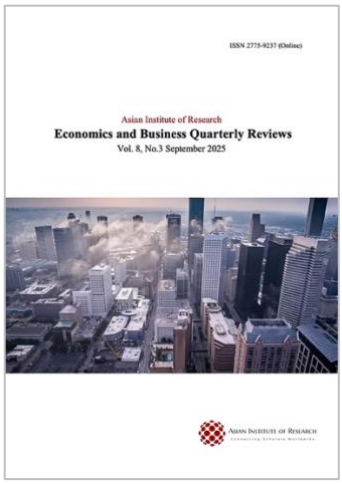

Economics and Business Quarterly Reviews

Khouangvichit, C., & Samambet, M. (2025). Impact of Digital Financial Literacy on Small and Medium-sized Enterprises (SMEs) Performance in Laos: The Mediating Role of Financial Self-Efficacy, Hierarchical Component Model Approach. *Economics and Business Quarterly Reviews*, 8(3), 285-298.

ISSN 2775-9237

DOI: 10.31014/aior.1992.08.03.680

The online version of this article can be found at:
https://www.asianinstituteofresearch.org/

Published by:
The Asian Institute of Research

The Asian Institute of Research *Economics and Business Quarterly Reviews* is a peer-reviewed International Journal. The journal covers scholarly articles in the fields of Economics and Business, which include, but are not limited to, Business Economics (Micro and Macro), Finance, Management, Marketing, Business Law, Entrepreneurship, behavioral and Health Economics, Government Taxation and Regulations, Financial Markets, International Economics, Investment, and Economic Development. As the journal is Open Access, it ensures high visibility and the increase of citations for all research articles published. The *Economics and Business Quarterly Reviews* aims to facilitate scholarly work on recent theoretical and practical aspects of Economics and Business.

ASIAN INSTITUTE OF RESEARCH
Connecting Scholars Worldwide

The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.8, No.3, 2025: 285-298
ISSN 2775-9237

DOI: 10.31014/aior.1992.08.03.680

Impact of Digital Financial Literacy on Small and Medium-sized Enterprises (SMEs) Performance in Laos: The Mediating Role of Financial Self-Efficacy, Hierarchical Component Model Approach

Chintana Khouangvichit[1] Mansiya Samambet[1]

[1] Faculty of Economics and Business Administration, University of Szeged, Hungary

Correspondence: Chintana Khouangvichit, Faculty of Economics and Business Administration, University of Szeged, H-6720, Dugonics square 13, Szeged, Hungary. E-mail: chintnak@gmail.com

Abstract
Digital financial literacy has become a vital factor for the sustainability and performance of small and medium-sized enterprises (SMEs) in an increasingly digital economy. This study examines the impact of Digital Financial Literacy (DFL) on SME performance in Laos, with a particular focus on the mediating role of Financial Self-Efficacy (FSE). The main research question explores how digital and financial skills, combined with confidence in financial management, drive business outcomes. Data were collected through a survey of 151 SME owners in Laos and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with a hierarchical component model (HCM) approach. The results indicate that DFL significantly enhances SME performance, both directly and indirectly through increased FSE. These findings underscore the importance of integrated policies that promote both digital finance skills and financial self-efficacy among entrepreneurs to foster SME growth and success.

Keywords: Digital Finance Literacy, Financial Self-Efficacy, SMEs

1. Introduction

The digital revolution is reshaping the entrepreneurial landscape, transforming how businesses operate and manage their financial resources. Digital Financial Literacy (DFL) has emerged as a critical competency for Small and Medium-sized Enterprises (SMEs) in today's dynamic financial environment (Awinja & Fatoki, 2021; Ratmono et al., 2023). According to Prasad et al. (2018), Lyons & Kass-Hanna (2021), and Morgan et al. (2019), DFL refers to the capacity to comprehend, manage, and effectively use digital financial technologies such as online banking, digital payments, and mobile money. DFL enhances financial decision-making, boosts operational efficiency, and creates new growth opportunities for SMEs, which often face challenges such as limited access to capital, resource constraints, and competitive market pressures.

SMEs play a vital role in economic development, contributing significantly to employment, innovation, and economic output. In Laos, SMEs account for 99% of registered businesses and 82% of total employment, highlighting their critical importance (World Bank, 2024). However, SMEs in Laos continue to face significant challenges, including limited access to finance and insufficient financial and digital literacy (World Bank, 2024). Recognizing these challenges, the Government of Laos has prioritized digital finance and financial literacy as key drivers of SME development. The National Digital Economy Development Plan (2021–2025) promotes mobile and electronic banking services to expand financial inclusion, aligning with the nation's goal of increasing the digital economy's GDP contribution from 3% to 10% by 2040.

The government's focus on financial education and digital adoption is further reflected in its national strategies. The 8th National Socio-Economic Development Plan (NSEDP) 2016–2020 emphasized mobile banking and digital financial services to improve SME access to finance (NSEDP, 2016), while the 9th NSEDP (2021–2025) promotes digitalization in public governance to modernize financial services and support SME resilience (NSEDP, 2021). These policy directions underscore the importance of DFL in equipping SMEs with essential skills for business sustainability.

Integrating digital finance into SME operations offers substantial benefits, from improved financial stability to enhanced economic growth. DFL, which merges financial and digital literacy, is crucial for SMEs to leverage digital finance services, expand market reach, and build resilience (Kulathunga et al., 2020; Weerakoon & Anuradha, 2024). However, many SMEs struggle to adopt digital finance due to limited DFL skills. As Ravikumar et al. (2022) argue, even financially literate individuals may struggle to fully benefit from digital financial services without adequate digital skills. Therefore, DFL, which integrates both financial and digital competencies, has become a prerequisite for SMEs engaging in digital finance.

Nevertheless, DFL alone may not be sufficient to drive SME performance. Its impact often depends on entrepreneurs' confidence in applying financial knowledge effectively a concept known as Financial Self-Efficacy (FSE). Rooted in Bandura's (1997) self-efficacy theory, FSE refers to an individual's belief in their ability to manage financial resources and navigate financial challenges. Entrepreneurs with high FSE are more likely to apply financial literacy effectively, take calculated financial risks, and make informed business decisions (Mindra & Moya, 2017; Herawati et al., 2020). Conversely, those with low FSE may hesitate to engage with digital finance, thereby limiting the potential benefits of DFL on SME performance.

While the role of DFL in enhancing business performance is widely acknowledged, research examining the combined effect of DFL and FSE on SME success remains limited. Most studies examine financial and digital literacy separately, often overlooking their joint impact on SME financial decision-making. The COVID-19 pandemic has accelerated digital finance adoption, yet much of the literature remains focused on defining and measuring DFL at the individual level rather than its implications for entrepreneurial outcomes. For instance, studies by Prasad et al. (2018) and Tony & Desai (2020) examined DFL in the context of household financial inclusion but did not explore its effects on SME growth and resilience.

In the context of developing economies such as Laos, the intersection of DFL, FSE, and SME performance remains underexplored. Although there is growing literature on financial inclusion and digital finance at the macro level, little is known about how SMEs develop and apply DFL in daily business operations. Given Laos' early stage of digital finance adoption, SMEs face unique challenges including limited digital infrastructure, low levels of financial literacy, and a lack of confidence in using digital financial services (Morgan & Trinh, 2019). Therefore, understanding how DFL influences SME performance in Laos and the extent to which Financial Self-Efficacy mediates this relationship becomes crucial for designing effective financial literacy programs and policy interventions that enhance entrepreneurial capacity and business sustainability. This study aims to examine the impact of DFL on SME performance in Laos, investigating how DFL shapes Financial Self-Efficacy and, in turn, influences business outcomes, thereby offering insights to policymakers, educators, and financial institutions seeking to build a digitally and financially literate SME sector capable of driving sustainable economic growth.

2. Literature Review and Hypothesis Development

2.1 Digital Finance literacy and SMEs performance

The growing adoption of digital financial services has fundamentally transformed financial interactions, making digital financial literacy an essential competency for businesses. DFL is increasingly recognized as a critical skill in the modern economy, attracting the attention of entrepreneurs, financial institutions, and policymakers (Setiawan et al., 2022). The importance of DFL for SME performance has become particularly evident as digital transformation reshapes the business landscape. As financial transactions shift to digital platforms, traditional financial literacy must evolve to incorporate digital competencies such as online banking, mobile payments, and fintech applications (Kass-Hanna et al., 2022).

Various scholars and institutions have defined DFL, emphasizing its role in financial decision-making and economic participation. Morgan & Trinh (2019) describe DFL as the ability to access and effectively use digital financial services, including knowledge of digital financial products, awareness of associated risks, and understanding risk management and consumer protection regulations. Abdallah (2024) defines DFL as an individual's ability to understand, navigate, and utilize digital financial services, underscoring its role in enhancing financial inclusion. Lyons and Kass-Hanna (2021) highlight DFL as an individual's capability to operate within digital financial environments, ensuring informed financial decision-making. The OECD extends this definition by incorporating the knowledge, skills, attitudes, and behaviors necessary for individuals to be aware of and safely use digital financial services and digital technologies, thereby contributing to their financial well-being (OECD, 2024). Similarly, Setiawan et al. (2022) indicated that DFL is the capacity to access and manage financial products and services using digital technologies, including mobile devices, computers, and the internet.

Given these perspectives, DFL is best understood as a multidimensional construct integrating both financial and digital literacy, enabling individuals and businesses to effectively access, utilize, and manage DFS (Lyons & Kass-Hanna, 2021; Morgan & Trinh, 2019; Setiawan et al., 2022; Abdallah et al., 2025). According to Lyons and Kass-Hanna (2021), DFL consists of several key dimensions. Basic knowledge and skills include fundamental financial knowledge combined with the ability to use digital devices. Awareness involves understanding the availability and purpose of DFS. Practical know-how refers to the ability to navigate digital financial applications, conduct transactions, and manage digital payment errors. Decision-making focuses on the ability to use digital financial tools to improve financial behavior, such as responsible saving, borrowing, and investment decisions. Self-protection entails the knowledge and skills needed to safeguard against online scams, fraud, and other digital risks, including awareness of data privacy and security measures.

By integrating financial and digital literacy, SMEs can significantly enhance their ability to leverage financial technology for improved efficiency, expanded financial access, and sustained business growth (Frimpong et al., 2022; Hermawan et al., 2022). Research suggests that DFL plays a crucial role in helping SMEs adopt technology-driven financial solutions such as automated accounting, digital payment systems, and online financial management tools, thereby improving business performance (Kulathunga et al., 2020).

Financial literacy enables SME managers to navigate financial decision-making, manage cash flow effectively, develop investment strategies, and mitigate risks (Fatoki, 2021; Lusimbo & Muturi, 2016). SMEs with higher financial literacy tend to make better financial decisions, maintain accurate records, and secure external funding more effectively (Agyapong & Attram, 2019). Eniola and Entebang (2017) emphasize that financial literacy enhances resource allocation, investment planning, and risk management, ultimately improving profitability and business expansion. Financially literate entrepreneurs are also better equipped to evaluate loan terms and manage debt strategically, increasing their access to credit.

In addition to financial literacy, digital literacy further supports business competitiveness (Wirawan et al., 2021). For SMEs, digital literacy is crucial for using digital tools to enhance productivity, reach broader markets, and

build financial resilience. Studies have shown that digital literacy contributes to strategic planning, innovation, and adaptability, key elements for SME survival and long-term success (Wirawan et al., 2021; Zahoor et al., 2023). Furthermore, Hermawan et al. (2022) note that digital literacy plays a crucial role in post-pandemic recovery, as SMEs are increasingly relying on e-commerce, digital banking, and fintech solutions.

Overall, DFL plays a crucial role in enhancing SME performance by enabling entrepreneurs to make informed financial decisions, adopt digital financial tools, and access financial services efficiently (Ratnawati & Soelton, 2022; Tuffour et al., 2022). Knowledge of digital financial services significantly boosts financial accessibility, allowing entrepreneurs to optimize business operations and enhance financial stability (Kuma et al., 2023). DFL enables businesses to expand their customer base, streamline transactions, and manage their finances more effectively (Abad-Segura & Gonzalez-Zamar, 2019; Yadav & Benerji, 2024). SMEs with higher DFL gain a competitive advantage by effectively leveraging digital financial tools and services (Hayati & Syofyan, 2021). Ratnawati and Soelton (2022) confirm that DFL has a significant positive effect on firm performance, as it enables business owners to understand and utilize digital financial products effectively. Based on this review, the study proposes the following hypothesis

Hypothesis1: Digital Finance Literacy (DFL) has a significant positive impact on SME performance.

2.2 Mediating Role of Financial Self-efficacy

Financial Self-Efficacy (FSE) refers to an individual's confidence in their ability to access and use financial products or services, make informed financial decisions, and effectively manage complex financial situations (Furrebøe et al., 2023). Grounded in Bandura's (1991, 1997) social cognitive theory, FSE reflects an individual's belief in their capacity to succeed. Individuals with high self-efficacy believe they can tackle difficult tasks and overcome challenges. Self-efficacy plays a key role in setting goals, making investment decisions, persisting through obstacles, and recovering from adversity (Bandura & Wood, 1989). It is closely tied to an individual's belief in their ability to perform specific tasks and achieve goals (Messikh, 2022). Those with stronger competencies, skills, and self-beliefs are more likely to act with autonomy and achieve long-term success (Newman et al., 2018). In entrepreneurial contexts, financial self-efficacy is particularly important, as it influences financial decision-making and ultimately contributes to SME performance in terms of profitability, growth, and entrepreneurial satisfaction (Veselinovič et al., 2020).

Prior studies have demonstrated that FSE is a strong predictor of financial behavior. It influences individuals' use of financial products, investment choices, and long-term financial well-being—all of which contribute to improved business performance (Farrell et al., 2016; Dare et al., 2022). Entrepreneurs with higher FSE are more likely to engage in proactive financial planning, take control of financial decision-making, and respond confidently to financial challenges (Asebedo & Seay, 2018; Farrell et al., 2016). In turn, this enhanced financial control can lead to improved performance outcomes in business settings (Farrell et al., 2016; Nguyen & Shafi, 2021; Chong et al., 2021; Dare et al., 2022).

Krueger and Brazeal (1994) emphasized that self-efficacy is fundamental to assessing entrepreneurial potential. In this context, financial literacy, particularly digital financial literacy, plays a critical role in shaping financial self-efficacy. By equipping individuals with relevant knowledge and skills, digital financial literacy builds confidence in managing financial resources (Newman et al., 2018; Lone & Bhat, 2022). While financial knowledge forms the foundation for sound financial decision-making, FSE determines how confidently individuals apply that knowledge in practice (Lone & Bhat, 2022). Together, financial literacy and self-efficacy are essential for navigating financial and economic challenges (Herawati et al., 2020).

Mindra and Moya (2017) found that FSE fully mediates the relationship between financial knowledge, financial attitudes, and the ability to access formal financial services. Similarly, Noor et al. (2020) argue that individuals with higher financial knowledge and access to information exhibit greater confidence in making sound financial decisions.

Despite growing interest in financial self-efficacy, most research has centered on individual consumers and personal financial behavior (Gulati & Singh, 2024). There is limited exploration of how FSE influences financial decision-making in entrepreneurial settings. This represents a significant gap in understanding how FSE mediates the relationship DFL and SME performance, especially in contexts where entrepreneurs' confidence in financial management is crucial.

This study proposes that DFL enhances financial self-efficacy by boosting entrepreneurs' confidence in managing finances and making informed business decisions. While DFL equips entrepreneurs with necessary financial and digital skills, FSE enables the effective application of those skills. Therefore, strengthening both DFL and FSE is essential to improving SME performance.

Hypothesis 2: *Financial Self-Efficacy has a significant positive impact on SME performance.*
Hypothesis 3: *Digital Financial Literacy has a significant positive impact on Financial Self-Efficacy*
Hypothesis 4: *Financial Self-Efficacy mediates the relationship between Digital Financial Literacy and SME performance.*

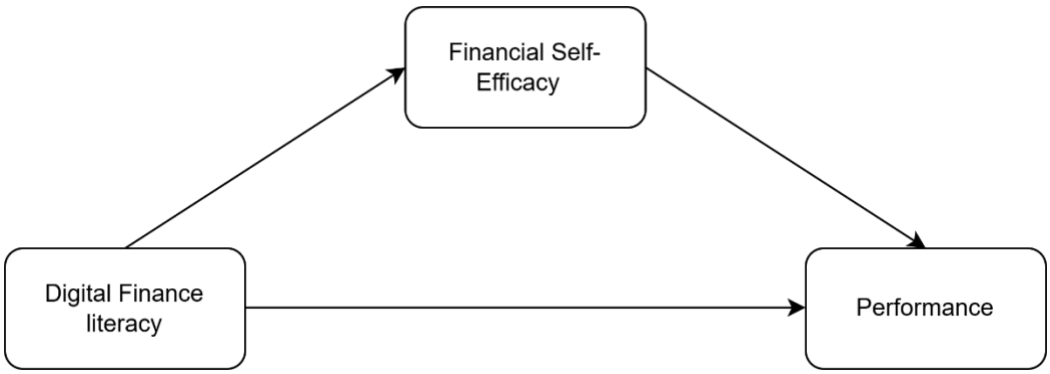

Figure 1: Conceptual Framework

3. Methodology

3.1 Sample Design and Data Collection

The study focuses on entrepreneurs operating small and medium-sized enterprises (SMEs) in Laos. While PLS-SEM generally requires a sample size that is at least 10 times the number of indicators for the most complex construct in the model (Peng & Lai, 2012), it is often recommended in PLS literature to use G* Power analysis to accurately determine the appropriate sample size (Hair et al., 2017; Hair et al., 2014). Consequently, the G* Power 3.1 software was employed to ensure the sample size met the necessary threshold. Based on the number of predictors, a minimum sample size of 68 respondents was calculated for a 95% confidence level ($\alpha = .05$) and a power of 0.8. The study successfully collected data from 151 respondents, exceeding the minimum requirement.

Data collection was conducted through a survey, with the entrepreneur acting as the primary respondent. This approach was chosen because entrepreneurs uniquely manage and operate their businesses, holding both ownership and decision-making authority. Their comprehensive role in driving profitability and growth makes them well-suited to provide relevant insights for the study's objectives. An online questionnaire, developed using Google Forms, was utilized for data collection. The survey questions were crafted based on measures refined from previous studies, with adjustments made to align with the characteristics of the target sample. To ensure content validity, the final questionnaire underwent pre-testing among both academics and non-participating entrepreneurs. The questionnaire was translated into Lao and subsequently back-translated into English by a different translator to ensure linguistic compatibility. A pilot study involving 20 entrepreneurs yielded

satisfactory results. Participation in the survey was entirely voluntary, and participants were assured that their responses would be treated confidentially and used solely for research purposes.

3.2 Measurement of variable

3.2.1. SMEs' Performance

This study employs subjective performance measures adapted from Fatoki (2018) and Tuffour et al. (2020), to evaluate SME performance. These measures are widely recognized in the literature for their reliability and practical relevance, particularly in contexts where objective financial data may be unavailable or inconsistent (Zulkiffli & Perera, 2011). As noted by Dess and Robinson (1984), subjective assessments of business performance exhibit a strong correlation with objective financial metrics, such as changes in return on assets and sales (revenues), over comparable periods. This correlation reinforces the validity of subjective measures as a dependable proxy for actual performance (Song et al., 2005).

Subjective evaluations by the owner effectively capture overall business performance by reflecting key indicators such as profitability, market share, and growth. This alignment is well-documented in previous research (Dess & Robinson, 1984; Love et al., 2002; Fatoki, 2018; Tuffour et al., 2020), supporting the robustness of subjective measures in performance analysis. In this study, business owners assessed their firm's performance relative to competitors over the past three years. Responses were collected using a five-point Likert scale, ranging from 1 (much worse) to 5 (much higher). The survey covered five critical performance indicators: sales growth, market share, employee numbers, profitability, and return on assets.

3.2.2. Digital Financial Literacy

In this study, Digital Financial Literacy (DFL) is conceptualized as a Higher-Order Construct (HCM), as a reflective-formative higher-order model. The measurement of DFL is adapted from conceptual framework developed by Lyons & Kass-Hanna (2021), which was designed to address the growing need for individuals and businesses to understand and navigate digital financial tools in a complex, technology-driven financial environment. Their model views DFL as a multi-dimensional construct that combines traditional financial literacy with digital literacy, addressing both the knowledge and skills required to use digital financial products effectively and responsibly

In this study, DFL adopted five core dimensions, including basic knowledge and skills, awareness, practical know-how, decision-making, and self-protection. DFL is measured through a Likert-scale questionnaire (1 = Strongly Disagree to 5 = Strongly Agree).

3.2.3. Financial Self-Efficacy (FSE)

In this study, Financial Self-Efficacy (FSE) refers to an individual's confidence in managing financial resources, making financial decisions, and overcoming financial challenges in a business context. Recognized as a key psychological factor influencing financial behavior and outcomes, FSE is measured by adopting and adapting established scales from Lown (2011), Noor et al. (2020), Nguyen (2019), and Rothwell et al. (2018). This study employs a five-item Likert-scale questionnaire (1 = Strongly Disagree to 5 = Strongly Agree) to capture entrepreneurs' confidence in financial management and decision-making.

3.3 Data Analysis

In this study, data analysis was conducted using SmartPLS version 4.1.0.4, employing the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. PLS-SEM was selected for its flexibility, which makes it particularly suitable for exploratory research. This approach is well-regarded for its ability to investigate and develop hypotheses regarding relationships between constructs, providing a less restrictive modeling framework. Such flexibility is especially valuable when examining the relationship between DFL, FSE and SME

performance, as highlighted by Hair et al. (2017, 2019) and Ringle et al. (2015). Additionally, PLS-SEM does not require the data to follow a normal distribution, which simplifies the analysis by removing concerns about stringent normality assumptions. This feature ensures a more robust examination of the constructs (Ali et al., 2016).

For this research, the Hierarchical Component Model (HCM) was employed to simplify the structural model, thereby enhancing parsimony and interpretability (Hair et al., 2018). Specifically, a reflective-formative HCM was applied to the DFL construct, enabling the study to assess the impact of its five key dimensions: basic knowledge and skills, awareness, practical know-how, decision-making, and self-protection on SME performance. These dimensions serve as lower-order constructs (LOCs) within the higher-order construct (HOC) of DFL. One of the primary advantages of using PLS-SEM within this HCM framework is its capacity to accommodate both reflective and formative measurement models simultaneously, providing a nuanced representation of multidimensional constructs (Becker et al., 2012). The application of the HCM approach ensures a more parsimonious and theoretically coherent structural model, facilitating a clearer interpretation of how LOCs contribute to the HOC and, consequently, affect SME performance.

To address measurement challenges associated with higher-order constructs in PLS-SEM, a two-stage disjoint approach was employed. In this setup, LOCs were modeled reflectively, while the HOC was modeled formatively. The two-stage approach effectively combines these distinct measurement models without distorting the structural relationships. In the first stage, LOCs such as basic knowledge and skills, awareness, practical know-how, decision-making, and self-protection were modeled reflectively, and their measurement properties such as convergent validity (assessed via factor loadings, composite reliability, and AVE) and discriminant validity (using the Heterotrait–Monotrait ratio, HTMT) were evaluated. The latent scores for the LOCs were then exported.

In the second stage, the HOC (DFL) was modeled as a formative construct, with the latent scores of the LOCs used as indicators to assess its impact on FSE and SME Performance (Hair et al., 2021). Multicollinearity was assessed using Variance Inflation Factor (VIF) values, ensuring that all values were below the threshold of 3.3. The reflective and formative models were evaluated separately to ensure robust and reliable results.

The second step of the PLS-SEM analysis involved a detailed examination of the associations within the structural model, putting the study hypotheses to the test at specified significance levels (Chin, 2009). Model estimation was performed using metrics such as R^2, Q^2. In the context of PLS-SEM, these metrics are essential for evaluating model fit, as they assess the model's explanatory power (R^2) and predictive relevance (Q^2) for the relationships between the variables under investigation (Hair et al., 2019).

4. Finding

4.1 Measurement Model Analysis

In employing PLS-SEM, reliability is a necessary condition for validity. According to Hair et al. (2017), indicator reliability should be assessed to ensure how well each indicator reflects its associated construct. Factor loadings are commonly used for this purpose, with values of 0.7 or higher being ideal. However, for social science studies, factor loadings between 0.6 to 0.7 are considered acceptable (Hair et al., 2017). They also further state that if an indicator’s factor loading is below 0.5, it may be removed to improve model fit.

Various methods were applied to assess the validity and reliability of the measurement model, covering internal consistency reliability, convergent validity, and discriminant validity (Hair et al., 2019). Convergent validity was determined through the Average Variance Extracted (AVE) values, following Henseler et al. (2015), with a recommended threshold of 0.50. Table 1: All AVE values exceeded the established threshold, indicating satisfactory convergent validity.

To evaluate internal consistency reliability, Cronbach's Alpha (CA) and Composite Reliability (CR) were employed. In this study, CA values for each case exceeded the threshold of 0.7 (CA>0.7) for each construct (Table 1), indicating acceptable internal consistency. Similarly, CR values above 0.70, as proposed by Hair et al. (2019), were considered satisfactory. The composite reliabilities of the different measures demonstrated that they met the prescribed threshold.

Table 1: Measurement Model Analysis

Latent Variable	Item	Outer loading	VIF	CA	CR	AVE
Digital finance Knowledge and Skills (DFK)	DFK1	0.622	1.16	0.784	0.862	0.614
	DFK2	0.834	1.869			
	DFK3	0.853	2.194			
	DFK4	0.804	2.014			
Self-Protection (SP)	SP1	0.882	1.852	0.752	0.856	0.669
	SP2	0.899	2.159			
	SP3	0.648	1.317			
Practical know-how (PK)	PK1	0.844	1.623	0.71	0.821	0.537
	PK2	0.643	1.203			
	PK3	0.775	1.484			
	PK4	0.648	1.384			
Decision Making (DM)	DM1	0.842	1.255	0.713	0.833	0.63
	DM2	0.674	1.627			
	DM3	0.811	1.521			
Awareness (AW)	AW1	0.795	1.491	0.7	0.829	0.617
	AW2	0.742	1.463			
	AW3	0.818	1.249			
Financial Self-Efficacy (FSE)	FSE1	0.654	1.395	0.804	0.866	0.565
	FSE2	0.811	2.144			
	FSE3	0.823	2.089			
	FSE4	0.77	1.835			
	FSE5	0.686	1.441			
Performance (PER)	PER1	0.827	2.306	0.842	0.888	0.616
	PER2	0.801	2.5			
	PER3	0.827	2.782			
	PER4	0.794	1.763			
	PER5	0.662	1.375			

Source: Author's construct from SmartPLS 4

The Heterotrait-Monotrait Ratio (HTMT) assesses discriminant validity in PLS-SEM. The HTMT is regarded as a robust method for assessing discriminant validity in PLS-SEM (Hair et al., 2017). HTMT is calculated by taking the ratio of the average correlations between items across different constructs to the average correlations of items within the same construct (Hair et al., 2019). High HTMT values suggest potential issues with discriminant validity. When constructs in the path model are conceptually distinct, a lower threshold value of .90 is recommended (Henseler et al., 2015). In this study, the HTMT values, as shown in Table 2, fall below this threshold, indicating satisfactory discriminant validity and suggesting that the constructs are sufficiently distinct from one another.

Table 2: Discriminant validity (Heterotrait-monotrait ratio (HTMT) Matrix)

	AW	DFK	DM	FSE	SP	PER	PK
AW							
DFK	0.365						
DM	0.197	0.194					
FSE	0.316	0.244	0.137				
SP	0.218	0.836	0.171	0.352			
PER	0.163	0.387	0.195	0.635	0.549		
PK	0.36	0.592	0.161	0.316	0.595	0.549	

Note: AW-Awareness, DFK-Digital Finance knowledge and skills, DM-Decision Making, SP-Self-Protection, FSE-Financial Self-Efficacy, PER-Performance

Source: SmartPLS 4

4.2 Assessment of structural model

The structural model assessment examines the relationship between the latent constructs and evaluates the predictive value of the conceptual model *(Hair et al., 2019)*. Bootstrapping was performed to examine the Structural Model which confirmed the relationship between NC and SME Performance with ER as a mediator. To detect the presence of collinearity within the model, a collinearity test was performed. The results of the variance inflation factor (VIF) scores ranged from 1.16 to 2.782 (table 1). VIF values below the threshold of 3.3 do not indicate a significant issue (Hair et al., 2019). The coefficient of determination (R^2) was applied to measure the proportion of variance in the dependent variable explained by independent variables, reflecting the model's explanatory power. Predictive relevance (Q^2) assessed the model's predictive accuracy, and the path coefficient were examined to determine the strength and significance of the relationship between constructs *(Hair et al., 2017)*.

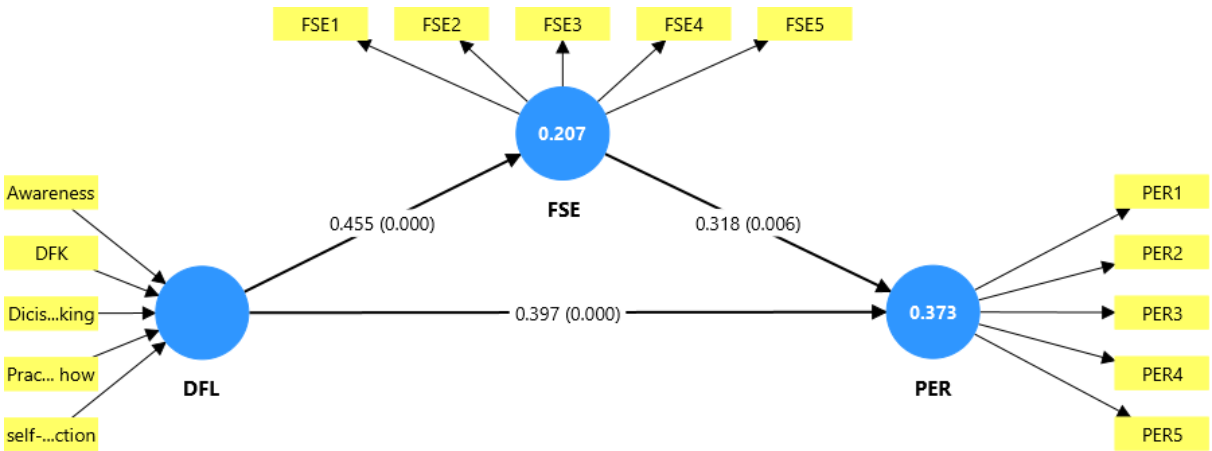

Figure 2: Structure Model Assessment

Source: SmartPLS4

Table 3: Constructed model

	R-square	Q^2predict
PER	0.373	0.184
FSE	0.207	0.221

Source: SmartPLS 4

Chin (1998) suggests that R^2 values of 0.67, 0.33, and 0.19 correspond to substantial, moderate, and weak explanatory power, respectively. The findings indicate that the exogenous constructs in this study collectively explain 37.3% (Table 2) of the variance in the endogenous construct, SMEs' performance. This suggests that the model exhibits a moderate explanatory capability in line with Chin's (1998) criteria. Financial Self-Efficacy (FSE) R^2 is 0.207, indicating that 20.7% of the variance in FSE is explained by its predictors. Although lower, this R^2 still provides meaningful insights, suggesting a weak to moderate explanatory strength.

A Q^2 value greater than zero indicates the model's predictive relevance (Henseler et al., 2009). The Q^2 values obtained in this study, 0.308 for PER and 0.226 for FSE, are both greater than zero, confirming the model's predictive relevance. This means the model not only explains a moderate portion of the variance but also can predict future outcomes with acceptable accuracy (Chin, 2010).

4.3 Hypothesis Testing

Table 3: Hypothesis Testing

Hypothesis	Path	Path coefficient (β)	T statistics	P values	Result
Direct effect					
H1	DFL -> PER	0.455	5.104	0.000	Support
H2	FSE -> PER	0.318	2.754	0.006	Support
H3	DFL -> FSE	0.397	3.889	0.000	Support
Mediation effect					
H4	DFL -> FSE -> PER	0.145	2.381	0.017	Support

Note: DFL=Digital finance literacy; FSE= Financial self-efficacy; PER=SMEs' performance

Hypotheses 1-4 were tested using path analysis to assess the significance of the relationships at a 5% significance level. As shown in Table 3, the findings support all four hypotheses (H1, H2, H3, and H4).

H1: (DFL-> PER) is positive and statistically significant ($\beta = 0.455$, $t = 5.104$, $p < 0.001$), suggesting that SMEs with a higher level of DFL tend to exhibit better performance, likely due to their more effective use of digital finance services in their business operation. H2 (FSE -> PER) suggesting that financial self-efficacy has a significant positive effect on SME performance ($\beta = 0.318$, $t = 2.754$, $p = 0.006$). the finding indicates that entrepreneurs who are confident in their ability to manage financial task are more capable of managing business finances, which positively influences performance outcomes. H3: (DFL-> FSE) The results show a significant relationship between DFL and FSE ($\beta = 0.397$, $t = 3.889$, $p < 0.001$). This finding suggests that DFL not only directly contributes to the performance of SMEs but also enhances entrepreneurs' financial confidence, which is crucial for applying digital knowledge in practice. Finally, H4: (DFL -> FSE -> PER) the mediation effect is also supported. The indirect path from DFL to PER through FSE is significant ($\beta = 0.145$, $t = 2.381$, $p = 0.017$). This finding confirms that FSE partially mediates the relationship between DFL and SME performance. It suggests that while DFL directly enhances SME performance, it also does so indirectly by strengthening entrepreneurs' confidence in their financial capabilities.

5. Discussion and Conclusion

This study examined the impact of digital finance literacy on the performance of SMEs in Laos, which focuses on the mediating role of financial self-efficacy. The findings confirm that DFL significantly contributes to SME performance. Entrepreneurs equipped with strong digital financial literacy are better able to leverage financial technologies to streamline operations, enhance strategic decision-making, and access financial services more effectively. These results are consistent with previous studies (Kulathunga et al., 2020; Tuffour et al., 2022; Ratnawati & Soelton, 2022; Kuma et al., 2023), which demonstrated that DFL enables SME owners to understand and utilize digital financial products to drive business success.

The study also highlights the critical role of FSE as a psychological enabler of effective financial management within SMEs. Entrepreneurs with greater confidence in their financial capabilities are more likely to engage in proactive financial behaviors, such as risk assessment, financial planning, and strategic investment decisions (Lone & Bhat, 2022). This finding aligns with prior literature (Farrell et al., 2016; Mindra and Moya, 2017; Nguyen & Shafi, 2021; Dare et al., 2022), which emphasized the positive association between FSE, sound financial behavior, and business performance.

Furthermore, the results reveal that DFL significantly enhances entrepreneurs' financial self-efficacy. This relationship suggests that as entrepreneurs acquire greater knowledge and experience with digital financial tools, their belief in their ability to manage financial responsibilities also increases. This finding is consistent with previous studies by Lone & Bhat (2022) and Herawati et al. (2020), who noted that the acquisition of financial knowledge and digital skills is fundamental to the development of financial self-efficacy.

Finally, the study also confirms that FSE partially mediates the relationship between DFL and SME performance. This mediation effect suggests that while DFL provides entrepreneurs with the knowledge and skills needed to navigate digital financial environments, FSE empowers them to apply these capabilities effectively in business decision-making and eventually in business outcomes. Consistent with the findings of Mindra and Moya (2017) and Noor et al. (2020)

5.1. Practical Implications

The findings offer several important implications for practice. First, policymakers should prioritize the development of national programs that combine digital finance training with efforts to build financial self-efficacy among entrepreneurs. Simply providing technical skills is insufficient without enhancing entrepreneurs' confidence in applying them.

Second, financial institutions and fintech companies should design user-friendly digital financial platforms and complement them with financial education initiatives aimed at SMEs. Third, SME support organizations and training institutions should integrate financial psychological components such as confidence-building and self-efficacy exercises into digital finance literacy programs to ensure that knowledge is effectively translated into business action.

5.2. Limitations and Future Study Directions

While this study provides valuable insights into the role of Digital Financial Literacy and Financial Self-Efficacy in enhancing SME performance, it is not free of limitations. First, the study employs a cross-sectional design, which restricts the ability to infer causal relationships between DFL, FSE, and performance outcomes. Longitudinal studies are recommended to capture how digital financial competencies and self-efficacy evolve and influence business sustainability. Second, the model focused primarily on internal psychological (FSE) and knowledge-based factors (DFL), excluding other influential variables such as access to digital infrastructure, regulatory support, or entrepreneurial orientation. Future research could extend the model to include environmental or institutional variables to better understand the ecosystem shaping SME performance.

Author Contributions: All authors contributed to this research.

Funding: Not applicable.

Conflict of Interest: The authors declare no conflict of interest.

Informed Consent Statement/Ethics Approval: Not applicable.

Declaration of Generative AI and AI-assisted Technologies: This study has not used any generative AI tools or technologies in the preparation of this manuscript.

References

Abad-Segura, E., & González-Zamar, M. D. (2019). Effects of financial education and financial literacy on creative entrepreneurship: A worldwide research. *Education Sciences*, *9*(3), 238. https://doi.org/10.3390/educsci9030238

Abdallah, W., Tfaily, F., & Harraf, A. (2025). The impact of digital financial literacy on financial behavior: customers' perspective. *Competitiveness Review: An International Business Journal*, *35*(2), 347-370.

Agyapong, D., & Attram, A. B. (2019). Effect of owner-manager's financial literacy on the performance of SMEs in the Cape Coast Metropolis in Ghana. *Journal of Global Entrepreneurship Research*, *9*(1), 67. https://doi.org/10.1186/s40497-019-0191-1

Asebedo, S., & Seay, M. (2018). Financial self-efficacy beliefs and the saving behavior of older pre-retirees. *Retirement Planning & Living Research Initiative*, 29(2), 357–368. Retrieved from https://www.depts.ttu.edu/hs/pfp/cfr/documents/WorkingPaper2017-01.pdf

Awinja, N. N., & Fatoki, O. I. (2021). Effect of digital financial services on the growth of SMEs in Kenya. *African Journal of Empirical Research*, *2*(1), 79-94. https://doi.org/10.51867/ajer.v2i1.16

Becker, J. M., Klein, K., & Wetzels, M. (2012). Hierarchical latent variable models in PLS-SEM: guidelines for using reflective-formative type models. *Long range planning*, *45*(5-6), 359-394. https://doi.org/10.1016/j.lrp.2012.10.001

Buchdadi, A. D., Sholeha, A., Ahmad, G. N., and Mukson. (2020). The influence of financial literacy on SMES performance through access to finance and financial risk attitude as mediation variables. *Acad. Account. Finan. Studies* J. 24, 1–16.

Bandura, A. (1997). Self-efficacy: The exercise of control. WH Freeman.

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, 50(2), 248–287

Bandura, A., & Wood, R. (1989). Effect of perceived controllability and performance standards on self-regulation of complex decision making. *Journal of Personality and Social Psychology*, 56(5), 805–814. https:// doi.org/10.1037/0022-3514.56.5.805

Chin, W. W. (2009). How to write up and report PLS analyses. In *Handbook of partial least squares: Concepts, methods and applications* (pp. 655-690). Berlin, Heidelberg: Springer Berlin Heidelberg.

Chong, K. F., Sabri, M. F., Magli, A. S., Rahim, H. A., Mokhtar, N., & Othman, M. A. (2021). The Effects of Financial Literacy, Self-Efficacy and Self-Coping on Financial Behavior of Emerging Adults. *Journal of Asian Finance, Economics and Business*, 8(3), 905–915. https://doi.org/10.13106/jafeb.2021.vol8.no3.0905

Choung, Y., Chatterjee, S., & Pak, T. Y. (2023). Digital financial literacy and financial well-being. *Finance Research Letters*, *58*, 104438. https://doi.org/10.1016/j.frl.2023.104438

DAF Pamela, D. U. F. F. I. N. (2018). G20/OECD INFE Policy Guidance-Digitalisation and Financial Literacy.

Dare, S. E., van Dijk, W. W., van Dijk, E., van Dillen, L. F., Gallucci, M., & Simonse, O. (2023). How executive functioning and financial self-efficacy predict subjective financial well-being via positive financial behaviors. *Journal of Family and Economic Issues*, *44*(2), 232-248. https://doi.org/10.1007/s10834-022-09845-0

Dess, G. G., & Robinson Jr, R. B. (1984). Measuring organizational performance in the absence of objective measures: the case of the privately-held firm and conglomerate business unit. *Strategic management journal*, *5*(3), 265-273.

Eniola, A. A., & Entebang, H. (2017). SME managers and financial literacy. *Global Business Review*, *18*(3), 559-576. https://doi.org/10.1177/0972150917692063

Farrell, L., Fry, T. R., & Risse, L. (2016). The significance of financial self-efficacy in explaining women's personal finance behaviour. *Journal of economic psychology*, *54*, 85-99. https://doi.org/10.1016/j.joep.2015.07.001

Fatoki, O. (2021). Access to finance and performance of small firms in South Africa: The moderating effect of financial literacy. *WSEAS Transactions on Business and Economics*, *18*, 78-87. DOI: 10.37394/23207.2021.18.9

Frimpong, S. E., Agyapong, G., & Agyapong, D. (2022). Financial literacy, access to digital finance and performance of SMEs: Evidence From Central region of Ghana. *Cogent Economics & Finance*, *10*(1), 2121356. https://doi.org/10.1080/23322039.2022.2121356

Furrebøe, E. F., Nyhus, E. K., & Musau, A. (2023). Gender differences in recollections of economic socialization, financial self-efficacy, and financial literacy. *Journal of Consumer Affairs*, 57(1), 69–91. https://doi.org/10.1111/joca.12490

Gulati, A., & Singh, S. (2024). Financial self-efficacy of consumers: A review and research agenda. *International Journal of Consumer Studies*, *48*(2), e13024.

Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, *1*(2), 107-123.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review*, *31*(1), 2-24.

Hair, J. F., Astrachan, C. B., Moisescu, O. I., Radomir, L., Sarstedt, M., Vaithilingam, S., & Ringle, C. M. (2021). Executing and interpreting applications of PLS-SEM: Updates for family business researchers. *Journal of Family Business Strategy*, *12*(3), 100392.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, *43*, 115-135.

Hayati, A. F., & Syofyan, R. (2021, November). Analysis of student digital financial literacy in the era of industrial revolution 4.0. In *Seventh Padang International Conference On Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA 2021)* (pp. 180-184). Atlantis Press.

Herawati, N. T., Candiasa, I. M., Yadnyana, I. K., & Suharsono, N. (2020). Factors that influence financial self-efficacy among accounting students in Bali. *Journal of International Education in Business*, **13**(1), 21–36.

Hermawan, A., Gunardi, A., & Sari, L. M. (2022). Intention to use digital finance MSMEs: the impact of financial literacy and financial inclusion. *Jurnal Ilmiah Akuntansi dan Bisnis*, *17*(1), 171-182. DOI: 10.24843/JIAB.2022.v17.i01.p12

Hoge, G. L., Hetling, A., Postmus, J. L., & Stylianou, A. M. (2020). Developing and validating the Scale of Economic Self-Efficacy. *Journal of Interpersonal Violence,* 35(15/16), 3011-3033. https://doi.org/10.1177/0886260517706761

Kass-Hanna, J., Lyons, A. C., & Liu, F. (2022). Building financial resilience through financial and digital literacy in South Asia and Sub-Saharan Africa. *Emerging Markets Review*, *51*, 100846. https://doi.org/10.1016/j.ememar.2021.100846

Kim, J., Falconier, M. K., & Conway, C. A. (2023). Relationships among emotion regulation, financial self-efficacy, and financial management behaviors of couples. Journal of Family and Economic Issues, 44(2), 342–355

Kulathunga, K. M. M. C. B., Weerathunga, P. R., Ye, J., & Sharma, S. (2020). How Does Technological and Financial Literacy Influence SME Performance: Mediating Role of ERM Practices. *Information*, *11*(6), 297. https://doi.org/10.3390/info11060297

Kumar, P., Pillai, R., Kumar, N., & Tabash, M. I. (2023). The interplay of skills, digital financial literacy, capability, and autonomy in financial decision making and well-being. *Borsa Istanbul Review*, *23*(1), 169-183. https://doi.org/10.1016/j.bir.2022.09.012

Lone, U. M., Bhat, S.A. (2022). Impact of financial literacy on financial well-being: a mediational role of financial self-efficacy. *Journal of Financial Services Marketing*. https://doi.org/10.1057/s41264-022-00183-8

Lusimbo, E. N., & Muturi, W. (2016). Financial literacy and the growth of small enterprises in Kenya: A case of Kakamega Central Sub-County, Kenya. *International Journal of Economics, Commerce and Management*, *4*(6), 828-845.

Lyons, A. C., & Kass-Hanna, J. (2021). A methodological overview to defining and measuring "digital" financial literacy. *Financial planning review*, *4*(2), e1113 https://doi.org/10.1002/cfp2.1113

Messikh, A., 2022. The effect of entrepreneurial self-efficacy on the performance of small businesses in Algeria: A case study in Skikda. *Modern Management Review*, *27*(2), pp.67-78.

Mindra, R., & Moya, M. (2017). Financial self-efficacy: A mediator in advancing financial inclusion. *Equality, Diversity & Inclusion*, 36(2), 128-149. https://doi.org/10.1108/EDI-05-2016-0040

Morgan, P. J., Huang, B., & Trinh, L. Q. (2019). The need to promote digital financial literacy for the digital age. *IN THE DIGITAL AGE*.

Morgan, P. J., & Long, T. Q. (2019). Fintech and financial literacy in the Lao PDR (No. 933). *ADBI working paper series*. Asian Development Bank Institute. Available: https://www.adb.org/publications/fintech-and-financial-literacy-lao-pdr

National Socio-Economic Development Plan (NSEDP). (2016). *8th National Socio-Economic Development Plan 2016-2020*. Government of Lao PDR.

National Socio-Economic Development Plan (NSEDP). (2021). *9th National Socio-Economic Development Plan 2021-2025*. Government of Lao PDR.

Newman, A., Obschonka, M., Schwarz, G., Cohen, M., & Nielsen, I. (2018). Entrepreneurial self-efficacy: A systematic review of the literature on its theoretical foundations, measurement, antecedents, and outcomes, and an agenda for future research. *Journal of vocational behavior*, *101*, 403-419. https://doi.org/10.1016/j.jvb.2018.05.012

Nguyen, H., & Shafi, K. (2021). *Financial self-efficacy and its role in financial behavior: Evidence from New Zealand*. Whanake: The Pacific Journal of Community Development, 7(1), 1-15.

Noor, N., Batool, I., & Arshad, H. M. (2020). Financial literacy, financial self-efficacy and financial account ownership behavior in Pakistan. *Cogent Economics & Finance*, *8*(1). https://doi.org/10.1080/23322039.2020.1806479

OECD (2024), *OECD/INFE survey instrument to measure digital financial literacy*, OECD Publishing, Paris, https://doi.org/10.1787/548de821-en.

Peng, D. X., & Lai, F. (2012). Using partial least squares in operations management research: A practical guideline and summary of past research. *Journal of operations management*, *30*(6), 467-480. https://doi.org/10.1016/j.jom.2012.06.002

Prasad, H., Meghwal, D., & Dayama, V. (2018). Digital financial literacy: A study of households of Udaipur. *Journal of Business and Management*, *5*, 23-32. http://dx.doi.org/10.3126/jbm.v5i0.27385

Ratmono, D., Frendy, & Zuhrohtun, Z. (2023). Digitalization in management accounting systems for urban SMEs in a developing country: A mediation model analysis. *Cogent Economics & Finance*, *11*(2), 2269773. https://doi.org/10.1080/23322039.2023.2269773

RATNAWATI, K., & SOELTON, M. (2022, December). The Role Of Digital Financial Literacy On Firm Performance In Micro Industry. In *ICCD* (Vol. 4, No. 1, pp. 95-101). https://doi.org/10.33068/iccd.v4i1.447

Ravikumar, T., Rajesh, R., Krishna, T. A., Haresh, R., & Arjun, B. S. (2022). Changing customer mindset in adopting digital financial services during the COVID-19 pandemic: Evidence from India. *Banks and Bank Systems*, *17*(3), 58. http://dx.doi.org/10.21511/bbs.17(3).2022.06

Ringle, C., Da Silva, D., & Bido, D. (2015). Structural equation modeling with the SmartPLS. *Bido, D., da Silva, D., & Ringle, C.(2014). Structural Equation Modeling with the Smartpls. Brazilian Journal Of Marketing*, *13*(2).

Rothwell, D. W., Khan, M. N., & Cherney, K. (2018). Building financial knowledge is not enough: Financial self-efficacy as a mediator in the financial capability of low-income families. In *Financial Capability and Asset Building with Diverse Populations* (pp. 12-32). Routledge.

Setiawan, M., Effendi, N., Santoso, T., Dewi, V. I., & Sapulette, M. S. (2022). Digital financial literacy, current behavior of saving and spending and its future foresight. *Economics of Innovation and New Technology*, *31*(4), 320-338. https://doi.org/10.1080/10438599.2020.1799142

Song, M., Droge, C., Hanvanich, S., & Calantone, R. (2005). Marketing and technology resource complementarity: An analysis of their interaction effect in two environmental contexts. *Strategic management journal*, *26*(3), 259-276.

Tony, N., & Desai, K. (2020). Impact of digital financial literacy on digital financial inclusion. *International Journal of Scientific and Technology Research*, 9(1), 1911–1915.

Tuffour, J. K., Amoako, A. A., & Amartey, E. O. (2022). Assessing the Effect of Financial Literacy Among Managers on the Performance of Small-Scale Enterprises. *Global Business Review*. 23(5), 1200-1217 https://doi.org/10.1177/0972150919899753

Veselinovič, D., Auer Antončič, J., Antončič, B., & Grbec, D. L. (2022). Financial self-efficacy of entrepreneurs and performance]. *Journal of Developmental Entrepreneurship*, *27*(1). https://doi.org/10.1142/S1084946722500029

Weerakoon, W. A. Y. A., & Anuradha, P. A. N. S. (2024). Financial Literacy on Digital Banking and Financial Performance among Small and Medium- Sized Enterprises in Sri Lanka. *Asian Finance Review*, *2*(01). https://doi.org/10.31357/afr.v2i01.7441

Wirawan, R., Fadah, I., Suryaningsih, I. B., & Wulandari, D. (2021). The role of dynamic capabilities based on digital literacy on the performance of marketing innovations for micro, small and medium enterprises. DOI: 10.47750/QAS/22.184.22

World Bank. (2024). Lao PDR: Access to finance for micro, small, and medium-sized enterprises in Lao PDR (Technical note). *International Bank for Reconstruction and Development* / The World Bank Group. https://www.worldbank.org/

Yadav, M., & Banerji, P. (2024). Systematic literature review on Digital Financial Literacy. *SN Business & Economics*, *4*(11). https://doi.org/10.1007/s43546-024-00738-y

Zahoor, N., Zopiatis, A., Adomako, S., & Lamprinakos, G. (2023). The micro-foundations of digitally transforming SMEs: How digital literacy and technology interact with managerial attributes. *Journal of Business Research*, *159*, 113755. https://doi.org/10.1016/j.jbusres.2023.113755

Zulkiffli, S. N. A., & Perera, N. (2011). A literature analysis on business performance for SMEs: subjective or objective measures?. In *Society of Interdisciplinary Business Research (SIBR) 2011 Conference on Interdisciplinary Business Research*.