Digital Financial Literacy and Digital Finance Usage: A Systematic Literature Review and Bibliometric Analysis

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Abstract

The accelerating integration of technology into financial services has transformed the global financial ecosystem, making digital financial services such as mobile banking, fintech platforms, and digital wallets essential in daily life. However, the effective use of these services depends significantly on individuals' digital financial literacy (DFL), a competency that combines financial knowledge, digital skills, and cybersecurity awareness. This systematic literature review examines the relationship between DFL and digital finance usage (DFU). A total of 75 peer-reviewed articles published between 2010 and 2024 were analyzed following PRISMA guidelines. The review identifies four primary themes: conceptualization and measurement of DFL, determinants influencing DFU, barriers inhibiting effective usage, and the broader impact of DFL on financial inclusion and well-being. The findings highlight methodological inconsistencies, lack of standardized DFL measurement tools, geographical concentration in Asia and Africa, and insufficient exploration of emerging technologies such as blockchain and digital currencies. This review offers valuable insights for policymakers, financial institutions, educators, and technology developers, suggesting targeted interventions to bridge DFL gaps and promote financial inclusion. Future research directions are proposed, emphasizing the need for longitudinal studies, demographic-specific analyses, and integration of behavioral and psychological factors to develop a more cohesive and inclusive understanding of DFL in the digital economy.

Keywords Digital Financial Literacy, Digital Finance Usage, Financial Inclusion, Systematic Literature Review, FinTech Adoption

1. Introduction

In the contemporary global landscape, the fusion of technology and finance has initiated an era where digital financial services such as mobile banking, online investments, fintech applications, digital wallets, and cryptocurrencies have become an integral part of daily life. The widespread adoption of digital financial platforms has redefined financial ecosystems, facilitating faster, more convenient, and inclusive financial transactions and services (Koskelainen et al., 2023; Lyons & Kass-Hanna, 2021; Seldal & Nyhus, 2022; Setiawan et al., 2022). This digital transformation offers unparalleled convenience and accessibility, enabling individuals to manage their financial activities with unprecedented ease, irrespective of geographical or socio-economic barriers (Brika, 2022). However, seamless participation in this digital financial environment demands more than mere access to technological infrastructure; it necessitates a robust understanding of both fundamental financial principles and the competencies required to safely and effectively navigate digital interfaces (Jose & Ghosh, 2024). This amalgamation of skills and knowledge is called Digital Financial Literacy (DFL) an emergent construct that combines elements of traditional financial literacy, digital literacy, cybersecurity awareness, and technological adaptability.

Digital financial literacy encompasses a spectrum of competencies, including the ability to use digital financial tools, evaluate financial options online, protect personal financial information, and make

informed decisions in the face of rapidly evolving financial technologies. Importantly, DFL serves as a foundational enabler for Digital Finance Usage (DFU), which refers to the actual engagement with and utilization of digital financial services and products (Kumar, Islam, et al., 2023). Effective DFU improves individuals' financial management capabilities and plays a crucial role in fostering financial inclusion, economic participation, and financial resilience, especially in underserved and marginalized communities (R. Hasan et al., 2023).

Despite the rapid expansion of digital financial services, a significant portion of the global population remains inadequately equipped to navigate the digital financial landscape. Globally, only 33% of adults demonstrate basic financial literacy, with women, low-income individuals, and those with lower education disproportionately affected (Brika, 2022; Yadav & Banerji, 2023). This gap is compounded by limited digital literacy, creating barriers to digital finance usage and increasing vulnerability to fraud and cyber risks. In emerging economies, where digital financial inclusion is vital for poverty reduction, disparities in digital financial literacy further amplify inequality (Bhatt et al., 2022). Notably, in 2022, 6% of adults worldwide remained unbanked, particularly among low-income groups, underscoring the urgent need to enhance digital financial literacy for inclusive and sustainable financial participation.

Despite the recognized importance of digital financial literacy, a notable gap exists in understanding its direct impact on digital finance usage (Yadav & Banerji, 2023). While traditional financial literacy has been extensively studied, the digital component introduces new variables and complexities that are not yet fully understood (Koskelainen et al., 2023; Lyons & Kass-Hanna, 2021). Existing research often lacks a standardized definition of digital financial literacy, leading to inconsistencies in measurement and assessment. This fragmentation hampers the development of comprehensive strategies to enhance digital financial literacy and, by extension, digital finance usage.

Addressing this research gap, the primary objective of this paper is to systematically review existing literature to outline the relationship between digital financial literacy and digital finance usage. By synthesizing findings from diverse studies, this review aims to identify key determinants, barriers, and enabling factors influencing digital finance usage. Furthermore, the paper seeks to uncover research gaps and propose directions for future studies, offering practical implications for policymakers, financial institutions, educators, and technology developers.

This paper contributes to the existing body of knowledge by providing a comprehensive synthesis of current research on digital financial literacy and its impact on digital finance usage. By highlighting inconsistencies and gaps in the literature, the paper offers a foundation for future research endeavors. Additionally, the practical insights derived from this review can inform the development of targeted interventions and policies aimed at enhancing digital financial literacy, thereby promoting greater financial inclusion and economic empowerment.

2. Literature review

The growing digitalization of financial systems has given rise to an extensive body of research examining the role of digital financial literacy (DFL) in shaping financial behaviors, financial inclusion, and overall financial well-being. The conceptual evolution of financial literacy, particularly in light of technological advancements, has necessitated a shift from traditional definitions to broader constructs that encapsulate digital competencies. Lyons & Kass-Hanna, 2021 provide one of the most influential definitions, framing digital financial literacy as an integration of financial knowledge, digital skills, and critical awareness of technological and security aspects related to digital finance. This multifaceted construct emphasizes that digital literacy alone is insufficient if not coupled with a sound understanding of financial principles and responsible financial behavior.

Empirical investigations have consistently shown that higher levels of DFL lead to more informed financial decision-making. Yadav & Banerji (2023), through a comprehensive survey of customers, conclude that DFL significantly influences financial behavior, particularly in encouraging responsible usage of digital financial products such as mobile banking and fintech applications. Choung et al.

(2023) further extend this argument by empirically demonstrating a positive correlation between DFL and financial well-being, suggesting that individuals equipped with digital financial competencies are better positioned to achieve financial satisfaction and security. Setiawan et al. (2022) provide additional insights by analyzing the behavioral outcomes associated with DFL. Their study reveals that individuals with higher digital financial literacy not only exhibit prudent saving and spending habits but also demonstrate foresight in financial planning, thereby contributing to their long-term financial stability. Similar findings are echoed by Affandi et al. (2024), who explore the pathway from DFL to the adoption of QR payment systems. Their research highlights that DFL, when coupled with technological acceptance, significantly enhances the likelihood of adopting digital payment solutions. Beyond individual financial outcomes, several studies emphasize the role of DFL in advancing broader socio-economic objectives, particularly financial inclusion. Kass-Hanna et al. (2022) highlight how improving financial and digital literacy simultaneously can strengthen financial resilience in marginalized populations across South Asia and Sub-Saharan Africa. In a similar context, R. Hasan et al. (2023) focus on women entrepreneurs, illustrating that enhanced DFL not only facilitates access to digital financial services but also improves business outcomes, thereby promoting gender-inclusive economic development.

The intersection of DFL with small and medium-sized enterprises (SMEs) has also attracted scholarly attention. Affandi et al. (2024) analyze ultra-micro, micro, and small enterprises in Indonesia, concluding that both digital adoption and financial literacy significantly influence business performance. Their findings suggest that targeted DFL interventions tailored to entrepreneurs can have multiplicative effects, fostering business growth, financial inclusion, and local economic development.

Despite these positive findings, the literature also identifies persistent barriers and challenges that limit the effectiveness of DFL in translating into actual digital finance usage (DFU). One recurrent theme across studies is the issue of trust and security concerns. Seldal & Nyhus (2022), in their analysis of consumer behavior, point out that even financially literate individuals may hesitate to engage with digital financial services due to fears of cyber fraud, data breaches, and lack of institutional trust. Yang et al. (2023) echo similar concerns in their research on Chinese households, particularly emphasizing that older internet users, despite having baseline financial knowledge, struggle with digital finance adoption due to technological apprehension and usability challenges. A related body of literature also underscores demographic disparities in DFL. Zeng & Li (2023), for instance, explore digital finance usage among older internet users in urban China and find that age, education level, and digital proficiency significantly affect engagement with digital financial products. Their findings point to the urgent need for demographic-specific strategies that address unique barriers faced by vulnerable groups such as the elderly, women, and rural populations.

In addition to these practical barriers, several scholars highlight conceptual and methodological limitations within the existing research. Ravikumar et al. (2022) address the lack of standardized measurement tools specific to DFL, advocating for more robust, validated scales tailored to the socio-economic and cultural contexts of different countries. Without such standardized frameworks, cross-country comparisons and longitudinal assessments of DFL remain challenging.

Furthermore, bibliometric analyses by (Bhatt et al. (2022 and Brika (2022) shed light on the fragmented nature of DFL research. Their analyses reveal that much of the existing literature is geographically skewed, with a significant concentration of studies emerging from developed countries and select Asian economies, leaving substantial gaps in understanding DFL dynamics in regions like Latin America, the Middle East, and Africa. This geographical imbalance limits the generalizability of findings and underscores the need for a more globally representative research agenda.

Recent literature has also begun to advocate for interdisciplinary approaches to studying DFL. Kumar et al. (2023), for example, analyze the behavioral, psychological, and demographic determinants of financial decision-making, suggesting that variables such as risk tolerance, financial confidence, and socio-cultural factors play crucial roles in shaping DFU outcomes. Jose & Ghosh (2024) support this

view in their systematic review, emphasizing the necessity of integrating perspectives from finance, behavioral economics, information systems, and educational psychology to comprehensively capture the complexities of DFL.

Despite this growing body of literature, several notable research gaps persist. First, the absence of a universally accepted conceptual framework for DFL results in definitional ambiguities, hindering the comparability and cumulative progress of research findings. Second, most empirical studies employ cross-sectional designs, offering only snapshot views of the relationship between DFL and DFU, without adequately capturing how these dynamics evolve, particularly in response to rapid technological changes. Third, the majority of studies overlook the intersection of DFL with emerging technologies such as blockchain, artificial intelligence-driven financial advisory systems, and digital currencies like Central Bank Digital Currencies (CBDCs), leaving a critical area underexplored. Lastly, while the role of DFL in promoting financial inclusion is well-established, more research is needed to assess how policy interventions, financial education programs, and regulatory frameworks can be optimized to bridge the DFL gap, especially among underserved populations.

3. Methodology

This study adopts a systematic literature review (SLR) approach to synthesize and analyze the existing body of research on digital financial literacy (DFL) and digital finance usage (DFU). The systematic review method is widely recognized for its rigor and replicability, allowing for a comprehensive and unbiased assessment of the relevant literature (Shaffril et al., 2021). The review process was designed following PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure transparency and methodological rigor (Page et al., 2021).

3.1. Review protocol and research questions

The primary research question guiding this review is:

- *What is the current state of research on digital financial literacy and its impact on digital finance usage?*

To address this question, the review focuses on the following sub-questions:

1. How is digital financial literacy conceptualized and measured in existing studies?
2. What are the key findings regarding the relationship between DFL and digital finance usage?
3. What barriers and enablers influence the effective utilization of digital financial services?

3.2. Data sources and search strategy

A comprehensive search was conducted across two major academic databases:

- **Scopus**
- **Web of Science (WoS)**

The search strategy combined keywords and Boolean operators to capture relevant studies. The primary search string included:

("Digital Financial Literacy" OR "FinTech Literacy" OR "Financial Literacy in Digital Age") AND ("Digital Finance Usage" OR "Digital Financial Services" OR "FinTech Adoption")

Additionally, keywords such as "Financial Inclusion," "Financial Behavior," and "Emerging Markets" were used to refine the search where applicable. The search was limited to peer-reviewed journal articles, conference papers, and book chapters published between 2010 and 2024, ensuring a contemporary perspective while covering a broad period.

3.3 Inclusion and exclusion criteria

The selection of studies was based on clearly defined inclusion and exclusion criteria:

Inclusion Criteria	Exclusion Criteria
Articles published in peer-reviewed journals	Non-peer-reviewed articles, editorials, or blogs
Studies focusing on digital financial literacy	Articles focusing solely on traditional financial literacy without digital components

Studies discussing digital finance usage	Studies not addressing financial behavior or service usage
Articles published in English	Non-English publications
Studies with empirical, theoretical, or review focus	Articles lacking rigorous methodology

3.4 Screening and selection process

The initial search yielded n=550 articles. After removing duplicates and screening titles and abstracts for relevance, 235 articles remained. Full-text screening was then conducted based on the inclusion and exclusion criteria, resulting in a final sample of 75 studies included for detailed review and analysis. The screening process followed the PRISMA flow framework, and a flowchart illustrating the selection process is provided in Figure 1.
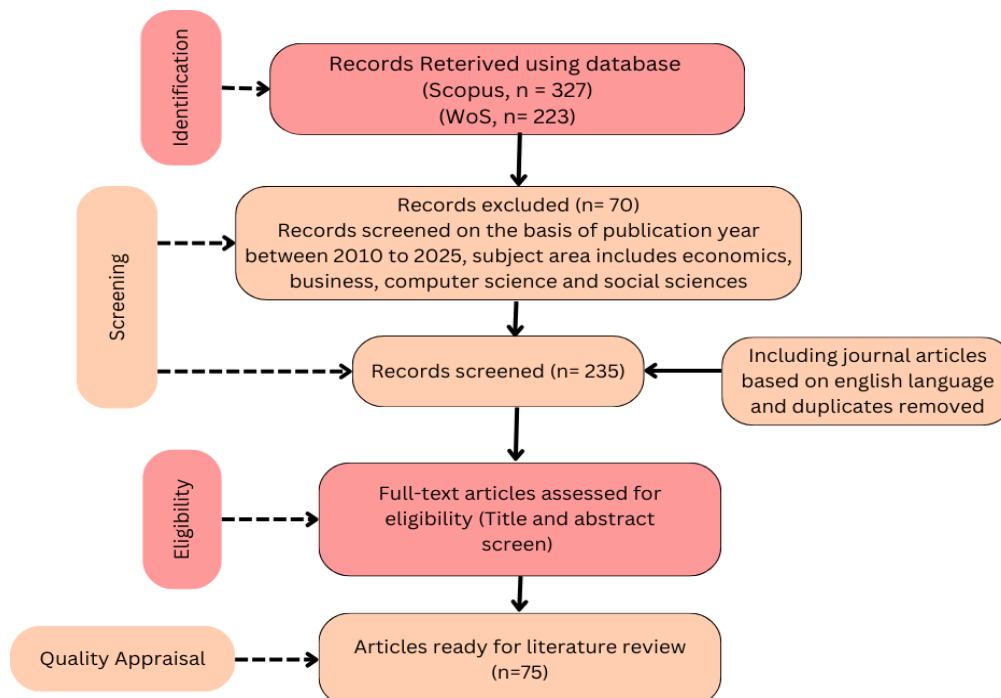
Figure 1: PRISMA Flow chart

4. Conceptual foundation
4.1 Digital Financial Literacy (DFL)

The concept of financial literacy has traditionally encompassed individuals' knowledge, skills, and attitudes related to managing personal finances effectively. However, the integration of digital technologies into financial services has expanded the scope of financial literacy, giving rise to the concept of Digital Financial Literacy (DFL). DFL refers to accessing, understanding, evaluating, and utilizing digital financial tools and services while maintaining awareness of associated risks and ensuring secure financial decision-making (Lyons & Kass-Hanna, 2021).

Several scholars have highlighted the multi-dimensional nature of DFL, which includes:

Technical Competency: The ability to navigate digital platforms such as mobile banking apps, fintech services, and online payment gateways (Ravikumar et al., 2022).

Financial Knowledge: Understanding financial products, interest rates, investment risks, and budgeting principles within a digital environment (Jose & Ghosh, 2024).

Digital Security Awareness: Knowledge of cybersecurity threats, privacy concerns, and fraud prevention strategies (Seldal & Nyhus, 2022).

Critical Thinking and Decision-Making Skills: The capability to assess digital financial options, compare alternatives, and make informed choices (Koskelainen et al., 2023).

DFL is increasingly recognized as an essential competency in promoting responsible financial behavior, enhancing financial inclusion, and reducing vulnerability to financial fraud and exploitation. Studies by Kumar, Pillai, et al. (2023) and Setiawan et al. (2022) have confirmed that higher levels of DFL are positively associated with prudent financial behavior, financial well-being, and life satisfaction.

4.2 Digital Finance Usage (DFU)

Digital Finance Usage (DFU) refers to the engagement with and adoption of digital financial services, including but not limited to mobile payments, online banking, digital wallets, peer-to-peer lending, robo-advisors, and cryptocurrency platforms. DFU reflects both the frequency and quality of individuals' interactions with digital financial services and is influenced by multiple factors such as ease of use, perceived benefits, trust in technology, and digital access (Bhatt et al., 2022; Chatterjee, 2024).

The determinants of DFU can be broadly categorized as:

Individual Factors: Digital literacy, financial literacy, demographic variables (age, gender, education), and psychological aspects such as risk tolerance and trust (Kumar, Pillai, et al., 2023; Yang et al., 2023).

Technological Factors: Usability, accessibility, perceived security, and the reliability of digital financial platforms (Alkhwaldi, 2024).

Environmental Factors: Regulatory frameworks, digital infrastructure availability, socio-economic status, and cultural norms (R. Hasan et al., 2023; Kass-Hanna et al., 2022).

Notably, research has identified digital financial literacy as a critical enabler of digital finance usage. The ability to confidently and securely engage with digital financial tools is contingent upon individuals possessing adequate digital financial literacy. However, various studies, including those by Zeng & Li (2023) and Seldal & Nyhus (2022), have also drawn attention to the barriers that hinder DFU, such as lack of trust, technological apprehension, and socio-demographic disparities.

4.3 The interrelationship between DFL and DFU

The theoretical linkage between digital financial literacy and digital finance usage is well-established in the literature. Higher levels of DFL equip individuals with the necessary competencies to navigate digital financial services confidently, thereby fostering increased adoption and usage. Empirical evidence by Choung et al. (2023) and Yang et al. (2023) supports this positive relationship, showing that DFL not only improves the likelihood of adopting digital financial services but also contributes to better financial outcomes, such as savings, investment, and spending behavior.

Moreover, DFL is vital in mitigating the risks associated with digital finance usage. By enhancing digital security awareness and promoting responsible decision-making, DFL reduces users' susceptibility to cyber fraud and financial exploitation (Yang et al., 2023).

However, the relationship between DFL and DFU is not linear; it is often mediated or moderated by factors such as technological acceptance, socioeconomic status, digital infrastructure, and institutional trust (Bhatt et al., 2022). Recognizing and addressing these interdependencies is essential to leveraging DFL to enhance digital finance usage and promote broader financial inclusion.

5. Descriptive and thematic analysis

5.1 Descriptive analysis of the reviewed studies

The systematic review incorporated n=75 peer-reviewed articles published between 2010 and 2024. The publication trends reveal a noticeable increase in scholarly interest in digital financial literacy and digital finance usage over the past decade, with a significant surge observed post-2020. This upward trajectory reflects the growing relevance of digital financial services, particularly in light of the COVID-19 pandemic, which accelerated the shift toward digital platforms.

In terms of geographical distribution, the majority of studies are concentrated in emerging economies such as India, Indonesia, China, and several Sub-Saharan African countries. Studies by Affandi et al.

(2024), Yang et al. (2023), and Kass-Hanna et al. (2022) exemplify this trend, highlighting the critical role of digital financial literacy in promoting financial inclusion in developing regions. However, there remains a relative paucity of research focusing on Latin America and the Middle East, indicating a potential area for future inquiry.

Regarding methodological approaches, quantitative studies dominate the literature, employing survey-based designs, regression analyses, and structural equation modeling to explore the relationship between DFL and DFU (Setiawan et al., 2022). A smaller but growing body of qualitative and mixed-methods research provides deeper insights into user perceptions, barriers, and sociocultural influences on digital finance adoption (Chatterjee, 2024; Zeng & Li, 2023).

5.2. Publication trend analysis

To provide an overview of the scholarly interest in digital financial literacy and digital finance usage, Figure 2 presents the annual scientific production from 2018 to 2024. The graph indicates a steady growth in research output, with a sharp surge post-2020. This rise aligns with the global shift toward digital financial services, accelerated by the COVID-19 pandemic's surge in digital financial adoption. The peak observed in 2024 underscores the heightened attention to digital financial competencies.
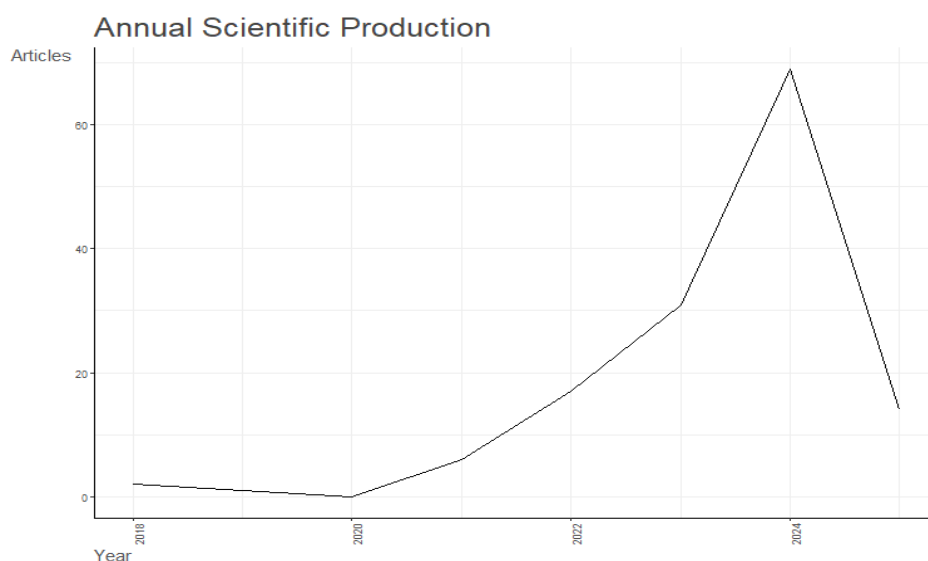
Figure 2: Annual Scientific Production

5.2. Keyword analysis visualization:

In addition to publication trends, a keyword analysis was conducted to visualize dominant research themes. Figure 3 illustrates a word cloud generated from keywords extracted from the selected studies. Prominent terms include "finance," "financial literacy," "financial services," "digital financial literacy," and "financial inclusion," highlighting the thematic concentration of the literature. Emerging areas such as fintech, blockchain, technology adoption, and decentralized finance are also notable, reflecting the evolving nature of the field.

Figure 3: Word cloud

Source(s): Author's compilation

5.3. Most cited documents analysis:

To identify the most influential studies, a citation analysis was performed. Figure 4 showcases the most globally cited documents in the reviewed literature. Notably, the work by Yue (2022) stands out with 248 citations, followed by Kass-Hanna et al. (2022) and Lyons et al. (2021). These documents have significantly shaped scholarly discussions on digital financial literacy and financial inclusion, offering foundational contributions to the field.
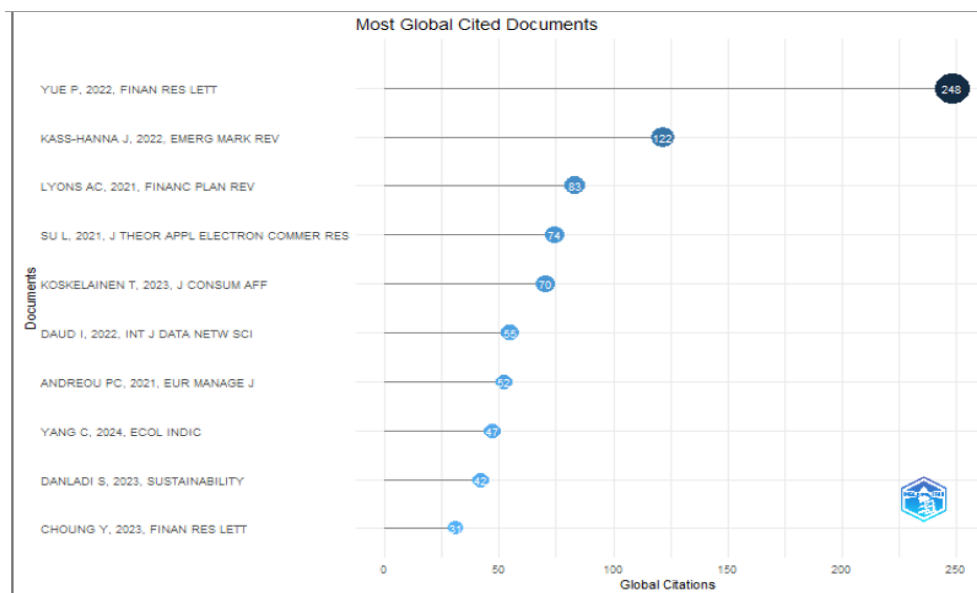

Figure 4: Most cited documents

5.4 Thematic analysis

The thematic synthesis of the reviewed literature reveals four key themes:

Theme 1: Conceptualization and Measurement of Digital Financial Literacy

Several studies highlight the lack of standardization in defining and measuring DFL. While some research adopts comprehensive frameworks that include financial knowledge, digital skills, and security awareness (Lyons & Kass-Hanna, 2021), and others focus narrowly on one or two

dimensions. This heterogeneity underscores the need for the development of universally accepted measurement scales that can facilitate cross-country comparisons.

Theme 2: Determinants of Digital Finance Usage

The literature identifies various individual, technological, and environmental factors influencing DFU. Digital financial literacy consistently emerges as a key determinant, with higher levels of DFL associated with increased adoption of digital financial services. Additionally, factors such as age, gender, income, digital access, trust, and perceived security also play significant roles (M. Hasan et al., 2021; Yang et al., 2023).

Theme 3: Barriers to Effective Digital Finance Usage

Despite high levels of DFL, several barriers hinder the effective utilization of digital financial services. Trust issues, concerns over data privacy, lack of user-friendly interfaces, and cyber fraud threats are recurrently cited impediments (Seldal & Nyhus, 2022; Zeng & Li, 2023). These barriers are particularly pronounced among older adults, women, rural populations, and financially vulnerable groups, highlighting the need for demographic-specific interventions.

Theme 4: Impact of DFL on Financial Inclusion and Well-being

A significant body of research affirms the positive impact of DFL on financial inclusion, business performance, and overall financial well-being. Studies by (Affandi et al., 2024; M. Hasan et al., 2021; Kass-Hanna et al., 2022) emphasize that enhancing DFL not only facilitates access to digital financial services but also contributes to economic resilience and social empowerment, particularly in emerging economies.

Table 1: Summary table of selected studies

Here's a summary table capturing key aspects of the reviewed literature:

Author(s)	Year	Geographical Context	Focus Area	Methodology	Key Findings
Affandi et al.	2024	Indonesia	DFL & SME Performance	Quantitative Survey	DFL enhances business performance in small enterprises
Kass-Hanna et al.	2022	South Asia & Africa	DFL & Financial Resilience	Mixed Methods	DFL improves financial inclusion and resilience
Choung et al.	2023	South Korea	DFL & Financial Well-being	Quantitative	The strong link between DFL and financial satisfaction
M. Hasan et al.	2023	Global	DFL & Women Entrepreneurs	Quantitative	DFL boosts financial inclusion among women entrepreneurs
Ravikumar et al.	2022	India	Measurement of DFL	Quantitative	Developed and validated DFL measurement tool
Zeng & Li	2023	China	DFU among Elderly	Qualitative	Elderly face challenges in DFU despite financial knowledge
Bhatt et al.	2022	Global	FinTech & Digital Finance Trends	Bibliometric Analysis	Identifies research clusters and trends in FinTech
Jose & Ghosh	2024	Global	DFL & Financial Behavior Review	Systematic Review	Advocates interdisciplinary approach for DFL studies

Source(s): Author's compilation

6. Research gaps and future research directions

The systematic review of the existing literature on digital financial literacy (DFL) and digital finance usage (DFU) reveals a growing body of research emphasizing their critical role in shaping financial

behaviors and promoting financial inclusion. However, despite significant scholarly contributions, several key research gaps remain unaddressed, presenting opportunities for further inquiry.

6.1 Conceptual and measurement gaps

One of the most prominent gaps identified is the lack of a universally accepted conceptual framework and standardized measurement scale for digital financial literacy. While some studies adopt multi-dimensional approaches, integrating financial knowledge, digital competencies, and security awareness, others focus narrowly on selected components. This definitional ambiguity hinders comparative studies and limits the ability to conduct cross-country or longitudinal research. Future research should aim to develop and validate standardized, culturally sensitive, and globally adaptable DFL measurement tools to ensure consistency and comparability.

6.2 Underrepresentation of certain geographies

The review highlights a geographical imbalance in the existing literature. A significant concentration of studies originates from Asian economies (e.g., India, Indonesia, China) and selected Sub-Saharan African countries. Conversely, regions such as Latin America, the Middle East, and parts of Africa remain underexplored. This lack of regional diversity limits the generalizability of findings and overlooks the unique socio-economic, cultural, and regulatory factors influencing DFL and DFU in different contexts. Future research should focus on expanding the geographical scope by including studies from underrepresented regions to foster a more comprehensive global perspective.

6.3 Limited longitudinal and experimental studies

Most empirical studies reviewed employ cross-sectional designs, providing snapshot insights into the relationship between DFL and DFU. However, such approaches fail to capture the dynamic nature of digital financial literacy, especially in the face of rapid technological advancements, evolving financial products, and changing regulatory environments. There is a need for longitudinal studies to understand how individuals' digital financial literacy evolves over time and how it influences long-term financial behaviors and outcomes. Additionally, experimental and intervention-based studies could provide valuable insights into the effectiveness of various DFL enhancement programs.

6.4 Insufficient focus on emerging technologies

Another noticeable gap is the limited exploration of DFL in the context of emerging financial technologies. Most studies focus on traditional digital financial services such as mobile banking, online payments, and fintech platforms. However, the rise of blockchain, cryptocurrencies, decentralized finance (DeFi), artificial intelligence-driven financial tools, and Central Bank Digital Currencies (CBDCs) introduces new complexities and risks. Future research should investigate how digital financial literacy influences the adoption and safe usage of emerging financial technologies, addressing both opportunities and potential vulnerabilities.

6.5 Demographic-specific insights

While several studies emphasize the role of DFL in marginalized groups, particularly women entrepreneurs and SMEs, there remains a lack of granular demographic analysis. Few studies provide an in-depth exploration of DFL among specific age groups (e.g., elderly, youth), income segments, rural populations, or individuals with disabilities. Future research should adopt intersectional and inclusive approaches to understand how factors like age, gender, socio-economic status, education, and digital access intersect to shape DFL and DFU outcomes.

6.6 Integration of behavioral and psychological factors

The literature shows a growing interest in the role of behavioral, psychological, and socio-cultural factors in shaping digital finance usage (Kumar et al., 2023; Jose & Ghosh, 2024). However, these dimensions remain underexplored and fragmented. Future studies should integrate behavioral economics and psychology frameworks to analyze how financial attitudes, trust in technology, risk tolerance, and cultural norms influence DFL and DFU, particularly in diverse socio-economic settings.

Future research agenda summary:

1. Develop and validate standardized, multi-dimensional DFL measurement scales.

2. Conduct longitudinal and experimental studies to capture the evolution of DFL and its long-term impact.

3. Expand research to underrepresented regions, especially Latin America, the Middle East, and parts of Africa.

4. Examine the role of DFL in adoption of emerging technologies (e.g., blockchain, AI-driven finance, CBDCs).

5. Undertake demographic-specific studies using intersectional approaches to analyze DFL disparities.

6. Incorporate behavioral, psychological, and socio-cultural determinants into future DFL research frameworks.

7. Practical implications

The synthesis of existing literature on digital financial literacy (DFL) and digital finance usage (DFU) offers several actionable insights for policymakers, financial institutions, educators, and technology developers.

7.1 Implications for policymakers

Policymakers play a pivotal role in fostering digital financial inclusion. The findings highlight the need for targeted national strategies to enhance DFL, particularly among marginalized groups such as women, rural populations, elderly citizens, and small business owners. Governments should consider integrating digital financial education into formal education curricula and promoting public awareness campaigns focusing on digital security, financial fraud prevention, and responsible digital finance usage. Moreover, supportive regulatory frameworks that enhance trust in digital financial services, such as robust consumer protection laws and cybersecurity policies, are essential to encourage broader adoption.

7.2 Implications for financial institutions and FinTech providers

Financial service providers, including banks and fintech companies, must recognize that the mere availability of digital financial services is insufficient without ensuring that users possess the skills and confidence to use them. Institutions can play a proactive role by offering DFL-focused workshops, tutorials, and interactive tools embedded within their platforms. Simplifying user interfaces, providing multilingual support, and ensuring transparent communication of product terms and risks can further mitigate barriers to digital finance adoption. Additionally, leveraging behavioral nudges and personalization strategies can encourage responsible usage and improve customer engagement.

7.3 Implications for educators and training institutions

Educational institutions, vocational training centers, and non-governmental organizations (NGOs) can contribute by designing and delivering context-specific DFL programs tailored to diverse demographics. The review underscores the importance of practical, hands-on training modules that cover not only financial concepts but also digital skills, cyber hygiene, and critical thinking. Partnerships between educational institutions and financial service providers can be instrumental in scaling such initiatives, especially in underserved areas.

7.4 Implications for technology developers

For technology developers and digital platform designers, the insights from this review suggest prioritizing user-centric design principles. Platforms should be accessible, intuitive, and inclusive, catering to users with varying levels of digital proficiency. Incorporating built-in educational prompts, fraud alerts, and real-time guidance features can empower users to make informed financial decisions. Furthermore, adopting ethical design practices that prioritize transparency, data privacy, and user autonomy is crucial in building trust and fostering long-term engagement.

8. Conclusion

The intersection of digital technology and finance has transformed how individuals' access and manage their financial resources. However, the benefits of this transformation can only be fully

realized when individuals possess adequate digital financial literacy. This systematic literature review consolidates current knowledge on the relationship between digital financial literacy and digital finance usage, highlighting its critical role in shaping financial behavior, enhancing financial inclusion, and promoting financial well-being.

The review identifies key determinants, barriers, and enabling factors influencing digital finance usage, with digital financial literacy emerging as a central enabler. Despite the growing body of research, notable gaps persist, including the lack of standardized measurement frameworks, limited longitudinal studies, geographical imbalances, and insufficient exploration of emerging financial technologies and demographic-specific dynamics.

By addressing these gaps, future research can contribute to a more cohesive, inclusive, and impactful understanding of digital financial literacy. The practical insights derived from this review offer valuable guidance for policymakers, financial institutions, educators, and technology developers to design targeted interventions that bridge the DFL gap and foster an inclusive digital financial ecosystem.

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