

# Enhancing SME Performance through Digital Finance: Do Digital Finance Accessibility and Digital Financial Literacy Matter?

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## ARTICLE INFO

### Article history:

Received 2 February 2025

Revised 29 February 2025

Accepted 11 April 2025

Available Online 16 June 2025

### Keywords:

Digital Financial Adoption

Digital Financial Literacy

SMEs Performance

Digital Financial Landscape

### Cite as:

Santoso, E. E., Normawati, R. A., & Latifah, N. (2025). Enhancing SME Performance through Digital Finance: Do Digital Finance Accessibility and Digital Financial Literacy Matter?. *Economics, Business, Accounting & Society Review*, 4(2).

<https://doi.org/10.55980/ebasr.v4i2.241>

## ABSTRACT

Small and Medium Enterprises (SMEs) are a vital driver of economic growth in developing countries, yet they remain highly vulnerable to market disruptions and external shocks. The rapid expansion of digital finance has created both opportunities and challenges, underscoring the importance of digital financial literacy and accessibility in sustaining SME performance. Despite increasing attention to inclusive finance, empirical evidence directly linking digital financial literacy, digital finance accessibility, and SME performance remains limited, particularly within developing economy contexts such as Indonesia. This study aims to investigate the effects of digital financial literacy and digital finance accessibility on SME performance, with digital finance adoption examined as a mediating variable. Employing a quantitative research design, data were collected through surveys of 430 SMEs across two provinces in Indonesia and analyzed using SEM-PLS. The results reveal that both digital financial literacy and digital finance accessibility have a significant and positive influence on digital finance adoption and SME performance. Moreover, digital finance adoption partially mediates the relationship between digital financial literacy and performance, while no mediation effect is observed for digital finance accessibility. The findings underscore the importance of enhancing SMEs' digital financial literacy as a strategic resource and improving access to digital financial infrastructure. For policymakers and practitioners, these results underscore the importance of capacity-building and inclusive digital ecosystems in enhancing resilience and competitiveness among SMEs.

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## 1. Introduction

Small and Medium Enterprises (SMEs) are widely recognized as a cornerstone of economic development in many developing nations (Thathsarani & Jianguo, 2022; Uthaileang & Kiattisin, 2023). This is also evident in the case of Indonesia, where SMEs contribute significantly to employment generation, equitable income distribution, and overall economic development. Nevertheless, SMEs are among the most vulnerable sectors when facing economic uncertainty, crises, and market disruptions. The COVID-19 pandemic highlighted this vulnerability. Government-imposed social restrictions, implemented to mitigate the spread of the virus,

significantly altered economic behavior and activities. These changes led to declining SMEs revenues, with many of which were unprepared for such disruptions. Simultaneously, the public's reaction to government actions aimed at controlling the spread of the virus led to significant changes in economic activity. These changes in behavior occurred alongside the quick growth and extensive adoption of digital technology. As a result, the pandemic acted as an important driving force for digital change in many areas, including individuals, SMEs, and larger companies. This push increased the use of digital tools in everyday tasks, particularly in finance and trade, as a means of adapting and surviving during the crisis (Parra-Sánchez & Talero-Sarmiento, 2024), and helped create more inclusive financial systems.

The issue of inclusive finance has garnered increasing attention from scholars, policymakers, and international platforms, such as the G20 (Cicchello et al., 2021; Ozili, 2021). Inclusive finance, encompassing accessibility and the adoption of digital finance (Frimpong et al., 2022), has become an integral part of national development strategies in more than 60 countries, aimed at poverty alleviation and improving societal welfare (Bongomin et al., 2018). In the SMEs context, the rapid expansion of digital finance adoption carries significant macroeconomic implications. These dynamics link digital finance with sustainable trade growth and entrepreneurial transformation, amplifying SMEs' contributions to green economic trajectories (C. Li & Alasinrin Babatunde, 2024; Yin & Wang, 2025). The advancement of digital finance strengthens the role of technology in business transformation. Services such as electronic payments, technology-based financing, and digital financial recording systems have improved access to financial resources (Uthaileang & Kiattisin, 2023) while enhancing operational efficiency and competitiveness (Krishna et al., 2023). As such, fintech creates opportunities to support business processes, secure working capital, and develop entrepreneurial capacity (Eton et al., 2021).

A substantial body of research suggests that the adoption of digital finance has a positive impact on improving business performance (Dabbous et al., 2024). However, the adoption of digital finance does not automatically translate into improved outcomes. Deficiencies in digital and financial skills often hinder effective decision-making regarding digital finance and security, which may lead to operational stagnation or even business closure. Prior research highlights that acquiring relevant knowledge is crucial for developing the competencies and behavioral changes necessary for entrepreneurs to effectively utilize digital financial platforms in managing and sustaining their business activities (Frimpong et al., 2022; Siddik et al., 2023; Tumba et al., 2022). In this regard, digital financial literacy—which combines digital literacy with financial knowledge—serves as a foundational pillar in driving effective digital transformation (Uthaileang & Kiattisin, 2023). Digital financial literacy refers to the ability to utilize digital technologies and platforms effectively in accessing and managing financial products and services. An adequate understanding of available digital finance, associated risks, and the ability to make wise financial choices are essential to achieving sustainable business management in the digital era. Furthermore, digital financial literacy promotes responsible financial behavior and accelerates the adoption of digital finance (Rahayu et al., 2024). Hence, it plays not only a supportive role but also a determining one in ensuring the success of SMEs' digital transformation.

Despite growing interest in the topic, empirical research directly investigating the relationship between digital financial literacy and the performance of SMEs remains relatively limited, underscoring the need for further studies in this area. Much of the existing research has focused on overall financial knowledge or the use of digital finance, and how these factors affect business results. That sarani & Jianguo (2022) point out that more research is necessary, which includes a broader range of geographic areas and various sample types. To address this research gap, the present study seeks to explore the relationships between digital financial literacy, Digital finance accessibility, digital finance adoption, and how these factors collectively influence the performance of SME. The research focuses on SMEs in Indonesia, representing the developing country context, with data collection conducted in two provinces that reflect contrasting levels of technology adoption. The findings are expected to contribute to evidence-based inclusive finance policymaking and enrich the academic discourse on digital finance and SMEs development.

### **Social Cognitive Theory (SCT)**

Social Cognitive Theory (SCT) posits that learning primarily occurs through observation, where individuals pay attention to and reflect on models of behavior that are already present in their environment (Schunk & DiBenedetto, 2020). This process does not merely involve passive imitation but rather an active engagement in which people evaluate, interpret, and internalize what they observe. Humans possess the unique ability to select which behaviors to adopt and which to reject consciously, a mechanism SCT conceptualizes as a higher-order cognitive process. Such selective adoption of behavior demonstrates that learning is not automatic but mediated by one's reasoning, values, and personal judgment. This cognitive process is further enabled and enriched by the presence of knowledge, which functions as the fundamental basis for logical reasoning, reflective thinking, and problem-solving (Bandura, 2001). Knowledge equips individuals with interpretive frameworks that allow them to weigh the potential outcomes of different actions, compare alternatives, and align choices with long-term goals. In the context of this study, digital financial literacy is positioned as a critical form of knowledge that directly shapes individuals' cognitive capacity. By enhancing their ability to process financial information, evaluate digital financial tools, and make informed decisions, digital financial literacy not only supports adaptive behavior but also promotes self-regulation and resilience in navigating complex financial environments.

### **Dynamic Capabilities Theory**

The business landscape is continuously evolving, driven by globalization, technological advancements, and shifts in consumer expectations, which together create both opportunities and challenges for organizations (Feliciano-Cestero et al., 2023). To remain competitive, firms must not only recognize these external changes but also develop the capacity to adapt swiftly and effectively. The framework of Dynamic Capabilities explains how companies can respond to such turbulence, emphasizing the importance of integrating, reconfiguring, and upgrading both internal resources and external partnerships. Through this approach, firms can generate new value propositions, foster innovation, and sustain their relevance in markets characterized by uncertainty and rapid change.

A company's strategic orientation is also shaped by the configuration and positioning of its resource base, which includes technological, financial, reputational, structural, institutional, and market-related assets, as well as the inherent organizational constraints that may limit resource utilization (Teece et al., 2009). The effectiveness of dynamic capabilities depends on how well these resources are aligned with strategic objectives, enabling firms to convert potential into realized performance. Previous research has extensively examined the role of digital transformation in this process, highlighting how digital technologies serve as both enablers and disruptors when viewed through the lens of dynamic capability (L. Li et al., 2022). Such studies demonstrate that digital transformation not only enhances the agility of organizations but also redefines competitive advantage by reshaping how firms sense opportunities, seize them, and continuously transform in response to evolving environments.

### **Resource-Based Theory**

Resource-based Theory (RBT) emphasizes that an organization's internal resources and capabilities are key factors in creating a sustainable competitive advantage. This theory is rooted in the idea that companies differ not only in the ownership of resources but also in their ability to uniquely manage, combine, and utilize those resources (Peteraf & Barney, 2003). Acedo, Barroso & Galan (2006) affirm that RBT is developing as one of the dominant frameworks in strategic management due to its focus on the heterogeneity of resources and the strategic role of core capabilities in explaining performance differences between firms. In the context of information systems, Gupta et al. (2018) add that the resource-based view perspective can explain how certain technologies and information systems contribute to both sustainable and transient competitive advantages, depending on the characteristics of those resources and their degree of imitability. Thus, RBT provides a strong conceptual framework for understanding how a company can develop, maintain, and update its competitive advantage through strategic management of internal resources.

### **Digital Financial Literacy, Digital Finance Accessibility, and Adoption**

As digital finance continues to evolve, the importance of digital financial literacy has similarly grown. The higher the business actors' knowledge and financial literacy, the better their financial behaviour (Ulkhair et al., 2023). This growing prominence reflects the need for individuals and businesses to possess the necessary skills and knowledge to navigate the increasingly complex digital finance landscape. As new technologies reshape the financial sector, being digitally literate becomes essential for making informed decisions, managing financial risks, and fully benefiting from digital financial tools and platforms (Uthaileang & Kiattisin, 2023). Digital financial literacy has emerged as a significant concern for various stakeholders, including governments, formal financial sector entities, and the general public.

Digital financial literacy involves a basic understanding of finance that is enhanced by digital components. Financial literacy and technological literacy are often mutually supportive at both the individual and corporate levels, and their integration is crucial for enhancing organizational performance (Kulathunga et al., 2020). In the context of SMEs, digital financial literacy plays a crucial role related to the human resource assets they possess. This refers to the capacity of SME actors to benefit from the financial growth revolution by becoming familiar with the various digital finance options available to them. Digital financial literacy is directly related to financial management capabilities, technology utilisation, and the strategic handling of financial assets (Frimpong et al., 2022). Digital technologies are not neutral, as they often contain embedded persuasive algorithms that can influence people's attitudes and behaviors in decision-making processes (Koskelainen et al., 2023). This aligns with the view that digital financial literacy is related to an individual's behaviour, and access to technology through decision-making processes such as technology adoption and financial inclusion (Bongomin et al., 2018; Khan et al., 2022).

The significance of SMEs embracing digital transformation and achieving financial inclusion lies in the assertion that access to fintech can support SMEs during their initial stages, promote swift innovation within the organization, and foster a more inclusive financial system. This is indicated by more effective credit registration and broader branch penetration, which are associated with lower rates of tax evasion. The study proposes the following hypotheses based on the background and literature review:

H1: Digital financial literacy significantly and positively affects digital finance adoption.

H2: Digital finance accessibility significantly and positively affects digital finance adoption.

### **Digital Finance Adoption and Business Performance**

Many scholars are interested in investigating the impact of business performance from the information technology perspective, as information technology is considered to open up various business opportunities (Zhao et al., 2023). Similarly, digital finance is of great interest. Digital finance enables firms to benefit from the services provided. Digital finance tools, such as financial management applications, can create operational process efficiencies (Sreenivasan & Suresh, 2023), thereby reducing operational costs (Wang et al., 2021). Digital finance can make it easier for customers by simplifying payment and product delivery, while also offering a broader range of products at lower prices (Frimpong et al., 2022). Additionally, using digital finance encourages businesses to experiment with new models, which can lead to improved performance in the long run.

The primary use of financial-based performance metrics to assess an organization's success might be misleading, and the application of non-financial performance metrics could improve organizational success and longevity (Dahal, 2022). Business performance involves evaluating various elements of a business, which can be analyzed from both financial and operational perspectives. Financial components are reflected in metrics such as sales increase, profit margins, and the number of customers who pay. On the other hand, operational factors can be assessed by looking at the launch of new products and services, enhancements in operational productivity, and the ability to adapt efficiently to changing environmental conditions. Research has indicated that using digital finance can lead to improvements in sales, pre-tax profit, cash flow, and value for

stakeholders (Hussain & Papastathopoulos, 2022). Additionally, it can impact capital spending, revenue growth, and production expenses (Frimpong et al., 2022), ultimately enhancing overall financial results (Wang et al., 2021). The hypotheses proposed:

H3: Digital finance adoption significantly and positively affects the performance of SMEs.

H4: Digital financial literacy significantly and positively affects the performance of SMEs.

H5: Digital finance accessibility significantly and positively affects the performance of SMEs.

H6: Digital financial literacy significantly and positively affects the performance of SMEs through digital finance adoption.

H7: Digital finance accessibility significantly and positively affects the performance of SMEs through digital finance adoption.

## **2. Methods**

### **Population and Sample**

Two provinces in Indonesia, East Java and West Nusa Tenggara, were selected for this study, representing regions with the highest (East Java) and lowest (West Nusa Tenggara) levels of national digital technology adoption (East Ventures, 2023). The study involved 526 respondents, selected using a non-probability purposive sampling technique, with specific criteria related to business domicile and the use of one or more digital financial services for business operations. Of the total respondents, 430 fully completed the questionnaire, and their responses were used in the analysis. The researchers ensured that all participants took part voluntarily, agreeing to the terms of the consent form, which stated that their data and information would be kept confidential and used exclusively for research purposes.

### **Research Instrument**

The primary data collection instrument used in this research was a structured questionnaire featuring a 5-point Likert scale, with response options ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The questionnaire was organized into four main sections: an introduction outlining the purpose of the survey, a participant consent form, verification of respondent eligibility criteria, demographic details of both the business and the respondent, and a series of carefully crafted statements designed to elicit relevant insights and information in support of the research objectives. This comprehensive structure aimed to ensure clarity, respondent understanding, and the collection of high-quality, targeted data. Prior to distribution, the questionnaire underwent validity and Reliability testing to ensure it could accurately and consistently gather the necessary information. Respondents were provided with clear instructions on how to complete the questionnaire, ensuring ease of understanding and consistent responses across the sample.

### **Research Variables**

This study examines four key variables. Digital financial literacy is assessed using four dimensions: digital financial understanding, digital financial practice, digital financial risk awareness, and digital financial skills. Each dimension consists of four indicators, except for digital financial understanding, which includes five indicators. The indicators, dimensions, and overall construct of digital financial literacy were adapted and modified from OECD (2018). Digital finance accessibility is measured using three indicators adopted from Frimpong et al. (2022), which include accessibility, proximity to digital financial infrastructure, and the availability of diverse digital platforms. The variable digital finance adoption is based on the framework of Krishna et al. (2023), encompassing four indicators: the use of digital platforms for money transfers and payments, e-commerce and utility bill transactions, budgeting and e-accounting practices, and the utilization of borrowing and insurance services. Finally, the performance of SMEs is evaluated through two dimensions: financial performance and operational performance. Financial performance is evaluated using key indicators, including sales growth, profitability, and the number of paying customers. Operational performance is measured by the development and launch of new products or services, as well as the effectiveness of business processes. The method used in this research is SEM, which involves second-order analysis with the help of WarpPLS software. This approach was selected to assess the relationships between variables and to confirm the proposed model.

### 3. Result

#### Descriptive Statistical Analysis

The respondents who participated in the questionnaire were predominantly female (77.2%), and the majority reported senior high school as their most recent education (60%). The distribution of respondents based on birth year is dominated by those born between 1966 and 1980 (41%). Details about SMEs information show that the average number of businesses operating for 0-7 years is 329 or 76,51%. This suggests that the average business owner remains in the self-employed or lifestyle stage (Tewari et al., 2013). The highest number of employees is in the category of less than 5 people. The fact that the majority of businesses have fewer than five employees, with 345 businesses (80.23%), indicates that the average business owner is still in the self-employed or lifestyle stage, meaning small enterprises still dominate the market.

**Table 1: Respondent Overview**

Details		Frequency	Percent
<b>Gender</b>	Female	332	77.2%
	Male	98	22.8%
<b>Education</b>	Primary - Middle School	3	1%
	High School	273	60%
	Diploma degree	30	7%
	Undergraduate	115	27%
	Graduate	9	2%
<b>Year of birth</b>	1981 - 1995	219	24%
	1966 - 1980	368	41%
	before 1965	248	28%
	after 1995	65	7%
<b>SMEs information</b>			
<b>Firm Age</b>	0 to 7 years	329	76,51%
	7 to 12 years	77	17,91%
	more than 12 years	24	5,58%
<b>Number of employees</b>	20 to 99	11	2,56%
	6 to 19	74	17,21%
	less than five people	345	80,23%

Source: Researcher data processed, 2024

#### Validating The Measurement Model with First-Order and Second-Order Reflective Constructs

The first stage of PLS analysis involves creating both the inner and outer models. Instead of quickly making the path diagram, the following action usually involves checking the measurement and structural models. During the initial phase of the measurement model analysis, a second-order convergent validity evaluation is conducted to see how effectively the dimensions represent the variables. The loading factor is used to measure convergent validity, showing the strength of the link between each dimension and its related variable. This study assesses convergent validity in two phases: testing for second-order and first-order convergent validity. The second-order test assesses the validity of the dimensions in representing variables, while the first-order test examines the validity of the indicators in representing the dimensions or variables. Additional evaluation of convergent validity is performed with the Average Variance Extracted (AVE) values, as in Table 2.

Discriminant validity is calculated using cross-loading values by comparing the cross-loading values of variables with the cross-loading values of constructs. Based on the cross-loading measurement in Table 3, it can be concluded that overall, the indicators measuring dimensions are valid.

**Table 2: Validity and Reliability Test**

Variable	Dimension	Indicator	Loading factor 2 <sup>nd</sup> Order	Loading factor 1 <sup>st</sup> Order	AVE	Comp. Reliability	Cronbach's Alpha
Digital Financial Literacy (DFL)							
	Digital Financial Understanding (DFU)	DFU <sub>1</sub>	0.917	0.621	0.560	0.863	0.801
		DFU <sub>2</sub>		0.752			
		DFU <sub>3</sub>		0.825			
		DFU <sub>4</sub>		0.754			
		DFU <sub>5</sub>		0.775			
	Digital Financial Practice (DFP)	DFP <sub>1</sub>	0.911	0.707	0.556	0.833	0.733
		DFP <sub>2</sub>		0.737			
		DFP <sub>3</sub>		0.790			
		DFP <sub>4</sub>		0.747			
	Digital Financial Risk Awareness (DFR)	DFR <sub>1</sub>	0.680	0.766	0.620	0.867	0.795
		DFR <sub>2</sub>		0.799			
		DFR <sub>3</sub>		0.830			
		DFR <sub>4</sub>		0.751			
Digital Financial Skills (DFS)	DFS <sub>1</sub>	0.893	0.703	0.558	0.834	0.734	
	DFS <sub>2</sub>		0.796				
	DFS <sub>3</sub>		0.782				
	DFS <sub>4</sub>		0.700				
Digital Finance Accessibility (DFC)					0.663	0.854	0.743
		ADF <sub>1</sub>		0.720			
		ADF <sub>2</sub>		0.854			
		ADF <sub>3</sub>		0.861			
Digital Finance Adoption (DFA)					0.581	0.847	0.758
		DFA <sub>1</sub>		0.709			
		DFA <sub>2</sub>		0.763			
		DFA <sub>3</sub>		0.821			
		DFA <sub>4</sub>		0.751			
The Performance of SMEs (SMEP)							
	FP	FP <sub>1</sub>	0.943	0.923	0.848	0.944	0.911
		FP <sub>2</sub>		0.933			
		FP <sub>3</sub>		0.907			
	OP	OP <sub>1</sub>	0.943	0.911	0.829	0.907	0.794
		OP <sub>2</sub>		0.911			

Source: Data analyzed by the researcher, 2024

The next step in analyzing the measurement model is to check the Reliability of the constructs. You can determine construct reliability through Composite Reliability and Cronbach's Alpha, as shown in Table 2. The results from the calculations for both Composite Reliability and Cronbach's Alpha indicate that every dimension meets the necessary standards and is viewed as reliable.

The measurement model demonstrates strong reliability and validity for the investigated constructs. Digital Financial Literacy (DFL) is assessed through four dimensions: understanding, practice, risk awareness, and skills. Each dimension demonstrates acceptable convergent validity, with Average Variance Extracted (AVE) values exceeding 0.50 and composite Reliability (CR) above 0.80, indicating that the indicators consistently represent their respective dimensions. For instance, Digital Financial Understanding (AVE = 0.560, CR = 0.863) and Digital Financial Practice (AVE = 0.556, CR = 0.833) confirm that SMEs' knowledge and practices in digital finance are adequately captured. Digital Financial Risk Awareness (AVE = 0.620, CR = 0.867) emerges as a powerful construct, reflecting SMEs' awareness of potential risks in digital finance adoption. Digital Financial Skills (AVE = 0.558, CR = 0.834) further support the importance of capability building.

Digital Finance Accessibility (AVE = 0.663, CR = 0.854) and Digital Finance Adoption (AVE = 0.581, CR = 0.847) also demonstrate good reliability, affirming that SMEs' access to financial infrastructure and their adoption behaviors are effectively measured. Lastly, SME Performance (financial and operational) shows excellent Reliability and validity, with AVE values above 0.80 and CR values above 0.90. These results confirm that the constructs are robust, and the model

adequately captures the multidimensional aspects of digital finance and SME performance, providing a solid foundation for further structural analysis.

**Table 3. Discriminant Validity Calculated Using Cross-Loading Values**

	DFU	DFP	DFR	DFS	DFC	DFA	FP	OP
DFU <sub>1</sub>	<b>0.621</b>	-0.233	-0.004	0.112	0.284	-0.480	-0.188	0.120
DFU <sub>2</sub>	<b>0.752</b>	0.069	-0.060	0.060	0.283	-0.253	-0.219	0.101
DFU <sub>3</sub>	<b>0.825</b>	0.080	0.012	-0.076	-0.310	0.243	0.191	-0.183
DFU <sub>4</sub>	<b>0.754</b>	0.287	-0.018	0.059	-0.435	0.386	0.189	-0.160
DFU <sub>5</sub>	<b>0.775</b>	-0.245	0.067	-0.124	0.251	-0.004	-0.023	0.157
DFP <sub>1</sub>	-0.140	<b>0.707</b>	0.003	-0.021	0.454	-0.628	-0.067	0.110
DFP <sub>2</sub>	-0.147	<b>0.737</b>	-0.045	0.240	0.357	-0.363	-0.160	0.027
DFP <sub>3</sub>	0.211	<b>0.790</b>	0.030	-0.006	-0.368	0.417	0.126	-0.096
DFP <sub>4</sub>	0.055	<b>0.747</b>	0.010	-0.211	-0.394	0.512	0.087	-0.029
DFR <sub>1</sub>	0.267	-0.195	<b>0.766</b>	0.097	0.092	-0.097	0.034	0.028
DFR <sub>2</sub>	-0.207	0.181	<b>0.799</b>	0.030	-0.176	-0.092	0.040	-0.014
DFR <sub>3</sub>	-0.259	0.118	<b>0.830</b>	-0.088	-0.042	0.077	-0.012	-0.022
DFR <sub>4</sub>	0.234	-0.124	<b>0.751</b>	-0.034	0.139	0.111	-0.063	0.009
DFS <sub>1</sub>	0.075	-0.230	0.111	<b>0.703</b>	0.435	-0.458	-0.285	0.241
DFS <sub>2</sub>	-0.065	-0.228	-0.102	<b>0.796</b>	0.108	-0.138	0.041	-0.059
DFS <sub>3</sub>	0.181	0.175	-0.041	<b>0.782</b>	-0.236	0.378	0.151	-0.067
DFS <sub>4</sub>	-0.204	0.295	0.050	<b>0.700</b>	-0.296	0.194	0.071	-0.100
DFC <sub>1</sub>	0.356	-0.279	0.096	0.185	<b>0.720</b>	0.088	-0.166	0.202
DFC <sub>2</sub>	-0.194	0.205	-0.030	-0.229	<b>0.854</b>	0.014	0.134	-0.026
DFC <sub>3</sub>	-0.105	0.030	-0.050	0.072	<b>0.861</b>	-0.087	0.006	-0.143
DFA <sub>1</sub>	0.271	-0.300	0.054	0.006	0.360	<b>0.709</b>	-0.180	0.258
DFA <sub>2</sub>	0.076	-0.194	-0.087	0.162	0.010	<b>0.763</b>	-0.119	0.130
DFA <sub>3</sub>	-0.095	0.250	0.047	-0.150	-0.243	<b>0.821</b>	0.214	-0.185
DFA <sub>4</sub>	-0.229	0.207	-0.014	-0.007	-0.085	<b>0.751</b>	0.057	-0.173
FP <sub>1</sub>	-0.097	-0.024	-0.001	0.102	-0.015	0.088	<b>0.923</b>	-0.134
FP <sub>2</sub>	0.134	-0.083	0.021	-0.154	0.025	0.015	<b>0.933</b>	0.035
FP <sub>3</sub>	-0.040	0.110	-0.021	0.055	-0.010	-0.105	<b>0.907</b>	0.100
OP <sub>1</sub>	-0.098	0.055	0.006	0.060	-0.163	0.104	0.002	<b>0.911</b>
OP <sub>2</sub>	0.098	-0.055	-0.006	-0.060	0.163	-0.104	-0.002	<b>0.911</b>

Source: Researcher data processed, 2024

The evaluation of the structural model involves assessing the Goodness of fit of the Model through  $R^2$  and  $Q^2$ . Findings from this study's structural model assessment reveal that the  $R^2$  value for the Performance of SMEs variable suggests a moderate strength of the model, meaning that 50% of the Performance of SMEs can be explained by the variables analyzed in this research. In comparison, the remaining 50% is influenced by other factors not considered in this study. On the other hand, the  $Q^2$  value from the structural model assessment indicates that the variables of digital financial literacy, digital finance accessibility, and digital finance adoption strongly predict the performance of SMEs, as shown in Table 4.

**Table 4: Results of Structural Model Evaluation**

Variable	R <sup>2</sup>	Q <sup>2</sup>
Digital Finance Adoption	0.580	0.579
Performance of SMEs	0.500	0.498

Source: Researcher data processed, 2024

**Path Analysis for Hypothesis Testing.**

The findings from testing the direct Influence hypothesis in this research show a notable and positive effect (alpha = 5%). On the other hand, the two hypotheses about indirect Influence present varying outcomes. The results presented in Table 5 provide insights into the direct and indirect effects. The direct Influence tests indicate that digital financial literacy has a significant impact on digital finance adoption (H<sub>1</sub>) and the performance of SMEs (H<sub>4</sub>). At the same time, digital finance accessibility also has a significant direct impact on digital finance adoption (H<sub>2</sub>) and the performance of SMEs (H<sub>5</sub>). Moreover, the adoption of digital finance exerts a positive impact on the Performance of SMEs (H<sub>3</sub>), further underscoring its pivotal role in driving SMEs' performance. This suggests that embracing digital financial solutions can catalyze increased efficiency, profitability, and long-term competitiveness within the SMEs sector.

In terms of indirect effects, the findings support H<sub>6</sub>, showing that digital finance adoption mediates the relationship between digital financial literacy and the performance of SMEs, as indicated by a path coefficient of 0.202 and a p-value of <0.001. However, H<sub>7</sub> is not supported, suggesting that digital finance adoption does not mediate the relationship between digital finance accessibility and SME performance, as the p-value exceeds the 5% significance threshold. These findings highlight the crucial role of digital financial literacy and digital finance accessibility in driving SMEs' Performance, both directly and through digital finance adoption.

**Table 5: Direct and Indirect Coefficient Test Results**

Hypothesis	Variable			Direct/Indirect Coef	P-Value
	Eksogen	Endogen	Intervening		
H <sub>1</sub>	DFL	DFA		<b>0.696</b>	<0.001
H <sub>2</sub>	DFC	DFA		0.085	0.038
H <sub>3</sub>		DFA	SMEP	0.290	<0.001
H <sub>4</sub>	DFL	SMEP		<b>0.313</b>	<0.001
H <sub>5</sub>	DFC	SMEP		0.179	<0.001
H <sub>6</sub>	DFL	SMEP	DFA	<b>0.202</b>	<0.001
H <sub>7</sub>	DFC	SMEP	DFA	0.025	0.235

Source: Researcher data processed, 2024

**4. Discussion**

**Digital Financial Literacy and Digital Finance Adoption**

Hypothesis 1 examines the significant positive relationship between digital financial literacy and the adoption of digital finance. Considering the results of the direct effect analysis (path coefficient = 0.696; p-value < 0.001), this hypothesis is accepted. It indicates a significant, favourable influence between digital financial literacy and digital finance adoption. This suggests that businesses with high digital financial literacy are more likely to seek out financial tools that benefit them. This aligns with the Social Cognitive Theory, which suggests that an individual's knowledge supports the learning process or cognition. Knowledge provides substance for selective observation processes to consider which behavioural models to adopt and discard (Bandura, 1999; Pajares, 2002).

Based on evidence, the discovery of a meaningful positive effect between digital financial literacy and the use of digital finance backs the idea that understanding digital finance can change how a person acts (A. C. Lyons et al., 2020; Setiawan et al, 2020) and Influence decision-making (Bongomin et al., 2018). In other words, digital financial literacy can influence digital finance adoption, consistent with Frimpong et al. (2022) assertion that digital financial literacy is related to

financial management skills and technology utilisation. Prasad et al. (2018) also note that education is a crucial factor influencing the frequency of digital finance usage. This relationship indicates that digital financial literacy is a crucial driver of financial inclusion and financial resilience (Bongomin et al., 2018; Kass-Hanna et al., 2022; Rahayu et al., 2023).

### **Digital Finance Accessibility and Digital Finance Adoption**

The significant positive influence of digital finance accessibility on digital finance adoption is evidenced by the findings of this study (path coefficient 0.085; p-value 0.038). Thus, the second hypothesis of the study can be accepted. This finding is consistent with the research of Thathsarani & Jianguo (2022), which suggests that access, availability, and quality influence the participation and usage of digital finance, as reflected in financial inclusion. Prasad and colleagues (2018) highlighted that the accessibility of digital finance, encompassing access to digital services, proximity to these services, and the availability of various digital platforms, demonstrates how the business world is evolving. This situation provides SMEs with the option to either remain the same or adapt to new conditions.

The significant positive effect of digital finance accessibility on its adoption indicates that changes in the business environment can lead to changes in organizational structures and management methods. Viewed through the lens of Dynamic Capabilities, this is an early sign that changes in the environment can be navigated by combining, enhancing, and rearranging internal and external resources to create new value for the business. When executed effectively, this approach can yield a competitive edge that enhances business performance (Feliciano-Cestero et al., 2023; Li et al., 2022), as supported by the findings in Hypothesis 3.

Reciprocally, digital finance accessibility not only facilitates financial transactions but also contributes to the enhancement of financial and digital competencies through a learning-by-doing process. This suggests the possibility of reverse causality, where financial and digital literacy, along with financial behavior, are influenced by digital finance accessibility rather than solely the other way around (Lyons et al., 2020). Consistent with this statement, (Feliciano-Cestero et al., 2023; Joshi et al., 2019) highlighted that business contexts play a crucial role in shaping the adoption practices of digital wallets, demonstrating a bidirectional learning effect.

### **Digital Financial Literacy, Digital Finance Accessibility, Digital Finance Adoption, and the Performance of SMEs**

Hypothesis 3 in this study states that "digital finance adoption significantly and positively affect the performance of SMEs." This statement is acceptable because the direct effect testing shows a positive path coefficient value (0.290) and a significant p-value at the 5% alpha level (<0.001). Theoretically, this provides evidence in support of the dynamic capabilities perspective, which has previously suggested that responding effectively to changes in the business environment can create new business value that can become a competitive advantage (Feliciano-Cestero et al., 2023; Li et al., 2022). Within the theoretical framework, the effect of adopting digital finance on the performance of SMEs supports the Resource-Based Theory, which posits that if businesses can focus on their internal strengths and intelligent management, as represented in this case by digital financial literacy and digital finance adoption, it will lead to sustainable competitive advantages and potentially enhance business performance. Consequently, SMEs need to develop a stronger awareness and understanding of the strategic value of digital finance. By effectively leveraging these resources, SMEs can not only enhance their overall business performance but also optimize cash flow management and gain access to various financial tools that support their day-to-day operations and long-term growth (Frimpong et al., 2022). Embracing digital finance solutions enables them to operate more efficiently, respond swiftly to market changes, and maintain financial sustainability in an increasingly digital economy.

Research indicates that the adoption of digital finance impacts the performance of SMEs, aligning with findings related to digital transformation, as noted in Zhao et al. (2023). This study found that both user participation and digital transformation have significant positive effects on

firm performance. Additional research has shown that the ease with which users access digital finance enhances their performance (Frimpong et al., 2022). At the same time, Ozili (2018) suggested that the accessibility of digital finance can impact a business's performance.

We also tested the direct relationships between digital financial literacy and digital finance accessibility on the performance of SMEs. In this testing, each showed a positive and significant direct influence. Digital financial literacy can have a significantly positive influence on the performance of SMEs, meaning that the higher the digital financial literacy possessed by SME owners or managers, the better their business performance. Generally, good digital financial literacy can help SME owners understand and utilize financial information more effectively, manage their finances better, and make more informed financial decisions, ultimately enhancing their business performance. This aligns with Prasad et al.'s (2018) assertion that digital financial literacy is essentially financial literacy with an additional digital aspect. Similarly, digital finance accessibility directly has a significant positive influence on the performance of SMEs. Better access to digital finance enables SMEs to acquire financial resources more quickly and efficiently, optimise financial management, and expand market opportunities through digital transactions.

The two hypotheses examined produced varying outcomes regarding their mediating effects. Hypothesis 6, which asserts that "digital financial literacy positively influences the performance of SMEs through the adoption of digital finance," is supported. A strong positive connection is indicated by a path coefficient value of 0.442, accompanied by a p-value of less than 0.001, demonstrating a significant impact. This mediation is evident in the values for the direct effect (path coefficient: 0.313; p-value: less than 0.001) and the indirect effect (path coefficient: 0.202; p-value: less than 0.001), leading to a total path coefficient of 0.442 that shows a strong positive correlation. This finding suggests that the adoption of digital finance acts as a partial mediator between digital financial literacy and the performance of SMEs.

The results for the mediation effect in hypothesis 7 turned out to be unexpectedly different. This hypothesis was not accepted because when testing the indirect effect between digital financial accessibility and SME performance via digital finance adoption, the path coefficient was 0.025, and the p-value was 0.235, which is larger than the significance level of 5 percent ( $\alpha$ ). On the other hand, direct effect testing indicated a significant positive effect with a path coefficient of 0.179 and a p-value of less than 0.001. This suggests that the mediation type identified is strictly direct, with no mediation occurring. Therefore, digital finance adoption does not act as a mediator in the connection between digital finance accessibility and the performance of SMEs.

### **Managerial Implication**

This study offers practical implications for enhancing the success and competitiveness of SMEs through the adoption of digital finance. Enhancing digital financial literacy among SME owners and managers is essential for embracing technological advancements and leveraging digital financial services effectively. A strong foundation in digital financial literacy enables SMEs to recognize benefits, adopt relevant tools, and optimize their use to support business performance. Ensuring better access to digital financial infrastructure is equally important. Improved accessibility facilitates daily transactions and encourages continuous learning through active use of digital platforms. Increased literacy and accessibility contribute to more effective adoption, enhancing SME performance, competitive advantage, and financial resilience. To sustain progress, continuous training and mentorship are necessary to keep SMEs updated with evolving financial technologies. Collaboration among government agencies, fintech companies, SME associations, and educational institutions should foster coordinated initiatives improving literacy and access. Fintech developers must design user-friendly platforms tailored to the needs of SMEs and integrate robust digital security measures to build trust. SMEs should leverage digital transaction data to inform strategic decisions, enhancing agility and competitiveness. These efforts contribute to broader financial inclusion and national economic empowerment. Stakeholders are encouraged to invest in capability-building and infrastructure to support a sustainable and inclusive digital financial ecosystem for SMEs.

## 5. Conclusion

This study examines the impact of digital financial literacy, accessibility, adoption, and performance on SMEs. The results indicate that digital financial literacy has a dominant and direct impact on digital finance adoption compared to accessibility. Among the factors examined, digital financial literacy exerts a stronger influence on both the adoption of digital finance and SME performance. It not only directly improves SME performance but also encourages the use of digital finance, which subsequently benefits business outcomes. Digital finance accessibility significantly affects both digital finance adoption and SME success directly; however, its indirect effect through adoption as a mediating variable was not supported. This suggests that while accessibility is important, its effect on performance is not mediated by the adoption of accessibility features. Separately, the findings reinforce the theoretical framework of Social Cognitive Theory (SCT), highlighting the critical role of knowledge in decision-making processes. Additionally, the dynamic capabilities perspective is validated, emphasizing the importance for firms to respond to rapidly changing environments by integrating, enhancing, and restructuring both internal and external resources. This ability is essential for maintaining competitiveness and preventing organizational obsolescence. Furthermore, the study underscores the importance of continuous capacity-building in digital financial literacy and improving access to digital financial services to support SMEs in effectively leveraging digital technologies. Future research could explore additional contextual and behavioral factors that influence digital finance adoption and SME performance, providing a more comprehensive understanding of digital transformation in the SME sector.

## 6. Acknowledgement

We extend our gratitude to the Ministry of Education, Culture, Research, and Technology for supporting this research through the PDP grant under the 2024 Research and Community Service Program.

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