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Unpacking Digital Financial Literacy: A Systematic Review of its Dimensions, Drivers and Consequences in the Digital Era

[1]Divya Rani, [2]Shveta Singh

[1]Research Scholar, [2]Professor

[1]Haryana School of Business

Guru Jambheshwar University of Science and Technology,

Hisar, Haryana, India

ABSTRACT

The rapid proliferation of digital financial services raises the concept of digital financial literacy for making wise financial decisions. The review presents an analysis of the current state of knowledge about DFL and explores its recent behavioural and psychological aspects, including digital financial inclusion, impulsivity, cyber hygiene and locus of control. A systematic literature review was conducted using studies from reputable journals and academic databases. In total, 80 studies were reviewed according to their relevance in the field. The review entails studies from different geographical areas that used a variety of methodologies, such as structural equation modelling, confirmatory factor analysis and regression analysis. The findings highlight that digital financial literacy is a multidimensional concept, including components like knowledge, skills, confidence, awareness and management of digital financial skills. Moreover, the review reveals that digital financial literacy is a significant driver of digital financial inclusion, fostering responsible financial behaviour, and promoting financial well-being. Psychological and behavioural factors like impulsivity and locus of control, as well as cybersecurity practices, which can be measured through cyber hygiene, have become an important dimension in the study of individuals' digital financial behaviour. Yet, there has been relatively little research into this issue from this perspective, and there remains much ambiguity concerning DFL in general.

Keywords – Digital financial literacy, literature review, impulsivity, locus of control, cyber hygiene, digital financial inclusion

1. INTRODUCTION

With the upsurge in financial technologies, Digital Financial Literacy (DFL) serves as a cornerstone in the digital era, unlocking the door to economic inclusion. In today's technology-driven financial environment, the ability to successfully navigate the digital landscape of financial tools and resources is essential (Yadav et al., 2024). In response to the proliferation of Digital Financial Services (DFS) (Mahdzan et al., 2022; Bapat, 2022), individuals are required to be equipped with financial knowledge and digital competencies (Bhat et al., 2025).

DFL encompasses the competencies required to engage with digital financial platforms, such as online banking transactions, digital wallets, mobile payment applications, and online investment, thereby enabling sound financial decision-making (Chhillar et al., 2024; Morgan et al., 2019; Long et al.,2023; Mbama & Ezepue, 2018). A critical barrier to the adoption of DFS is the lack of DFL, which remains a prerequisite for accessing financial resources and achieving financial mobility (Liew, Lim, & Liu, 2020). Only 25% of users struggle with a basic understanding of online financial tools, despite high usage of Digital Banking (Brunett, 2026).

In the digital era, familiarity with financial technology is imperative, as it not only enhances digital literacy but also facilitates seamless financial transactions. Amid the accelerating digital transformation, DFL is a multidimensional construct that goes beyond basic financial literacy, integrating cybersecurity practices, decision-making skills and promoting non-impulsive behaviour.

A person's financial well-being is greatly influenced by their psychological and behavioural characteristics in an increasingly digitalized world. This study investigates the connection between impulsivity, locus of control, cyber hygiene, digital financial inclusion and digital financial literacy. Examining these important factors provides insights into how this study affects vulnerable population.

However, equal access to digital financial inclusion(DFI) is essential; mere presence of DFS does not ensure meaningful participation. DFL serves as a doorway and catalyst to DFI in a digital environment, giving people the information and self-assurance they need to successfully access, understand and use DFS (Akpene Akakpo et al., 2022; Grohmann et al., 2018; Showkat et al.,2025). DFL transforms access into meaningful inclusion by empowering people with the confidence and skills in the digital financial world (Prete, 2022; Sahay et al., 2021; Tony & Desai, 2020; Azeez & Akhtar, 2021; Choung et al., 2023)..

With the rapid proliferation of digital platforms and services, individuals are increasingly relying on digital channels for their financial transactions, investments, and money management (Zhang and Fan, 2024; Abdallah et al., 2025). For instance, Impulsivity can undermine rational financial decision-making leads to risky behaviour. It emerges as a critical psychological factor creating financial mismanagement. Thus, the inclination of a short-sighted person induces irrational financial decision-making (Tahir et al., 2022).

As financial services migrate to digital platforms, Cyber Hygiene (CH) becomes integral to DFL. As DFL talks about the usage of financial tools, CH ensures safer use of financial tools. The emerging digital economy has brought a parallel surge in cyberattacks and online fraud (Interpol, 2020). The integration of digital safety and financial literacy enhances individuals' capacity to detect and mitigate financial fraud, helps to spot fake websites, ensure data encryption and use authentic digital payment channels (Cybersecurity Ventures, 2023).

The acquisition of digital financial skills can recalibrate one's locus of control, transforming passive users into confident decision-makers, managing money wisely and shaping a secure financial future (Gultom & Liyas, 2024; Chong et al., 2021).

Previous investigations stressed that DFL can be an effective tool to bring financial inclusion and also shed light on inequalities fostered by digital financial regimes and financial exclusion (Jose et al., 2025; Setiawan et al., 2022). There is a significant role of DFL in enhancing life satisfaction, with self-protection against digital financial fraud identified as the most impactful factor (Choung et al., 2025). Afzal et al. (2025) demonstrate the impact of cyber fraud on DFI, highlighting the importance of addressing cybersecurity concerns to ensure sustained user engagement and broader acceptance, thereby enhancing DFI in rural India amidst escalating cyber fraud; further, this study will considers analyse the role of cybersecurity practices in improving DFL. LOC and Impulsivity as psychological factors affect the financial decision-making of individuals. An impulsive consumer performs actions without any plans (Tahir et al., 2021), whereas a strong LOC is the outcome of better financial management (Multu et al., 2022). There is a notable paucity of rigorous academic enquiry into DFL (Azeez & Akhtar, 2021; Bansal, 2019; Prasad et al., 2018; Ravikumar et al., 2022) and a marked dearth of research on the combined influence of these constructs on DFL. By integrating these terms into a unified framework, the present study addresses a critical gap in the literature, offering a more holistic understanding of barriers in the digital landscape.

By examining these interrelated dimensions, the study aims to uncover how psychological and behavioural traits act collectively to influence digital competencies among people. Despite the proliferation of digital financial tools, individuals are falling victim to cyber fraud, highlighting the urgent need for DFL and cybersecurity awareness. This research mainly focuses on analysing DFL and how its key determinants help in shaping financial behaviour in the digital age.

The findings will contribute to academicians, policymakers, government for targeted DFL programmes that empower individuals to participate in the meaningful digital financial landscape.

2. METHODOLOGY

We selected a systematic literature review method in this paper to review, critique and synthesize the previous research on DFL and its dimensions. Numerous databases including Springer, Emerald, Elsevier, Wiley, Taylor & Francis insight and journals including Economics of Innovation and New Technology, Journal of Management Analysis, Cogent Economics and Finance, Financial Planning Review, Journal of Accounting and Investment, International Journal of Accounting & Information Management, Emerging Market & Finance, Journal of Consumer Affairs, Business Strategy and Development, Finance Research Letter, were explored. The keywords used to find research papers were "Digital Financial Literacy", "Online Financial Literacy" "Financial Behaviour", "Digital Financial Literacy", "Financial Well-Being", "Financial Literacy in Digital Age", "Digital Financial Inclusion", and "Cyber Hygiene".

The available research from past years is presented in this research. A total of 80 research articles were reviewed according to the relevance of the study. These research papers include publications from various countries like Malaysia, South Korea, Indonesia, India, USA, Sri Lanka, China and Ghana. Previous researches utilised a variety of statistical tools and techniques to measure and test the validity of research such as Structural Equation Modelling (SEM), Path Analysis, Delphi technique, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Finite Mixture Partial Least Square method (FIM-PLS), Cronbach's alpha, G power, F test, Regression, Analysis of Variance, Mann Whitney U test, Kruskal Wallis test.

3. RESULTS AND DISCUSSION

Although DFL has a substantial research base, recent studies expanding the approach by integrating behavioural and psychological traits are gaining prominence in the digital landscape. These additions build on momentum by unifying these dimensions into an interdisciplinary framework.

3.1. Digital Financial Literacy

DFL can be defined as the knowledge, skills, confidence, and competence to use digital financial goods and services efficiently and make prudent financial decisions (Choung et al., 2023). According to Abdallah et al. (2025), financial literacy includes the general understanding, evaluation, management, and communication of personal financial issues. The overall understanding of the knowledge about personal financial education using digital platforms determines DFL. According to Kumar et al. (2023), DFL is vital in helping individuals live and thrive in the current advanced financial environment. Socioeconomic characteristics are significant determinants of DFL, as explained by Morgan et al. (2019) and Setiawan et al. (2022).

In India, the efficient utilization of digital financial services depends on the use of platforms such as Bharat Interface for Money (BHIM), RuPay cards, Aadhaar Enabled Payment Services, Bharat Quick Response (QR) code, Unified Payments Interface (UPI), National Automated Clearing House (NACH), and National Electronic Toll Collection system (Kumar et al., 2023). As Dzogbenuku et al. (2022) argue, "Digitalization, because of its pervasiveness, affects the lives of both the educated and uneducated, the rich and poor, offering convenience and savings advantages and obstacles at once." The two-sided impact of technological advances is shown in this view of the impact of technological innovations. One of the major barriers to the adoption of digital financial services is the lack of DFL, which is a prerequisite for access to financial resources and financial mobility (Liew et al., 2020). DFL becomes imperative in the digital era, as it not only promotes digital literacy but also helps conduct financial transactions easily.

With the growing number of financial transactions in the digital era, DFL programs help individuals to avoid scams; therefore, it helps to relieve the government of pressure regarding financial burden due to financial scams (Yadav et al., 2023). Morgan et al. (2019) have used four concepts in defining digital financial literacy: Understanding of digital financial products and services, awareness of digital financial risks related to financial products and services, familiarity with digital financial risk management strategies, and awareness of consumer rights and complaint processes.

3.2. Digital Financial Inclusion

DFI can be defined as the usage of formal financial services through digital means by the underprivileged population. These services should be appropriate for the requirements of customers, delivered responsibly in a cost-effective manner and sustainable for providers. The evolution of digital finance broadened consumer choices, enhanced involvement in financial operations, and boosted household credit (Rajan and Lines, 2010). DFI positively impact FWB of vulnerable and disadvantaged households (Du et al.,2022), while Hassan et al. (2023) define the positive correlation of DFL and FI of women entrepreneurs. Financial literacy constitutes a crucial complement in the advancement of financial inclusion. The progression towards the realization of Financial Inclusion (FI) is similarly manifested in the doctrines of Gandhian philosophy: 'Sarvodaya through Antyodaya – the prosperity of all through the advancement of the least advantaged (Das, 2021). Financial inclusion acts as a medicine for vulnerable groups, which provides them access to wallet- friendly financial products and services.

FL is the backbone of FI (Khan et al., 2022). It is broadly recognized that FL and FI, together with sound consumer financial protection, empower individuals and maintain financial stability (OECD, 2020). DFI positively impacts the FWB of vulnerable and disadvantaged households (Du et al.,2022), while Hassan et al. (2023) define the positive correlation of DFL and FI for women entrepreneurs. OECD (2022) outlined that financial inclusion is the outcome of DFL. DFL has a significant influence on DFI (Widyastuti et al., 2024), as intensively use of digital financial services leads to access to the financial system. Hence, DFL is strongly correlated with DFI.

3.3. Impulsivity

Beatty and Ferrell (1998) defined Impulsivity as the tendency to make unplanned purchases driven by emotional urges rather than rational decision-making due to a lack of adequate forethought that violates logical buying behaviour and replaces it with irrational self-indulgence, often without considering the consequences. It exhibits a predisposition towards unintentional financial decisions, lacking adequate forethought, thus deviating from logical financial behaviour and embracing irrational self-indulgence without contemplating potential consequences (Tahir et al., 2021; Kumar et al., 2023). People tend to act impulsively, especially when using digital banking and online shopping, because fast access and instant rewards make it easier to spend money hastily. Among urban youth, online shopping has evolved into a lifestyle, frequently leading to impulsive and financially careless spending habits (Suyanto et al., 2024). However, DFL, which includes digital financial knowledge (DFK), digital financial experience (DFE), and digital financial skills (DFS), plays a critical role in mitigating impulsivity. Bhat et al. (2025) found that all three dimensions of DFL negatively influence impulsive buying behaviour, suggesting that individuals with higher digital financial competence are less likely to engage in irrational spending. Furthermore, non-impulsive behaviour strengthens the positive relationship between financial literacy and both financial well-being and capability (Lee et al., 2020; Tahir et al., 2021). Anisa et al. (2020) observed that Generation Y consumers with improved financial literacy exhibited fewer instances of compulsive purchases compared to those with lower literacy levels. This highlights the importance of financial education in helping individuals, especially young consumers, distinguish between needs and wants, thereby reducing wasteful consumerism and promoting responsible financial habits. In essence, while digital platforms may encourage impulsivity, strong digital financial literacy serves as a protective factor, fostering thoughtful decision-making and long-term financial health.

3.4 Cyber Hygiene

CH refers to the behavioural habits individuals adopt to manage cybersecurity risks effectively, much like personal hygiene keeps a person clean and healthy (Armoogum et al., 2025; Barakovic et al., 2024). It involves consistent practices aimed at protecting digital privacy and security, combining behaviour and awareness to enhance data protection (Armoogum et al., 2025). As cyber threats continue to evolve, bridging the gap between technological advancements and human vulnerabilities has become essential. Adequate cybersecurity knowledge is necessary to raise awareness of potential risks in cyberspace and to prevent exploitation by cyber attackers (Richardson et al., 2020).

The importance of CH has grown significantly in today's digital world, where cybercrime is on the rise. Organisations must prioritise best practices to safeguard their personnel and resources from cyberattacks. Cyber frauds explicitly has been found to hinder DFI by eroding trust, causing financial losses, and discouraging rural users from engaging with DFS. Financial literacy alone is no longer sufficient to navigate the complex risks of the digital financial landscape without a strong foundation in cybersecurity awareness (Ogunola et al., 2024). Research by Surdjono et al. (2025) demonstrates that mobile learning-based cybersecurity awareness programs can effectively improve cyber hygiene practices, especially among finance students from non-technical backgrounds. This awareness also positively influences user trust and the adoption of digital payment systems, which are crucial for promoting digital financial inclusion (Khan et al., 2023; Afzal et al., 2025).

Although no existing study directly explores the relationship between cyber hygiene and digital financial literacy, emerging evidence suggests that cybersecurity practices play a vital role in enhancing digital financial literacy across society. As digital platforms become central to financial activities, understanding safe cyber practices becomes essential for making informed and secure financial decisions. This opens up new opportunities for research to analyze how cyber hygiene can strengthen digital financial literacy, ultimately empowering individuals to participate confidently and safely in the digital economy.

3.5. Locus of Control

Locus of control is the level of a person's belief that they themselves determine their fate (Gultom et al.,2024). Rotter (1966) first described it as individual self-belief about how their actions directly influence their behaviour. Peetz et al. (2021) define locus of control as the capacity to regulate attitudes when doing something. There are two sides of Locus of control: internal locus of control and External locus of control.

Internal locus of control defines that a person's financial success is in his control. Internal Locus of control demonstrates better financial management behaviour (Solikhatin et al., 2024). An individual with a strong internal locus of control who believes their actions shape their outcome exhibits a higher level of digital financial literacy.

An external locus of control describes that financial outcomes depend on luck or fate. Cobb-Clark et al. (2016) define external LOC as conveying that outcomes are determined by external factors such as luck, the environment and the people around them. Individuals with an external locus of control, who attribute outcomes to luck, fate, or external forces, often show lower levels of digital financial literacy. This mindset can reduce motivation to learn, weaken perceived responsibility for financial decisions, and increase vulnerability to digital risks.

Financial literacy helps people to consider thriftly use of money, saving and investment (Aren & Aydemir, 2015). The results of existing studies show significant influence of financial literacy on locus of control (Haudi, 2023; Hasan et al., 2025). Financial literacy influences a person to save some part of their money (Mpaata et al.,2023; Alshebami and Aldhyani,2022), which leads to a strong locus of control (Palacios & Soler, 2017). In the context of personal finance, research indicates that the locus of control relates to financial satisfaction and savings, where people with a higher level of control are more satisfied with their financial status (Ullah and Yusheng, 2020). However, various studies show the impact of financial literacy on locus of control. But there is a lack of research on the relationship between FL and LOC in a digital context. This research will focus on showcasing the impact of DFL on LOC.

4. CONCLUSION

This systematic literature review synthesizes the 72 studies drawn from the leading databases and management journals, examining the constructs of digital financial literacy and its different dimensions across diverse economies. According to the review, DFL is a multifaceted construct that is frequently operationalized through dimensions like digital knowledge, digital skills, digital awareness, and digital financial risk awareness. It consistently shows up as a significant predictor of financial behaviour, financial inclusion, and financial well-being.

There is a well-developed yet ongoing tradition of measuring DFL through the use of methods such as SEM, CFA, EFA, and PLS-based approaches, as seen from the studies reviewed above. Qualitative and mixed methods approaches were not extensively employed in the studies examined, implying an imbalance in methodological pluralism. In terms of geographical context, there is a significant lacuna as almost all the research relates to developing Asian nations, whereas none is about developed Western nations, Sub-Saharan Africa, or Latin American countries.

Overall, this review confirms the importance of DFL as an important component in financial decisions in today's digital world; however, it raises the issue of longitudinal studies, conceptualization, and inconsistency of DFL in measurements in different research, as well as a small amount of research devoted to the investigation of psychological mechanisms through which DFL influences well-being. To determine causality among DFL, financial behaviour, and financial well-being, further research needs to be done using a validated DFL scale, including various geographic and demographic samples.

5. Practical Implications

The findings of this review present practical recommendations for multiple stakeholders. Policymakers and regulators can employ the identified dimensions of DFL in designing standardized frameworks for financial inclusion and go beyond the usual campaigns on financial literacy; financial institutions and fintech firms can apply the knowledge gained here to develop intuitive platforms and educate financially vulnerable consumers by the app; teachers can revise the curriculum of financial literacy classes based on digital financial skills such as conducting financial transactions safely or spotting financial scams; NGOs and developmental organizations can direct their efforts to implementing DFL programs in emerging markets with high levels of financial exclusion; and, finally, consumers can realize the importance of having not only the knowledge about finances but also digital skills in this regard.

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