

Digital Financial Literacy: Emerging New Dimensions in the Digital Economy Era

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ABSTRACT: In today's increasingly digitalized economy, financial activities are rapidly shifting toward online platforms, making digital competence essential for everyday financial decision-making. This study examines the evolving concept of Digital Financial Literacy (DFL) through a systematic review of 237 journal articles and nine expert interviews conducted across academia, industry, and government. The findings show that DFL extends beyond financial knowledge and technical competence to include knowledge, skills, behavior, and attitude, all of which influence individuals' ability to navigate digital finance. The analysis identifies regional disparities in cybersecurity awareness and fintech adoption, as well as behavioral challenges such as impulsive digital spending, social media influence, and limited understanding of online financial contracts. The study introduces an integrated DFL framework that combines insights from behavioral finance and digital regulation theory, highlighting the psychological, cognitive, and institutional factors shaping digital financial behavior. The framework offers practical guidance for policymakers, educators, and financial institutions to design inclusive and trust-based interventions that enhance digital financial competence and promote secure participation in the digital economy.

Keywords: digital financial literacy, digital finance, digital finance framework, financial literacy, digital literacy.

I. INTRODUCTION

Digital Financial Literacy (DFL) refers to an individual's ability to understand and effectively use digital financial services. It encompasses four key elements: knowledge, skills, behavior, and attitudes, which enable users to navigate digital transactions safely and responsibly. As financial technology, online banking, and Decentralized Finance (DeFi) become part of everyday life, DFL has become essential for managing personal finances in a secure and informed way. However, as digital finance becomes increasingly pervasive, users face growing exposure to cybersecurity risks, data breaches, and psychological vulnerabilities, such as overconfidence, impulsivity, and digital fatigue, which can influence their financial decision-making. Navigating this complex ecosystem requires a level of expertise beyond technical knowledge and extends to an understanding of security considerations, ethical financial practices, and psychological factors that guide financial decision-making [1, 2].

Despite the growing importance of digital financial literacy, existing research continues to focus primarily on traditional aspects of financial literacy, such as basic financial knowledge, transactional capability, and risk literacy, while overlooking the broader psychological, motivational, and contextual factors that shape how individuals engage with digital finance. This limited perspective has led to critical gaps in addressing users' psychological resilience and cybersecurity awareness two determinants increasingly recognized as

central to sustainable digital financial behavior. Traditional financial education models, which were developed for conventional financial markets, have not adequately adapted to emerging financial technologies. Consequently, a substantial gap remains in understanding how digital financial competencies are formed and exercised across different socio-economic and cultural contexts [3, 4]. Moreover, current studies lack a unified conceptualization of digital financial literacy and often fail to incorporate behavioral and contextual drivers such as self-motivation, intent, access to information, and financial education in explaining financial behavior [5]. This conceptual fragmentation highlights the need for a more comprehensive and systematic framework that better reflects the realities of financial engagement in digital environments.

In response to these gaps, this paper reviews the conceptualization and development of digital financial literacy in academic literature over the past decade. It examines the dimensions identified by researchers, explores how these dimensions have been operationalized and measured across different studies and regions, and highlights inconsistencies that hinder a cohesive understanding of the concept. Drawing on insights from both academic and professional perspectives, the study proposes a more integrative definition of digital financial literacy that extends beyond traditional paradigms and encompasses the psychological, cognitive, and systemic aspects of financial decision-making in the digital era. The primary objective of this study is to systematically review, synthesize existing literature, and do the interview to establish a comprehensive and integrative framework of digital financial literacy that reflects its multidimensional nature. Specifically, the study aims to identify conceptual gaps, evaluate cross-regional variations in measurement, and integrate expert perspectives to enrich and expand the understanding of digital financial literacy.

This study is guided by several research questions to achieve these objectives: 1) How has digital financial literacy been defined and conceptualized in the literature over the past decade? 2) What dimensions have been identified in previous research related to digital financial literacy? 3) How have these dimensions been operationalized and measured in different research contexts and geographical regions? 4) What are the existing research gaps in the literature that can serve as a foundation for future studies? 5) How can expert perspectives enrich the understanding of emerging dimensions in digital financial literacy? It looks at how digital financial literacy has been defined and conceptualized in literature over the last 10 years, what dimensions it has been identified and in what ways they have been operationalized and measured in various settings. In addition, it also examines the research gaps in the existing body of literature and explores how expert views can complement the understanding of new dimensions of digital financial literacy.

This study makes theoretical and practical contributions by systematically reviewing the literature and incorporating expert insights. Theoretically, it advances existing frameworks by integrating motivational, cognitive, and contextual factors that have been underexplored in previous research [6]. From a practical perspective, it provides insights for policymakers, financial institutions, and educators on strategies to enhance digital financial literacy through targeted financial education programs, online learning initiatives, and FinTech awareness campaigns [7]. In addition, the study presents policy lessons that could be helpful in enhancing digital financial literacy and consumer protection, ensuring that individuals from different socio-economic groups can successfully engage with digital financial ecosystems.

Based on the Systematic Literature Review (SLR) approach, the present study aims to leverage existing knowledge on digital financial literacy and suggest new dimensions that may be used to answer the research questions. Moreover, the findings of this study are justified by the Expert Critical Review as a next step to conceptualize digital financial literacy to incorporate the quickly evolving challenges and new financial behaviors [8]. An analytical exercise to examine the operationalization and measurement of the digital financial literacy dimensions across regions using a matrix table to compare the conceptualization across continents is also provided. While the review covers multiple regions, particular attention is given to Indonesia as a representative Organization for Economic Co-operation and Development (OECD) aspirant nation with rapid digital adoption but uneven financial inclusion. Indonesia had the uniqueness with higher level of financial inclusion that financial literacy compared to other countries. This focus enables deeper insights into how emerging economies undergoing similar socio-economic transitions can develop effective

digital financial literacy frameworks. This research approach allows cross-regional comparisons of the establishment of digital financial literacy frameworks in socio-economic and technological contexts.

These are some of the new dimensions and views this work provides to online financial literacy. It is not strictly based on unchangeable models of financial literacy, but rather on the relevance of psychological, cognitive, and systemic predictors of the financial decision-making process. With the rise of digital financial technology, an increasing number of people are interested in reading more about these areas to create specific interventions that can enhance financial literacy, reduce the effects of digital financial inequality, and improve financial well-being [9]. This study adds to the financial literacy discussion through an introduction to behavioral science and digital finance and a background to further studies on how people use digital financial services and products. To practitioners such as policymakers and financial service providers, it provides insights into how to design more inclusive, targeted interventions that can help mitigate thinking barriers and support long-term financial resilience. At the societal level, it helps to minimize digital financial exclusion by providing knowledge and skills to access digital financial systems to the intended recipients, especially the vulnerable segments. The research contributes to making better financial decisions through filling a theoretical gap and closing a practical one to enable economic stability and inclusive digital financial ecosystems.

II. LITERATURE REVIEW

1. DIGITAL FINANCIAL LITERACY FRAMEWORK

Despite the growing academic interest in DFL, a universally accepted framework has yet to be established, as most existing studies present only partial or fragmented conceptualizations of the topic. This study builds on previous research by proposing a multidimensional approach to DFL, integrating key dimensions essential for financial resilience in the digital era. As outlined in Table 1, the framework consists of five core dimensions: (1) financial knowledge, (2) digital literacy, (3) awareness of digital financial services, (4) practical know-how, and (5) self-protection against financial fraud.

Table 1. DFL Multidimensional framework [10].

Dimension	Subdimensions	Indicators
Basic knowledge and skills	Basic financial knowledge	<ul style="list-style-type: none"> ● Numeracy ● Compound interest (2 items) ● Inflation ● Risk diversification
	Basic digital knowledge	<ul style="list-style-type: none"> ● Basic knowledge of hardware (mobile phone, computer, tablet) <ul style="list-style-type: none"> ○ Turning on/off and charging devices ○ Locking devices ● Basic knowledge of software <ul style="list-style-type: none"> ○ Creating user account, managing password, and logging in ○ Using privacy settings
Awareness (the knowing about)	Awareness of available DFS	<ul style="list-style-type: none"> ● Knowing about existing providers of DFS ● Knowing about the specific purpose and usage of available DFS (digital payment, saving, lending, and remittance)
	Awareness of positive financial attitudes and behaviors	<ul style="list-style-type: none"> ● Knowing about the biases (present bias and other cognitive biases, etc.) that affect decision-making, and the benefits of long-term planning ● Knowing about the risks of borrowing (over indebtedness, abusive and predatory lending practices) ● Knowing where to seek financial information and advice

Dimension	Subdimensions	Indicators
Practical know-how (the knowing how)	Practical know-how of operating DFS applications	<ul style="list-style-type: none"> Knowing about positive financial behaviors (budgeting, saving, preparing for emergencies and retirement, responsible borrowing) Knowing how to open an account on DFS applications or platforms Knowing how to navigate DFS menu Knowing how to initiate and complete a transaction Knowing how to correct errors and cancel a transaction
		<ul style="list-style-type: none"> Managing day-to-day finances while setting future goals Preparing for emergencies and retirement Deciding to put money aside and save Making prudent and responsible borrowing decisions Sending remittances through reliable channels
Decision-making (attitudes & behaviors)	Positive financial attitudes	<ul style="list-style-type: none"> Ability to select appropriate DFS for specific purpose (savings, remittances, borrowing) Ability to select reliable DFS providers
	Positive financial behaviors through DFS	<ul style="list-style-type: none"> Ability to understand the terms and conditions related to DFS and avoid deceptive practices (for example, unclear or unfair disclosure of fees, overcharging, subscription traps) Ability to detect scams and frauds associated with DFS (for example, identity & credential theft, malware, phishing attacks) and avoid their trap to protect data and financial resources
Self-protection	Self-protection from online scams and frauds	

Financial literacy refers to skills related to budgeting, saving, and investment [11], whereas digital literacy pertains to the ability to access and use digital platforms and financial technologies [12]. Digital financial literacy is the ability for individuals to recognize and use digital payment services, digital lending services, and digital remittance services [13]. Practical know-how involves managing digital transactions, financial planning tools, and fintech applications [14]. Lastly, self-protection focuses on recognizing financial fraud risks and implementing cybersecurity measures to safeguard digital assets [15]. As noted in Table 1, these dimensions are further broken down into measurable indicators related to financial literacy, digital service provider awareness, operational DFS skills and fraud prevention capabilities.

Beyond these core dimensions, behavioral and socio-economic factors shape digital financial literacy. Psychological aspects, such as financial confidence, risk perception, and trust in digital systems, influence financial decision-making [16], while socio-economic factors, including income level, education, and digital access, affect financial engagement [17]. Any intervention in education programs and policy must incorporate these cognitive and contextual elements as the financial ecosystem changes. If enhanced, these dimensions contribute to financial resilience, responsible digital financial participation, and overall financial inclusion [18]. This paper adds to the fragmented e-literacy literature on financial inclusion by offering a systematic framework that provides an empirical foundation and practical implications for financial education programs and policies.

2. PREVIOUS RESEARCH

Most DFL research to date has focused on its association with financial behavior, financial inclusion and digital security. In fact, there have been several systematic reviews that have linked DFL to financial decision-making and, self-efficacy, and advisability of using digital financial products [19]. The role of social media in digital financial literacy has been debated; online platforms appear to be successful in increasing awareness and participation in financial decision making [20]. Further, recent literature has noted that DFL is vital for protecting individuals from digital financial fraud and scams - which reinforces DFL's key role in financial resilience [21]. But beyond such observations, the current literature continues to suffer a lack of

consensus regarding the definition and the complete measurement of DFL across all population groups and in all socio-economic contexts [22]. Further, the impact of formal and informal learning on the formation of digital financial literacy has not yet been explored sufficiently [23].

More research has been conducted to examine the effect of digital financial literacy on financial inclusion, especially in emerging economies. In this study, it has been proven that the increase of DFL also leads to finding individuals who prefer to adopt digital banking services, mobile application payments, and fintech applications, to achieve a better economic participation result [21]. However, there is a digital divide between people with lower incomes and the older generation who lack education and infrastructure to access digital financial products [24]. Other research indicates that DFL also correlates with investment behavior-investor accounts for digitally literate individuals demonstrate above average risk analysis and financial planning skills [25]. Further, there have been studies around the gender gap in eFinancial literacy to understand whether the eFinancial literacy gap reflects women's disadvantage in relation to the availability of digital financial services, while most of them are involved in the rural market [26]. Table 2 summarizes the key findings from prior research on digital financial literacy.

Table 2. Previous research on digital financial literacy.

Author	Focus Area	Key Findings
[19]	DFL and Financial Behavior	DFL enhances financial decision-making, self-efficacy, and confidence in digital transactions.
[20]	Role of social media	Social media contributes to financial awareness and engagement in digital finance.
[21]	Digital Financial Fraud	DFL is crucial in protecting individuals from fraud and scams in digital transactions.
[22]	Measurement Challenges	No widely accepted framework exists for measuring DFL across different populations.
[24]	Digital Financial Inclusion	Higher DFL levels increase fintech adoption, but disparities remain for low-income and older populations.
[25]	Investment Behavior	DFL enhances risk assessment, investment decision-making, and financial planning skills.
[26]	Gender and DFL	Women in rural areas face greater challenges in accessing digital financial services.
[48]	Digital Wage Payments	Transitioning to digital wage payments improves trust in banking, savings behavior, and financial resilience among workers.
[47]	Global Financial Inclusion	Digital financial services have significantly increased global financial inclusion, especially through mobile money accounts in developing countries.
[49]	Importance of Financial Literacy	Financial literacy is crucial for effective financial decision-making and wealth accumulation, highlighting the need for comprehensive financial education.

Author	Focus Area	Key Findings
[50]	Educational Tools for Financial Literacy	Interactive digital tools and narratives can effectively improve financial literacy and decision-making among adults.
[51]	Financial Inclusion in Developing Economies	Technology plays a vital role in promoting financial inclusion in developing countries, enabling access to financial services for previously excluded populations.
[52]	Financial Inclusion and Bank Stability	There is a robust positive association between financial inclusion and bank stability, with higher inclusion leading to more stable banking systems.
[53]	Effectiveness of Financial Inclusion Programs	Financial inclusion programs have mixed effects on economic and social outcomes; savings-oriented programs show more consistent positive impacts than credit-focused ones.

A significant research gap exists in understanding the intersection between digital financial literacy and financial behavior, extending beyond transactional knowledge. While many studies acknowledge the role of DFL in shaping financial habits, few have explored how psychological biases and social influences mediate these effects [19]. Thus, there has been little research into how digital financial literacy policies contribute to bridging the gap in access between vulnerable populations like the elderly and persons with disability [21]. Another limitation is the lack of longitudinal studies to gauge the change of digital financial literacy over time and to quantify its long-term impact on material wellbeing [23]. Furthermore, empirical evidence on the impact of digital financial education interventions, such as Mobile-based learning programs [12] or AI-based financial education products [26], is lacking. In addition, there is already a scattered and merely theoretical existing body of literature on the dimension of digital financial literacy, and a clear and unified agreement about standardization of digital financial literacy using the same criteria has not been established so far [22, 24]. Contextual variations in these asymmetries result in inconsistent measurement approaches across studies, hindering the comparability and transferability of findings. Filling in these gaps is essential to creating a rigorous digital financial literacy framework that provides equitable access to financial tools and services [18].

III. METHODOLOGY

1. RESEARCH APPROACH

In this research, a SLR was used along with the expert interview (Qualitative to synthesize available literature on digital financial literacy, focusing on its conceptualization, measurement, and effectiveness under different demographic and socio-economic conditions [22]. The SLR method makes it possible to undertake the systematization of locating, assessing, along with the synthesizing the appropriate literature in databases of academic studies to gain the complete understanding of the trends, gaps, and emerging issues of research on digital financial literacy [19]. Second step, qualitative research by interview gets the information, which is also used to construct improvements on the background footage and minimize the conceptual frameworks based on plausible and option perspectives [24]. An overview (thematic) examines what digital financial literacy is (or how it functions/operationalization)/ how it works best (or worst) in different places [25]. Through systemic and qualitative-based studies, all elements of the paper have carried out a comprehensive evaluation of the concept of digital financial literacy as an approach to creating knowledgeable recommendations and education interventions [26]. The SLR process followed the PRISMA

framework, involving four main steps: identification, screening, eligibility assessment, and inclusion. In total, 237 eligible studies were systematically reviewed and coded to extract definitions, dimensions, and measurement indicators of digital financial literacy. The themes derived from these studies informed the development of the conceptual framework and guided the subsequent expert interviews.

2. DATA COLLECTION

A SLR was conducted to explore the conceptualization, measurement, and emergent properties of digital financial literacy, as presented in Figure 1. The process followed the PRISMA framework to ensure methodological rigour and transparency.

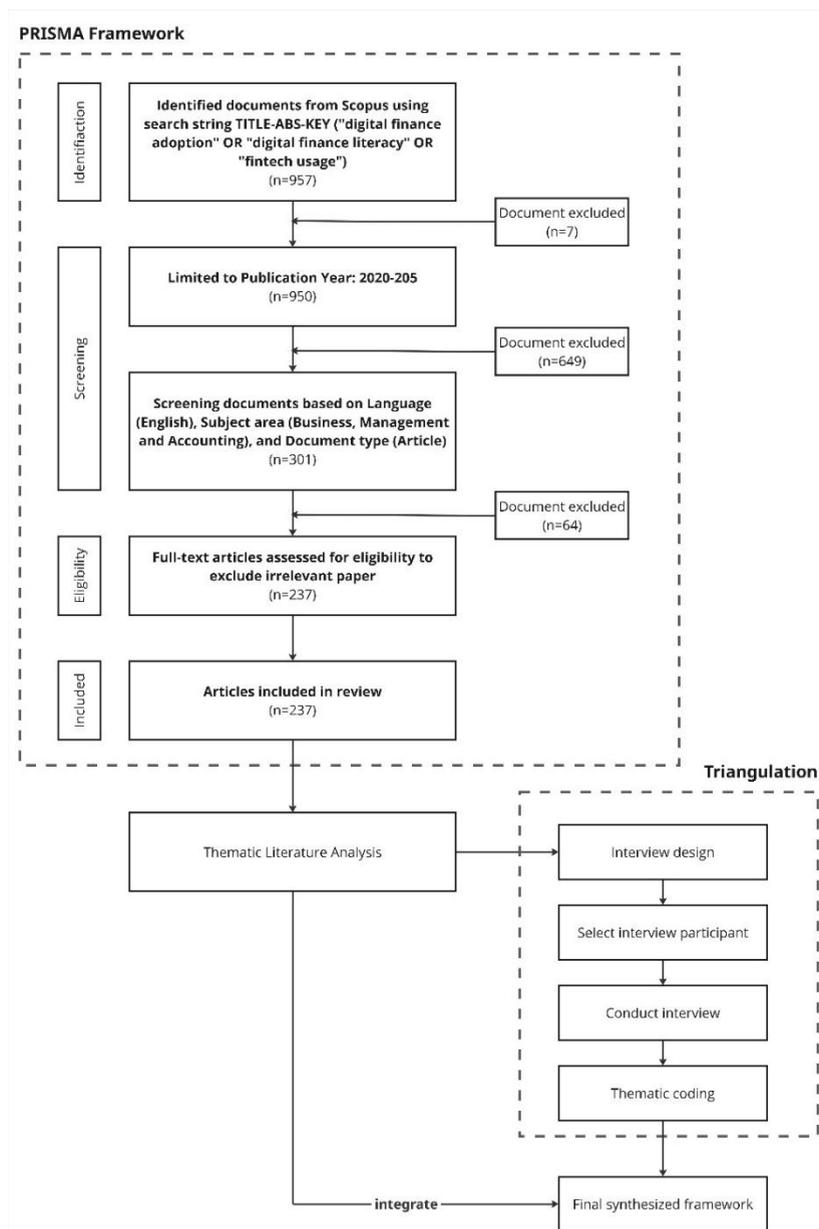


FIGURE 1. Research design.

The initial search on Scopus using the keywords “digital finance adoption” OR “digital finance literacy” OR “fintech usage” identified 957 documents. After filtering by publication year (2020–2025), language (English), subject area (Business, Management, and Accounting), and document type (journal article), 301 papers remained. A full-text eligibility assessment was then performed to remove articles unrelated to digital financial literacy (for example, those focusing solely on investment behavior), resulting in a final set of 237 articles. Studies were included if they provided conceptual, empirical, or measurement-based discussions on digital financial literacy or digital finance behavior. Articles were excluded if they addressed financial technology adoption without reference to literacy, user competence, or behavioral aspects of financial decision-making. The detailed selection stages are illustrated in the PRISMA flowchart (Figure 1). This rigorous selection process ensures a comprehensive coverage of digital financial literacy perspectives that extend beyond traditional financial intelligence.

To validate the SLR findings, semi-structured interviews were conducted with nine experts representing diverse professional backgrounds, including academia, financial institutions, fintech enterprises, and government policymaking bodies. The sample size of nine experts was deemed sufficient to achieve data saturation, as recurring themes emerged consistently across interviews, aligning with qualitative research standards for expert-based studies. The selection ensured balanced representation from academic, regulatory, industry, and policy perspectives, allowing for comprehensive triangulation between theoretical and practical insights. The experts were purposefully selected based on their academic qualifications, years of professional experience, and direct involvement in digital financial literacy research, education, or policymaking. The interviews aimed to assess the relevance of the identified dimensions of digital financial literacy, explore measurement challenges, and capture emerging trends in digital financial education. The expert insights complemented the literature review by contextualizing theoretical findings within practical settings, verifying the applicability of existing dimensions, and identifying new factors such as behavioral and technological enablers that were underrepresented in prior studies. This qualitative validation process complements the theoretical insights from the literature with practical perspectives, strengthening the robustness and applicability of the proposed framework.

Table 3. List of respondents.

No.	Affiliation	Role	Relevance to Study
1	University	Lecturer / Researcher in Financial Education	Provides academic perspective on DFL conceptualisation
2	Central Bank (Government)	Policy Analyst in Financial Inclusion	Offers insights into regulatory and inclusion frameworks
3	Fintech Association (Industry Body)	Consultant	Represents industry-led DFL initiatives and practices
4	Commercial Bank (Digital Division)	Fintech Product Manager	Shares operational understanding of digital finance tools
5	Consumer Protection Agency (Government)	Financial Behavior Specialist	Highlights consumer literacy and protection aspects
6	Fintech Startup	Digital Payments Specialist	Provides insights into user experience and fintech design
7	Ministry of Education in regional area	Curriculum Development Officer	Focuses on educational integration of digital literacy
8	Financial Research Institute	Behavioural Economist	Connects behavioural dimensions with financial decisions
9	Regulatory Bank	Compliance Manager	Emphasises risk management and financial transparency

3. DATA ANALYSIS

This study employs a hybrid thematic analysis approach for data analysis, utilizing NVivo 12 to integrate findings from the SLR and expert interviews, thereby identifying significant patterns and emerging themes in DFL research [19]. The retrieved data were categorized based on conceptual definitions, measurement methodologies, and contextual applications, allowing a structured synthesis of findings [24].

Theme coding was conducted through a three-stage process that combined deductive and inductive techniques. In the first stage, a deductive codebook was developed from the SLR results, encompassing key DFL dimensions such as knowledge, behavior, attitude, and skills drawn from existing frameworks [10, 19, 22]. In the second stage, inductive coding was applied to expert interview transcripts to capture new sub-themes not covered in prior research (e.g., digital spending impulsivity, social influence, and digital privacy). Each transcript was carefully reviewed, and recurring statements were coded using NVivo's node and memo functions. In the final stage, codes were iteratively refined by merging overlapping concepts and grouping them into broader thematic categories that reflect the evolving nature of digital financial literacy [26]. As the analysis progressed, the emergence of new themes gradually declined, and data saturation was achieved after the ninth interview when no additional categories or insights appeared. This confirmed that the collected data were sufficient to capture diverse expert perspectives on digital financial literacy, consistent with established qualitative research standards [44, 45].

The thematic patterns derived from the expert interviews were then compared and integrated with the findings of the SLR through a process of thematic convergence and contrast analysis. Themes that appeared consistently across both datasets were consolidated to strengthen their conceptual validity, while divergent insights from the interviews were used to refine and extend the initial codebook derived from the literature. This integration ensured that the final synthesis reflected both theoretical foundations and practice-based perspectives, resulting in a comprehensive framework of digital financial literacy that bridges academic understanding with real-world applications.

4. DATA VALIDATION

To ensure reliability and validity of the findings, we consider a multi-stage data validation approach, whereby the results of a literature review are subjected to triangulation mainly by interviews with experts. The triangulation process involved cross-comparing the themes identified in the SLR with those emerging from expert interviews using a matrix analysis in NVivo. Each dimension of digital financial literacy identified from the literature was matched with corresponding or contrasting expert perspectives to assess consistency, divergence, and relevance to practical contexts. Divergent insights were further examined to refine conceptual boundaries and ensure that the synthesized framework reflected both theoretical robustness and empirical relevance. In order to conduct the analysis of the papers about the quality of the theory and the contribution made by the empirical evidence and its correlation with the digital financial literacy, the quality assessment framework has been applied to the selected papers [19]. In order to establish the correlation between the positional views and the industry-led views, the literature findings were matched with the interviews findings to establish whether there exists any correlation between the positional views in literature and industry-led views [24].

Lastly, research findings were triangulated with practice through analysis of news articles and policy papers as a means of better aligning results with ongoing developments in the adoption of financial technology and digital literacy interventions [25]. Thus, to minimize the potential biases and make the research more trustworthy, the results of SLR were triangulated by the policy reports and the interview data of the experts [26]. Scientific rigour lays the basis of the survey and relevance to practice and application enhances value addition to the survey to underpin development policy recommendations based on evidence and support educational intervention [22].

IV. RESULT AND DISCUSSION

1. RESEARCH TREND AND THEMATIC SHIFTS

As shown in Figure 2, the number of studies on DFL fluctuates notably by year, peaking in 2024 before declining in 2025. The surge in 2024 indicates renewed academic attention, possibly driven by new research priorities or funding opportunities, while the decline in 2025 may reflect shifting scholarly focus or reduced resource allocation. Overall, these fluctuations illustrate the dynamic nature of DFL research and the influence of external factors on publication trends.

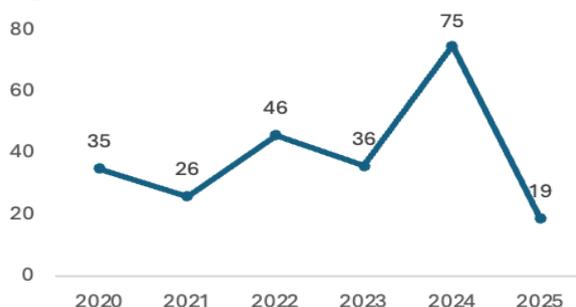


FIGURE 2. Research trend.

Figure 3 illustrates the temporal evolution of DFL research from 2018 to 2024, showing both the intensity and distribution of thematic focus across seven core variables: digital financial awareness, financial behavior, digital payment adoption, cybersecurity knowledge, financial inclusion, fintech usage, and regulatory support. The numerical values represent the proportion of studies in each year that explicitly addressed each DFL variable, calculated as the number of papers mentioning the theme divided by the total number of publications for that year, then normalized to a 5-point scale for visualization. Darker shades indicate a higher research concentration within that thematic category. The figure reveals a steady increase in Financial Inclusion and FinTech Usage, particularly after 2020, reflecting post-pandemic digital adoption and policy initiatives. Meanwhile, Cybersecurity Knowledge shows a notable spike in 2023–2024, aligning with the global rise in cyber fraud incidents and the strengthening of digital finance regulations [29, 42]. Collectively, these patterns demonstrate a maturing research landscape where emphasis has shifted from foundational inclusion topics toward security, regulation, and behavioral adaptation [28, 11].

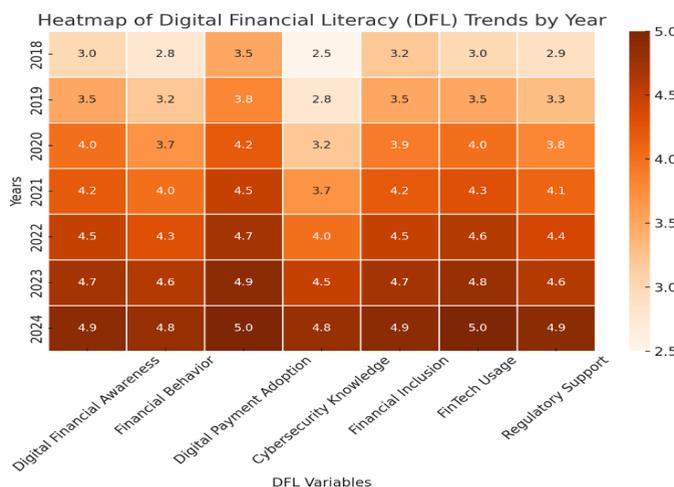


FIGURE 3. Heatmap of DFL research by year.

2. REGIONAL DISTRIBUTION

The geographic distribution of studies presented in Table 4 shows that Indonesia dominates the research landscape on digital financial literacy, accounting for 40 studies, followed by India and Malaysia with 20 and 14 studies, respectively. This indicates a strong concentration of research in emerging Asian economies where digital finance adoption is rapidly expanding. Meanwhile, contributions from developed regions such as the USA, the UK, and the EU remain modest, suggesting that digital financial literacy research is primarily driven by contexts facing inclusion and adoption challenges rather than mature financial systems.

Table 4. Geographic distribution.

Country/Region	No. of Studies	Representative Author(s)	Country/Region	No. of Studies	Representative Author(s)
Indonesia	40	[27, 54, 55]	Jordan	1	[99]
India	20	[31, 43, 56]	Kuwait	1	[100]
Malaysia	14	[57, 42, 58]	Nepal	1	[101]
USA	7	[59, 60]	Peru	1	[102]
Ghana	4	[61-63]	Colombia	1	[103]
South Africa	4	[64-66]	Brazil	1	[104]
China	3	[67-69]	Tanzania	1	[105]
Pakistan	3	[70-72]	Zimbabwe	1	[106]
Philippines	3	[73, 74]	Mozambique	1	[107]
Vietnam	3	[75]	Norway	1	[108]
Egypt	2	[76, 77]	Romania	1	[109]
Saudi Arabia	2	[78, 79]	Slovakia	1	[110]
Croatia	2	[80, 81]	Sri Lanka	1	[111]
Lebanon	2	[82, 83]	Hong Kong	1	[112]
Poland	2	[84, 85]	Taiwan	1	[113]
Portugal	2	[86]	Greece	1	[114]
Mexico	2	[87, 88]	Italy	1	[115]
Spain	2	[89, 90]	Luxembourg	1	[116]
Russia	2	[91, 92]	Dominican Republic	1	[117]
Sweden	2	[93, 94]	Nigeria	1	[118]
Canada	2	[95, 96]	Palestine	1	[119]
UK	2	[97, 98]	Azerbaijan	1	[120]
Bangladesh	1	[33]	Lithuania	1	[121]

Country/Region	No. of Studies	Representative Author(s)	Country/Region	No. of Studies	Representative Author(s)
Bosnia & Herzegovina	1	[8]	Multi-country/Global	12	[122-124]

Figure 4 presents a regional heatmap that visualizes the thematic concentration of digital financial literacy (DFL) research across five global regions. The heatmap was developed by systematically coding the 237 reviewed studies according to seven DFL variables digital financial awareness, financial behavior, digital payment adoption, cybersecurity knowledge, financial inclusion, fintech usage, and regulatory support and calculating the proportion of studies in each region addressing each variable relative to the total publications from that region. These proportions were normalized to a 2.0–4.5 scale to ensure comparability, with darker shades representing higher thematic intensity.

The results show that Asia leads in FinTech Usage (4.5) and Digital Payment Adoption (4.8), reflecting its strong innovation-driven financial growth, yet scores lower in Cybersecurity Knowledge (2.5), indicating slower regulatory adaptation. In contrast, North America and Europe exhibit more balanced research distributions, emphasizing Cybersecurity Knowledge and Regulatory Support (both around 4.8), while Oceania and South America display lower engagement across all categories, reflecting structural and educational gaps in their digital financial ecosystems.

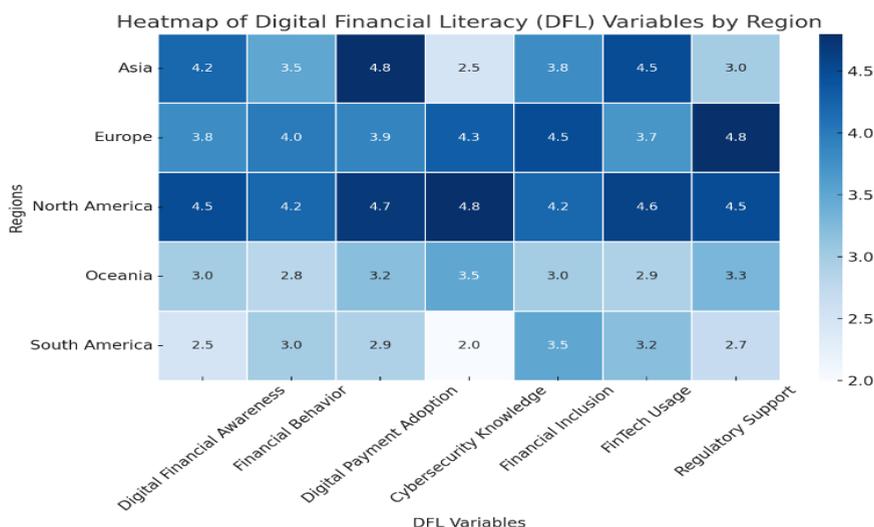


FIGURE 4. Heatmap of DFL research by region.

3. INTERRELATION AMONG DFL DIMENSIONS

Figure 5 presents the interrelationship between the four principal dimensions of DFL knowledge, behavior, attitude, and skills and seven research variables that were identified through the earlier stages of thematic synthesis. These variables, namely Digital Financial Awareness, Financial Behavior, Digital Payment Adoption, Cybersecurity Knowledge, Financial Inclusion, FinTech Usage, and Regulatory Support, were systematically derived from the descriptive and thematic analyses presented from previous chapter (Figure 2-4). The variables represent recurring constructs that appeared across the 237 reviewed studies, reflecting the core areas through which DFL has been conceptualized and operationalized. The identification process followed a PRISMA-based coding protocol, in which each study was examined for its conceptual emphasis, methodological scope, and contextual relevance to DFL [28, 33].

The numerical values within the matrix indicate the intensity of association between each DFL dimension

and research variable, measured on a normalized 1–5 scale derived from co-occurrence frequencies. Darker shades signify a stronger conceptual linkage, indicating greater thematic convergence across the reviewed literature. The results suggest that Digital Financial Awareness and Cybersecurity Knowledge exhibit the highest intensity within the Knowledge and Skills dimensions, underscoring the centrality of cognitive understanding and technical proficiency in digital financial competence [29, 34]. Similarly, Financial Behavior and FinTech Usage display strong associations with the Behavior and Skills dimensions, suggesting that digital financial engagement is increasingly shaped by experiential learning, user adaptability, and behavioral regulation [30].

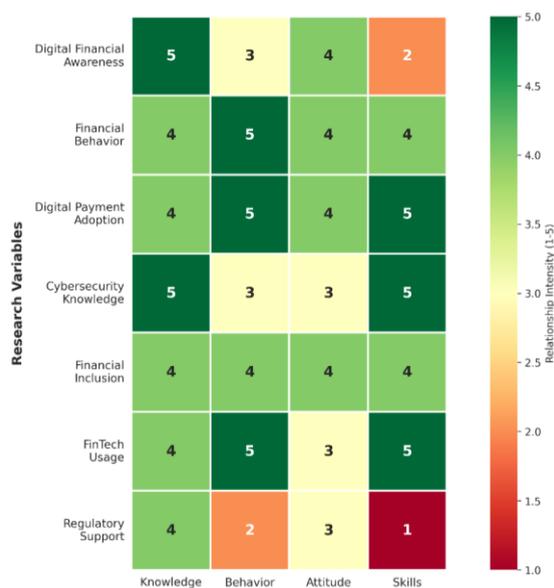


FIGURE 5. Interrelation among DFL Dimensions

In contrast, Regulatory Support demonstrates weaker associations, particularly with the Skills dimension, indicating that while regulatory awareness is conceptually recognized, it has not been adequately translated into measurable digital competencies [31, 32]. This imbalance suggests a research gap in integrating regulatory understanding with practical digital skills and applied consumer protection mechanisms. Overall, the relational matrix provides a structured synthesis of how DFL dimensions interact across cognitive, behavioral, and regulatory domains. By connecting these findings to the thematic patterns established in earlier chapters, the analysis reinforces the need for a multidimensional approach to DFL one that acknowledges the interdependence between knowledge acquisition, behavioral transformation, and systemic governance in shaping digital financial capability [33, 35].

4. BEHAVIORAL AND POLICY INSIGHTS

Semi-structured interviews were conducted with nine experts from academia, financial institutions, fintech firms, and government organizations to validate the systematic literature review (SLR) findings. The discussions emphasized the growing importance of digital financial security and fintech adaptability, revealing that while many users understand basic financial concepts, they remain vulnerable to cybersecurity risks such as phishing, malware, and digital fraud [27, 28]. In India, for example, cyber fraud cases quadrupled in 2024, resulting in losses exceeding \$20 million, underscoring the urgency of improving digital financial literacy programs [29]. Experts also highlighted the need to incorporate digital contract literacy, enabling users to better understand fintech loan terms and automated subscriptions that often lead to financial misuse. Limited awareness of financial privacy (Table 5) further supports calls for a revised DFL framework that reflects actual digital financial practices rather than relying solely on conventional economic

models [22].

Table 5. Thematic analysis.

Quotation	Sub-theme	Theme
"Although many customers are aware of digital banking, they are not aware of how malware or phishing campaigns might jeopardise their data. This goes beyond financial awareness to include security" Financial Consumer Protection Agency	Cybersecurity	Knowledge
"Understanding digital contracts, such as loan conditions or automatic subscription renewals in fintech services, should be part of digital financial literacy. Due to their incapacity to understand financial agreements, many customers are duped." – Digital Financial Expert	Digital Financial Contracts	Knowledge
"The majority of financial literacy tests still use conventional economic models, which ignore cybersecurity threats, fintech uptake, and digital financial behaviors. In the digital age, we require an updated framework that takes into account actual financial decision-making." Academic Lecturer	Digital Privacy	Knowledge
"Assessments of digital financial literacy in developing nations sometimes overlook unofficial financial transactions, including using mobile money, which leads to serious measurement biases." Financial Literacy Policymaker	Informal Digital Finance Literacy	Knowledge
"People spend more without realizing it since digital transactions are so simple. Since there is no actual money exchange, e-wallet transactions feel lighter than cash payments." Fintech division in Digital Bank	Digital Spending Impulsivity	Behavior
"Financial decision-making is significantly influenced by social media, especially for younger users. Peer pressure, financial trends, and false information in online forums should all be covered by digital financial literacy." Financial Behavior Researcher	Social Influence in Financial Decision-Making	Behavior
"A one-size-fits-all strategy should not be used in financial literacy initiatives. While younger generations need training in financial self-control when using digital payment systems, the elderly need education on digital banking security." Government - Digital Financial Education Unit	Segmented Financial Education	Attitude
"To make sure fintech platforms display information clearly and in a way that is accessible to all customers, regulatory agencies need to set more precise requirements for digital financial literacy." Regulatory Analyst, Government Banks	Financial Transparency and Consumer Protection	Attitude
"Many customers find it difficult to use digital banking services like managing online transactions or establishing two-factor authentication, which makes them more susceptible to fraud." Fintech UX Specialist	Digital Banking Proficiency	Skills
"Customers frequently enroll in fintech services without completely comprehending how to control digital payment settings, which can result in unforeseen costs or security threats." Finance Lecturer	Fintech Usage & Navigation	Skills

Beyond security concerns, the behavioral aspects of digital finance (Table 4) emerged as an equally critical

but often overlooked dimension. Experts noted that e-wallet convenience heightens spending impulsivity, leading to unplanned purchases, while social media influencers increasingly shape financial decisions particularly among younger users who tend to trust endorsements without assessing risks. The rise of digital persuasion, exemplified by Unilever allocating 50% of its marketing budget to social media, underscores the need for DFL programs to counter misinformation and promote informed consumer behavior [30]. Experts further emphasized integrating behavioral finance principles (Table 4) to mitigate these risks and encourage responsible digital financial conduct. From a policy perspective, tailored financial literacy initiatives targeting specific demographics were considered essential, alongside stronger consumer protection measures and improved transparency in fintech services (Table 4) [31]. In emerging economies, where mobile money dominates informal transactions, current DFL assessments often overlook digital financial behavior, resulting in measurement biases (Table 4) [17]. Regulators are thus urged to define clearer literacy standards and ensure fintech platforms communicate information transparently to reduce consumer risk [32]. Incorporating technical adaptability, behavioral insights, and trust-building mechanisms within DFL frameworks is vital for achieving inclusive, effective, and sustainable digital financial education.

Table 6 summarizes the key findings derived from both the systematic literature review and expert interviews, providing a concise synthesis of emerging DFL dimensions across knowledge, behavior, attitude, and skills. This summary serves as a bridge to the proposed integrative framework presented in the following section

Table 6. Summary of key findings.

Dimension	Key Finding	Supporting Evidence
Knowledge	Cybersecurity and digital literacy emerge as core components of DFL, extending beyond traditional financial awareness.	[27, 28]
Behavior	Impulsive e-wallet spending and social media influence significantly shape digital financial decisions.	[30, 31]
Attitude	Segmented financial education is needed, especially across generational groups to address differing digital competencies.	[32]
Skills	Users often lack proficiency in fintech navigation and digital security management.	[22, 28]

5. EMERGING DIMENSIONS OF DIGITAL FINANCIAL LITERACY: A NEW PERSPECTIVE

The evolution of financial ecosystems and fintech innovation has transformed how DFL should be conceptualized and measured. As evidenced in the literature-based analyses presented in Sections 1 to 3, the field has evolved from emphasizing financial knowledge and inclusion toward integrating broader dimensions of digital competence, behavioral adaptation, and regulatory awareness. These findings from the systematic literature review (SLR) provide an empirical foundation for understanding how DFL research has matured, shifting from traditional literacy indicators toward multidimensional constructs reflecting cognitive, technical, and contextual development across time and regions.

Complementing these literature-derived patterns, expert interviews described in Section 4 introduced additional behavioral and policy-oriented insights that expand the theoretical landscape. Experts underscored critical aspects such as digital contract literacy, cybersecurity awareness, and impulsive e-wallet spending, which remain underexplored in prior frameworks. They also emphasized the practical necessity of strengthening trust, consumer protection, and segmented digital education across generational groups. Together, these practitioner perspectives highlight the behavioral, attitudinal, and institutional realities that existing DFL models have often overlooked, reinforcing the need for an integrated and context-sensitive framework.

Synthesizing insights from both the SLR and expert interviews, four interconnected dimensions—knowledge, skills, behavior, and attitude—were identified as the foundation of the new DFL model. Within these dimensions, digital privacy and security knowledge emerge as key to mitigating cyber risks and fraud

exposure, while advanced digital financial skills capture the increasing need for fintech navigation and online security proficiency [34, 35]. The behavioral dimension, including digital spending control and social influence resilience, reflects the growing importance of self-regulation and critical evaluation of financial information online [36, 37]. Meanwhile, attitudinal factors such as digital financial confidence and trust in digital systems highlight the psychological and regulatory assurances necessary for sustained fintech engagement [40, 41]. Collectively, these findings reveal that digital financial literacy in the modern era must evolve into a dynamic, behaviorally anchored, and context-aware construct that bridges individual capability with systemic governance.

The emerging DFL dimensions proposed in this study extend prior frameworks, such as those by OECD [46] and Klapper et al. [47], by shifting from a static, knowledge-based model toward a more adaptive, behaviorally integrated structure. Earlier models primarily viewed financial literacy as a combination of knowledge and numeracy skills necessary for sound financial decision-making, often overlooking contextual, emotional, and regulatory factors. In contrast, the present framework challenges this linear view by emphasizing digital-specific competencies, such as cybersecurity awareness and fintech navigation, alongside behavioral and attitudinal constructs like digital confidence and trust in online systems [33, 34, 36]. This reconceptualization not only broadens the scope of financial literacy but also captures the dynamic interplay between human behavior, technology adoption, and institutional governance that defines financial decision-making in digital ecosystems [37, 40].

The proposed integrated framework (Figure 6) extends existing DFL models by combining behavioral, attitudinal, and contextual dimensions alongside cognitive and technical competencies. Theoretically, it advances behavioral financial theory by embedding constructs such as financial confidence, digital risk perception, and social media influence into DFL learning outcomes. Concurrently, it draws on digital regulation theory by integrating regulatory transparency, consumer protection, and trust-building mechanisms as integral to digital competence. This dual-theory integration establishes a conceptual bridge between individual capability and systemic governance, offering a more holistic understanding of how digital financial literacy functions within complex digital ecosystems.

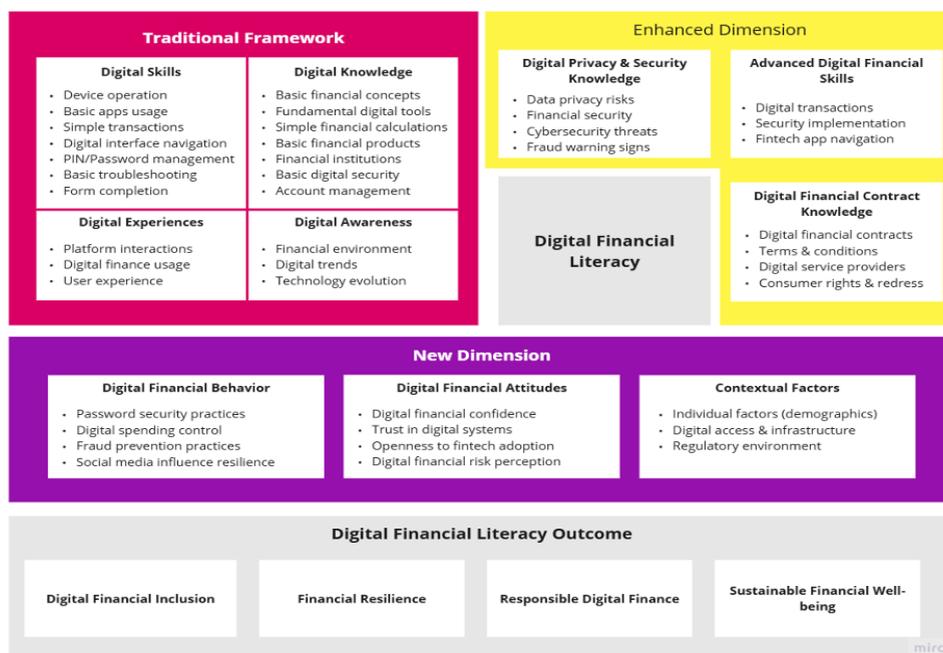


FIGURE 6. New dimension of digital financial literacy framework.

As illustrated in Figure 6, this framework captures the multidimensional nature of DFL by linking individual and systemic factors. Moreover, insights derived from Table 4 and the regional heatmap (Figure 4) highlight that variations in DFL development across regions are shaped not only by economic maturity but also by policy implementation, digital infrastructure, and cultural attitudes toward financial technology. These cross-regional findings refine the understanding of digital financial literacy frameworks by demonstrating how regional readiness such as regulatory sophistication in Europe, innovation-driven adoption in Asia, and inclusion-oriented initiatives in Africa affects the relative emphasis of each DFL dimension. Consequently, the proposed framework integrates these regional dynamics, making it adaptable to diverse socio-economic and regulatory contexts.

Practically, the framework provides actionable guidance for stakeholders seeking to enhance financial resilience and inclusion. Financial institutions can integrate behavioral and attitudinal insights into customer education and fintech design such as gamified learning tools and behavioral nudges to encourage secure financial behavior. Regulators and policymakers can leverage the framework to strengthen consumer protection and regulatory literacy by simplifying digital contract language, improving disclosure standards, and enforcing transparency in fintech operations. Furthermore, the framework aligns with OECD and other international best practices in financial education, offering policymakers a structured foundation for developing inclusive, adaptive, and globally comparable digital financial literacy programs tailored to local contexts. In other hand, from educational institutions perspective, they can embed these dimensions into financial literacy curricula, combining technical skills with psychological and ethical awareness to prepare individuals for safe digital participation. Finally, cross-sector collaborations among fintech providers, governments, and academia can adopt this framework to promote inclusive, trust-based, and sustainable digital finance ecosystems. By linking digital competence with both behavioral change and regulatory readiness, the proposed integrated framework contributes theoretically by expanding DFL into a multidimensional construct and practically by offering a scalable model that informs policy design, education programs, and digital innovation strategies.

V. CONCLUSION

The evolution of DFL marks a paradigm shift from traditional financial literacy toward a multidimensional construct that integrates digital competence, behavioral regulation, and regulatory awareness. This study contributes to the literature by proposing a comprehensive and theory-informed framework that combines behavioral financial theory and digital regulation theory to explain how individuals acquire, apply, and sustain digital financial skills. The four identified dimensions knowledge, skills, behavior, and attitude extend prior models by highlighting the psychological and contextual mechanisms underlying digital financial decision-making. The novelty of this research lies in its integrated approach that unites cognitive, affective, and institutional dimensions of financial literacy and digital literacy become digital financial literacy come up with the new dimensions for Indonesia context, offering both a theoretical bridge between behavioral and regulatory domains and a practical model for inclusive digital finance education and policy design.

Methodologically, this study's reliance on a systematic literature review and expert interviews provides strong conceptual clarity but limits its empirical generalizability. The qualitative focus restricts the capacity to capture large-scale behavioral variations across demographic, socio-economic, and geographic contexts. Moreover, the absence of real-time digital transaction data and behavioral analytics from fintech platforms prevents a deeper understanding of how individuals interact with financial technologies in practice. Future research should therefore adopt mixed-method and longitudinal designs, combining quantitative surveys, digital trace data, and experimental approaches to validate and expand the proposed framework. Such studies can strengthen empirical grounding while accounting for behavioral and contextual diversity.

A future research agenda is needed to advance this field further. First, large-scale cross-country studies should explore how DFL interacts with social norms, trust in regulation, and access to digital infrastructure to explain disparities in financial inclusion. Second, experimental interventions using AI-driven learning

modules, gamification, and adaptive financial education tools can be tested to measure behavioral change and knowledge retention. Third, researchers should link DFL with emerging technologies such as decentralized finance (DeFi), blockchain, and digital identity systems to build future-proof frameworks responsive to financial innovation. Finally, integrating psychological, regulatory, and technological perspectives into a single DFL research program will enable more holistic policymaking and the development of sustainable digital finance ecosystems that promote both inclusion and resilience.

Funding Statement

The authors wish to acknowledge that no specific funding or support was provided for this study.

Author Contributions

Conceptualization, A.M.P. and R.A.R.; methodology, S.K.W. and S.M.D.; validation, S.K.W. and S.M.D.; formal analysis, A.M.P.; resources, S.K.W. and R.A.R.; data curation, A.M.P. and R.A.R.; writing—original draft preparation, A.M.P.; writing—review and editing, S.K.W., S.M.D., and R.A.R.; visualization, S.M.D. All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The datasets generated and/or analyzed during the current study are not publicly available but are available from the corresponding author on reasonable request.

Acknowledgments

The authors gratefully acknowledge the constructive comments and valuable suggestions provided by the Editor and anonymous reviewers, which significantly improved the quality of this manuscript. The authors also extend their sincere appreciation to the School of Business and Management, Institut Teknologi Bandung, for providing the academic environment and institutional support that facilitated the completion of this research.

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APPENDIX

Interview Design

Stakeholder	Dimension (From SLR)	Interview Question	How It Links to SLR Findings
University (Financial Education Researcher)	Knowledge (Cybersecurity, Digital Contract Literacy)	How do current digital financial literacy models fail to capture key elements such as cybersecurity, digital contracts, or digital privacy?	SLR shows major gaps: cybersecurity is under-measured; digital contracts rarely included; privacy concerns missing from most frameworks.
	Behaviour (Social Influence, Impulsivity)	To what extent do existing scales incorporate behavioural risks like e-wallet impulsivity or social media influence?	SLR identifies growing research on impulsivity & social influence but little operationalization in DFL instruments.
	Skills (Fintech Navigation)	What technical or operational skills should be captured in a modern DFL assessment tool?	SLR notes fintech/app navigation skills are underrepresented despite being critical for user safety.
Central Bank (Policy Analyst)	Attitude (Digital Confidence & Trust)	How do confidence and trust influence digital financial decisions among different populations?	SLR shows digital trust strongly correlates with adoption but is missing in traditional literacy definitions.
	Knowledge (Digital Security Awareness)	Which vulnerable groups lack cybersecurity awareness and how do this affect financial inclusion?	SLR highlights unequal security knowledge across demographic groups, especially elderly and low-income users.
	Attitude (Regulatory Trust)	How does public trust in regulation influence digital finance adoption?	SLR shows regulatory support is conceptually recognized but weakly measured in DFL models.

Stakeholder	Dimension (From SLR)	Interview Question	How It Links to SLR Findings
Fintech Association (Industry Body)	Behaviour (Informal Digital Finance)	How significant are informal digital practices (mobile money, P2P transfers) in your country's financial ecosystem?	SLR indicates these practices create measurement bias and are excluded from most studies.
	Skills (Digital Banking Proficiency)	Which digital banking functions do users struggle with the most?	SLR reveals that operational skills (e.g., 2FA, limits, dispute handling) are central but rarely assessed.
	Knowledge (Digital Contract Literacy, Privacy) Attitude (Consumer Protection)	How often do misunderstandings of digital contracts or data policies lead to consumer issues? Where do you see gaps in consumer protection literacy within fintech usage?	SLR emphasizes digital contract literacy as emerging but underexplored DFL dimension. SLR shows regulatory awareness is weakly linked to skills; transparency deficiencies impact user outcomes.
	Skills (Fintech Navigation)	Which fintech features do users most frequently misuse or misunderstand?	SLR identifies fintech navigation as a missing dimension that affects risk exposure.
Commercial Bank (Digital Product Manager)	Behaviour (Spending Impulsivity)	Have you observed impulsive spending patterns triggered by ease of digital payments?	SLR notes impulsivity as a major behavioural theme influencing digital financial decisions.
	Skills (Transaction Management & Security)	Which digital banking functions (2FA, limit setting, payment cancellation) are hardest for users?	SLR supports this: improper use of security features increases fraud vulnerability.
	Behaviour (E-wallet Impulsivity)	Do customers show more unplanned spending due to e-wallet convenience and pay-later features?	SLR includes impulsivity driven by e-wallet and pay-later systems as a key behavioural risk.
	Knowledge (Understanding Terms & Risks) Attitude (Trust in Digital Systems)	Where do customers struggle in understanding fees, risks, or contract terms? How do user concerns about security and privacy affect digital service adoption?	SLR identifies widespread misunderstanding of digital contract terms and hidden fees. SLR shows trust mechanisms shape adoption but remain poorly integrated into DFL metrics.
Consumer Protection Agency	Knowledge (Fraud & Scam Awareness)	What types of cyber fraud or deception most frequently trap consumers?	SLR shows phishing, malware, and identity theft as dominant themes inadequately addressed in DFL research.
	Behaviour (Social Media Influence)	Do complaints indicate financial decisions influenced by social media misinformation?	SLR highlights social influence as a rising behavioral dimension.
	Attitude (Segmented Education)	Which demographic groups require the most targeted educational interventions?	SLR reveals generational gaps and need for segmented literacy programs.
	Skills (Problem Resolution & Dispute Handling)	Which digital financial processes are consumers least equipped to resolve on their own?	SLR indicates operational DFS issue-resolution skills are underdeveloped.

Stakeholder	Dimension (From SLR)	Interview Question	How It Links to SLR Findings
Fintech Startup (Digital Payments Specialist)	Behaviour (Impulsive Digital Spending)	Do users exhibit impulsive or emotional spending behaviours because payments are frictionless?	SLR directly identifies digital impulsivity as a core emerging behavioural dimension.
	Skills (Setting Controls & Limits)	How well do users manage systems such as auto-debit, bill reminders, spending limits, or subscription controls?	SLR shows users often lack the skill to manage settings, causing financial risk.
	Knowledge (Security Settings Awareness)	Are users aware of risks arising from turning off security features or ignoring alerts?	SLR finds low cybersecurity literacy despite widespread DFS adoption.
	Attitude (Trust & App Usability)	How does perceived ease-of-use influence trust and continued usage?	SLR highlights link between usability, trust, and fintech adoption.
Ministry of Education (Curriculum Developer)	Knowledge (Foundational Digital Finance)	Which DFL competencies must be included in national curricula for students?	SLR stresses need for standardized, updated DFL educational frameworks.
	Attitude (Age-Specific Needs)	How do the educational needs of young vs older learners differ in the digital finance space?	SLR identifies generational differences as a critical gap.
	Behaviour (Online Influence & Media Literacy)	Should media literacy (risk of misinformation) be integrated into DFL curriculum?	SLR shows social influence is a major behavioural determinant of risky financial decisions.
Behavioural Economist (Research Institute)	Skills (Hands-on Fintech Practice)	What practical digital financial skills should be taught (e.g., fraud reporting, navigation)?	SLR emphasizes practical skills as a neglected but crucial dimension.
	Behaviour (Biases, Social Influence)	Which behavioural biases most significantly distort digital financial decisions?	SLR documents present bias, social comparison, FOMO, and impulsivity.
Regulatory Bank (Compliance Manager)	Knowledge (Understanding Digital Risks)	How do psychological biases interact with low cybersecurity knowledge to increase risk exposure?	SLR links low security knowledge + biases → higher financial vulnerability.
	Attitude (Risk Perception & Confidence)	How does perceived risk shape user engagement with digital financial services?	SLR shows risk perception differentiates adoption patterns across populations.
	Skills (Self-regulation & Decision Tools)	What tools or interventions best improve users' ability to make rational digital financial decisions?	SLR recommends behaviourally informed DFL frameworks.
	Knowledge (Regulatory Awareness)	What misunderstandings do users most frequently have about regulatory protections?	SLR shows regulatory literacy is weak and poorly integrated into DFL indicators.
	Attitude (Trust in Regulation)	What factors strengthen or weaken user trust in regulatory systems and financial institutions?	SLR notes regulatory trust is essential but inconsistently addressed.

Stakeholder	Dimension (From SLR)	Interview Question	How It Links to SLR Findings
	Skills (Compliance Requirements for Users)	Which compliance-related tasks (e-KYC, authentication, dispute reporting) are hardest for users?	SLR indicates operational compliance tasks require targeted digital literacy.
	Behaviour (Response to Fraud)	How do users behave after a fraud incident—do they adopt safer habits or disengage?	SLR finds post-fraud behaviour is a missing but important research area.
