pathway reported no moderating effect (Macedo et al., 2026). If the buffering and vigilance mechanisms operate simultaneously, and if global risk and literacy scores are used, their opposing effects may cancel each other out at the aggregate level.

4.3 Conceptualizing Digital Financial Literacy for Risk and Trust Research

This review reveals conceptual ambiguity in the literacy constructs used in this literature. Financial literacy, digital literacy, and digital financial literacy are used interchangeably, are rarely defined in ways that clearly distinguish their conceptual boundaries, and are generally measured using global scores. This matters because different dimensions of literacy may condition risk and trust evaluations in different ways. Financial knowledge helps users understand what is at stake, operational skills enable them to use protective features, and protective competence helps them recognize fraudulent activities. Global scores cannot reveal which

dimensions are at work, while self-reported measures may capture confidence rather than actual competence, as suggested by the differential effects of subjective and objective financial literacy on fintech usage (Prabhakaran & Mynavathi, 2023).

Drawing on the composite definition proposed by Pak et al. (2026), the multidimensional instrument developed by Yadav et al. (2026), and the adaptive perspective of Lundell and Ahamed (2026), this review proposes the following definition. In the context of risk and trust in mobile banking, digital financial literacy is a combination of financial knowledge, operational digital skills, and protective competence that enables users to evaluate risks signaled by digital banking services, verify the safeguards offered by providers, and act on these evaluations when deciding whether to rely on such services. This definition comprises four elements:

1. **Financial knowledge:** an understanding of the financial consequences of digital transactions, including fees, transfers, and the irreversible nature of certain payments.
2. **Operational digital skills:** the ability to use banking applications and their security features, such as authentication, notifications, and transaction limits.
3. **Protective competence:** the ability to recognize and avoid phishing, social engineering, and other forms of digital fraud.
4. **Evaluative capacity:** the ability to assess whether a perceived risk is credible and whether the safeguards provided by the service provider are adequate, a capacity that develops in response to context and experience.

The fourth element links literacy to trust calibration. It also implies that future studies should measure literacy using both objective and subjective assessments and model its dimensions separately rather than treating literacy as a single composite score.

4.4 Indonesia and Occupational Populations: The Case of Secondary School Teachers

Indonesia is the most frequently represented country among the studies included in this review, yet the evidence from this context is among the most inconsistent. Risk perception was found to have no significant effect on trust among Indonesian university students (Kurniawan et al., 2024), but was positively associated with trust among customers exposed to news about cyberattacks (Addin et al., 2026). Financial knowledge did not affect intentions to use AI-based features in mobile banking (Tobias et al., 2026), while trust weakened the effect of financial literacy on digital banking preference (Nihaya et al., 2026). Beyond the studies included in this review, the association between literacy and mobile payment adoption was weaker or reversed in Indonesia compared with Bangladesh (Hunter et al., 2026). These findings make Indonesia a compelling context for examining the competing mechanisms proposed above.

Occupational groups were absent from the evidence base included in this review, which was dominated by students, younger users, and general banking customers. Secondary school teachers represent a particularly informative population for further investigation. Although they are highly educated, educational attainment does not necessarily guarantee digital financial literacy (Hunter et al., 2026). They generally have formal bank accounts and use banking services regularly, making mobile banking a routine practice rather than an occasional activity. They are also exposed to digital financial risks; a study of female schoolteachers in India documented gaps in their risk perceptions and knowledge of digital financial threats (Ajith et al., 2026). Furthermore, teachers are expected to transmit financial and digital competencies to their students, meaning that their literacy and trust calibration may have implications beyond their personal financial decisions.

4.5 Research Agenda

Table 7 translates the gaps identified in this review into directions for future research.

Table 7. Research Agenda

Identified Gap	Future Research Question	Suggested Design
Digital financial literacy has not been tested as a moderator of the risk–trust relationship.	Does digital financial literacy weaken or strengthen the effect of risk perception on trust?	Survey using interaction terms in PLS-SEM or CB-SEM, followed by simple slope analysis.
Buffering and vigilance mechanisms may cancel each other out at the aggregate level.	Do moderating effects differ between global risk perception and specific threat-based risk perception?	Separate measurement of global and specific risks; multigroup analysis or latent class analysis.
Literacy is generally measured using global, predominantly self-reported scores.	Which dimensions of digital financial literacy condition the risk–trust relationship?	Multidimensional instrument combining objective assessments and self-report scales.
The causal ordering between risk and trust remains a modeling choice.	Does trust reduce risk perception, or does risk perception reduce trust over time?	Longitudinal design or cross-lagged panel analysis.
Occupational groups are absent from the evidence base.	How does the risk–trust relationship operate among teachers and other occupational groups?	Study of secondary school teachers in Indonesia, with comparisons across occupational groups.

Theoretical foundations are often implicit.	Which theoretical perspectives explain capability-based boundary conditions?	Integration of technology acceptance models with trust calibration and protection motivation perspectives.
Evidence from Indonesia is heterogeneous and context-dependent.	Do the mechanisms differ between conventional and Islamic banks, and between incumbent banks and digital-only banks?	Comparative and multigroup research across different banking types.

4.6 Practical Implications

For banks, the consistently positive relationship between perceived security and privacy and trust indicates that visible safeguards, clear security disclosures, and responsive incident communication remain among the most reliable levers for building trust. Because literacy may increase both vigilance and confidence, banks cannot rely solely on literacy campaigns to foster trust; educational initiatives need to be complemented by credible safeguards that users with higher levels of literacy can independently verify. For regulators such as the Financial Services Authority (Otoritas Jasa Keuangan, OJK), these findings support literacy programs that emphasize protective competence, a dimension closely associated with digital financial risks, rather than focusing exclusively on general financial knowledge. For educational authorities, digital financial literacy programs for teachers may serve a dual purpose: protecting teachers in their own financial activities while strengthening their capacity to teach these competencies to students.

4.7 Limitations

Several limitations should be acknowledged. This review searched only the Scopus database and included only English-language journal articles, thereby excluding potentially relevant conference papers, including the only study on schoolteachers identified during the search (Ajith et al., 2026). Non-bank fintech services were deliberately excluded; this decision sharpened the focus on banking services but also omitted evidence concerning e-wallets and mobile money, where literacy-related effects have also been reported (Hunter et al., 2026). Screening was conducted using a rule-assisted procedure with manual verification, while eligibility assessment and data extraction were based on titles, abstracts, and author keywords. Consequently, some study characteristics, particularly country, theoretical framework, and literacy measurement instruments, could not be coded. [Report second-reviewer verification, if conducted.] A formal methodological quality appraisal was not undertaken. Finally, the propositions developed in Section 4.2 were derived from the narrative synthesis and require empirical testing before they can be regarded as established relationships.

5. CONCLUSION

This review synthesizes 72 empirical studies on risk perception, trust, and literacy in mobile banking and digital banking. The findings indicate that perceived security and privacy consistently contribute to trust, whereas the relationship between global risk perception and trust remains inconsistent in terms of direction, significance, and causal ordering. Research incorporating literacy into these relationships is relatively recent, concentrated in Asia, and methodologically homogeneous, while positioning literacy in various ways, with effects that strengthen, weaken, or leave trust-related pathways unchanged. No study identified in this review explicitly tested literacy as a moderator of the relationship between risk perception and trust, and no study specifically examined occupational groups such as teachers.

This review makes three contributions. First, it explains the inconsistencies in the risk–trust relationship through construct framing, stages of usage, and contextual conditions, while identifying the absence of capability-based boundary conditions. Second, it proposes that digital financial literacy conditions the risk–trust relationship through two competing mechanisms, buffering and vigilance, which together suggest that literacy enables more calibrated trust. Four testable propositions are derived from this argument. Third, it offers a context-specific conceptualization of digital financial literacy for risk and trust research, encompassing financial knowledge, operational digital skills, protective competence, and evaluative capacity, and advocates the use of multidimensional measures combining objective and subjective assessments.

These contributions have direct implications for empirical research in Indonesia, where evidence on risk, trust, and literacy is substantial but inconsistent. Examining the proposed mechanisms among secondary school teachers, a highly educated population that routinely uses banking services and whose competencies may be transmitted to students, would reveal whether digital financial literacy protects trust against ambiguous risk perceptions, sharpens trust responses to credible threats, or both. Answering this question matters for banks seeking to build enduring trust, regulators designing literacy programs, and educational authorities preparing teachers to understand and teach digital finance.

REFERENCES

1. Abbes, M., Julien, A., Hao, S., & Touzani, M. (2024). Adopting Digital Signatures for Complex Financial Products in the French Banking Sector: How Technology Acceptance and User Literacy Matter. *IEEE Transactions on Engineering Management*, *71*, 5536–5546. https://doi.org/10.1109/TEM.2024.3359707

2. Abdennebi, H. B. (2023). M-banking adoption from the developing countries perspective: A mediated model. *Digital Business*, *3*(2), Article 100065. https://doi.org/10.1016/j.digbus.2023.100065
3. Acosta-Prado, J. C., Rojas Rincón, J. S., Mejía Martínez, A. M., & Riveros Tarazona, A. R. (2024). Trends in the Literature About the Adoption of Digital Banking in Emerging Economies: A Bibliometric Analysis. *Journal of Risk and Financial Management*, *17*(12), Article 545. https://doi.org/10.3390/jrfm17120545
4. Addin, A. A., Rani, L. N., Rosadhillah, V. K., & Hidayah, B. K. (2026). The effect of cyber attacks on customer trust in Islamic banks and conventional banks. *Jurnal Ekonomi dan Bisnis Islam*, *12*(1), 1–33. https://doi.org/10.20473/jebis.v12i1.64284
5. Ajith, A., Salam, S., Ajay, K., & Valsala, P. (2026). Digital Financial Inclusion, Literacy, and Cyber Risk Among Women Educators in Kerala. In *DTISD 2026 - 2026 International Conference on Digital Transformation, Innovation and Sustainable Development: Smart Change for Sustainable Future, Conference Proceedings*. IEEE. https://doi.org/10.1109/DTISD69661.2026.11668393
6. Al Doghan, M. A., & Mirzaliev, S. (2024). Cybersecurity awareness and digital banking adoption: Exploring the moderating impact of digital literacy. *International Journal of Economics and Finance Studies*, *16*(3), 34–58. https://doi.org/10.34109/ijefs.202416303
7. Al Khasawneh, M. H., Hujran, O., & Abdrabbo, T. (2018). A quantitative examination of the factors that influence users' perceptions of trust towards using mobile banking services. *International Journal of Internet Marketing and Advertising*, *12*(2), 181–207. https://doi.org/10.1504/IJIMA.2018.090957
8. Al-Jabri, I. M. (2015). The intention to use mobile banking: Further evidence from Saudi Arabia. *South African Journal of Business Management*, *46*(1), 23–34. https://doi.org/10.4102/sajbm.v46i1.80
9. Aldás-Manzano, J., Lassala-Navarré, C., Ruiz-Mafé, C., & Sanz-Blas, S. (2009). Key drivers of internet banking services use. *Online Information Review*, *33*(4), 672–695. https://doi.org/10.1108/14684520910985675
10. Almaiah, M. A., Al-Otaibi, S., Shishakly, R., Hassan, L., Lutfi, A., Alrawad, M., Qatawneh, M., & Alghanam, O. A. (2023). Investigating the Role of Perceived Risk, Perceived Security and Perceived Trust on Smart m-Banking Application Using SEM. *Sustainability (Switzerland)*, *15*(13), Article 9908. https://doi.org/10.3390/su15139908
11. Amir, F., Yunus, M., Putra, T. R. I., & Utami, S. (2026). AI-Enabled Mobile Banking Continuance in a Sharia-Based Financial Ecosystem: Security, Trust, User Acceptance, and Islamic Financial Literacy. *Journal of Risk and Financial Management*, *19*(7), Article 514. https://doi.org/10.3390/jrfm19070514
12. Andreou, P. C., & Anyfantaki, S. (2021). Financial literacy and its influence on internet banking behavior. *European Management Journal*, *39*(5), 658–674. https://doi.org/10.1016/j.emj.2020.12.001
13. Arruda Filho, E. J. M., Nogueira, A. C. L., & Costa, E. M. S. D. (2022). Social Influence Effect on Consumers' Intention to Adopt Mobile Banking Services. *Information Systems Management*, *39*(3), 269–285. https://doi.org/10.1080/10580530.2021.1965678
14. Byron Tuazon, J., & Renee Ching, M. (2025). Exploring Digital Banking and Financial Services Inclusivity: A Study of Social Media Interactions in an Online Community. *Data and Metadata*, *4*, Article 575. https://doi.org/10.56294/DM2025575
15. Chan, R., Troshani, I., Rao Hill, S., & Hoffmann, A. (2022). Towards an understanding of consumers' FinTech adoption: The case of Open Banking. *International Journal of Bank Marketing*, *40*(4), 886–917. https://doi.org/10.1108/IJBM-08-2021-0397
16. Chandra, Y. U., Abbas, B. S., Trisetyarso, A., Suparta, W., & Kang, C.-H. (2020). Comparison analysis between mobile banking and mobile payment as determinant factors of customer privacy. *Advances in Science, Technology and Engineering Systems*, *5*(2), 469–475. https://doi.org/10.25046/aj050260
17. Chang, Y., Wong, S. F., Libaque-Saenz, C. F., & Lee, H. (2018). The role of privacy policy on consumers' perceived privacy. *Government Information Quarterly*, *35*(3), 445–459. https://doi.org/10.1016/j.giq.2018.04.002
18. Cheng, S., Lee, S.-J., & Lee, K.-R. (2014). User resistance of mobile banking in China: Focus on perceived risk. *International Journal of Security and its Applications*, *8*(2), 167–172. https://doi.org/10.14257/ijsia.2014.8.2.17
19. Damghanian, H., Zarei, A., & Siahsarani Kojuri, M. A. (2016). Impact of Perceived Security on Trust, Perceived Risk, and Acceptance of Online Banking in Iran. *Journal of Internet Commerce*, *15*(3), 214–238. https://doi.org/10.1080/15332861.2016.1191052
20. Detthamrong, U., & Chansanam, W. (2026). Personal trust, technology anxiety, and digital literacy as determinants of FinTech continued use among Thai older adults: An Extended UTAUT2 perspective. *Telematics and Informatics Reports*, *23*, Article 100365. https://doi.org/10.1016/j.teler.2026.100365
21. Dias, R. P., Wisker, Z. L., & Alani, N. H. S. (2025). Between Firewalls and Feelings: Modelling Trust and Commitment in Digital Banking Platforms. *Journal of Cybersecurity and Privacy*, *5*(4), Article 89. https://doi.org/10.3390/jcp5040089
22. Duci, E., Vangjel, R., Tabaku, E., & Zyko, M. (2025). Exploring e-banking services: A comprehensive analysis. *Risk Governance and Control: Financial Markets and Institutions*, *15*(3), 137–147. https://doi.org/10.22495/rgcv15i3p11

23. Dwi Nugraha, Y., Permana, R. M. T., Saraswati, N., Gumelar, E. T., Rohandi, M. M. A., & Wirayudha, A. (2026). Barriers, literacy and well-being in Sharia digital banking adoption: A structural model with gender-based multi-group analysis. *Journal of Islamic Accounting and Business Research*, 1–31. https://doi.org/10.1108/JIABR-11-2025-0834
24. Elhajjar, S., & Ouaida, F. (2020). An analysis of factors affecting mobile banking adoption. *International Journal of Bank Marketing*, *38*(2), 352–367. https://doi.org/10.1108/IJBM-02-2019-0055
25. Esmaeili, A., Haghgoo, I., Davidaviciene, V., & Meidute-Kavaliauskiene, I. (2021). Customer loyalty in mobile banking: Evaluation of perceived risk, relative advantages, and usability factors. *Engineering Economics*, *32*(1), 70–81. https://doi.org/10.5755/j01.ee.32.1.25286
26. Fares, O. H., Aversa, J., & Lee, S. H. M. (2026). The drivers of retail digital banking channel acceptance in incumbent banks: A meta-analysis and future research directions. *International Review of Retail, Distribution and Consumer Research*, *36*(3), 586–609. https://doi.org/10.1080/09593969.2026.2670687
27. Garrouch, K., Bouhlel, O., & Mzoughi, M. N. (2025). The role of perceived value, trust, and characteristics of mobile banking applications in shaping continuance intention: Evidence from Saudi Arabia. *International Journal of Technology Marketing*, *19*(1), 27–59. https://doi.org/10.1504/IJTMKT.2025.143048
28. Guduri, N., Irrinki, M. K., Giddaiah, R., Kotigari, R. S., & Podile, V. (2025). The Interrelationship Between Risk Perception, Customer Expectations and Satisfaction in Digital Banking. *Journal of Applied Economic Sciences*, *20*(4), 941–955. https://doi.org/10.57017/jaes.v20.4(90).17
29. Hashim, M. A. A.-M., & Hassan, Z. B. (2023). The Predictors of Mobile Banking Usage: A Systematic Literature Review. *International Journal of Advanced Computer Science and Applications*, *14*(2), 534–540. https://doi.org/10.14569/IJACSA.2023.0140263
30. Hunter, S., Chai, A., Morgan, P., Deshpande, S., Westermann, S., & Rohde, N. (2026). Who uses mobile payment apps in developing countries? Literacy, education, and the role of trust. *Applied Economics*. https://doi.org/10.1080/00036846.2026.2695914
31. Janjanam, V. V. P., & Subbalakshmi, A. V. V. S. (2025). The confluence of financial literacy and fintech: A bibliometric and systematic study. *Edelweiss Applied Science and Technology*, *9*(5), 1593–1609. https://doi.org/10.55214/25768484.v9i5.7236
32. Jyoti, Kesharwani, S., & Chaudhry, S. S. (2025). Assessing the Impact of Credibility and Security on Customers E-Trust in the Context of Indian Banks. *Journal of Industrial Integration and Management*, *10*(2), 341–362. https://doi.org/10.1142/S2424862224500179
33. Jünger, M., & Mietzner, M. (2020). Banking goes digital: The adoption of FinTech services by German households. *Finance Research Letters*, *34*, Article 101260. https://doi.org/10.1016/j.frl.2019.08.008
34. Karim, M. W., Ulfy, M. A., & Huda, M. N. (2020). Determining intention to use smartphone banking application among millennial cohort in Malaysia. *International Journal of Management and Sustainability*, *9*(1), 43–53. https://doi.org/10.18488/journal.11.2020.91.43.53
35. Kaur, S., & Arora, S. (2021). Role of perceived risk in online banking and its impact on behavioral intention: Trust as a moderator. *Journal of Asia Business Studies*, *15*(1), 1–30. https://doi.org/10.1108/JABS-08-2019-0252
36. Kesharwani, A., & Bisht, S. S. (2012). The impact of trust and perceived risk on internet banking adoption in India: An extension of technology acceptance model. *International Journal of Bank Marketing*, *30*(4), 303–322. https://doi.org/10.1108/02652321211236923
37. Koenig-Lewis, N., Palmer, A., & Moll, A. (2010). Predicting young consumers' take up of mobile banking services. *International Journal of Bank Marketing*, *28*(5), 410–432. https://doi.org/10.1108/02652321011064917
38. Kumar, P., Chauhan, S., Gupta, P., & Jaiswal, M. P. (2023). A meta-analysis of trust in mobile banking: the moderating role of cultural dimensions. *International Journal of Bank Marketing*, *41*(6), 1207–1238. https://doi.org/10.1108/IJBM-02-2022-0075
39. Kumari, A., & Devi, N. C. (2022). Determinants of user's behavioural intention to use blockchain technology in the digital banking services. *International Journal of Electronic Finance*, *11*(2), 159–174. https://doi.org/10.1504/IJEF.2022.122181
40. Kurniati, R. R., Hidayat, F., Deka, R. E., & Maula, T. S. (2026). Security and perceived ease of use in mobile banking users in Islamic banks: The mediating role of customer trust. *Economics and Finance Letters*, *13*(3), 21–38. https://doi.org/10.18488/29.v13i3.4988
41. Kurniawan, Y., Kelly, & Vionita (2024). Examining the Factors Driving Digital Banking Adoption in Indonesia: A Modified Technology Acceptance Model Approach. *Journal of Logistics, Informatics and Service Science*, *11*(6), 442–459. https://doi.org/10.33168/JLISS.2024.0626
42. Lee, J.-C., & Zhou, X. (2026). The impact of artificial intelligence (AI) competencies on subjective financial well-being in AI-enabled mobile banking: A construal level theory perspective. *Journal of Business Research*, *206*, Article 115922. https://doi.org/10.1016/j.jbusres.2025.115922

43. Lisana, L., & Abigael Christy, C. (2026). The role of trust in mediating cultural and service influences on digital banking continuance intention. *Global Knowledge, Memory and Communication*, 1–18. https://doi.org/10.1108/GKMC-07-2025-0503
44. Loureiro, S. M. C. (2013). The effect of perceived benefits, trust, quality, brand awareness/associations and brand loyalty on internet banking brand equity. *International Journal of Electronic Commerce Studies*, *4*(2), 139–158. https://doi.org/10.7903/ijecs.1000
45. Lundell, F., & Ahamed, A. F. M. J. (2026). Understanding Digital Financial Literacy Among Older Adults in Sweden. *Accounting and Finance*. https://doi.org/10.1111/acfi.70268
46. Luo, X., Li, H., Zhang, J., & Shim, J. P. (2010). Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: An empirical study of mobile banking services. *Decision Support Systems*, *49*(2), 222–234. https://doi.org/10.1016/j.dss.2010.02.008
47. Macedo, A. C., Almeida, D., & Duarte, P. (2026). Drivers of user engagement with FinTech: A cross-country analysis in digitally mature markets. *International Journal of Bank Marketing*, 1–28. https://doi.org/10.1108/IJBM-03-2026-0205
48. Malaquias, F. F. O., & Hwang, Y. (2016). Trust in mobile banking under conditions of information asymmetry: Empirical evidence from Brazil. *Information Development*, *32*(5), 1600–1612. https://doi.org/10.1177/0266666915616164
49. Malik, M. Z., Javed, A., Shahid, M. S., AlWadi, B. M., Ejaz, F., & Hossain, M. B. (2026). Exploring key factors influencing Fintech adoption weighing perceived risks and benefits. *Discover Sustainability*, *7*(1), Article 1251. https://doi.org/10.1007/s43621-026-03614-x
50. Masrek, M. N., Halim, M. S. A., Khan, A., & Ramli, I. (2018). The impact of perceived credibility and perceived quality on trust and satisfaction in mobile banking context. *Asian Economic and Financial Review*, *8*(7), 1013–1025. https://doi.org/10.18488/journal.aefr.2018.87.1013.1025
51. Merhi, M., Hone, K., & Tarhini, A. (2019). A cross-cultural study of the intention to use mobile banking between Lebanese and British consumers: Extending UTAUT2 with security, privacy and trust. *Technology in Society*, *59*, Article 101151. https://doi.org/10.1016/j.techsoc.2019.101151
52. Muñoz-Leiva, F., Climent-Climent, S., & Liébana-Cabanillas, F. (2017). Determinants of intention to use the mobile banking apps: An extension of the classic TAM model. *Spanish Journal of Marketing - ESIC*, *21*(1), 25–38. https://doi.org/10.1016/j.sjme.2016.12.001
53. Nancyprabha, P., & Sivakumar, V. J. (2023). The influence of perceived risk and trust on customer experience: an empirical study on young m-banking app users in India. *International Journal of Business Excellence*, *29*(2), 222–247. https://doi.org/10.1504/IJBEX.2020.10033431
54. Nga, L. P., & Tam, P. T. (2026). Empirical Partial Least Squares Structural Equation Modeling Study on the Continued Use of Generative AI Assistants in Digital Banking: The Moderating Role of Digital Financial Literacy in Vietnam. *International Journal of Technology*, *17*(4), 1223–1244. https://doi.org/10.14716/ijtech.v17i4.8364
55. Nguyen, O. T. (2020). Factors affecting the intention to use digital banking in Vietnam. *Journal of Asian Finance, Economics and Business*, *7*(3), 303–310. https://doi.org/10.13106/jafeb.2020.vol7.no3.303
56. Nguyen, T. P. L., Muthaiyah, S., & Mohamed, H. (2024). What Drives the Intention to Adopt Digital Banking in Malaysia? *Journal of Logistics, Informatics and Service Science*, *11*(3), 81–96. https://doi.org/10.33168/JLISS.2024.0306
57. Nihaya, I. U., Kautsar, A., Haryono, N. A., Kusumawati, N. D., Anggriani, Z. N. S., & Kistyanto, A. (2026). Managing digital banking preferences: Trust as moderator of financial literacy, digital literacy, and service quality. *Multidisciplinary Science Journal*, *8*(10), Article e2026638. https://doi.org/10.31893/multiscience.2026638
58. Ofori, K. S., Boateng, H., Okoe, A. F., & Gvozdanovic, I. (2017). Examining customers' continuance intentions towards internet banking usage. *Marketing Intelligence and Planning*, *35*(6), 756–773. https://doi.org/10.1108/MIP-11-2016-0214
59. Ong, C.-S., & Lin, Y.-L. (2015). Security, risk, and trust in individuals' internet banking adoption: An integrated model. *International Journal of Electronic Commerce Studies*, *6*(2), 343–356. https://doi.org/10.7903/ijecs.1428
60. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., . . . Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *PLoS Medicine*, *18*(3), Article e1003583. https://doi.org/10.1371/journal.pmed.1003583
61. Pak, T.-Y., Chatterjee, S., & Choung, Y. (2026). Navigating digital finance: How digital financial literacy influences digital financial services use and benefits in Korea. *Financial Innovation*, *12*(1), Article 42. https://doi.org/10.1186/s40854-025-00820-w
62. Prabhakaran, S., & Mynavathi, L. (2023). Perception vs. reality: Analysing the nexus between financial literacy and fintech adoption. *Investment Management and Financial Innovations*, *20*(4), 13–25. https://doi.org/10.21511/imfi.20(4).2023.02
63. Purwanto, E., Deviny, J., & Mutahar, A. M. (2020). The Mediating Role of Trust in the Relationship between Corporate Image, Security, Word of Mouth and Loyalty in M-Banking Using among the Millennial Generation in Indonesia. *Management and Marketing*, *15*(2), 255–274. https://doi.org/10.2478/mmcks-2020-0016

64. Rabbi, M. F., & Seraj, S. (2026). Impact of mobile banking and E-wallets on household budgeting practices in Bangladesh: Changes in record keeping, spending, and savings. *Sustainable Futures*, *12*, Article 102139. https://doi.org/10.1016/j.sftr.2026.102139
65. Rage, A. N. (2026). Customer perceptions of AI-driven customer service: Evidence from Somalia. *Cogent Business and Management*, *13*(1), Article 2710502. https://doi.org/10.1080/23311975.2026.2710502
66. Salimon, M. G., Mokthar, S. S. M., Yusoff, R. Z., Adeleke, A. Q., Morakiny, S., & Mushi, H. M. (2017). Facilitating conditions and perceived security as antecedents of trust among e-banking customers in Nigeria. *International Journal of Economic Research*, *14*(19), 265–276.
67. Salimon, M. G., Sanuri, S. M. M., & Yusr, M. M. (2020). E-banking as a financial supply chain system: Can e-TAM improve trust and the rate of adoption? *International Journal of Supply Chain Management*, *9*(2), 216–226.
68. Sharma, V. K., & Kumar, A. (2025). Determinants of online banking adoption in India: An empirical investigation. *International Journal of Business Innovation and Research*, *36*(2), 229–247. https://doi.org/10.1504/IJBIR.2025.144388
69. Shuhaiber, A., Al-Omoush, K. S., & Alsmadi, A. A. (2025). Investigating trust and perceived value in cryptocurrencies: do optimism, FinTech literacy and perceived financial and security risks matter? *Kybernetes*, *54*(1), 330–357. https://doi.org/10.1108/K-03-2023-0435
70. Singh, A., & Mohamed Ali, A. O. M. (2026). Assessing the role of mobile banking in promoting sustainable financial inclusion and responsible borrowing practices in Qatar's digital economy. *Journal of Data Protection and Privacy*, *9*(1), 19–37. https://doi.org/10.69554/XTUJ3826
71. Souiden, N., Ladhari, R., & Chaouali, W. (2021). Mobile banking adoption: A systematic review. *International Journal of Bank Marketing*, *39*(2), 214–241. https://doi.org/10.1108/IJBM-04-2020-0182
72. Sun, D., & Duang-Ek-anong, S. (2021). Factors Affecting the Use of Online and Internet Banking in Cambodia. *Journal of Multidisciplinary in Social Sciences*, *17*(3), 18–32.
73. Sundjaja, A. M., Ridwan, A., Robbani, D., & Soemantri, R. A. (2024). Impact of 'Don't Know? Kasih No!' Campaign on Cybersecurity Awareness: Unraveling the Links to User Satisfaction, Trust, and Commitment. *International Journal of Safety and Security Engineering*, *14*(5), 1577–1589. https://doi.org/10.18280/ijsse.140525
74. Susanto, A., Chang, Y., & Ha, Y. (2016). Determinants of continuance intention to use the smartphone banking services: An extension to the expectation-confirmation model. *Industrial Management and Data Systems*, *116*(3), 508–525. https://doi.org/10.1108/IMDS-05-2015-0195
75. Tangmanee, C., & Sritadawut, N. (2021). Effects of Perceived Risk And Bank Reputation Through Online Trust On The Use Of Internet Banking Services. *International Journal of Electronic Commerce Studies*, *12*(2), 229–244. https://doi.org/10.7903/ijecs.1927
76. Terlizzi, M. A., Brandimarte, L., Brown, S. A., & Sanchez, O. P. (2026). The unexplored consequences of fear in mobile banking privacy. *Information Technology and People*, *39*(3), 1280–1316. https://doi.org/10.1108/ITP-03-2024-0431
77. Thi, T. D. P. (2025). Investigating factors of loyalty intention among m-banking users: An integrated model. *International Journal of Procurement Management*, *22*(2), 261–280. https://doi.org/10.1504/IJPM.2025.143997
78. Thusi, P., & Maduku, D. K. (2020). South African millennials' acceptance and use of retail mobile banking apps: An integrated perspective. *Computers in Human Behavior*, *111*, Article 106405. https://doi.org/10.1016/j.chb.2020.106405
79. Tobias, T., Lay, S. C., & Nur, T. (2026). Behavioral Intention and User Behavior Toward AI-Based Features in Mobile Banking: Evidence from Indonesia. *Asian Journal of Interdisciplinary Research*, *9*(2), 397–411. https://doi.org/10.54392/ajir26222
80. Tovmasyan, G., Petrosyan, A., Ghazeyan, K., Bilan, S., & Yeghikyan, A. (2026). Determinants of customer satisfaction with mobile banking services: The mediating role of trust. *Journal of International Studies*, *19*(3), 75–94. https://doi.org/10.14254/2071-8330.2026/19-3/5
81. Van, H. N., Pham, L., Williamson, S., Chan, C.-Y., Thang, T. D., & Nam, V. X. (2021). Explaining intention to use mobile banking: Integrating perceived risk and trust into the technology acceptance model. *International Journal of Applied Decision Sciences*, *14*(1), 55–80. https://doi.org/10.1504/IJADS.2021.112933
82. Van, H. N., Pham, L., Williamson, S., Huong, V. T., Hoa, P. X., & Trang, P. L. H. (2020). Impact of perceived risk on mobile banking usage intentions: Trust as a mediator and a moderator. *International Journal of Business and Emerging Markets*, *12*(1), 94–118. https://doi.org/10.1504/IJBEM.2020.106202
83. Vatanasombut, B., Igbaria, M., Stylianou, A. C., & Rodgers, W. (2008). Information systems continuance intention of web-based applications customers: The case of online banking. *Information and Management*, *45*(7), 419–428. https://doi.org/10.1016/j.im.2008.03.005
84. Watjatrakul, B. (2026). Adoption of Mobile Banking Applications: Effects of Short-Term Thinking Mindset and Serial Mediation of Perceived Risk, Usefulness, and Trust. *Contemporary Management Research*, *22*(2), 129–150. https://doi.org/10.7903/cmr.24212

85. Yadav, M., Kumar, M., Rajawat, R. S., Shrivastav, S. M., Gupta, A., Alfehaid, M. M., & Johri, A. (2026). Digital financial literacy and sustainable financial inclusion in metaverse ecosystems: The mediating roles of readiness and trust. *International Journal of Climate Change Strategies and Management*, *18*(2), 22–43. https://doi.org/10.1108/IJCCSM-01-2026-0044
86. Yarmanti, A. V., Wissalam Bustami, A., & Muhammad Ardo, A. (2025). Islamic Banking Innovation and Customer Satisfaction: A Case Study of Indonesia and Nigeria. *Banco*, *7*(1), 90–110. https://doi.org/10.35905/banco.v7i1.11018
87. Yousafzai, S., Pallister, J., & Foxall, G. (2009). Multi-dimensional role of trust in Internet banking adoption. *Service Industries Journal*, *29*(5), 591–605. https://doi.org/10.1080/02642060902719958
88. Zhou, T. (2012). Understanding users' initial trust in mobile banking: An elaboration likelihood perspective. *Computers in Human Behavior*, *28*(4), 1518–1525. https://doi.org/10.1016/j.chb.2012.03.021
89. Zhou, T. (2013). Examining Mobile Banking User Trust: A Tripartite Perspective. *International Journal of E-Adoption*, *5*(3), 17–29. https://doi.org/10.4018/ijea.2013070102

Appendix A. Characteristics of the 72 Included Studies

Country, banking service, and analytical technique were coded based on titles and abstracts. “Not reported” indicates that the information was not provided in the abstract.

Study	Group	Country	Banking Service	Analytical Technique
Abbes et al. (2024)	B	France	Digital banking	Not reported
Abdennebi (2023)	A	Tunisia	Mobile banking	PLS-SEM
Addin et al. (2026)	A	Indonesia	Mobile banking	PLS-SEM
Al Doghan & Mirzaliev (2024)	B	Not reported	Digital banking	PLS-SEM
Al Khasawneh et al. (2018)	A	Not reported	Mobile banking	Not reported
Al-Jabri (2015)	A	Saudi Arabia	Mobile banking	PLS-SEM
Aldás-Manzano et al. (2009)	A	Spain	Internet/online/e-banking	CB-SEM/SEM
Almaiah et al. (2023)	A	Not reported	Mobile banking	CB-SEM/SEM
Amir et al. (2026)	B	Indonesia	Mobile banking	PLS-SEM
Andreou & Anyfantaki (2021)	B	Cyprus	Internet/online/e-banking	Not reported
Arruda Filho et al. (2022)	A	Not reported	Mobile banking	PLS-SEM
Byron Tuazon & Renee Ching (2025)	B	Philippines	Digital banking	Qualitative
Chan et al. (2022)	B	Australia	Digital banking	PLS-SEM
Chandra et al. (2020)	A	Not reported	Mobile banking	Not reported
Chang et al. (2018)	A	Not reported	Internet/online/e-banking	PLS-SEM
Cheng et al. (2014)	A	China	Mobile banking	Not reported
Damghanian et al. (2016)	A	Iran	Internet/online/e-banking	CB-SEM/SEM
Detthamrong & Chansanam (2026)	B	Thailand	Digital banking	PLS-SEM
Dias et al. (2025)	A	New Zealand	Digital banking	Not reported
Duci et al. (2025)	B	Albania	Internet/online/e-banking	Regression/correlation
Dwi Nugraha et al. (2026)	B	Indonesia	Mobile banking	PLS-SEM
Elhajjar & Ouaida (2020)	B	Lebanon	Mobile banking	CB-SEM/SEM
Esmaeili et al. (2021)	A	Iran	Mobile banking	CB-SEM/SEM
Garrouch et al. (2025)	A	Saudi Arabia	Mobile banking	PLS-SEM

Guduri et al. (2025)	A	Not reported	Digital banking	Regression/correlation
Jyoti et al. (2025)	A	India	Internet/online/e-banking	CB-SEM/SEM
Jünger & Mietzner (2020)	B	Germany	Other bank-related digital services	Not reported
Karim et al. (2020)	A	Malaysia	Mobile banking	PLS-SEM
Kaur & Arora (2021)	A	Not reported	Internet/online/e-banking	CB-SEM/SEM
Kesharwani & Bisht (2012)	A	India	Internet/online/e-banking	Not reported
Koenig-Lewis et al. (2010)	A	Germany	Mobile banking	CB-SEM/SEM
Kumari & Devi (2022)	B	Not reported	Digital banking	PLS-SEM
Kurniati et al. (2026)	A	Indonesia	Mobile banking	PLS-SEM
Kurniawan et al. (2024)	A	Indonesia	Mobile banking	PLS-SEM
Lee & Zhou (2026)	B	Not reported	Mobile banking	Not reported
Lisana & Abigael Christy (2026)	A	Indonesia	Digital banking	CB-SEM/SEM
Loureiro (2013)	A	Not reported	Internet/online/e-banking	PLS-SEM
Lundell & Ahamed (2026)	B	Sweden	Internet/online/e-banking	Qualitative
Macedo et al. (2026)	B	Multicountry	Other bank-related digital services	PLS-SEM
Malaquias & Hwang (2016)	A	Brazil	Mobile banking	CB-SEM/SEM
Malik et al. (2026)	A	Pakistan	Internet/online/e-banking	PLS-SEM
Masrek et al. (2018)	A	Malaysia	Mobile banking	CB-SEM/SEM
Nancyprabha & Sivakumar (2023)	A	India	Mobile banking	CB-SEM/SEM
Nga & Tam (2026)	B	Vietnam	Digital banking	PLS-SEM
Nguyen (2020)	A	Vietnam	Digital banking	CB-SEM/SEM
Nguyen et al. (2024)	B	Malaysia	Digital banking	Not reported
Nihaya et al. (2026)	B	Indonesia	Digital banking	PLS-SEM
Ofori et al. (2017)	A	Ghana	Internet/online/e-banking	PLS-SEM
Ong & Lin (2015)	A	Taiwan	Internet/online/e-banking	Not reported
Purwanto et al. (2020)	A	Indonesia	Mobile banking	CB-SEM/SEM
Rabbi & Seraj (2026)	B	Bangladesh	Mobile banking	PLS-SEM
Rage (2026)	B	Somalia	Mobile banking	CB-SEM/SEM
Salimon et al. (2017)	A	Nigeria	Internet/online/e-banking	PLS-SEM
Salimon et al. (2020)	A	Not reported	Internet/online/e-banking	PLS-SEM
Sharma & Kumar (2025)	B	India	Internet/online/e-banking	Regression/correlation
Singh & Mohamed Ali (2026)	B	Qatar	Mobile banking	Qualitative

Sun & Duang-Ek-anong (2021)	A	Cambodia	Internet/online/e-banking	CB-SEM/SEM
Sundjaja et al. (2024)	A	Indonesia	Internet/online/e-banking	PLS-SEM
Susanto et al. (2016)	A	Not reported	Mobile banking	Not reported
Tangmanee & Sritadawut (2021)	A	Not reported	Internet/online/e-banking	CB-SEM/SEM
Terlizzi et al. (2026)	A	Not reported	Mobile banking	Not reported
Thi (2025)	A	Vietnam	Mobile banking	Not reported
Tobias et al. (2026)	B	Indonesia	Mobile banking	Not reported
Tovmasyan et al. (2026)	A	Armenia	Mobile banking	PLS-SEM
Van et al. (2020)	A	Vietnam	Mobile banking	Not reported
Van et al. (2021)	A	Vietnam	Mobile banking	Not reported
Vatanasombut et al. (2008)	A	Not reported	Internet/online/e-banking	Not reported
Watjatrakul (2026)	A	Not reported	Mobile banking	Not reported
Yadav et al. (2026)	B	India	Digital banking	PLS-SEM
Yarmanti et al. (2025)	A	Multicountry	Mobile banking	Qualitative
Yousafzai et al. (2009)	A	United Kingdom	Internet/online/e-banking	Not reported
Zhou (2013)	A	Not reported	Mobile banking	Not reported