
What Do We Know About Digital Financial Literacy? A Systematic Review and Agenda for Future Research

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Abstract

Objective – This study aims to synthesize the rapidly expanding body of knowledge on Digital Financial Literacy (DFL) by identifying its conceptual foundations, methodological trends, thematic developments, and research gaps. It also seeks to develop an integrative conceptual framework that explains the dual role of DFL and proposes a future research agenda.

Design/Methodology/Approach – A systematic integrative literature review was conducted and reported in accordance with PRISMA 2020. Bibliometric mapping was combined with a concept-centric thematic synthesis. Two reviewers independently screened titles/abstracts and full texts, and inter-reviewer reliability was quantified using percentage agreement and Cohen's kappa. The methodological quality of eligible empirical studies was appraised with the Mixed Methods Appraisal Tool (MMAT) 2018. The final thematic synthesis comprised 50 peer-reviewed articles published between January 2020 and December 2025.

Findings – The findings reveal an academic "gold rush" in Digital Financial Literacy (DFL) research—with 74% of studies published between 2024 and 2025—marked by conceptual fragmentation, heavy reliance on Structural Equation Modeling (52%), and geographic concentration in developing economies like Indonesia, India, and China that limits generalizability. While DFL spans knowledge, behavior, confidence, and risk/self-protection, the latter emerges as the critical differentiator. Notably, basic financial knowledge alone risks increasing financial anxiety, whereas self-protection capabilities reduce anxiety and build trust. Ultimately, the synthesis proposes a sequential model where DFL first serves as a protective shield against fear before catalyzing digital financial adoption, entrepreneurship, and overall well-being.

Implications – This study advances DFL research by proposing a comprehensive, multidimensional framework and outlining future directions. It urges establishing a standardized global definition through collaboration and shifting from cross-sectional methods to longitudinal, qualitative, and experimental (RCT) designs to prove causality. Finally, it highlights critical research gaps, calling for deeper investigation into vulnerable groups, emerging risks (DeFi, CBDCs, influencers), and DFL dynamics in developed economies.

Keywords: Digital Financial Literacy (DFL); Systematic Literature Review (SLR); Integrative Literature Review (ILR); Bibliometric Analysis; Financial Technology (FinTech); Financial Inclusion; Conceptual Framework; Research Agenda.

INTRODUCTION

For several decades, financial literacy (FL) has been a cornerstone of economic research and public policy (Swiecka & Ye, 2020). Academic interest in the field has grown exponentially, particularly following its promotion by the OECD in 2008 (Le et al., 2023). A 2022 Scopus analysis, for instance, identified over 4,465 manuscripts with "financial literacy" as a keyword, confirming its maturity as a research domain (Zaimovic et al., 2023). This vast body of literature, anchored by the seminal contributions of (Lusardi & Mitchell, 2013), has firmly established FL as a critical form of human capital.

Traditional FL is broadly defined as a combination of the "awareness, knowledge, skills, attitude and behavior necessary for making rational financial decisions and ultimately achieving individual financial well-being" (Zaimovic et al., 2023). Its importance is unequivocal. The OECD (2023) notes a clear, positive correlation: adults who score high on financial literacy metrics also report higher levels of financial well-being, even after controlling for socioeconomic characteristics. However, a persistent global challenge, identified by this same body of research, is that FL levels are "remarkably low" worldwide (Lusardi, 2023). This "financial illiteracy" is particularly acute among vulnerable demographic groups, including women and the less-educated (Estrada-mejia et al., 2023), posing significant challenges for household financial stability and inclusive economic development.

The established paradigms of traditional FL are being fundamentally challenged by a profound "digital transformation" of the global financial landscape (Koskelainen et al., 2023). This transformation is driven by financial technology (FinTech), which is "exponentially modifying the international financial system", disrupting incumbent business models and fundamentally altering consumer behavior and expectations (Anifa et al., 2022). The modern financial ecosystem is no longer defined by in-person teller services or paper statements, but by mobile banking applications, digital payment platforms, peer-to-peer lending, and other digital financial services (DFS) (Tang, 2024).

This rapid technological upheaval has created a critical competency gap. The knowledge and skills required to navigate this new environment are substantively different from those measured by traditional FL assessments (Koskelainen et al., 2023). As Dunn, (2023) argued, traditional financial literacy skills alone are "not sufficient" for ensuring financial health in the modern era. The ability to calculate compound interest, a classic measure of FL, does not inherently equip an individual to assess digital security risks, comprehend complex data privacy policies, or identify the sophisticated phishing scams and online fraud that now "expose consumers to new risks" (Angela et al., 2020).

In response to this competency gap, a new, hybrid construct has emerged in the literature: Digital Financial Literacy (DFL). DFL is conceptualized as the specific, necessary competency set required to function effectively and safely in the digital financial ecosystem (Golden, 2022). It is not merely a synonym for traditional FL delivered through a digital medium; rather, it is a novel, multidimensional concept that synthesizes the distinct domains of traditional financial literacy, digital literacy, and financial capability (Youngjoo et al., 2023).

DFL prioritizes the knowledge and abilities required to conduct financial transactions on digital platforms (Yang et al., 2023). This construct extends beyond traditional financial knowledge to include a distinct digital component, which encompasses familiarity with digital platforms, comprehension of current privacy regulations, and an awareness of digital financial products. Most critically, DFL frameworks are differentiated by their strong, explicit emphasis on risk mitigation and self-protection (Uthaileang & Kiattisin, 2023). This component directly addresses the new vulnerabilities such as cyber fraud, data theft, and account hacking that define the modern consumer's financial reality.

Despite its critical and growing importance, the scholarly field of DFL is nascent and, by all accounts, fragmented. A significant problem, identified repeatedly in the literature, is that DFL lacks a standardized definition (Koskelainen et al., 2023). This conceptual ambiguity and fragmentation hamper the development of comprehensive strategies for education and consumer protection. Furthermore, the absence of such frameworks makes it difficult to conceptualize "how DFL is acquired and what its true determinants are."

The literature itself contains explicit calls for a comprehensive synthesis to address this fragmentation. Researchers strongly recommend that basic research on how to accelerate the theoretical framework, core elements, and evaluation indicators of digital financial literacy be prioritized (Xie & Chen, 2025). Recent studies (Zaimovic et al., 2023) have specifically highlighted the need for systematic reviews to provide comprehensive insights into the present state of Digital Financial Literacy.

This study answers that call. The proposed systematic review is designed to consolidate this fragmented and rapidly evolving field. Its primary aim is to synthesize the disparate conceptualizations of DFL to identify its core components. Following this, the review will analyze the dual function of DFL as it is presented in the literature: first, as a catalyst for promoting digital financial inclusion (DFI), and second, as a protective mechanism against the novel risks inherent in the digital financial ecosystem. By systematically synthesizing what is known, this review seeks to identify critical gaps and contradictions, culminating in a structured research agenda to guide future scholarly and policy work in this essential domain

METHODS

This review followed the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol to ensure transparent, reproducible literature selection.

Search Strategy

The Scopus database was searched in January 2025 using the query: TITLE-ABS-KEY ("digital financial literacy" OR "digital finance literacy" OR "e-financial literacy" OR "fintech literacy"). The search was restricted to peer-reviewed articles published between January 2020 and December 2025, yielding 166 initial records.

Selection Criteria and Screening

Inclusion criteria: (1) empirical studies operationalizing DFL as a variable; (2) published in English in indexed peer-reviewed journals; (3) 2020–2025. Exclusion criteria: (1) conceptual/theoretical papers without empirical data; (2) studies treating 'digital literacy' and 'financial literacy' as separate non-integrated constructs; (3) grey literature and conference abstracts. Two independent reviewers screened titles/abstracts, with a third reviewer resolving conflicts. Inter-rater reliability: Cohen's $\kappa = 0.84$.

PRISMA Flow

Records identified via Scopus: 166 → Duplicates removed: 32 → Records screened (title/abstract): 134 → Excluded at screening: 60 → Full-text articles sought: 74 → Not retrieved: 4 → Full-text assessed for eligibility: 70 → Excluded (ineligible): 20 → Final corpus: 50 studies.

Data Extraction and Analysis

Data were extracted on: study characteristics (year, country, journal), methodology (design, sample, instrument), DFL operationalization (definition, components, scale), and key findings. Analysis combined Integrative Literature Review (ILR) to synthesize themes with bibliometric mapping of publication trends, geographic distribution, and methodological patterns.

RESULTS AND DISCUSSION

The systematic search yielded 50 eligible studies published between 2020 and 2025. Table 1 presents the full corpus with key details condensed to author(s)/year, journal quartile, methodology, and primary findings.

Table 1. Summary of 50 Reviewed Studies on Digital Financial Literacy (2020-2025)

No.	Author(s) & Year	Journal (Q)	Methodology	Key Findings
1	Hasanul Banna (2025)	Journal of Islamic Monetary Economics and Finance (Q1)	Panel data (3,350 bank-year observations); Two-way clustering (CGM) estimation, 2SLS-IV, and PSM models.	DFI enhances conventional bank stability but has an insignificant/negative impact on Islamic banks. High financial literacy interacts positively with DFI for conventional banks but negatively for Islamic banks.
2	Umi Widayastuti, Dwi Kismayanti Respati, Titis Fatarina Mahfirah (2024)	Humanities and Social Sciences Letters (Q3)	Survey (185 households); Partial Least Squares - Multi-Group Analysis (PLS-MGA).	DFL has a significant positive association with DFI for both males and females. The impact appears more pronounced

				for females, but this gender difference was not statistically significant.
3	Kelmara Mendes Vieira, Taiane Keila Matheis, Eliete dos Reis Lehnhart (2024)	Journal of Risk and Financial Management (Q2)	Scale development: Qualitative (focus groups, expert validation, pre-test) & Quantitative (survey, n=775; EFA, CFA, SEM).	Constructs and validates a 33-item multidimensional Digital Financial Capability Scale (DFCS) with three dimensions: digital financial knowledge, behavior, and confidence.
4	Aysa Siddika, Abdullah Sarwar, Ridzwan Bin Bakar (2023)	Journal of System and Management Sciences (Q3)	Cross-sectional macro-level data analysis (43 countries); Principal Component Analysis (PCA) and OLS regression.	Formal financial account ownership has an inverse relationship with DFI (H1 supported). Receiving public/private wages and paying utilities digitally during the pandemic positively affected DFI. Financial literacy also had a positive impact (H7 supported).
5	Kelmara Mendes Vieira, Taiane Keila Matheis, Eliete dos Reis Lehnhart, Fernando Oliveira Tavares (2024)	International Journal of Financial Studies (Q2)	Scale development: 1) Literature review & focus group; 2) Expert validation & pre-test; 3) Online survey (n=775) analyzed with Item Response Theory (IRT).	Creates and validates a Digital Financial Knowledge Scale (DFKS) in two versions (long: 40 items; short: 26 items). Proposes a classification methodology (low, intermediate, high).
6	Serin Peter, Geetha Elangovan, Anju Gupta (2025)	Cogent Business & Management (Q2)	Survey (214 women entrepreneurs); Hayes PROCESS macro-model 8 (moderated mediation) and SEM.	Digital Financial Literacy (DFL) significantly influences Financial Inclusion (FI) (H1 supported). FI partially mediates the link between DFL and Firm Performance (H2 supported). Financial Behaviour negatively moderates the DFL-Performance relationship (H4 supported).
7	Mariana Buenestado-Fernández, María Soledad Ramírez-Montoya, Gerardo Ibarra-Vazquez, Azeneth Patiño (2023)	Citizenship, Social and Economics Education (Q2)	Qualitative study: 22 focus groups (200 young people); Deductive analysis using ATLAS.ti.	Young people perceive a need for digital financial education (concepts, apps, security). Some voluntarily exclude themselves from online finance due to fear or mistrust. A gap is evident between public (lower SES) and private institutions.
8	Natali Morgana Cassola, Kalinca Léia Becker, Kelmara Mendes Vieira, et al. (2025)	Journal of Risk and Financial Management (Q2)	Exploratory, qualitative study: 41 semi-structured interviews; Content analysis and descriptive statistics.	Most participants (60.98%) have intermediate DFL. They prefer digital apps for convenience but rarely use them for financial planning. Security concerns and digital exclusion of the elderly are major perceived risks.
9	Jargalmaa Amarsanaa, Trinh Xuan Thi Nguyen, Yu Kuramoto, Mostafa Saidur Rahim Khan, Yoshihiko Kadoya (2025)	Risks (Q2)	Large-scale survey data (n=94,695); Ordinal logistic regression and Probit regression.	Higher DFL is associated with lower old age anxiety. Practical DFL components (know-how, decision-making, self-protection) alleviate anxiety, whereas basic knowledge/awareness alone may exacerbate it.
10	Florentina Kurniasari, Elissa Dwi Lestari (2024)	Eastern-European Journal of Enterprise Technologies (Q3)	Quantitative survey (270 women entrepreneurs); SEM-PLS.	UTAUT factors (Effort Expectancy, Performance Expectancy, Social Influence) and Financial Literacy positively predict FinTech Adoption (H1-H4 supported). FinTech Adoption and Financial Literacy positively predict Business Performance (H5, H6 supported). FinTech Adoption mediates the FL-Performance link (H7 supported).
11	Bob Foster, Sukono, Muhamad Deni Johansyah (2022)	Sustainability (Q1)	Quantitative survey (550 respondents); Partial Least Squares Structural Equation Modeling (PLS-SEM).	Financial literacy, practicality, and consumer lifestyle all had a significant positive effect on the use of chip-based e-money (H1, H2, H3 supported). Financial literacy also positively influenced practicality (H4 supported), which in turn positively influenced lifestyle (H5 supported).

12	Yiing Jia Loke, Helen Siew Heng Lee, Phaik Nie Chin (2025)	Journal of Asian Business and Economic Studies (Q2)	Online survey (525 responses); Ordered logistic regression.	Financial knowledge (FK) strongly drives both intended and actual use of Digital Financial Services (DFS). DFL (awareness) is key for both, but DFL (risk control) is vital for actual use, while digital skills mainly influence intended use.
13	Soukaina Abdallah-Ou-Moussa, Martin Wynn, Omar Kharbouch (2025)	International Journal of Financial Studies (Q2)	Mixed-methods: quantitative survey (n=500) and qualitative expert interviews (n=15); SEM (UTAUT adapted).	Cryptocurrency adoption has a direct positive impact on financial inclusion (H1 supported). This relationship is mediated by financial literacy (H2 supported) and moderated by digital infrastructure (H3 supported).
14	Elvira Anna Graziano, Flaminia Musella, Gerardo Petroccione (2025)	EuroMed Journal of Business (Q2)	Online survey (836 responses); Structural Equation Modeling (SEM) with gender multigroup analysis.	Fear of COVID-19 (H1) and financial literacy (H2) directly and positively affected cashless payment use. Social media anxiety positively affected COVID-19 concerns (H3 supported). No significant gender differences were found.
15	Mohammed Rashid, Mushahid Ali Shamsi, Imran Anwar, Imran Saleem, Ali Thabit Yahya (2025)	Cogent Business & Management (Q2)	Online survey (720 usable responses); Structural Equation Modeling (SEM) extending TAM.	DFL positively influenced PU (H1a) and PEOU (H1b). Perceived Financial Risk negatively influenced PU (H2a). PEOU had a stronger effect on Attitude (H4) than PU (H3). Attitude strongly influenced Intention (H5).
16	Xiaoling Song, Xuan Qin, XiaoMeng Feng (2024)	Journal of Financial Regulation and Compliance (Q2)	Panel data (57 countries, 2011-2021); Spatial Durbin panel model (SDM).	Regulation quality (H3), technology (H2), and financial literacy (H1) significantly contribute to financial inclusion. There is also a positive spatial spillover effect from neighbors' financial literacy.
17	Alexandru Ursu, Petru L. Curşeu, Sabina R. Trif, Alina Maria Cociş (Fleştea) (2025)	Administrative Sciences (Q2)	Survey (133 entrepreneurs); Moderated mediation model (PROCESS macro) based on TRM.	Perceived opportunities mediate the link between financial literacy and crypto adoption intention (H3b supported). Perceived threats attenuate the positive link between financial literacy and intention (H4 supported). Women entrepreneurs reported lower adoption intention.
18	Gyung-Lan Kang, Cheol-Woo Park, Seung-Hwan Jang (2024)	Behavioral Sciences (Q2)	Survey (162 university students); Multiple regression and mediated regression analysis (Sobel test).	Digital capability positively influenced entrepreneurship (H3) and entrepreneurial intention (H4). Financial literacy positively influenced intention (H2). Entrepreneurship (spirit) mediates the link between capabilities/literacy and intention (H6, H7).
19	Yumei Xie, Taoke Chen (2025)	Sustainability (Q1)	Analysis of China Household Finance Survey (CHFS) 2019 data (n=27,267); OLS, IV, PSM, and Tobit models.	DFL significantly promotes household entrepreneurship (H1 supported) and increases entrepreneurial investment (H2 supported). The effect is stronger in rural/underdeveloped areas. Access to formal finance partially mediates this link (H3 supported).
20	Mohd Fairuz Adnan, Nurhazrina Mat Rahim, Norli Ali (2023)	Corporate Governance and Organizational Behavior Review (Q2)	Survey (183 university students); Partial Least Squares SEM (PLS-SEM).	Financial knowledge score (FKS) (H1 supported) and social media influence (SMI) (H7 supported) were the two significant positive predictors of DFL. Age (H4), gender (H3), program level (H2), and parental (H5)/peer (H6) influence were insignificant.
21	Lukas Purwoto, Christina Heti Tri Rahmawati, Trisnawati Rahayu, Eustachius	Journal of Women's Entrepreneurship and Education (N/A)	Cross-sectional survey (494 women entrepreneurs).	Investigates the influence of DFL on entrepreneurial resilience and how overconfidence moderates this relationship.

	Arlo Swami Abhedananda (2025)			
22	Deepak Mishra, Naveen Agarwal, Sanawi Sharahiley, Vinay Kandpal (2024)	Journal of Risk and Financial Management (Q2)	Quantitative analysis (survey).	Examines the impact of DFL on the financial decision-making of women.
23	Youngjoo Choung, Tae- Young Pak, Swarn Chatterjee (2025)	Behavioral Sciences (Q2)	Quantitative analysis (survey).	Explores the relationship between digital financial literacy and its broader well-being implications, specifically life satisfaction.
24	Guangshun Xu, Lin Feng, Wenzheng Wang, Qiaohui Liang (2024)	SAGE Open (Q2)	Panel data analysis (CHFS 2017 & 2019); Two-way fixed-effect panel model.	Increasing DFL within rural households decreases income inequality. This occurs by (1) enriching the variety of household financial assets and (2) increasing the probability of entrepreneurship.
25	Jihyung Han, Daekyun Ko (2025)	Sustainability (Q1)	Quantitative analysis based on Construal Level Theory and Dual Process Theory.	Examines how mobile financial services (MFS) usage influences financial behaviors (temporal trade-offs) and how financial literacy moderates this relationship.
26	Shamli Prabhakaran, Mynavathi L (2025)	Organizations and Markets in Emerging Economies (Q2)	Moderated mediation model (PROCESS macro) using a proprietary dataset.	Financial behaviour (FB) partially mediates the relationship between financial literacy (FL) and financial well- being (FWB). Fintech usage (FTU) negatively moderates the relationship between FL and FB.
27	Yasmeen Ansari, Mansour Saleh Albarrak, Sara Ali Alokley (2024)	Risk Governance & Control: Financial Markets & Institutions (Q4)	Quantitative survey.	Examines factors influencing financial literacy among university youth, finding significant impacts from parents' education, study specialization, and financial socialization.
28	Noemi Oggero, Maria Cristina Rossi, Elisa Ughetto (2020)	Small Business Economics (Q1)	Analysis of Bank of Italy SHIW dataset (2008 & 2010).	Financial literacy and digital skills are positively and significantly correlated with the probability of being an entrepreneur, but only for men.
29	Yue Yu, Wenjing Li, Huarong Li, Shuming Luo, Yan Liu (2025)	Sustainability (Q1)	Analysis of China Household Finance Survey (CHFS) 2019 data (34,643 households).	Investigates the impact of digital financial literacy on rural household income and its mechanisms of action.
30	Afroze Nazneen (2024)	Journal of Infrastructure, Policy and Development (Q2)	Survey (183 individuals); Correlation and regression analysis.	Finds strong positive correlations between financial literacy and financial well-being. FL positively impacts risk management, financial behavior, financial contentment, and financial confidence.
31	Amitabh Patnaik, Pallavi Kudal, Sunny Dawar, Varada Inamdar, Prince Dawar (2023)	International Journal of Service Science, Management, Engineering, and Technology (N/A)	Analysis of user data using Structural Equation Modeling (SEM) based on an extended TAM.	Analyzes factors influencing perceived usefulness, behavioral intention, and actual usage of digital payments, including Financial Literacy, Trust and Privacy, Service Quality, and Perceived Ease of Use.
32	Nafis Sadik, Md. Mominur Rahman (2024)	Journal of Risk Analysis and Crisis Response (N/A)	Survey data (340 DFS users); Structural Equation Modeling (SEM) and Artificial Neural Network (ANN) approaches.	Financial literacy, trust, access to capital, digital payment usage, and digital financial inclusion are significant factors driving DFS adoption. Financial literacy was identified as the most influential factor.
33	Stephanie Efua Frimpong, Gloria Agyapong, Daniel Agyapong (2022)	Cogent Economics & Finance (Q2)	Quantitative analysis.	Examines the relationship between financial literacy, access to digital finance, and SME performance. Also analyzes SMEs' digital platform knowledge and utilization.

34	Mohanamani Palanisamy, Maria Tresita Paul Vincent, Md Billal Hossain (2025)	Journal of Risk and Financial Management (Q2)	Quantitative research design (survey) based on Innovation Diffusion Theory.	Explores the influence of financial literacy on the behavioral intention to use central banks' digital currency (CBDC) and the moderating role of trust in financial institutions.
35	Albert Mothey, Pramesh Chettri, Rasik Chhetri (2024)	RGSA – Revista de Gestão Social e Ambiental (Q3)	Survey (structured questionnaire) using convenience sampling.	Investigates the perception of online banking services and the intention to participate in electronic banking, highlighting the role of financial literacy in the digitalization of banks.
36	Anju Gupta, Shekhar Mishra, Deepak Kumar Behera, Abhilash Abhilash (2025)	Investment Management and Financial Innovations (Q2)	Quantitative analysis.	Investigates the influence of financial advice-seeking behavior and financial literacy on financial well-being in the digital era.
37	Laith Abdallah Aryan, Alaa Alsharif, Enass Khalil Alquqa, et al. (2024)	International Journal of Data and Network Science (Q2)	Quantitative analysis (survey).	Examines how digital financial literacy influences the financial behavior of millennials.
38	Xiaohong Xiao, Mei Yu, Hai Liu, Qing Zhao (2022)	Sustainability (Q1)	Quantitative analysis.	Investigates how financial literacy contributes to both the willingness (intention) and the actual behavior of digital entrepreneurship among villagers.
39	Dwi Kismayanti Respati, Umi Widyastuti, Tutty Nuryati, et al. (2023)	Nurture (N/A)	Quantitative survey; Structural Equation Modeling (SEM-PLS) using Smart-PLS.	Measures how DFL and financial confidence influence both the financial behavior and financial well-being of university students.
40	Suria Abu Basar, Noor Ayuernie Ibrahim, Fazilah Tamsir, et al. (2024)	International Journal of Economics and Financial Issues (Q4)	Quantitative survey (1,394 responses); PLS-SEM and mediation analysis.	Financial literacy and digital financial literacy have a positive and significant impact on i-FinTech (Islamic FinTech) adoption. i-FinTech adoption, in turn, promotes sustainable entrepreneurship and mediates the literacy-entrepreneurship link.
41	Justita Dura, Ditya Wardana (2024)	Population and Economics (Q2)	Survey (392 participants); PLS-SEM.	Digital financial literacy (DFL) has a significant positive impact on financial well-being (FWB). Financial self-efficacy (FSE) also positively impacts FWB. FSE moderates the relationship between DFL and FWB.
42	Adam Nurkholik (2024)	Revista Mexicana de Economía y Finanzas, Nueva Época (REMEF) (Q4)	Quantitative survey (396 responses); PLS-SEM analysis.	Digital financial literacy (DFL) has a significant positive effect on digital financial behavior (DFB) and financial security. DFB was found to be a partial mediator.
43	Neha Dhyani, R. K. Singh (2023)	Cogent Business & Management (Q2)	Survey (600 rural households); Structural Equation Modeling (SEM) and mediation analysis (PROCESS macro).	Financial literacy (FL) and financial inclusion (FI) both positively impact socioeconomic empowerment (SEE). Financial inclusion partially mediates the relationship between financial literacy and socioeconomic empowerment.
44	Nurhazrina Mat Rahim, Norli Ali, Mohd Fairuz Adnan (2022)	Journal of Finance and Banking Review (N/A)	Survey (183 university students); PLS-SEM.	Financial Knowledge Score (FKS) and Social Media Influence (SMI) are significant positive predictors of Digital Financial Literacy (DFL). Parental, peer, gender, age, and program level factors were found to be insignificant.
45	Mohsin Showkat, Razia Nagina, Muzamil Ahmad Baba & Ali Thabit Yahya (2024)	Cogent Economics & Finance (Q2)	Quantitative (PLS-SEM). A survey methodology (grounded in extended TAM and TPB theories)	Financial Literacy (FL) positively impacts the adoption of Digital Financial Services (DFS). Both FL and DFS have a significant positive impact on Women's Economic Empowerment (EEW). DFS was found to

				be a significant mediator in the relationship between FL and EEW
46	Muhammad Hasan, Ericha Tiara Hutamy, Tuti Supatminingsih, Muhammad Ihsan Said Ahmad, Nur Aeni & Akhtem A. Dzhelilov (2024)	Cogent Education (Q2)	Quantitative (PLS-SEM). A questionnaire to 700 students.	Entrepreneurship education positively affects entrepreneurial readiness, digital business literacy, and financial literacy. Both digital business literacy and financial literacy were found to mediate the relationship between entrepreneurship education and entrepreneurial readiness.
47	Nkosinathi Prince Jali, Celani John Nyide, Lesley June Stainbank (2023)	Academic Journal of Interdisciplinary Studies (Q2)	Quantitative. A survey questionnaire to 246 teachers.	Financial literacy challenges have a weak negative correlation with positive financial behaviour . Financial literacy skills have a strong positive correlation with positive financial behaviour . Financial technology knowledge has a weak positive correlation with positive financial behaviour .
48	Laela Sagita, Niken Wahyu Utami, Nendra Mursetya Somasih Dwipa, Bintang Wicaksono (2025)	Journal on Mathematics Education (Q3)	Qualitative. An exploratory methodology was used, conducting in-depth interviews with 3 participants.	Students (10-12 years old) are familiar with foreign currencies, cash vs. digital payments (e.g., QRIS, GoPay), and saving habits. They understand risks of sharing data but find complex topics like insurance or regulatory frameworks developmentally inappropriate.
49	Ratnawati, M. Taufiq Noor Rokhman, Ayu Agus Tya Ningsih (2025)	Problems and Perspectives in Management (Q2)	Quantitative (SEM). A sample of 236 SMEs was selected using proportional sampling.	Financial literacy and financial well-being positively affect business sustainability. Financial well-being mediates the relationship between financial literacy and business sustainability. Digital financial inclusion moderates the relationship between financial well-being and business sustainability.
50	Sumeet Lal, Aliyu Ali Bawalle, Mostafa Saidur Rahim Khan, Yoshihiko Kadoya (2025)	Risks (Q2)	Large-scale survey data (94,695 investors); Ordered probit regression.	DFL is positively associated with being male, younger, having higher education, higher income/assets, and better traditional financial literacy. Being married, having children, and being risk-averse are negatively associated with DFL.

Bibliometric Analysis

The literature exhibits rapid growth: 74% of the 50 studies were published in 2024–2025 alone (2024: 38%; 2025: 36%), confirming DFL as an emergent scholarly domain. Geographically, developing economies dominate: Indonesia (14%), India (10%), China (8%), and Brazil (8%) collectively account for 40% of studies, creating a "developing economy echo chamber" that limits generalizability to other contexts.

Methodologically, the field demonstrates striking homogeneity. A combined 52% of studies explicitly used SEM/PLS-SEM or related regression/mediation models, almost exclusively relying on self-reported survey data. In stark contrast, the corpus contains only 3 purely qualitative studies and 1 mixed-methods study. Longitudinal and experimental designs are entirely absent. This methodological concentration confirms that the field is currently in a state of model validation, not conceptual exploration—proficient at confirming pre-specified linear relationships but ill-equipped to establish causation.

Table 2. Descriptive Characteristics of the DFL Literature (N=50)

Category	Sub-Category	Frequency	Percentage
Publication Year	2025	18	36%
	2024	19	38%
	2023	6	12%
	2022	5	10%

	2021	1	2%
	2020	1	2%
Geographical Focus	Indonesia	7	14%
	India	5	10%
	China	4	8%
	Brazil	4	8%
	Malaysia	3	6%
	Japan	2	4%
	South Korea	2	4%
	Morocco	2	4%
	Italy	2	4%
	South Africa	2	4%
	Saudi Arabia	2	4%
	Other Single Country	4	8%
	Multi-Country / General	3	6%
Methodology	Survey / Quantitative Analysis	12	24%
	PLS-SEM / SEM-PLS	8	16%
	Structural Equation Modeling (SEM)	6	12%
	Scale Development (EFA/CFA/IRT)	3	6%
	Panel Data Analysis	3	6%
	Qualitative (Focus Groups/Interviews)	3	6%
	Ordinal / Probit / Regression	3	6%
	Moderated Mediation (PROCESS)	2	4%
	Analysis of Large Survey Data	3	6%
	Mixed-Methods	1	2%
	Other / Not Specified	6	12%

Thematic Synthesis: DFL Conceptualizations

A critical conceptual ambiguity pervades the corpus. The field is fragmented between studies measuring DFL simply as knowledge, studies measuring it as a three-part capability (knowledge, behavior, confidence), and more nuanced studies distinguishing awareness vs. risk-control, or basic vs. practical/self-protection components. This fragmentation creates a severe measurement problem. The most notable finding—a 'smoking gun'—is that basic DFL increases anxiety while the self-protection component decreases it. Studies using a unified DFL score likely commit a major aggregation error, masking the potentially opposing effects of different components. Four core components were synthesized from the corpus (Table 3).

Table 3. Synthesis of DFL Conceptualizations and Measurement (N=50)

Component	Synthesized Definition	Key Measurement Studies
Digital Financial Knowledge	Awareness and understanding of digital financial concepts, products, platforms, and regulations.	DFKS (Digital Financial Knowledge Scale): Validated 40-item and 26-item scales. DFL Awareness: identified as key driver of intended DFS use.
Digital Financial Behavior	Application of knowledge; ability to perform positive financial behaviors (planning, transacting) effectively using digital tools.	DFCS (Digital Financial Capability Scale): includes 'digital financial behavior' as core dimension. DFB identified as distinct outcome variable positively predicted by DFL.
Digital Financial Confidence	The psychological component; individual self-efficacy, trust, and attitude regarding ability to navigate the digital financial ecosystem.	DFCS (Digital Financial Capability Scale): includes 'digital financial confidence' as core dimension.
Risk & Self-Protection	The critical differentiator; knowledge and skills to mitigate digital-era risks (fraud, data theft, scams) and protect oneself.	DFL Risk Control: vital component for actual (vs. intended) DFS use. Practical DFL (Self-Protection): alleviates anxiety, whereas basic knowledge alone may exacerbate it.

Integrative Analysis: DFL's Dual Function

The corpus reveals that DFL performs two distinct but interdependent functions. As a catalyst, DFL is the most heavily documented function: it positively determines financial inclusion, FinTech adoption, entrepreneurship (particularly for rural and vulnerable populations), women's economic empowerment, and financial well-being. As a protective shield, DFL mitigates the psychological barriers—fear, mistrust, security concerns, and perceived risk—that prevent participation in digital finance.

Critically, the review proposes that these two functions are sequential, not parallel. The protective function appears to be a prerequisite: Risk/Self-Protection DFL must first build trust and alleviate anxiety before the Catalyst function can promote adoption. This points to a new causal model: Protection → Trust → Adoption → Well-Being. This sequential model—not yet explicitly articulated in any single study—challenges the widespread assumption that DFL is a uniformly positive linear driver of well-being (Table 4).

Table 4. Synthesis of DFL Outcomes (The Dual Function)

Function	Thematic Outcome	Key Findings (N=50)
DFL as a CATALYST	1. Drives DFI & Adoption	Positively associated with Digital Financial Inclusion (DFI). Key factor in adoption of DFS, e-wallets, e-money, and i-FinTech. Drives adoption by positively influencing Perceived Usefulness and Ease of Use.
	2. Enhances Entrepreneurship	"Significantly promotes household entrepreneurship." "Increases the probability of entrepreneurship" in rural households. DFL-driven inclusion mediates Firm Performance.
	3. Enables Economic Empowerment	DFL and DFS are significant mediators for Women's Economic Empowerment. Positively impacts socioeconomic empowerment in rural areas.
	4. Improves Financial Well-Being	"Significant positive impact on financial well-being (FWB)." Positively affects financial security mediated by digital financial behavior. Positively related to "life satisfaction".
DFL as a PROTECTIVE SHIELD	1. Mitigates Anxiety & Fear	"Higher DFL is associated with lower old age anxiety." The self-protection component specifically "alleviates anxiety". Directly counters "fear or mistrust" leading to "voluntary exclusion".
	2. Overcomes Risk Perceptions	Addresses "security concerns," a "major perceived risk" for adoption. Counters "Perceived Financial Risk," a negative influence on adoption.
	3. Enables Actual Use (vs. Intention)	The "DFL (risk control)" component is "vital for actual use of DFS". Provides awareness of "risks of sharing data".

An Agenda for Future Research

First, the study proposes a conceptual and measurement agenda to address the conceptual ambiguity and measurement problem identified earlier. The field currently lacks a consensus definition of DFL, and evidence suggests its core components, such as basic knowledge versus self-protection, may have opposing effects on user outcomes. To resolve this, it needed a call for a global, multi-stakeholder effort by academics, policymakers, and industry leaders to develop a consensus, multi-dimensional definition of DFL that explicitly incorporates the four identified components: Knowledge, Behavior, Confidence, and Risk/Protection. Consequently, future quantitative studies must stop using a single, aggregated DFL variable. This study urges researchers to mandate component-level analysis to test precisely which components drive which outcomes. Finally, the field must move beyond its reliance on self-reported surveys to develop and deploy objective, performance-based measures of DFL, such as scenario-based tests, simulations of fraud identification, or analysis of actual user-behavior data.

Second, a methodological agenda is required to overcome the methodological homogeneity that limits the field. The literature is overwhelmingly dominated by cross-sectional, self-report, SEM-based studies, which can only establish correlation, not causation. To move forward, we prioritize three avenues. There is a critical need for qualitative and mixed-methods studies to understand the "why" behind the "what,"

exploring the lived experiences of DFL, including the "fear," "mistrust," and "security concerns" that drive non-adoption. In parallel, longitudinal panel studies are urgently needed to track the co-evolution of DFL, FinTech adoption, and financial well-being over time, as this is the only way to establish causal direction. The gold standard for the field, however, would be the implementation of experimental designs. Randomized Controlled Trials (RCTs) are necessary to test the causal impact of specific DFL educational interventions, for example, comparing a "risk/protection" module versus a basic knowledge module, on subsequent financial behavior and well-being.

Third, the study proposes a thematic agenda to fill the critical "blind spots" in the literature. Current research is heavily focused on students and entrepreneurs, primarily in developing economies. Targeted research is required on the DFL needs of vulnerable populations, particularly the elderly, who are identified as being at risk but are not the focus of any study in our sample, as well as rural and remote populations. Thematic research must also address emerging technologies; while studies on e-wallets are common, they are already becoming dated. We urgently need DFL research tailored to emerging, high-risk products such as Cryptocurrencies, Decentralized Finance (DeFi), and Central Bank Digital Currencies (CBDCs). Furthermore, future work must investigate the "dark side" of digital finance, addressing the positive or negative impact of social media influence and the role of finfluencers (Financial Influencers). Finally, a glaring thematic gap exists in connecting DFL to sustainability. Despite many articles being published in sustainability-related journals, none explicitly explore DFL's role in promoting sustainable or green finance behaviors, such as the adoption of ESG-aligned investments.

Finally, a contextual agenda is needed to break the "developing economy echo chamber" that limits the generalizability of all findings. The dominant DFL narrative is currently one of "inclusion." To broaden this, we call for large-scale, cross-country comparative studies that test how DFL's function and impact are moderated by institutional context, such as regulatory quality, national digital infrastructure, or the presence of a dual-banking system. Concurrently, we need studies that explicitly focus on DFL's role in developed economies. This would critically shift the central research question from "inclusion" to "protection", for instance, examining DFL as a tool to protect citizens against the over-indebtedness from "Buy Now, Pay Later" (BNPL) services, sophisticated investment scams, and the complex risks of DeFi.

CONCLUSION

This systematic review synthesizes the nascent, rapidly accelerating, and highly fragmented field of Digital Financial Literacy (DFL). The analysis of 50 articles reveals a field with an overwhelming 74% of publications emerging in 2024 and 2025 alone. This concurrent publication velocity has created significant conceptual ambiguity, preventing the formation of a consensus definition. The research is further characterized by a striking methodological homogeneity, overwhelmingly dominated by quantitative, cross-sectional SEM models (52% of the sample) that can only establish correlation, not causation. This quantitative dominance is matched by a geographical skew, creating a developing economy echo chamber. With a heavy focus on contexts like Indonesia, India, China, and Brazil, the current DFL narrative is primarily one of promoting financial inclusion and entrepreneurship, limiting the generalizability of its findings.

The review's primary contribution is a thematic synthesis that deconstructs DFL's components and reframes its core functions. The analysis finds a critical conceptual fragmentation where studies commit a potential aggregation error by failing to distinguish between DFL's four key components: Knowledge, Behavior, Confidence, and the crucial differentiator, Risk/Self-Protection. This is most evident in the "smoking gun" finding that basic knowledge may increase anxiety, while the self-protection component alleviates it. Building on this, the review proposes a new causal model for DFL's dual functions. While most literature documents DFL as a catalyst that promotes inclusion, adoption, and entrepreneurship, this paper argues that its protective shield function is a prerequisite. This protective component mitigates the "fear or mistrust", "security concerns", and anxiety that act as primary barriers to adoption. Therefore, the paper posits a sequential model where protection enables trust, which in turn catalyzes adoption and well-being. Finally, the study sets a comprehensive research agenda, calling for a consensus definition, a methodological shift

toward qualitative and longitudinal (RCT) studies to establish causation, and a thematic expansion to fill blind spots such as vulnerable populations (e.g., the elderly), emerging high-risk products like DeFi, and the role of influencers.

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