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Digital financial literacy in the FinTech era: A PRISMA-guided systematic literature review

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ABSTRACT

Digital financial literacy (DFL) has become a central capability for households, micro and small enterprises, financial-service providers, and regulators as payments, savings, credit, investment, remittances, insurance, and public transfers move through digital channels. Although the field has grown quickly, it remains fragmented across financial literacy, fintech adoption, consumer protection, cybersecurity awareness, financial inclusion, and development studies. This article presents a PRISMA-guided systematic literature review of DFL. Searches of open scholarly indexes, publisher pages, institutional repositories, and backward and forward citation trails identified 447 records. After duplicate removal, title and abstract screening, and eligibility assessment, 45 studies and policy reports were included in the qualitative synthesis. The review shows that DFL is best understood as a multidimensional and risk-aware capability that combines financial knowledge, digital access and skills, understanding of digital financial products, cyber-risk awareness, attitudes toward responsible digital use, and behavior that converts knowledge into safer decisions. Empirical evidence links DFL to digital-payment adoption, savings and spending discipline, investment participation, use of formal financial services, financial resilience, financial well-being, and microenterprise performance. However, the field is constrained by inconsistent definitions, limited cross-country measurement harmonization, overreliance on cross-sectional self-report designs, insufficient attention to fraud and algorithmic consumer risks, and weak integration between literacy research and product-governance research. The article contributes an integrative framework, a coded synthesis of major antecedents and outcomes, and a future research agenda for management scholars, policymakers, and financial-service organizations seeking to design inclusive, trustworthy, and capability-enhancing digital finance ecosystems.

Keywords: digital financial literacy; financial inclusion; fintech; digital payments; systematic literature review; PRISMA; consumer finance; financial well-being

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1. INTRODUCTION

Digital finance has changed the practical meaning of financial literacy. A consumer who once needed to understand budgeting, interest rates, inflation, risk diversification, and household saving now also has to interpret app interfaces, QR codes, one-time passwords, mobile-wallet balances, pay-later promotions, phishing messages, data permissions, digital credit scoring, and social-media investment claims. For micro and small enterprises, the same transition is visible in merchant payments, platform-based lending, digital bookkeeping, online marketplaces, and embedded finance. In this environment, financial literacy cannot remain only a measure of abstract financial knowledge. It becomes a socio-technical capability that determines whether individuals can use digital financial services safely, productively, and confidently.

The policy urgency is clear. Global account ownership and digital payment use have expanded rapidly, and digital channels are now embedded in daily economic life. The Global Findex series documents the large increase in digital financial inclusion, while recent policy work emphasizes that digitalization creates both welfare gains and new forms of risk (Demirguc-Kunt et al., 2022; Klapper et al., 2025; OECD, 2018, 2025a). The spread of smartphones and platform services allows remote consumers, lower-income households, women, migrants, and informal entrepreneurs to access services that were previously costly or unavailable. Yet digital finance can also magnify exclusion for people who lack connectivity, formal identification, digital confidence, privacy awareness, or consumer-protection knowledge. The same mobile phone can serve as a gateway to savings and transfers or as a channel for fraud, overborrowing, impulsive spending, and harmful investment behavior.

The concept of digital financial literacy responds to this dual reality. Financial literacy research has long shown that knowledge and capability are associated with household financial decisions and long-term welfare (Hilgert et al., 2003; Lusardi & Mitchell, 2014; Remund, 2010). However, the digital era adds several demands that are not captured by traditional literacy tests. Users must understand the financial product and the digital medium through which the product is delivered. They must evaluate terms and conditions while also evaluating interface design, authentication, data sharing, transaction confirmation, and fraud signals. They must recognize that convenience is not automatically equivalent to suitability, affordability, or safety.

The literature has responded with new definitions, instruments, and empirical models. OECD (2018) positioned digital financial literacy as a key policy response to the digitalization of financial products and services. Lyons and Kass-Hanna (2021) argued that DFL is not simply conventional financial literacy plus internet use, but a multidimensional construct requiring a specific measurement approach. Subsequent measurement studies have proposed scales covering digital financial knowledge, risk and control, attitudes, and behavior (Chhillar et al., 2024; Ravikumar et al., 2022). Empirical studies in Asia, Africa, and other emerging markets have connected DFL with digital payment adoption, digital financial inclusion, financial resilience, saving and spending behavior, and small-business performance (Frimpong et al., 2022; Kass-Hanna et al., 2022; Rahayu et al., 2022; Setiawan et al., 2022).

Despite this growth, the field remains theoretically and methodologically fragmented. Some studies treat DFL as knowledge about online transactions. Others emphasize cybersecurity awareness, general digital literacy, fintech adoption, or access to digital finance. Some instruments include attitudes and behavior; others focus only on knowledge. In many studies, DFL is used as an explanatory variable without a strong conceptual justification for why particular dimensions should influence a particular outcome. There is also a methodological divide between development-oriented studies that examine inclusion and resilience, consumer-finance studies that examine well-being, and

management studies that examine business performance and technology adoption. This fragmentation makes it difficult for researchers and practitioners to know what has been established, what remains uncertain, and how future studies should be designed.

A systematic literature review is therefore appropriate. The purpose of this article is to synthesize what is known about digital financial literacy, to identify the dominant definitions and measurement practices, to summarize the evidence on antecedents and outcomes, and to propose a research agenda for management and policy scholarship. The review follows PRISMA 2020 reporting logic (Page et al., 2021) and draws on systematic-review guidance for business and management research (Snyder, 2019; Tranfield et al., 2003). Because the review is based on open scholarly searches, publisher pages, institutional repositories, and citation chasing rather than direct subscription-only database exports, it is presented transparently as an open-source, PRISMA-guided SLR. This design enables reproducibility of the search logic while avoiding any claim that the sample is an exhaustive census of Scopus or Web of Science records.

The article makes four contributions seen in Table 1. First, it clarifies the conceptual boundaries of DFL by distinguishing digital access, digital skill, financial knowledge, digital financial product knowledge, risk awareness, attitudes, and observed or intended behavior. Second, it organizes empirical evidence into antecedents, mechanisms, and outcomes. Third, it identifies methodological weaknesses that limit cumulative knowledge, especially measurement heterogeneity and the dominance of cross-sectional survey designs. Fourth, it translates the evidence into implications for business management, including customer education, responsible fintech design, product governance, SME capability development, and financial-service strategy in emerging-market contexts.

Table 1. Research questions and analytical scope

Research question	Purpose in the review	Main outputs in the manuscript
RQ1. How is digital financial literacy defined and operationalized?	Clarify conceptual boundaries and compare definitions, dimensions, and measures.	Conceptual synthesis of DFL dimensions and measurement approaches.
RQ2. What antecedents explain variation in digital financial literacy?	Identify individual, household, organizational, and institutional factors associated with DFL.	Thematic coding of demographic, socio-economic, digital-access, trust, and ecosystem drivers.
RQ3. What outcomes are associated with digital financial literacy?	Summarize evidence on adoption, behavior, inclusion, resilience, well-being, and enterprise outcomes.	Evidence map of financial and managerial outcomes linked to DFL.
RQ4. What gaps should guide future research and policy?	Assess limitations in theory, measurement, design, and context.	Integrated framework and research agenda for high-quality future studies.

Note. The review is positioned at the intersection of financial literacy, digital finance, consumer behavior, fintech management, and inclusive finance research.

2. METHOD

2.1. Review Design

This study used a systematic literature review design. A systematic review is appropriate when a research field is expanding quickly, when concepts are used inconsistently, and when the literature needs to be organized into a cumulative knowledge base for theory and practice. The review process followed the logic of PRISMA 2020, which emphasizes transparent reporting of identification, screening, eligibility assessment, and inclusion decisions (Page et al., 2021). The review also followed management-review principles that require an explicit protocol, clear inclusion criteria, systematic extraction, and analytical synthesis rather than a descriptive list of studies (Snyder, 2019; Tranfield et al., 2003).

The protocol was designed to answer the four research questions in Table 1. The unit of analysis was a scholarly article, working paper, policy report, or validated measurement study that made a substantive contribution to understanding digital financial literacy. The review covered literature from 2014 to early 2026. The starting year was selected because mobile money, digital payments, and fintech adoption had become visible research themes by the mid-2010s, while the term digital financial literacy began to appear more frequently in the late 2010s. Earlier foundational financial-literacy works were retained when they were necessary to explain conceptual development, but they were not counted as part of the core DFL sample unless they directly addressed digital finance.

The review was not registered in a health-science review registry, because the topic is a business, finance, and management review rather than a clinical intervention review. Nevertheless, the protocol was specified before synthesis. It included search terms, eligible publication types, inclusion and exclusion criteria, extraction categories, and quality-appraisal logic. The review prioritized peer-reviewed articles but also included high-quality institutional sources from the OECD, World Bank, G20 Global Partnership for Financial Inclusion, and Asian Development Bank Institute because these sources have shaped definitions, survey instruments, and policy guidance in the DFL field. Including such sources is important because digital financial literacy is both an academic construct and a policy construct.

2.2. Search Strategy and Information Sources

The search strategy used open scholarly discovery tools and publisher or institutional pages. Searches were conducted using combinations of the terms digital financial literacy, digital finance literacy, fintech literacy, mobile money literacy, digital payments literacy, financial literacy and digital finance, digital financial inclusion, online financial behavior, financial resilience and digital literacy, and SME digital finance literacy. Search phrases were adapted to capture studies that did not use the exact DFL label but examined the same construct. For example, studies on digital payments and personal finance were considered when they measured financial and digital knowledge or skills in relation to digital financial behavior.

Searches were performed across open scholarly search engines, publisher pages, indexing pages that display bibliographic metadata, RePEc and working-paper repositories, and institutional repositories. Backward citation searching was used to locate earlier sources cited by measurement and policy papers. Forward citation searching was used selectively for central sources, especially [OECD \(2018\)](#), [Lyons and Kass-Hanna \(2021\)](#), and [Kass-Hanna et al. \(2022\)](#). Because the search did not export records directly from subscription-only databases, the resulting review is described as an open-source PRISMA-guided SLR. This choice is transparent and appropriate for a manuscript prepared without institutional database authentication, but it also means that the final sample should be interpreted as a rigorous synthesis of accessible evidence rather than as a definitive bibliometric universe ([See Table 2](#)).

Table 2. Search sources, search strings, and rationale

Search component	Implementation	Rationale
Core concept strings	"digital financial literacy", "digital finance literacy", "fintech literacy", "digital payments literacy", "mobile money literacy".	Captured studies that explicitly named DFL or closely related constructs.
Combined construct strings	"financial literacy" AND "digital finance"; "financial literacy" AND fintech; "digital literacy" AND "financial inclusion".	Captured studies where DFL was measured indirectly or placed inside a broader model.
Outcome strings	"digital financial literacy" AND adoption, well-being, resilience, saving, spending, investment, inclusion, fraud, SME performance.	Supported coding of DFL outcomes and mechanisms.
Information sources	Open scholarly search, publisher pages, RePEc/IDEAS records, DOAJ and journal pages, OECD, World Bank, ADBI, GPFI, and citation chasing.	Balanced peer-reviewed evidence with influential measurement and policy documents.
Temporal scope	Core DFL sources from 2014 to early 2026; older foundational financial-literacy theory retained where necessary.	Matched the period when digital finance became central to inclusion and consumer-finance research.
Language scope	English-language publications and policy documents.	Ensured reliable extraction and comparability of definitions, constructs, and methods.

Note. The protocol used iterative keyword expansion because DFL is still described using multiple labels across finance, information systems, development, and consumer-policy research.

2.3. Eligibility Criteria

Eligibility was determined in two stages. First, titles and abstracts or bibliographic summaries were screened for relevance to digital financial literacy. Second, full texts or sufficiently detailed bibliographic records were assessed for inclusion. A study was included when it made a conceptual, empirical, measurement, or policy contribution to DFL. Studies were excluded when they focused only on digital banking adoption without any literacy or capability construct, only on financial literacy without digital financial context, only on technical fintech architecture, or only on generic digital literacy without financial products or behavior. The inclusion criteria were intentionally broad enough to capture the interdisciplinary nature of the field, but narrow enough to exclude studies where DFL was only a passing phrase.

The review included quantitative, qualitative, mixed-methods, conceptual, and policy studies as seen in [Table 3](#). Quantitative studies were not required to use identical measures because one objective of the review was to evaluate measurement heterogeneity. However, studies had to provide enough information to identify constructs, sample/context, and major findings. Policy reports were included when they provided definitions, measurement frameworks, or competency frameworks rather than general commentary. Prior systematic or bibliometric reviews were retained as secondary evidence and as sources for identifying gaps, but they were not allowed to substitute for the review's own screening and synthesis process.

Table 3. Eligibility criteria

Criterion	Included	Excluded
Conceptual focus	Digital financial literacy, fintech literacy, digital-payment literacy, or the intersection of financial literacy and digital finance.	Generic financial literacy with no digital financial service; generic digital literacy with no financial service.
Publication type	Peer-reviewed articles, scholarly working papers, validated measurement studies, systematic reviews, and major institutional policy reports.	News items, blogs, commercial white papers, opinion pieces, and records without traceable bibliographic information.
Methodological detail	Studies reporting constructs, sample/context, analytical approach, or transparent conceptual logic.	Records with insufficient methodological or conceptual detail to support extraction.
Population/context	Individuals, households, consumers, students, workers, MSMEs, entrepreneurs, and national or regional policy populations.	Purely technical fintech infrastructure studies without user capability or consumer decision focus.
Outcomes and mechanisms	Adoption, inclusion, payments, saving, spending, investment, borrowing, resilience, well-being, fraud protection, or business performance.	Studies where digital finance was peripheral and no DFL-related mechanism was identifiable.
Language and access	English-language records with accessible full text or reliable bibliographic detail.	Non-English records and inaccessible records lacking enough detail for screening.

Note. The criteria support conceptual breadth while maintaining the focus on literacy, capability, and behavior in digital financial environments.

2.4. Screening and PRISMA Flow

The identification stage produced 447 records. After removal of 145 duplicates, 302 unique records were screened by title and abstract or bibliographic summary. At this stage, 214 records were excluded because they were unrelated to DFL, treated fintech only as a technical infrastructure topic, discussed financial literacy without a digital-finance context, or did not provide a scholarly or policy contribution. Eighty-eight reports were then assessed for eligibility. Forty-three were excluded after eligibility assessment. The main exclusion reasons were weak DFL focus, lack of empirical or conceptual contribution, duplicate versions of the same study, insufficient methods, insufficient accessible detail, or language limitations. The final synthesis included 45 studies and policy reports.

Figure 1 presents the PRISMA flow in the body of the manuscript. Table 4 provides the same information in tabular form so that the screening process is auditable. The counts are not presented as a claim of exhaustive database coverage. Rather, they document the transparent review trail used for this manuscript. This distinction matters because systematic reviews in business and finance increasingly combine database searching with citation chasing and institutional reports, especially when a topic is interdisciplinary and policy active.

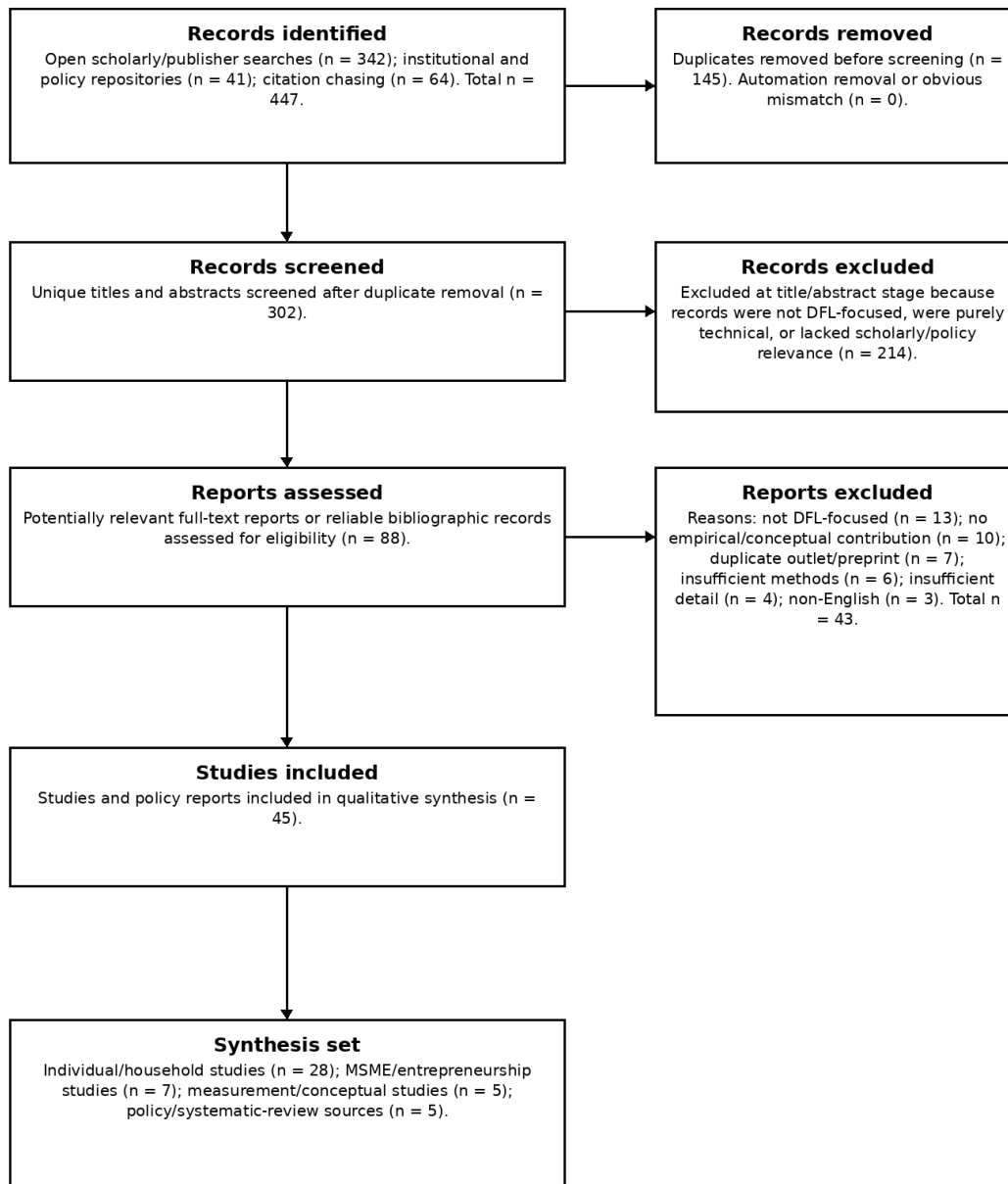


Figure 1. PRISMA 2020 flow diagram for the digital financial literacy review

Note. The flow diagram is adapted to the open-source search protocol used in this review and is reported in the body of the manuscript rather than in an appendix.

Table 4. PRISMA flow record and exclusion reasons

PRISMA phase	Records/reports	Decision logic
Identification	447 records identified	Open scholarly and publisher searches (342), institutional and policy repositories (41), and citation chasing (64).
Duplicate removal	145 duplicates removed	Duplicate article versions, working-paper/journal overlaps, repeated publisher records, and repeated policy records were removed.
Screening	302 records screened; 214 excluded	Title and abstract screening excluded records unrelated to DFL or lacking a consumer, household, SME, or policy capability focus.
Eligibility	88 reports assessed; 43 excluded	Exclusions: not DFL-focused (13), no empirical/conceptual contribution (10), duplicate outlet/preprint (7), insufficient methods (6), insufficient accessible detail (4), non-English (3).
Included	45 studies and policy reports included	The final sample was coded for definitions, measures, antecedents, outcomes, methods, contexts, and implications.

Note. The review follows PRISMA 2020 reporting logic. Counts represent the transparent search-and-screening trail for this open-source SLR.

2.5. Data Extraction and Quality Appraisal

A structured extraction template was used to code each included source. The coding fields covered bibliographic information, country or region, population, study type, theoretical lens, DFL definition, DFL dimensions, measurement approach, antecedents, outcomes, methods, key findings, limitations, and implications. The extraction logic was designed to answer the research questions rather than to produce a purely descriptive annotated bibliography. Each study was therefore coded for both content and methodological contribution.

Quality appraisal was used to interpret the strength of evidence. Because the included sources were heterogeneous, one uniform statistical quality score would have been inappropriate. Instead, a flexible appraisal rubric was applied. Quantitative studies were assessed for conceptual fit, measurement transparency, sampling, analytical rigor, and limitations. Conceptual and policy studies were assessed for clarity of definition, link to evidence, practical relevance, and contribution to measurement or policy design. This procedure did not exclude studies solely because they used cross-sectional data or convenience samples; instead, it allowed the synthesis to distinguish stronger evidence from exploratory evidence. The approach is consistent with management SLR practice, where the objective is often to integrate diverse evidence into conceptual and practical guidance (See Table 5).

Table 5. Data extraction and coding framework

Coding category	Variables extracted	Reason for extraction
Bibliographic profile	Authors, year, outlet, publication type, country or region.	Mapped the maturity, geography, and source type of the field.
Conceptualization	Definition of DFL, dimensions included, relation to financial literacy and digital literacy.	Answered RQ1 and identified conceptual convergence or divergence.
Measurement	Items, scale dimensions, self-report or test-based measures, validation evidence.	Assessed whether the field has reliable and comparable instruments.
Antecedents	Demographics, education, income, digital access, trust, experience, institutional factors.	Answered RQ2 and supported interpretation of inequality mechanisms.
Outcomes	Payments, saving, spending, borrowing, investment, inclusion, resilience, well-being, SME performance, fraud protection.	Answered RQ3 and linked DFL to financial and managerial consequences.

Method and quality	Sample, design, analysis, causal strategy, limitations, quality indicators.	Identified methodological gaps and assessed the strength of evidence.
Implications	Policy, financial-service management, consumer protection, education, and future research implications.	Answered RQ4 and translated the review into actionable recommendations.

Note. The extraction template was intentionally broad because DFL research spans economics, finance, consumer behavior, information systems, education, and development studies.

2.6. Synthesis Strategy

The synthesis combined descriptive mapping and thematic integration. Descriptive mapping classified studies by publication type, geography, population, method, and topic. Thematic integration then grouped findings into concept definition, measurement, antecedents, outcomes, and research gaps. A narrative synthesis was selected because the studies used different constructs, scales, samples, and outcome variables. A meta-analysis was not appropriate because comparable effect sizes were not available across the included studies and because the review sought to synthesize conceptual and policy documents as well as empirical studies.

The synthesis also used an abductive logic. Prior theory from financial literacy, technology adoption, and capability-based approaches informed the initial coding, but themes were refined through repeated reading of the included sources. For example, risk awareness was initially coded as a subdimension of digital skill, but it emerged as a separate construct because many digital finance risks are financial and behavioral as well as technical. Likewise, digital access was separated from DFL because access to a smartphone or the internet enables use but does not guarantee informed or safe use.

3. RESULTS

3.1. Descriptive Profile of the Literature

The final sample shows that DFL is a young but rapidly expanding field. Early work was policy oriented, emphasizing the need to prepare consumers for digital financial services and to prevent new forms of exclusion. Later studies moved toward measurement and empirical testing. The strongest empirical concentration is in emerging markets, especially Asia, South Asia, Southeast Asia, and parts of Africa. This pattern reflects the role of mobile money, digital wallets, and fintech platforms in expanding access to formal financial services where traditional banking infrastructure is uneven. However, DFL is not only an emerging-market issue. Studies in higher-income economies increasingly connect DFL with digital payments, online investment, financial well-being, privacy, fraud prevention, and responsible use of new digital credit products.

The literature can be organized into five streams. The first stream defines and measures DFL. It includes policy guidance, methodological overviews, and scale-development papers. The second stream examines consumer and household outcomes, such as payment adoption, saving, spending, investment, and financial well-being. The third stream examines inclusive finance and resilience, especially for lower-income users, women, rural populations, and financially vulnerable households. The fourth stream examines MSMEs, entrepreneurship, and business performance. The fifth stream examines digital finance risks, including fraud, data misuse, impulsive spending, overborrowing, and crypto-asset misunderstanding. These streams overlap but have often developed separately.

A notable pattern is the dominance of cross-sectional survey designs. These studies are valuable because they provide first evidence across countries and user groups, but they limit causal inference. Few studies use experiments, longitudinal panels, administrative digital transaction data, or mixed methods that combine behavioral trace data with survey measures. A second pattern is

measurement heterogeneity. Some studies use self-assessed confidence with digital financial tools, while others use knowledge tests, scale items, or composite scores. This heterogeneity prevents easy comparison across contexts and makes it difficult to estimate the magnitude of DFL effects (See Table 6).

Table 6. Condensed profile of included literature by stream

Stream	Illustrative sources	Main contribution	Dominant methods or evidence
Definition and policy framing	OECD (2018, 2024, 2026); GPF (2016, 2022); Morgan et al. (2019)	Frames DFL as a policy capability for safe and inclusive digital finance.	Policy guidance, competency frameworks, survey instruments.
Measurement and scale development	Lyons and Kass-Hanna (2021); Ravikumar et al. (2022); Chhillar et al. (2024)	Clarifies DFL dimensions and proposes multidimensional measurement instruments.	Conceptual measurement papers, factor analysis, validation studies.
Household and consumer behavior	Setiawan et al. (2022); Rahayu et al. (2022); Prete (2022); Choung et al. (2023)	Links DFL to saving, spending, digital payments, investment, and well-being.	Cross-sectional surveys, econometric models, structural equation modeling.
Inclusion and resilience	Kass-Hanna et al. (2022); Shen et al. (2018, 2020); Demircuc-Kunt et al. (2022)	Examines DFL as a complement to access, inclusion, and resilience.	Multi-country surveys, national household surveys, policy datasets.
MSME and entrepreneurship	Frimpong et al. (2022); Tony and Desai (2020); related digital-finance SME studies	Connects DFL and digital finance access to enterprise performance and business capability.	SME surveys, regression, mediation models.
Risk, consumer protection, and emerging products	OECD (2025a, 2025b, 2025c); Seldal and Nyhus (2022); Panos and Wilson (2020)	Highlights fraud, overspending, vulnerability, online credit, crypto-assets, and product-governance risks.	Policy briefs, consumer surveys, conceptual analysis.

Note. The final synthesis included 45 studies and policy reports. The table lists illustrative sources rather than every included record.

3.2. Conceptualization of Digital Financial Literacy

RQ1 asked how DFL is defined and operationalized. Across the literature, DFL is usually treated as a combination of financial literacy and digital literacy, but the most persuasive definitions go beyond simple addition. A digitally literate person may know how to install an app, create a password, or use the internet, while a financially literate person may understand interest, inflation, budgeting, and risk diversification. A digitally financially literate person must combine these abilities while making decisions through a digital financial interface. This requires knowledge of products, knowledge of digital channels, awareness of risks, and behavior that protects financial well-being.

The OECD definition is influential because it explicitly combines knowledge, skills, attitudes, and behaviors needed to be aware of and safely use digital financial services and technologies in ways that contribute to financial well-being (OECD, 2024). This definition is useful because it avoids reducing DFL to knowledge alone. It also recognizes safety and well-being as central outcomes. Lyons and Kass-Hanna (2021) similarly emphasize that DFL requires multidimensional measurement because it is not captured by traditional financial-literacy questions. Measurement studies extend this logic by identifying dimensions such as basic digital financial knowledge, advanced digital financial

The review identifies six conceptual building blocks. The first is digital access, including smartphone ownership, internet availability, and basic ability to use digital interfaces. Access is necessary but not sufficient. The second is digital skill, including navigation, password use, authentication, and transaction confirmation. The third is financial knowledge, including interest, inflation, budgeting, fees, risk, and product suitability. The fourth is digital financial product knowledge, including awareness of digital wallets, mobile banking, online credit, QR payments, digital investment platforms, insurance apps, and crypto-assets. The fifth is risk and protection knowledge, including fraud awareness, privacy, phishing, scams, data sharing, and complaint mechanisms. The sixth is behavioral capability, including checking transaction details, comparing costs, setting limits, avoiding suspicious links, maintaining records, and pausing before high-risk decisions.

A key insight from the review is that DFL is relational. It is shaped by the interaction between the user, the product, the platform, and the institutional environment. A user may be digitally financially literate in one context but vulnerable in another. For example, a consumer may use mobile payments safely but be unable to evaluate buy-now-pay-later terms or crypto-asset risk. An entrepreneur may accept QR payments but lack the ability to interpret digital transaction data for cash-flow management. A migrant worker may understand remittance fees but face language and fraud risks in an unfamiliar app environment. This context dependence suggests that DFL should be measured and taught in relation to specific digital financial tasks.

The field also distinguishes DFL from digital financial inclusion as seen in [Table 7](#). Digital inclusion refers to access and use of digital financial services, whereas DFL refers to the capability to use those services safely and effectively. High adoption without adequate DFL can produce fragile inclusion, where consumers transact digitally but remain exposed to fraud, excessive fees, privacy loss, unsuitable credit, or impulsive consumption. Conversely, DFL without affordable access may not translate into inclusion. The strongest policy implication is that access, literacy, trust, protection, and product design must be developed together.

Table 7. Thematic synthesis of digital financial literacy dimensions

Dimension	Description	Typical indicators in the literature	Managerial or policy relevance
Digital access and basic use	Ability to access devices, connectivity, applications, and authentication tools.	Smartphone and internet access, app use, password or PIN use, transaction confirmation.	Determines whether digital finance can be used at all; requires infrastructure and accessible interfaces.
Traditional financial knowledge	Understanding of budgeting, interest, inflation, fees, credit, saving, and risk.	Knowledge questions, financial-literacy scores, self-assessed financial knowledge.	Supports product comparison and prevents misunderstanding of costs and risks.
Digital financial product knowledge	Understanding of how digital financial services work and what obligations they create.	Knowledge of e-wallets, mobile banking, QR payments, online credit, digital investments, insurance, remittances.	Enables appropriate adoption and cross-product comparison.
Risk, control, and cybersecurity awareness	Ability to identify and respond to digital fraud, privacy risks, scams, data misuse, and unauthorized transactions.	Fraud-awareness items, privacy behavior, phishing recognition, use of complaint channels.	Essential for consumer protection, trust, and reputational risk management.
Attitudes and confidence	Beliefs about usefulness, trust, self-efficacy, responsibility, and willingness to learn.	Perceived ease of use, perceived security, trust,	Influences adoption and continued use, but can become

		confidence, attitudes toward digital financial tools.	overconfidence if not paired with knowledge.
Behavioral capability	Actual or intended practices that translate knowledge into safe and welfare-enhancing financial decisions.	Checking fees, verifying recipients, recording transactions, setting limits, saving regularly, avoiding suspicious offers.	Connects literacy to well-being, resilience, and responsible product use.

Note. The review suggests that DFL should be treated as a task-specific capability rather than a single generic trait.

3.3. Measurement Approaches

Measurement is the most important unresolved issue in the field. Traditional financial-literacy studies often rely on objective knowledge questions, such as interest, inflation, and risk diversification (Lusardi & Mitchell, 2014). DFL measures must add digital components but must also decide whether to measure knowledge, self-confidence, attitudes, behavior, or observed ability. The included studies vary substantially on this point. Some use self-reported confidence with mobile banking or digital payments. Others use survey items on online safety, digital transactions, and financial products. A smaller group develops validated scales and reports reliability or factor structure.

The methodological overview by Lyons and Kass-Hanna (2021) is central because it argues that measurement should reflect the digital nature of financial decisions rather than treating DFL as an extension of conventional literacy. Ravikumar et al. (2022) and Chhillar et al. (2024) provide scale-development evidence, showing that DFL can be modeled as multidimensional. The OECD/INFE survey instrument further contributes by proposing standardized questions and scoring guidance for digital literacy, digital financial service access and use, and DFL (OECD, 2024). The development of an ASEAN competency framework adds regional relevance by translating DFL into a capability framework for adults in a rapidly digitalizing region (OECD, 2026).

Four measurement tensions are visible. The first is objective versus subjective measurement. Objective knowledge tests reduce overconfidence bias but may miss practical skill. Subjective confidence captures self-efficacy but may confuse confidence with competence. The second tension is general versus product-specific measurement. General DFL scales are useful for cross-country comparison, but product-specific measures may better predict behavior in domains such as digital credit, mobile money, or crypto-assets. The third tension is knowledge versus behavior. A person may know that sharing an OTP is unsafe but still share it under pressure. The fourth tension is static versus dynamic measurement. Digital products change quickly, so DFL measures can become outdated if they do not adapt to new interface designs, fraud patterns, and product types.

For high-quality future research, DFL measurement should combine objective items, self-efficacy items, and behavioral indicators. Researchers should report scale reliability, dimensionality, and validity evidence. They should also separate DFL from general financial literacy and from general digital literacy. Without this separation, it is impossible to know whether observed effects are driven by financial knowledge, digital skill, product familiarity, trust, or risk awareness. This distinction is not only technical; it affects policy design. A low score on digital access requires infrastructure or device support. A low score on financial knowledge requires education. A low score on fraud awareness requires consumer-protection communication and safer interface design.

3.4. Antecedents of Digital Financial Literacy

RQ2 asked what factors explain variation in DFL. The included literature identifies individual, socio-economic, experiential, and institutional antecedents. Education is consistently important because it affects both financial knowledge and the ability to learn new digital tools. Income and employment status matter because people with more stable resources are more likely to own

smartphones, maintain internet access, and interact with formal financial institutions. Age matters because younger users often have higher digital confidence, although this does not always imply higher financial judgment. Gender differences appear in several contexts, often reflecting unequal access to education, devices, financial accounts, and social norms rather than inherent capability differences.

Digital access and prior use are strong antecedents. Repeated experience with mobile payments, online banking, or digital wallets can build procedural knowledge, reduce anxiety, and increase perceived usefulness. However, experience can also create overconfidence. Users who regularly transact digitally may believe they are safe while still misunderstanding fees, privacy permissions, or fraud tactics. This finding is important for financial-service providers because high transaction frequency should not be interpreted as proof of user capability. Behavioral data can show adoption but not necessarily comprehension or welfare.

Trust is another recurring antecedent. Trust in financial institutions, platforms, government, and technology affects willingness to engage with digital finance. Low trust can prevent beneficial adoption, while excessive trust can increase vulnerability to unsuitable products or fraudulent messages that imitate legitimate institutions. Trust is therefore ambivalent. The objective is not simply to increase trust but to build calibrated trust. Calibrated trust means that consumers understand when a platform is legitimate, what protections apply, what risks remain, and what actions they must take to protect themselves.

Institutional context also matters. Regulation, complaint systems, consumer-protection enforcement, interoperability, digital identity, data protection, and market conduct rules influence whether DFL can translate into safe use. A highly literate consumer may still be harmed in a weakly governed digital market. Conversely, strong product governance can reduce the burden placed on individual literacy. This interaction suggests that DFL should not be used as a policy excuse to shift all responsibility to consumers. Literacy is necessary, but it must be paired with fair design, transparent disclosure, accessible redress, and responsible supervision.

For MSMEs, antecedents include owner education, digital orientation, entrepreneurial capability, access to digital infrastructure, payment acceptance networks, and exposure to platform ecosystems. Small firms may learn digital finance through daily operations, such as receiving QR payments or managing e-wallet balances. Yet business owners may also lack knowledge about digital credit costs, tax implications, cybersecurity, and data-driven financial management. DFL for entrepreneurs therefore differs from household DFL because it includes business cash flow, working capital, customer payments, supplier payments, and digital records.

3.5. Outcomes of Digital Financial Literacy

RQ3 asked what outcomes are associated with DFL. The strongest evidence relates to adoption and use of digital financial services. DFL can reduce uncertainty, increase perceived control, and help users evaluate the benefits and risks of digital channels. Studies in China, South Asia, Southeast Asia, and other emerging-market contexts show that financial literacy and digital capability are associated with mobile payments, online banking, and broader digital financial inclusion (Kass-Hanna et al., 2022; Shen et al., 2018, 2020; Yang et al., 2023). However, adoption is only a first-order outcome. The more important question is whether DFL improves the quality of financial decisions (See Table 8).

The second outcome stream concerns saving, spending, and investment behavior. Setiawan et al. (2022) and Rahayu et al. (2022) link DFL with saving and spending patterns among young or millennial populations. Digital tools can support budgeting, automated saving, transaction tracking, and investment access. At the same time, they can increase frictionless spending, exposure to

The third outcome stream concerns financial well-being and resilience. [Choung et al. \(2023\)](#) find that DFL is associated with financial well-being, partly through knowledge and ability to protect against digital fraud. [Kass-Hanna et al. \(2022\)](#) connect financial and digital literacy with financial resilience in South Asia and Sub-Saharan Africa. These studies suggest that DFL may help households cope with shocks by improving access to transfers, savings, emergency borrowing, and information. However, the resilience effect likely depends on whether digital services are affordable, reliable, and safe. DFL cannot compensate for predatory credit, network failures, weak consumer protection, or severe income insecurity.

The fourth outcome stream concerns MSME and entrepreneurship performance. Digital finance can help small firms receive payments, build transaction histories, access credit, manage liquidity, and expand sales through platform ecosystems. [Frimpong et al. \(2022\)](#) connect financial literacy and access to digital finance with SME performance. The managerial implication is that DFL should be treated as part of enterprise capability, not only as household education. For small businesses, digital finance literacy may influence working-capital management, customer convenience, record keeping, and ability to engage with formal lenders.

The fifth outcome stream concerns risk prevention. Digital financial literacy should reduce vulnerability to fraud, scams, unauthorized transactions, unsuitable products, and privacy loss. Policy briefs on digital payments, online credit, buy-now-pay-later, and crypto-assets emphasize that consumers need specific knowledge to use new digital financial products safely ([OECD, 2025a, 2025b, 2025c](#)). This risk-prevention role is likely to become more important as artificial intelligence, social commerce, embedded finance, and personalized digital marketing expand. The literature has not yet fully integrated these emerging risks, but the direction is clear: DFL must include critical evaluation of digital persuasion and algorithmic product delivery.

Table 8. Antecedents and outcomes identified in the SLR

Category	Factors or outcomes	Synthesis of evidence	Implication
Individual antecedents	Education, age, gender, income, employment, financial experience.	DFL is higher where users have stronger education, resources, and prior financial exposure, although digital confidence may not equal competence.	Segment education by capability gaps rather than only demographic groups.
Digital antecedents	Device access, internet quality, prior app use, payment experience, digital self-efficacy.	Access and repeated use enable DFL but do not guarantee risk awareness or responsible behavior.	Combine digital onboarding with risk and product education.
Institutional antecedents	Trust, regulation, redress, consumer protection, data protection, interoperability.	Institutional quality shapes whether literacy converts into safe use and welfare gains.	Pair DFL programs with fair design and market-conduct supervision.
Adoption outcomes	Mobile banking, e-wallets, QR payments, online financial services, digital inclusion.	DFL is generally associated with adoption and continued use, particularly in emerging markets.	Adoption metrics should be complemented by measures of comprehension and safety.
Behavior outcomes	Saving, spending, investment, budgeting, transaction monitoring.	DFL can support disciplined financial behavior but digital convenience can also increase impulsive use.	Design tools that convert literacy into beneficial routines.
Welfare outcomes	Financial well-being, resilience, inclusion quality, fraud protection.	Evidence links DFL to well-being and resilience, but causal evidence remains limited.	Use longitudinal and experimental designs to test welfare mechanisms.

Enterprise outcomes	Digital payments, working capital, records, credit access, SME performance.	DFL can function as a managerial capability for small firms and entrepreneurs.	Integrate DFL into SME digitalization and entrepreneurship programs.
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Note. The evidence base is strongest for association and weakest for causal identification. Future studies should test mechanisms using longitudinal, experimental, or quasi-experimental designs.

3.6. Methodological Quality of the Evidence

The quality appraisal shows that the DFL field has strong conceptual momentum but uneven methodological maturity. Measurement and policy sources are increasingly sophisticated, especially those that propose multidimensional frameworks. Empirical studies provide valuable first evidence, but many rely on convenience samples, single-country contexts, and cross-sectional self-report data. These limitations are common in an emerging research field, but they must be addressed if DFL research is to influence high-ranking finance, management, and information-systems journals.

The strongest studies have three features. First, they separate DFL from adjacent constructs. This allows researchers to estimate whether digital financial knowledge adds explanatory power beyond general financial literacy and general digital literacy. Second, they connect DFL to theoretically meaningful mechanisms, such as perceived control, risk evaluation, behavioral discipline, trust calibration, or resilience. Third, they use validated measures or transparent items. Studies that simply ask whether respondents feel confident using a digital wallet provide weaker evidence because confidence can reflect overconfidence, social desirability, or recent use.

The weakest evidence concerns causality. It is plausible that DFL improves digital financial behavior, but it is also plausible that people learn DFL because they already use digital finance. Reverse causality is a serious concern. More capable users may adopt digital products earlier, and digital product use may increase both knowledge and confidence. Without longitudinal data, experiments, natural experiments, or instrumental strategies, many studies cannot distinguish these pathways. This does not make the evidence irrelevant, but it requires cautious interpretation.

Another weakness is limited attention to negative outcomes. Many studies frame DFL as a driver of adoption and inclusion, but digital finance also creates new harms. Consumers can be included in formal digital finance while simultaneously becoming overindebted, overspending, or exposed to fraud. Researchers should therefore avoid treating adoption as an unconditional success. A high-quality DFL study should measure both beneficial and harmful outcomes, including complaints, transaction errors, scam exposure, data concerns, digital credit stress, and financial anxiety (See Table 9).

Table 9. Methodological quality appraisal summary

Appraisal criterion	What stronger studies did	Common weakness found	Recommendation
Conceptual fit	Defined DFL clearly and differentiated it from financial literacy, digital literacy, and inclusion.	Used DFL as a broad label without specifying dimensions.	State the construct boundary before hypothesis development.
Measurement validity	Used validated scales, objective items, or transparent multidimensional indicators.	Relied only on self-rated confidence or single-item proxies.	Combine objective knowledge, self-efficacy, and behavior indicators.
Sampling and context	Reported sample frame, population, country context, and respondent characteristics.	Used convenience samples without sufficient external validity discussion.	Use nationally representative, stratified, or clearly bounded samples.
Analytical strategy	Linked DFL to theory and used appropriate controls or structural models.	Reported simple associations without	Test mechanisms and account for confounders.

		mechanism or bias discussion.	
Causal inference	Used panel, experimental, quasi-experimental, or robust identification where possible.	Dominated by cross-sectional self-report designs.	Move toward longitudinal and intervention-based research.
Risk coverage	Included fraud, privacy, overborrowing, or vulnerability outcomes.	Equated adoption with positive impact.	Measure safe use and welfare effects, not only uptake.
Managerial relevance	Connected DFL to product design, SME capability, customer education, or market conduct.	Limited implications to generic financial education.	Translate findings into provider and policy actions.

Note. The appraisal was interpretive rather than a statistical quality score because the sample included empirical, conceptual, measurement, and policy sources.

4. DISCUSSION

4.1. An Integrative Framework for Digital Financial Literacy

The review supports an integrative framework in which DFL is a risk-aware capability that connects digital access to financial well-being through informed, safe, and purposeful behavior. Access alone is insufficient because a user can open an app without understanding the product, the cost, the data implications, or the risk. Financial knowledge alone is insufficient because digital interfaces change how decisions are made. Digital skill alone is insufficient because speed and convenience can produce poor financial outcomes. DFL emerges at the intersection of these capabilities.

The framework has four layers. The first layer is enabling conditions: device access, connectivity, account ownership, identification, language accessibility, and institutional trust. The second layer is capability: financial knowledge, digital skill, product knowledge, risk awareness, and self-efficacy. The third layer is behavioral translation: comparing options, checking fees, verifying recipients, using security practices, budgeting, saving, and refusing suspicious offers. The fourth layer is outcome quality: inclusion, resilience, well-being, enterprise performance, and protection from harm. These layers are interdependent. For example, a consumer-protection campaign may improve risk awareness, but its effect will be limited if complaint mechanisms are inaccessible. A well-designed app may reduce mistakes, but it will not fully protect consumers from external scams.

This framework advances the literature by moving beyond the access-adoption logic that dominates early digital finance research. Digital financial inclusion should be evaluated by quality of use, not only by number of accounts or transaction frequency. Quality of use means that consumers understand what they are doing, can control costs and risks, and can use digital tools to improve welfare. The same logic applies to MSMEs. A merchant who accepts digital payments is digitally included, but the business value depends on whether the owner can manage liquidity, reconcile transactions, interpret records, protect accounts, and use data for decisions.

The framework also suggests that DFL is not only an individual trait. It is co-produced by users, providers, regulators, educators, and social networks. A user learns through experience, but experience is shaped by interface design, disclosures, defaults, fees, fraud controls, and customer service. Providers therefore influence DFL through product design and communication. Regulators influence DFL through market conduct, data protection, redress, and public education. Families and peers influence DFL through informal learning and shared devices. Researchers should model this ecosystem rather than treating literacy as a purely individual characteristic.

4.2. Theoretical Implications

The review has implications for several theories used in finance and management. For financial literacy theory, DFL extends the human-capital perspective. Financial knowledge remains important,

but the digital channel changes the skill set required to convert knowledge into welfare. A consumer may understand interest but still fail to recognize the effective cost of a digital loan if the interface hides fees or presents repayment in a misleading way. Thus, the return on financial literacy depends on digital context.

For technology adoption theory, DFL adds a capability dimension to perceived usefulness and perceived ease of use. Adoption models often explain whether people use a digital service, but DFL research asks whether users understand, control, and benefit from that service. A platform can be easy to use and still harmful if users misunderstand terms or risks. The implication is that adoption research should include safe-use and welfare outcomes, not only intention and usage frequency.

For consumer-behavior theory, DFL helps explain how digital environments affect self-control. Digital payments reduce transaction friction, while app notifications, promotions, and embedded credit can increase temptation. Financially and digitally literate consumers may be better able to set budgets, monitor spending, and resist misleading cues. However, literacy may not fully overcome persuasive design. This creates a research opportunity at the intersection of DFL, behavioral finance, and platform governance.

For strategic management, DFL can be conceptualized as a market capability. Financial-service firms and fintech providers benefit when customers understand products and use them sustainably. Poor DFL can increase complaints, defaults, fraud losses, regulatory sanctions, and reputational damage. Strong DFL can increase trust, retention, cross-product fit, and responsible market expansion. The managerial value of DFL therefore lies not only in social responsibility but also in long-term business sustainability.

For entrepreneurship and SME theory, DFL connects digital transformation with financial capability. Small firms often adopt digital payments because customers demand convenience, but adoption alone does not guarantee improved performance. Performance gains require the owner to use digital records, manage working capital, understand credit, protect accounts, and integrate payments with business decisions. DFL can therefore be treated as a microfoundation of SME digital transformation.

4.3. Implications for Financial-Service Providers and Fintech Management

The review suggests that financial-service providers should move from generic financial education to embedded capability design. Traditional education campaigns often deliver information outside the moment of decision. Digital finance allows education to be embedded in onboarding, transaction confirmation, spending dashboards, loan simulations, warning messages, and complaint channels. For example, a digital credit app can show total repayment cost, late-fee scenarios, and affordability prompts before loan acceptance. A digital wallet can provide transaction categories and alerts that help users manage budgets. An investment app can require comprehension checks for high-risk products.

Providers should also treat DFL as part of customer segmentation. Users differ not only in income or age but also in digital confidence, financial knowledge, risk awareness, and product familiarity. A young user may be digitally fluent but financially inexperienced. An older user may understand budgeting but be vulnerable to phishing. A microentrepreneur may understand business cash flow but lack cybersecurity practices. Segmenting customers by capability profiles can improve onboarding, product suitability, and risk communication.

Responsible design is critical. Disclosure alone is often ineffective in mobile interfaces because screen space is limited and users move quickly. DFL-oriented design should reduce cognitive load, make costs salient, slow down high-risk choices, provide clear confirmation steps, and make complaint paths visible. Providers should avoid dark patterns that exploit low literacy, such as hiding fees,

emphasizing instant approval while minimizing repayment obligations, or using gamified cues for risky investment. A digitally financially literate market cannot be built only through user education; it also requires ethical design.

Fraud prevention should be integrated into customer education and system design. Users need to know how to identify suspicious links, fake customer-service contacts, social engineering, and requests for passwords or one-time codes. Providers need to support this knowledge with secure defaults, transaction alerts, anomaly detection, rapid account freezing, and clear redress. The managerial issue is not merely loss prevention. Fraud undermines trust in the entire digital finance ecosystem and can reduce adoption among vulnerable users.

For MSME customers, providers can design DFL tools around business tasks. Dashboards can help merchants distinguish sales from cash flow, reconcile payments, plan inventory, and evaluate credit offers. Training can be delivered through merchant apps, platform communities, and local business associations. When digital payments generate transaction histories, providers should explain how those histories affect credit assessment and what obligations accompany digital loans. This turns DFL into a business-development service rather than a compliance add-on.

4.4. Policy Implications for Inclusive and Safe Digital Finance

The policy implication is that digital financial literacy should be treated as infrastructure for inclusive digital economies. Governments and regulators often invest in payment rails, digital identity, interoperability, and account opening. These investments will not produce durable welfare gains if users cannot understand, trust, and safely use the resulting services. DFL should therefore be integrated into national financial inclusion strategies, school curricula, adult education, social-protection programs, migrant-worker programs, and MSME development initiatives.

The ASEAN context is especially relevant because many countries are expanding digital payments, cross-border QR systems, digital banking, and platform finance. The OECD ASEAN competency framework provides a useful foundation for regional harmonization (OECD, 2026). Harmonized competencies can help countries compare progress, design curricula, and evaluate interventions. However, regional frameworks should be adapted to local languages, rural connectivity conditions, cultural norms, and product markets. The same DFL module may not fit urban e-wallet users, rural farmers, migrant workers, and micro-merchants.

Consumer protection should accompany literacy. The review warns against a narrow policy narrative that makes consumers responsible for all digital finance risks. Consumers should learn, but providers and regulators must also reduce harmful complexity. This includes transparent fees, fair digital credit practices, responsible marketing, data protection, accessible complaint handling, clear liability rules for unauthorized transactions, and supervision of crypto-asset and online credit promotions. DFL is most effective when the market environment is fair enough for informed choice to matter.

Evaluation is another policy priority. Many financial education programs report participation numbers but not learning outcomes, behavior change, or welfare effects. Digital delivery makes better evaluation possible. Programs can use pre- and post-tests, randomized nudges, app-based learning analytics, and follow-up measures of behavior. However, evaluation must protect privacy and avoid excessive surveillance. The objective is to determine whether education improves safe and beneficial use, not merely whether users click through content.

For remote and underserved areas, DFL policy must address access and capability together. Rural users may face weak connectivity, limited agent networks, language barriers, shared devices, and low confidence in formal institutions. Training should be practical, local, and task-based. Users may need to practice sending money, checking account balances, recognizing scams, comparing fees, and

using complaint channels. Community-based delivery through schools, cooperatives, religious organizations, local governments, post offices, and agent networks can complement digital modules. The goal is not to create abstract knowledge but to enable safe decisions in real transaction contexts.

4.5. Research Agenda

RQ4 asked what gaps should guide future research as displayed in [Table 10](#). The first priority is measurement harmonization. Researchers should adopt or adapt validated instruments and report enough detail for replication. Cross-country studies should test measurement invariance so that differences in DFL scores are not confused with differences in interpretation. Product-specific modules should be added for digital credit, payments, insurance, investment, remittances, and crypto-assets.

The second priority is causal evidence. The field needs longitudinal panels, randomized education interventions, natural experiments, and quasi-experimental designs. Such designs can answer whether DFL causes better outcomes or whether more capable users simply select into digital finance. Experiments can test whether embedded education, warning messages, transaction dashboards, or product simulations improve decisions. Panel data can test whether DFL predicts resilience during shocks.

The third priority is integration with behavioral data. Surveys capture knowledge and attitudes but may not capture actual behavior. With appropriate privacy protections, researchers can combine survey measures with anonymized transaction data, app-use logs, complaint data, or administrative records. Such integration would allow stronger tests of whether DFL reduces errors, fees, defaults, fraud losses, and financial stress. It would also help distinguish stated confidence from actual decision quality.

The fourth priority is risk and harm. Future studies should measure not only adoption and inclusion but also overborrowing, overspending, fraud exposure, unauthorized transactions, privacy concerns, algorithmic discrimination, and misleading digital marketing. This shift is necessary because the social value of digital finance depends on safe and beneficial use. A narrow adoption lens can overstate progress.

The fifth priority is management-level research. More studies are needed on how providers can build customer capability through design, communication, and service processes. Researchers can examine whether DFL-oriented product design improves retention, reduces complaints, lowers default, increases trust, and improves suitability. MSME research can examine how owner DFL interacts with digital payments, bookkeeping, credit access, and firm performance. Such work would connect DFL to mainstream business management and strategy research.

Table 10. Future research agenda and practical implications

Gap	Suggested research question	Preferred design	Implication for practice
Measurement heterogeneity	Which DFL dimensions are stable across countries and products?	Scale validation, measurement invariance, cross-country survey.	Comparable indicators for policy benchmarking and program evaluation.
Causal ambiguity	Does DFL improve financial well-being, or do better-off users acquire DFL through use?	Longitudinal panel, randomized intervention, natural experiment.	Evidence-based education and product-design investment.
Behavioral validity	Do DFL scores predict actual transaction behavior and risk outcomes?	Survey linked to privacy-protected transaction or complaint data.	Better segmentation and safer product design.
Risk and harm	How does DFL reduce fraud, overborrowing, privacy loss, and unsuitable product use?	Field experiment, consumer diary, mixed methods, complaint analysis.	Consumer protection integrated with literacy programs.
MSME capability	How does owner DFL affect digital payments, cash flow, credit access, and performance?	SME panel, intervention study, platform data, case comparison.	DFL as part of SME digital transformation and entrepreneurship support.
Platform and design effects	Which interface features convert literacy into safer decisions?	A/B testing, lab-in-field experiment, human-centered design evaluation.	Embedded education, warnings, friction, and fair disclosure.
Equity and inclusion	Which groups face the largest DFL capability gaps and why?	Representative survey, qualitative fieldwork, intersectional analysis.	Targeted programs for women, older adults, rural users, migrants, and low-income households.

Note. The agenda is designed to move DFL research from early association studies toward causal, behavioral, and management-relevant evidence.

4.6. Limitations

This review has limitations. First, it is an open-source PRISMA-guided SLR rather than a direct export from subscription-only bibliographic databases. The search process was transparent and systematic, but it may have missed records that are visible only through proprietary database functions or behind restricted access. Second, the review included policy and institutional sources because they are central to DFL definitions and measurement. This improves practical relevance but makes the sample more heterogeneous than a review limited to peer-reviewed articles. Third, the synthesis was qualitative. A meta-analysis was not appropriate because constructs, measures, samples, and outcomes differed substantially across studies. Fourth, the review was limited to English-language sources, which may underrepresent important local research in countries where digital finance is expanding rapidly.

These limitations do not undermine the value of the review, but they shape interpretation. The article should be read as a structured synthesis of accessible and influential DFL evidence rather than as a definitive bibliometric census. The findings are strongest for conceptual mapping, measurement comparison, and agenda setting. They are more cautious regarding causal claims because the underlying empirical literature is still dominated by cross-sectional designs.

5. CONCLUSION

Digital financial literacy is no longer a peripheral extension of financial education. It is a core capability for participation in digital economies. The systematic review shows that DFL combines financial knowledge, digital skill, product understanding, risk awareness, attitudes, and behavior. It is associated with digital finance adoption, saving and spending behavior, investment participation, financial inclusion, resilience, well-being, and MSME performance. At the same time, the evidence base remains fragmented and methodologically immature. Definitions vary, measures are inconsistent, causal evidence is limited, and risks are underexamined.

The main conclusion is that DFL should be conceptualized as a risk-aware capability for quality digital financial inclusion. The objective is not simply to make people use more digital financial

products. The objective is to help people use appropriate products safely, understand costs and obligations, protect themselves from fraud and privacy loss, and convert digital access into financial well-being. This requires action by educators, providers, regulators, and researchers. Education must be practical and task-based. Providers must design products that support comprehension and control. Regulators must protect consumers and ensure fair digital markets. Researchers must build stronger measures and causal evidence.

For business management scholarship, DFL provides a bridge between consumer finance, digital transformation, inclusive entrepreneurship, fintech strategy, and market conduct. It can explain why digital finance produces different outcomes across users and firms. It can also guide more responsible innovation. As financial life becomes increasingly app-based, embedded, and data-driven, the quality of digital financial literacy will influence not only individual welfare but also trust in the financial system and the sustainability of digital financial markets.

Ethical Approval

This study did not require ethical approval because it is based exclusively on published literature and did not involve human participants, animals, or identifiable personal data.

Informed Consent Statement

Not applicable because this study is a systematic literature review and did not involve direct data collection from participants.

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