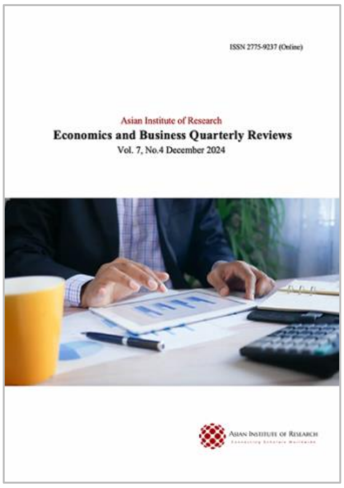

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Digital Financial Literacy Challenges and Issues: Case in Indonesia

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Abstract
The Digital Era is related to the development of Financial Technology (Fintech), and the COVID-19 pandemic boosted this development. With this rapid development, a new crucial phenomenon like being trapped in many lending and investments using their daily money happens. In the digital age, financial literacy is increasingly important things. Unfortunately, in this digital era, the phenomenon level of people's financial literacy is not enough. With the development of digital financial services, the importance of digital financial literacy is necessary. Digital financial literacy characteristics are unique in every country, and so are the challenges and problems with digital financial literacy, including in Indonesia. The main purpose of this research is to determine the challenges and issues of Digital Financial Literacy in Indonesia, which will fill the gap of a few research of a new field in Digital financial literacy. The method used is qualitative with semi-structured interviews. Through Qualitative methods, researchers can answer "what is the issues and challenges and have the flexibility to do exploratory research. The data collection of this research uses triangulation of secondary and primary data between literature review and semi-structured interviews. The study finds Eight challenges of Digital financial Literacy in Indonesia: laziness, people finding out new information and knowledge, issues with financial applications for the wrong purposes, people not caring and not planning, and others. With these, the government, role players, and companies can focus on enhancing Indonesia's digital financial literacy level by solving the issues and the challenges.

Keywords: Digital Financial Literacy, Financial Literacy, Challenge, Indonesia

1. Introduction

The rapid growth of technology in the digital era has significantly boosted all digital services and applications, including digital financial services. As a result, digital financial literacy has become crucial in navigating the development of financial technology. Since 2016, G20 countries have focused on enhancing digital financial literacy and awareness, recognizing it as a critical area of new scientific development. Higher levels of digital financial literacy are essential to prevent issues such as miss-selling, fraud, phishing, hacking, and unauthorized use of data (Morgan, Huang, and Trinh, 2019).

In Indonesia, the level of Digital Financial Literacy (DFL) is estimated to be around 35%, according to the Ministry of Computer and Information. However, this figure is approximate due to the lack of standardized definitions and measurement tools for DFL. Financial literacy remains a significant issue in developing countries, including Indonesia, particularly in the digital age (Dai, Kostini N and Tresna PW, 2021). According to OJK measurements in 2022, traditional financial literacy in Indonesia stands at 49.68%, while financial inclusion is at 85.10%. This significant gap between financial literacy and financial inclusion presents a considerable challenge for Indonesia.

The COVID-19 pandemic has further accelerated the development of financial technology and digital financial services in Indonesia (Purba, Samuel, and Budiono, 2021). During this period, numerous incidents highlighted the low level of DFL among the population. Examples include a teacher entangled in over twenty online loans simultaneously, a mother using her children's tuition fees to buy stocks without understanding the concept, and widespread misuse of digital financial services due to inadequate knowledge of security practices like PIN protection. These incidents underscore that the rapid technological advancements have yet to be matched by an increase in DFL, posing a tough challenge (Aier et al., 2024).

Digital financial literacy has become an increasingly important area of study, reflecting its critical role in today's digital economy. According to Golden and Cordie, (2022), digital financial literacy is as essential as basic skills like reading, writing, and numeracy, emphasizing the need for adult learners to make informed financial decisions using digital devices to achieve financial well-being. This perspective aligns with findings from Andreou and Anyfantaki, (2021), who noted that in Cyprus, individuals with higher financial literacy are more likely to engage with internet banking. This highlights the link between financial knowledge and the adoption of digital financial services, suggesting that improving digital financial literacy could enhance the use of such services.

Further exploration into this field reveals a growing body of research focused on various aspects of digital financial literacy. Yadav and Banerji, (2023) conducted a bibliometric analysis showing that research in this area now includes factors influencing, promoting, and affecting behavior. This expansion indicates a broadening interest and need for deeper understanding, as emphasized by Firmansyah and Susetyo, (2022), who pointed out the crucial role of financial and digital literacy in the digital economy. Additionally, Kaminskyi et al., (2023) and Lo Prete, (2021) explored components and methods for enhancing digital financial literacy, underscoring the importance of awareness, control, and consumer rights in making sound financial decisions.

This study identifies a significant knowledge gap regarding digital financial services in Indonesia, with many people still needing to understand digital investment options beyond traditional income sources (Thathsarani and Jianguo, 2022; Lin et al., 2023). Additionally, inconsistent and reactive digital financial behavior, coupled with distrust in the security of financial data, hinders the widespread adoption of digital financial services (Cherkasova and Slepushenko, 2021). To address these challenges, more inclusive educational strategies and the development of financial management tools that assist in budgeting and systematic investing are necessary. These insights are particularly relevant in dynamic urban settings like Greater Jakarta, where significant growth and high internet penetration create both opportunities and challenges for enhancing digital financial literacy. This study aims to address these challenges by providing a detailed analysis of the barriers faced by different demographic groups in Greater Jakarta. Moreover, it seeks to develop targeted recommendations to improve digital financial literacy and support informed financial decision-making in this rapidly evolving urban environment.

2. Literature Review

Digital Financial Literacy has become an essential aspect of the digital era. Digital Technology makes financial services borderless and easy to access (Morgan and Trinh, 2019). Digital Financial Literacy combines financial Literacy and digital Literacy (Tony and Desai, 2020). The concept of digital financial literacy and financial literacy has unique aspects due to its nature, products, and risk (Chetty et al., 2018). Digital literacy and financial literacy are based on a conceptual framework for digital financial literacy, and the combined impact becomes digital financial literacy (Lyons and Kass-Hanna, 2021). These consist of five-dimension frameworks of basic knowledge and skills, awareness (knowing about available financial and digital products and services), practical know-how (especially in practical access and use), decision-making (including financial attitudes), and self-protection. Digital literacy and financial literacy without digital financial literacy are not enough to facilitate digital financial services and digital financial product users. Digital financial literacy become an important multi-dimensional lens in facing the digital era.

Kotni and Botta, (2020) said that Digital Financial Literacy knows, acquiring skills, and developing the necessary habits to use digital devices for financial transactions effectively. Like two sides of coins, fintech is closely related to Digital Financial Literacy. Fintech developments may damage economic well-being by triggering impulsive consumer behavior, such as impulsive purchasing behavior in goods spending or financial assets spending (Panos and Wilson, 2020). The digital financial behavior phenomenon in Indonesia hasn't become a good behavior. There are many bad phenomena such as being trapped in online lending, using daily financial allocation for investment, stealing online data, and others (Azeez and Akhtar, 2021).

Financial literacy is a person's ability to understand, analyze, manage, and communicate personal finance matters (Huston, 2010). The level of financial literacy is related to a person's understanding and solving their financial problem (Mendoza et al., 2023) It refers to skills and knowledge to make informed and effective financial decisions regarding using and managing their money. The digital era is coming, so financial literacy is being developed into a digital financial literacy mode (Lo Prete, 2022). Sarigül et al. (2014) The initial concept of financial literacy was introduced in 1997 by Jumpstart Coalition. It is defined as using knowledge and skills to manage financial resources to achieve lifetime financial security. Financial literacy is a mix of awareness, knowledge, skill, and attitude that enables individuals to make sound financial decisions and achieve financial security (Atkinson, 2012). Digital financial solutions have bridged financial literacy and inclusion in the digital age (Shen, Hu, and Hueng, 2018). If the degree of financial literacy remains low, digital finance awareness will also be high, which can reduce the adoption of digital financial services (Fungáčová & Weill, 2015).

The level of traditional Financial Literacy in Indonesia, based on OJK measurements in 2022, is 49,68%, while the financial inclusion level is 85,10%. The large gap between financial literacy and financial inclusion become one of Indonesia's challenges. Indonesian people are more likely to utilize digital financial services first, including online banking and e-commerce, rather than understanding the product and the risk of the product (Pinto et al., 2021). Digital Financial Literacy is a digital mode of financial literacy (Aulia, Rahayu, and Bahari, 2023). Digital financial literacy is good knowledge and capabilities to manage money and achieve financial well-being. Digital financial literacy is crucial because good literacy combined with the ability to use digital financial services helps achieve every person's financial well-being (Munthasar, Hasnita, and Yulindawati, 2021). With good knowledge, people will be more confident and attracted to using digital financial services and riding the wave of the fintech rapid development era (Yuliyanti and Pramesti, 2021).

The emergence of technology proves that digital technology has penetrated the financial sector quickly and widely. Online lending transactions have been rising significantly to 169 trillion in 2022. The main challenge is the development of digital financial technology not accompanied by the raising of digital financial literacy levels. This situation has raised potential risks such as data theft, sudden loss of money, not understanding the application's terms and conditions, etc (Rahayu et al., 2022). There is a positive relationship between digital financial behavior and financial literacy (Normawati, Rahayu, and Worokinasih, 2021). Self-protection, basic knowledge and skills of digital financial literacy, consumer awareness, social norms constraints, hands-off experience, digital financial behavior, and knowledge of consumer rights and redress products are included in a digital financial literacy dimensions framework (Putri, A.M., Damayanti, S.M., Rahadi, R.A., 2022). Educating Indonesian people can raise the level of digital financial literacy, reduce the challenges and trouble Indonesia people face while using fintech, and help people increase their capabilities to manage their finances wisely and avoid the risk of fintech (Aulia, Rahayu and Bahari, 2023). Table 1 highlights the primary research areas explored by various authors and contextualizes how the current discussion in this paper builds upon and diverges from these existing works.

Table 1: Previous Research

Key Focus	Authors	Year
Crucial for adult learners to make better financial decisions using digital devices, as crucial as reading, writing, and numeracy in today's digital economy.	(Golden and Cordie, 2022)	2022
Financial literacy in Cyprus is low, but those with higher financial knowledge are more likely to use Internet banking frequently, increasing the likelihood of digital financial services adoption.	(Andreou and Anyfantaki, 2021)	2019
Digital financial literacy research has expanded to include influencing, promoting, and behavioral factors, highlighting the need for further exploration and collaboration in the field.	(Yadav and Banerji, 2023)	2023
Financial literacy and digital literacy are crucial for successful financial behavior and decisions in the digital economy era, with their core concepts being similar across various perspectives and viewpoints.	(Firmansyah and Susetyo, 2022)	2022
Digital financial literacy, which combines financial services and digital technologies, focuses on awareness, control, and consumer rights, enhancing financial decision-making in the digital world.	(Kaminskyi *et al.*, 2023)	2023
Digital financial literacy among households in Udaipur city is low, with personal characteristics and education being key factors in increasing their use of digital platforms and promoting digital transactions.	(Prasad, Meghwal and Dayama, 2018)	2018
Financial literacy and digital financial literacy in the European Union vary between countries, with discrepancies in knowledge and attitudes towards FinTech solutions, cryptocurrencies, and digital money.	(Răzvan, 2021)	2021

Digital financial literacy has become a crucial focus in various studies, emphasizing its importance for better financial decision-making in the digital era. For instance, research by Golden and Cordie, (2022) highlights that digital financial literacy is as essential as reading, writing, and numeracy in today's digital economy. This study underscores the critical need for adult learners to use digital devices in their financial decision-making processes. Meanwhile, the study by Andreou and Anyfantaki, (2021) reveals that in Cyprus, individuals with higher financial knowledge are more likely to frequently use internet banking, suggesting that financial literacy can drive the adoption of digital financial services. These studies provide a solid foundation for understanding how digital financial literacy influences individuals' financial behavior and indicate directions for further research to enhance financial literacy in the digital society.

This research paper addresses critical gaps in the understanding of digital financial literacy challenges within Greater Jakarta's diverse demographic landscape as a picture of Indonesia. Through a comprehensive qualitative analysis utilizing purposive sampling and in-depth interviews, the study explores the technological, educational, and systemic barriers impeding the adoption and enhancement of digital financial literacy across various occupational groups and age ranges. By focusing on Greater Jakarta, a region characterized by rapid urban development, high population density, and widespread internet access, this research offers valuable insights into the nuanced realities of digital financial literacy in a representative urban Indonesian setting, contributing to a more profound comprehension of the obstacles faced by individuals in navigating the increasingly digitalized financial ecosystem.

3. Objects and Methods of Research

3.1 Object of Research

Started with identifying the problems and determining the objective of the research. The problem is finding the aggressive digital era in balance with Indonesia's digital financial literacy level. This causes many phenomena, such as many people being trapped in online lending and using digital financial services without having good knowledge about it. Those phenomena and problems have created many challenges in digital financial literacy, especially in Indonesia (Dewi, Putri, and Situmorang, 2024).

The research objective is to answer "the issues and challenges of Digital Financial Literacy in Indonesia. Qualitative research is a suitable approach to answer questions of what, how, and when (Basias and Pollalis, 2018). The level of digital financial literacy in Indonesia is expected to increase by role players and the government creating a good strategy and program by focusing on solving the challenges and issues.

3.2 Research Methods

The study is exploratory and qualitative, aiming to comprehend better the social phenomena surrounding digital financial literacy in Indonesia. The qualitative research approach allows researchers to draw a broad picture, which is then translated into words to describe specific data (ideas and points of view) obtained from informants (Gehman et al., 2018). These insights are subsequently combined into a scientific backdrop (Creswell and Clark, 2009). This research utilized both primary and secondary data sources. Primary data were collected through semi-structured interviews, while secondary data were gathered from an extensive literature review.

After identifying the research objective, the study began with a literature review to gather secondary data. Current theories predominantly focus on traditional financial literacy, highlighting the need for more studies on digital financial literacy, especially in Indonesia. To address this gap, an interview protocol was developed to collect primary data. Semi-structured interviews were conducted to explore the issues and challenges of digital financial literacy in Indonesia from the perspective of local people.

Purposive sampling was used to select eight interviewees, ensuring a diverse range of backgrounds, occupations, and ages. This sampling method was chosen to obtain in-depth information from individuals who have direct experience and knowledge relevant to the research topic (Campbell et al., 2020). Greater Jakarta was selected as the research area due to its high dynamic growth, significant population density, and high internet penetration, making it a representative region for studying digital financial literacy in Indonesia. Table 2 identifies the detailed participants for this research.

Table 2: Interview Participants

Participants	**Job Title**	**Sector**	**Conduction**
P1	Entrepreneur (15 years experience)	Property and Farm	August 2022
P2	Entrepreneur (1 year experience)	Online Marketplace	July 2022
P3	Housewife		August 2022
P4	Student	Energy	July 2022
P5	Employee	Property	August 2022
P6	Manager	Operations	August 2022
P7	Employee	Customer Relation	August 2022
P8	Employee	Accounting	August 2022

3.3 Data Analysis

The analysis of the collected data followed a systematic qualitative approach using thematic analysis. The process began with thoroughly reviewing the interview transcripts and literature review findings. Using NVivo 20 software, the data were coded through three main stages: open coding to identify key concepts and preliminary categories, axial coding to establish relationships between categories and subcategories, and selective coding to integrate and refine themes that address the research questions (Strauss and Corbin, 2015). Through this process, common patterns in participants' experiences, perceptions, and challenges regarding digital financial literacy were identified according to the principles outlined by Braun and Clarke (2006).

To ensure the validity and reliability of the findings, the study employed triangulation by cross-referencing data from multiple sources (Flick, 2018). This included comparing the insights gathered from semi-structured interviews with secondary data from literature reviews and existing research. The triangulation process helped verify the consistency of findings across different data sources and provided a more comprehensive understanding of digital financial literacy challenges in Indonesia (Denzin, 2017). The themes that emerged from this analysis were organized into major categories that aligned with the research objectives.

4. Result and Discussion

4.1 Digital Financial Literacy and Knowledge

Digital financial literacy in Indonesia faces several challenges and issues, particularly in terms of knowledge and understanding of financial concepts among the population. Many participants highlighted a lack of comprehensive knowledge about digital financial services. For instance, one respondent mentioned,

"Income from livestock business and property. I am not fully aware of other investment opportunities available digitally" (P1).

This indicates a gap in awareness and education about diverse digital financial products beyond traditional income sources.

Moreover, the complexity of financial terms and the fast-paced evolution of digital finance tools contribute to the need for more understanding. Participants often rely on informal knowledge sources, which might only sometimes provide accurate or complete information. As another participant pointed out,

"Investment in the form of assets and own business is what I understand; digital investment options are still unclear to me" (P2, P4).

This reflects a broader issue where individuals are more comfortable with conventional financial practices and less inclined to explore digital alternatives due to a lack of knowledge. The educational initiatives around digital financial literacy need to be more expansive and accessible. Current efforts seem insufficient, as highlighted by responses that show a significant dependency on traditional financial literacy methods, which do not adequately cover digital aspects. Hence, a robust strategy to enhance digital financial literacy through targeted education programs and simplified information dissemination is essential.

4.2 Digital Financial Behavior and Management

Digital financial behavior and management among Indonesians also reveal several challenges. Participants indicated that while they are aware of digital financial tools, their usage patterns could be more consistent and often driven by immediate needs rather than long-term planning. One respondent noted,

"Expenses are for the family, daily needs, my children's education, and sometimes for investment if there is surplus money" (P4).

This statement reflects a tendency to prioritize immediate expenses over systematic financial management and long-term digital financial planning.

Furthermore, the lack of structured financial planning is evident from comments like,
"No allocation, so it follows when there is money, prioritize basic needs, then for study and health" (P3).

This indicates that financial management practices are often reactive rather than proactive, with a focus on meeting urgent needs rather than implementing comprehensive financial plans. The sporadic and unplanned use of digital financial tools can lead to suboptimal financial outcomes, underscoring the need for better financial management education.

The behavioral aspect also highlights an opportunity for developing tailored financial management tools that can assist individuals in budgeting, saving, and investing systematically. Financial literacy programs must emphasize the importance of regular and disciplined financial behavior to improve overall financial health and stability.

4.3 Digital Financial Applications and Tools

The adoption and utilization of digital financial applications and tools in Indonesia present another set of challenges. Participants frequently mentioned their reliance on traditional banking methods despite having access to digital options. As one participant shared,

"I have bank accounts, almost all banks, because of the different transactions I need to do, but I still need cash often" (P4, P5).

This suggests a high level of banking inclusion but a reluctance or inability to transition fully to digital platforms. Moreover, the complexity and perceived risks associated with digital financial tools deter many from using them extensively. Users often express concerns about the security and reliability of these applications, preferring conventional methods that feel safer. One respondent commented,

"I use digital banking for some transactions, but I am not comfortable with using it for all my financial needs" (P1).

This sentiment is indicative of a broader trust issue with digital financial tools. To address these challenges, it is crucial to develop user-friendly, secure, and reliable digital financial applications that can build trust among users. Financial institutions should focus on enhancing user experience and providing robust customer support to encourage the transition to digital financial management.

4.4 Digital Financial Risk and Security

Concerns about digital financial risk and security are prevalent among Indonesian users. Participants expressed apprehensions about the safety of their financial information and the potential for fraud.

"I am worried about the security of my financial data online; there are too many fraud cases," noted one participant (P1, P2).

This highlights a significant barrier to the widespread adoption of digital financial services. The fear of financial fraud and data breaches leads many to limit their use of digital financial platforms, preferring traditional methods perceived as more secure. Another participant shared,

"I prefer to withdraw cash and use it because I do not trust online transactions fully" (P3).

This lack of trust is a critical issue that needs to be addressed to foster greater confidence in digital financial services. Enhancing the security infrastructure of digital financial platforms and educating users about safe digital financial practices are essential steps. Financial institutions should implement advanced security measures and ensure transparent communication about the safety protocols in place. Additionally, user education programs should focus on teaching individuals how to protect their financial information online and recognize potential fraud.

In conclusion, the qualitative analysis reveals that while there is awareness of digital financial services among Indonesians, several challenges hinder their effective adoption and utilization. These include limited knowledge, inconsistent financial behavior, reluctance to use digital tools, and significant security concerns. Addressing these issues through comprehensive educational initiatives, improved financial management tools, and robust security measures can enhance digital financial literacy and facilitate a more inclusive digital financial ecosystem in Indonesia.

4.5 Discussion

Table 3: Main Theme

Main Theme	**Sub Theme**	**Phrase**
Digital Financial Literacy and Knowledge	Knowledge Gap	income, livestock, property, digital investment opportunities
	Limited Understanding	investment, assets, own business, digital investment options
	Inadequate Educational Efforts	traditional financial literacy methods, digital aspects
Digital Financial Behavior and Management	Prioritization of Immediate Needs	expenses, family, daily needs, children's education, investment
	Reactive Financial Management	no allocation, basic needs, study, health
	Inconsistent Financial Behavior	sporadic use, unplanned, digital financial tools
Digital Financial Applications and Tools	Reliance on Traditional Methods	bank accounts, transactions, need cash
	Reluctance to Fully Adopt Digital Tools	digital banking, transactions, discomfort
	Perceived Risks and Complexity	complexity, perceived risks, digital financial tools
Digital Financial Risk and Security	Security Concerns	security, financial data, fraud cases
	Lack of Trust	withdraw cash, distrust, online transactions
	Limitation of Use Due to Fear	fear, financial fraud, data breaches

The COVID-19 pandemic has boosted the development of financial technology and digital financial services in Indonesia. However, the level of digital financial literacy, at only 35.5%, remains significantly lower than traditional financial literacy, as indicated by our president's statement and data from Kominfo. This discrepancy has led to phenomena such as people getting trapped in online lending schemes and misallocating funds meant for daily needs or children's tuition fees. Interviews conducted by researchers identified several challenges contributing to the low level of digital financial literacy, including the reluctance of individuals to seek information, laziness, limited understanding of financial concepts, misuse of applications, lack of concern, poor planning, and insufficient digital knowledge.

The low literacy rates in Indonesia, which ranked 62 out of 70 countries in 2019 according to OECD rankings, exacerbate these issues. Many Indonesians deny or disregard new information and technology, including digital financial services. This lack of information, combined with higher financial inclusion than literacy, results in misuse of fintech applications. Examples include money laundering, illegal fintech activities, and improper use of peer-to-peer lending by small businesses. Basic financial concepts such as interest, inflation, and the time value of money are not well understood, impacting financial decision-making and overall financial well-being. To address these challenges, strategic steps from the government and stakeholders are necessary, focusing on enhancing digital financial education and planning. Future research should expand beyond the Jabodetabek area and consider quantitative methods to provide a broader perspective on digital financial literacy in Indonesia.

Figure 1: The Words Regarding Digital Financial Literacy

Source: Author Analysis

Digital financial literacy is related to and accessible anywhere when using digital financial services (FinEQUIT Y BRIEF, 2021). Before the fintech era, access to financial services was limited to offline banks, but now, it is available anywhere and everywhere. With digitalization, the development of digital financial services can be accessible through our electronic devices (Setiawan *et al.*, 2022). This becomes efficient, effective, and useful (Lestari, Santoso, and Indarto, 2021). Digital finance with digital financial knowledge has become easy to use (Yuliyanti and Pramesti, 2021).

5. Conclusions

This study determined the challenges and problems regarding digital financial literacy in Indonesia, revealing that digital financial literacy levels still need to be higher. The challenges identified include the reluctant nature of individuals, lack of information, laziness in seeking new information, limited understanding of financial concepts, misuse of applications, lack of concern, poor planning, and insufficient digital knowledge. Addressing these challenges can help improve digital financial literacy with strategic steps from the government and other stakeholders. Theoretical implications highlight the causes of low digital financial literacy, such as lack of information and poor digital financial behavior. Practical implications for the government and regulators like OJK involve creating strategic steps to enhance digital financial literacy, focusing on identified challenges. Financial technology companies can support these efforts through funds and programs based on the research findings. This study recommends that the government and companies develop strategic steps and programs to improve digital financial literacy in Indonesia, with a focus on the identified challenges. Future research should expand the sample size beyond the Jabodetabek area and consider quantitative methods.

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