Peer-Reviewed Article

Jurnal Keuangan dan Perbankan
Volume 27, Issue 3 July 2023:424-436
ISSN: 1410-8089 (Print), 2443-2687 (Online)
DOI: 10.26905/jkdp.v27i3.11147

The Role of Literacy and Government Support in Improving MSME Performance Through Digital Financial Services Adoption and Financial Inclusion

Erlinda Sholihah[1], Risma Nurhapsari[2], Aftuqa Sholikatur Rohmania[3]

[1]Department of Management, Sekolah Tinggi Ilmu Ekonomi Studi Ekonomi Modern, Indonesia
Jl. Diponegoro No. 69, Kec. Kartasura, Sukoharjo, 57166, Indonesia
[2] Department of Accounting, Sekolah Tinggi Ilmu Ekonomi Studi Ekonomi Modern, Indonesia
Jl. Diponegoro No. 69, Kec. Kartasura, Sukoharjo, 57166, Indonesia
[3]Department of Management, Universitas Sains dan Teknologi Komputer, Indonesia
Jl. Majapahit No. 605, Kec Pedurungan, Semarang, 50192, Indonesia

Article history:
Received: 2022-12--08
Revised: 2023—02-20
Accepted: 2023-06-25

✉ Corresponding Author:
Name author: Erlinda Sholihah
E-mail: erlindasholihah@stekom.ac.id

Abstract

This study aims to identify the role of financial literacy, digital literacy, and government support mediated by digital financial services adoption and financial inclusion in influencing the financial performance of MSMEs in Central Java. The model in this study was developed from the RBV (Resource Based View) theoretical framework. This study is a type of quantitative study with an explanatory design. The population determined is MSMEs in the food and beverage sector of Central Java Province. The sample was selected using a simple random sampling of 238 respondents using Google Forms. Next, the data analysis technique used SEM-PLS with Smart-PLS 3. This study found that financial literacy, government support, digital financial services adoption, and financial inclusion determine the financial performance of MSMEs. These four factors show a significant influence. On the contrary, digital literacy did not significantly affect MSMEs' financial performance. This research contribution is theoretically expected to be useful in developing RBV (Resource Based View) theory. In addition, it is a direction for three parties (government, entrepreneurs, and financiers) in formulating policies related to strategies to optimize MSMEs' financial performance based on digital technology.

Keywords: RBV; financial performance; financial digitalization; government support; financial inclusion
JEL Classification: G10, G53

1. Introduction

The Covid-19 pandemic's influence on the MSME sector greatly affects Indonesia's economy (Herlinawati & Machmud, 2020). Several government policies to limit community interaction to suppress the virus spread resulted in an economy of 2.07% contraction in 2020 (Badan Pusat Statistik, 2020; Bank Indonesia, 2021). Moreover, it has also caused reduced operational activities, raw material supply problems, decreased sales turnover, capital and financing, and even bad credit in MSMEs (X. Hu et al., 2019; Sri Anik, 2022). Finally, 30 million out of 64.2 million MSMEs have stopped business (Jelita, 2021).

Meanwhile, around 82% of MSMEs in Central Java experienced a decline in revenue, demand, and operational financial difficulties (Permana, 2020). However, in Q3-2021, Indonesia's economic growth increased again by 3.51% (Bank Indonesia, 2021). It suggests that the contribution of MSMEs continues to dominate GDP growth and employment (Kementerian Koordinator Bidang Perekonomian Republik Indonesia, 2021) along with improving economic conditions in Central Java in 2022 by up to 5.16% due to the implementation of MSME digitalization (Pemerintah Provinsi Jawa Tengah, 2022). The fulfillment of community drives this increase in needs that have shifted to all-digital, from buying and selling to financial services and activities. Thus, the presence of technology is a significant contributor to business and economic progress. Moreover, it is a reference for MSMEs to continue to exist (Suryani et al., 2022).

The critical role of MSMEs in the economy requires efforts to improve their performance. The main problem of MSMEs during Covid-19 is the limited direct social contact. Therefore, MSME innovation through business and financial digitization is the right solution. The reason is that business success today requires placing products and services through digital networks to show complex relationships with consumers (Oggero et al., 2020). Meanwhile, the failure of MSMEs to adapt can worsen the problem, even leading to business closure (Nguyen et al., 2021).

MSMEs are major contributors to economic growth and poverty alleviation (Bongomin & Munene, 2021). It also contributes to achieving sustainable development goals: job creation (Gusman et al., 2021), economic empowerment, and social welfare (Widnyana et al., 2021). However, the obstacles still face are the lack of financial stability related to access to capital and limited resource capabilities in utilizing the latest technology (Nur Hamidah et al., 2020). Thus, its success or failure is highly dependent on the resources of the owner or manager, especially in this era of digital transformation (Agyei, 2018). These resources include financial literacy, digital literacy, and financial inclusion.

The financial literacy of managers or owners has an essential role in boosting the financial performance of MSMEs (Kulathunga et al., 2020; Ye & Kulathunga, 2019). MSMEs must have the ability and knowledge of finance to manage their business finances more effectively and efficiently. MSMEs supported and strengthened with financial resources will be more competitive in domestic and global markets (Yanto et al., 2022). Digital literacy is also a determining factor in achieving maximum financial performance for MSMEs (Arifuddin et al., 2022; Suryani et al., 2022). The strategy for MSMEs to reach the global market is to digitize the business. Therefore, MSMEs must have digital literacy to innovate and develop their businesses. Moreover, increasing digital literacy allows MSMEs to adapt their business operations to recent digital technology developments, especially digital financial services (Edward et al., 2023). In addition, financial inclusion has an essential role in achieving better MSMEs' financial performance (Harmadji et al., 2022; Ratnawati, 2020). Financial inclusion assists in alleviating barriers to MSME growth and raising access to external finance, thus leveling firms (Lakuma et al., 2019). Hence, there is a need for an active push towards financial inclusion, especially access to better financial services for small firms (Morgan & Pontines, 2018). Under the Government's implementation of the National Strategy for Financial Inclusion (Ratnawati, 2020).

Apart from internal factors, the financial performance of MSMEs is also influenced by factors external to the company, such as government support (Rita et al., 2021; Yufra TANEO et al., 2022). Government support is a program developed to facilitate and stimulate the success of MSMEs' business activities and financial performance. The slow growth of MSMEs is due to limited financial knowledge and resources, combined with minimal adoption of financial technology, so the role of government support is fundamental to overcoming these obstacles (Peter et al., 2018).

Some studies that have been conducted, such as Puspitasari and Astrini (2022), state that financial literacy affects MSMEs' financial performance, but financial inclusion has no effect. Meanwhile, Thathsarani and Jianguo (2022) claim that financial inclusion and digital finance affect the performance of MSMEs. Furthermore, Harmadji et al. (2022) found that the role of government has a positive effect on the MSMEs' financial performance, and financial inclusion can moderate the role of government and financial literacy on the financial performance of MSMEs. Similarly, Daud et al. (2022) state that digital financial adoption affects MSMEs' financial performance. In addition, Arifuddin et al. (2022) found that digital literacy is one of the determining factors for the performance improvement of MSMEs, but Setyawati et al. (2022) stated otherwise.

The rise of the economy after the Covid-19 pandemic in Central Java is inseparable from the implementation of MSME innovation through business and financial digitalization. Digitalization is essential for MSMEs because it can offer ease of financial services and market expansion and greatly helps MSMEs develop and increase their income. In addition, it also increases access to payments through various methods and access to financing. By 2022, the contribution of MSMEs in Central Java will reach almost 73% of the Gross Regional Domestic Product (GRDP) (Pemerintah Provinsi Jawa Tengah, 2022). It shows that the financial performance of MSMEs is improving so that they are more adaptive and resilient in facing changes that occur in the future. Therefore, it is urgent to identify the determinants of enhancing the financial performance of MSMEs in Central Java. It will be an important issue in developing MSMEs through economic digitalization. In addition, there are still gaps and some things that have been missed by previous research, which are points of development and novelty in this study. Therefore, the question can be identified regarding the role of financial literacy, digital literacy, and government support mediated by digital financial services adoption and financial inclusion that can affect the financial performance of MSMEs in Central Java by applying the RBV (Resource Based View) theory.

2. Hypotheses Development

Resource Based View (RBV)

The theory underlying the identification of MSME financial performance in this study is the RBV (Resource Based View) theory. RBV theory states that tangible and intangible resources, i.e., valuable and scarce competencies, are critical to generating competitive advantage for an organization, thereby improving its financial performance (Barney, 1991; Newbert, 2007). RBV theory is applied to explain the role of financial and digital literacy, adoption of digital financial services, and financial inclusion as internal resources of MSMEs that are valuable and have the potential to improve financial performance. Meanwhile, government support is an external resource that boosts MSMEs' financial performance.

Some researchers have applied this RBV theory in assessing financial performance with various variables to prove its relevance, such as the role of financial literacy (Estensoro et al., 2022; Purwidianti et al., 2022), financial resources (Davis & DeWitt, 2021), and financial inclusion (Thathsarani & Jianguo, 2022). However, researchers have not found literature on the application of RBV theory in integrating the role of digital literacy, government support, and digital financial services adoption. Therefore, it is crucial to apply the model in this case.

Financial Performance

Financial performance is the company's ability to generate revenue and profit and increase market value (Abou-Foul et al., 2021). Financial performance is also defined as the level of success of MSMEs in achieving financial success that can be measured directly, including increased profits, assets, sales savings, and investment. Some indicators of this financial performance include achievements in sales, growing profits, and achieving revenue targets (Gao et al., 2023; Thathsarani & Jianguo, 2022).

Financial Literacy

Financial literacy is defined as the knowledge, skills, and confidence that influence the attitudes and behaviors of MSME actors to improve the quality of decision-making and manage finances to achieve prosperity. Financial literacy indicators are fundamental knowledge of financial management, financial planning, budgeting and control, credit management, savings, and investment (Dewi & Candraningrat, 2022; Kaban & Safitry, 2020). Mabula and Ping (2018) mentioned that a person's high level of financial literacy can increase his interest in using financial technology, according to the findings of Hermawan et al. (2022). Agyei (2018) found better financial performance when MSMEs have good financial literacy. The findings of Harmadji et al. (2022) and Yanto et al. (2022) also stated that the better the financial literacy of MSMEs, the greater their chances of improving their financial performance or maintaining their business activities. As well, the findings of El Chaarani et al. (2022) state that MSMEs who adapt and can use technology, such as digital financial services, will be better prepared to compete and improve their performance. Therefore, it can be stated that:
H_1: Financial literacy significantly affects digital financial services adoption

H_2: Financial literacy significantly affects financial performance
H_3: Digital financial services adoption mediates the effect of financial literacy on financial performance

Digital Literacy

Tricahyono and Sudrajat (2022) define digital literacy as knowledge about using and utilizing information and communication technology in a business environment. Digital literacy is the knowledge of MSMEs about digital technology to support their activities, such as business. Some indicators of digital literacy are information technology knowledge, usage skills, engagement capacity, and development capabilities (Arifuddin et al., 2022; Yanto et al., 2022). Increasing digital literacy can be an asset for MSMEs to adapt their business operation to the development of digital technology, especially digital financial technology (Yanto et al., 2022). Besides, Arifuddin et al. (2022) and Edward et al. (2023) have mentioned that the higher the level of digital literacy, the higher the performance of MSMEs. Here is the hypothesis:
H_4: Digital literacy has a significant effect on digital financial services adoption.
H_5: Digital literacy has a significant effect on financial performance.
H_6: Digital financial services adoption mediates the impact of digital literacy on financial performance.

Government Support

Government support is a behavior carried out by the government through increased publicity of the application of technology in financial innovation and accelerated funding. Some indicators include policies, regulations, procedures, facilitators and promoters, funding and capital assistance, and infrastructure support (Hidayat et al., 2020; Z. Hu et al., 2019). Policy measures and financial support instruments were introduced. The government through the Financial Services Authority (OJK), Bank Indonesia, and local governments have continuously demonstrated their commitment to support the development of MSMEs through various initiatives, including strategic directions in promoting access to finance for MSMEs (Dedy Sasongko, 2020; Gamo & Gollagari, 2020). Harmadji et al. (2022) validated their findings that the role of government support in utilizing access to finance can improve the financial performance of MSMEs, as did Peter et al. (2018). Additionally, technological adaptation that the government intensively introduces and stakeholders is instrumental in maintaining profitability and improving MSMEs' financial performance (Kurniawan et al., 2023). Furthermore, the following hypothesis can be stated:
H_7: Government support has a significant effect on digital financial services adoption.
H_8: Government support has a significant effect on financial performance.
H_9: Digital financial services adoption mediates the impact of government support on financial performance.

Digital Financial Services Adoption

Technology adoption is necessary for MSMEs to face economic changes, especially digital financial services (Shofawati, 2019; Thathsarani & Jianguo, 2022). Digital finance is the accessibility of financial services through digital platforms, such as mobile phones, the Internet, credit cards, QR codes, or ATMs (Gomber et al., 2017). Thus, digital financial services adoption is defined as using digital financial technology by MSMEs with remote technology, including e-money, mobile money transactions, payment of digital cards, and e-fund transfers. The scope of indicators is adaptability, comfort and convenience, assistance and satisfaction, and security over risk (Ozili, 2018; Thathsarani & Jianguo, 2022). The potential benefits offered make it necessary for MSMEs (Mabula & Ping, 2018). In addition, its role has become increasingly important since the onset of Covid-19. Without realizing it, Covid-19 has accelerated the use of digital financial services that prioritize convenience, practicality, accessibility, and low costs with the support of understanding by the perpetrators (Nur Hamidah et al., 2020). Therefore, adopting financial technology can encourage increased financial inclusion to improve financial performance (Daud et al., 2022; Mabula & Ping, 2018). The following is the hypothesis:
H_{10}: Digital financial services adoption has a significant effect on financial performance.
H_{11}: Digital financial services adoption has a significant effect on financial inclusion.

Financial Inclusion

The World Bank (2014) interprets financial inclusion as the ability of individuals or businesses to access financial products and services that are useful and affordable for their needs. Financial inclusion is defined as accessibility and usability to financial services for MSMEs and financial services quality, including cost, satisfaction, security, and protection. The indicators are access, quality, and

usage (Harmadji et al., 2022). Financial inclusion is an essential element to encourage the expansion of MSMEs. Thathsarani and Jianguo (2022) state that financial inclusion is vital in improving MSMEs' financial performance. It means that the more open the availability of financial services for MSMEs, the fewer financial problems faced by MSME actors. Moreover, Ratnawati (2020) found that financial inclusion can facilitate MSMEs in accessing more affordable financial services. Thus, the performance of MSMEs can improve through adequate funding to enable business growth. Furthermore, Arner et al. (2020) also noted that financial inclusion can support economic growth by improving MSMEs' financial performance. Therefore, this hypothesis:
H_{12}: Financial inclusion significantly affects financial performance.

The following Figure 1 is a research framework to solve the problems in this research:

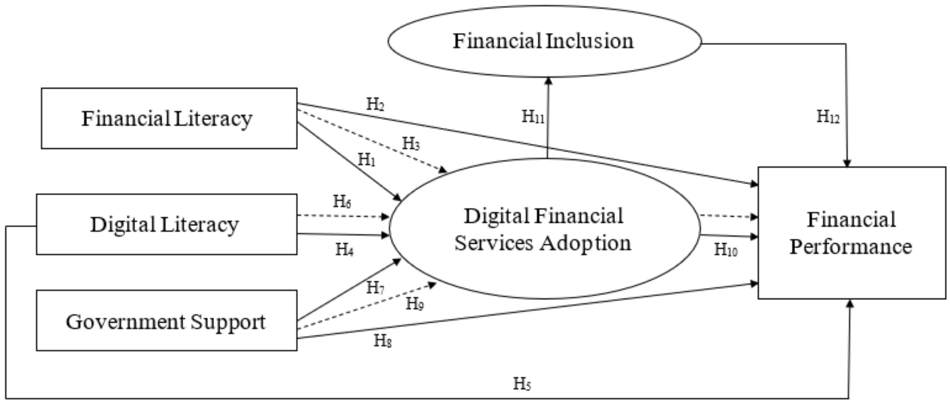

Figure 1. Research Framework

3. Method, Data, and Analysis

This quantitative study uses an explanatory design to describe a variable's effect on changes in other variables. This approach is applied to determine exogenous variables' direct and indirect impact on endogenous variables (Cooper et al., 2006). There are six (6) variables used: Financial Literacy (LK), Digital Literacy (LD), Government Support (DP), Digital Financial Services Adoption (AL), Financial Inclusion (IK), and Financial Performance (KK).

The population that has been determined is Micro, Small, and Medium Enterprises (MSMEs) in the food and beverage sector registered at the Central Java Provincial Cooperative and MSME Office in 2023, totaling 9,975 units (Dinkop-UMKM Jawa Tengah, 2023). The sample was selected based on simple random sampling with representatives from each city in Central Java. Sampling in each city reflects the potential of each area to provide representative data. The number of samples selected refers to the opinion of Hair Jr et al. (2016) that an appropriate sample size is five (5) to ten (10) times the number of indicators. There are 38 indicators in this study, and 238 samples are considered sufficient to represent the population.

Primary data sources were obtained directly from respondents by distributing questionnaires. The data collection technique applied was distributing questionnaires based on a Likert scale. All indicators that represent variables are measured using a Likert Scale of one (1) to five (5), (1 menas strongly disagree and 5 means strongly agree). The questionnaire was distributed to 238 respondents from MSME actors by utilizing Google Forms through social media applications. Furthermore, the data analysis technique used is Structural Equation Modeling Partial Least Square (SEM-PLS) with SmartPLS version 3. Wong (2013) states that SEM is one of the multivariate analysis methods that can be applied in analyzing linear relationships between indicator and latent variables. Generally, a structural equation system includes a structural model and a measurement model. Therefore, this technique is suitable for application in this case.

4. Results

The respondents in this study comprised 238 small and medium-sized enterprises (SMEs) in the food and beverage sector located in Central Java. Among the owners of these businesses, 54.2% are male, indicating a slight male dominance in ownership within this industry. Regarding the duration of business operations, 52.52% of these SMEs have been operating for a period between one to five years, demonstrating a substantial representation of relatively young enterprises. On the other hand, 45.37% of the businesses have been in operation for more than five years, highlighting a significant portion of more established enterprises. A small fraction, 2.1%, have been operating for less than a year, reflecting new entrants in the market.

This study investigates several crucial variables, namely financial literacy, digital literacy, government support, adoption of digital financial services (DFS), financial inclusion, and financial performance. Each variable was measured using a set of six (6) to seven (7) questions according to the structured questionnaire employed in the study. For all these variables, the scoring ranged from a minimum of one (1) to a maximum of five (5).

The mean values obtained from the descriptive analysis are indicative of the general trends and levels of these variables among the SMEs. The mean score for financial performance is 3.269, suggesting that on average, the businesses are performing moderately well. Financial literacy has a mean score of 3.187, which implies a moderate level of understanding and application of financial knowledge among the owners. Digital literacy, with a mean score of 3.118, indicates a similar moderate level of competency in using digital tools and technologies. Government support received a slightly higher mean score of 3.404, reflecting a positive perception of governmental assistance among the SMEs. The adoption of digital financial services (DFS) has a mean value of 3.200, showing a fair level of integration of digital financial solutions into business operations. Lastly, financial inclusion has the lowest mean score of 3.037, which may point to some challenges in accessing and utilizing financial services fully.

These findings provide valuable insights into the current state of financial and digital literacy, government support, DFS adoption, financial inclusion, and the overall financial performance of food and beverage SMEs in Central Java. Such information can be crucial for policymakers, stakeholders, and business owners themselves as they work towards enhancing these aspects for better business sustainability and growth.

Table 1. Descriptive Analysis

Variable	N	Min	Max	Mean
Financial Performance	238	1	5	3.269
Financial Literacy	238	1	5	3.187
Digital Literacy	238	1	5	3.118
Government Support	238	1	5	3.404
DFS Adoption	238	1	5	3.200
Financial Inclusion	238	1	5	3.037

The first critical step in hypothesis testing is the thorough assessment of the measurement model. This process involves identifying the latent variables and their respective indicators that are pertinent to the structural model. Table 2 illustrates the results of this assessment, showing that all items have achieved a factor loading value exceeding 0.7. This threshold indicates that these items are valid for evaluating the variables under study, confirming their robustness and appropriateness for further analysis. However, not all items met the required criteria. Specifically, items such as LK4, LK5, LK6, LD4, LD5, AL4, AL6, AL7, IK2, and IK6 did not achieve the necessary factor loading value and therefore must be discarded from the model. The elimination of these items is crucial to ensure the accuracy and validity of the measurement model.

Furthermore, the Average Variance Extracted (AVE) score for each variable was found to be above 0.5. This indicates a good level of convergent validity, meaning that the items collectively explain a substantial portion of the variance in their respective latent variables. Additionally, the reliability of the measurement model was confirmed through several indices. Cronbach's Alpha (CA), rho_A, and Composite Reliability (CR) scores all exceeded 0.7. These high values denote that the items are reliable and consistent as measuring instruments for the research variables.

In summary, the initial step of hypothesis testing involves a meticulous evaluation of the measurement model. The validity and reliability of the items are confirmed by their factor loading values and reliability scores. Items failing to meet the required standards are removed to maintain the model's integrity, ensuring that the remaining indicators are both valid and reliable for subsequent structural analysis. This rigorous process lays a solid foundation for the exploration and testing of hypotheses in the research study.

Table 2. Convergence Validity and Instrument Reliability

Variable	Items	Factor Loading	CA	rho_A	CR	AVE
Financial Performance	KK1	0.851	0.917	0.919	0.936	0.709
	KK2	0.903				
	KK3	0.818				
	KK4	0.734				
	KK5	0.860				
	KK6	0.878				
Financial Literacy	LK1	0.834	0.796	0.803	0.867	0.621
	LK2	0.763				
	LK3	0.824				
	LK7	0.727				
Digital Literacy	LD1	0.874	0.848	0.853	0.898	0.689
	LD2	0.878				
	LD3	0.767				
	LD6	0.797				
Government Support	DP1	0.765	0.891	0.898	0.916	0.646
	DP2	0.823				
	DP3	0.789				
	DP4	0.848				
	DP5	0.806				
	DP6	0.786				
DFS Adoption	AL1	0.866	0.900	0.908	0.932	0.777
	AL2	0.956				
	AL3	0.736				
	AL5	0.951				
Financial Inclusion	IK1	0.737	0.838	0.840	0.892	0.675
	IK3	0.845				
	IK4	0.890				
	IK5	0.808				

Then, after testing the measurement model, it is necessary to continue testing the structural model. The structural model in this study is a model that describes the closeness of the relationship between latent variables tested through the path coefficient. The following is a presentation of the conclusions of the hypothesis result in this research presented in Table 3. Based on Table 3, it can be concluded that H1, H2, and H3 are supported because they have a t-statistic value > 1.96 and p-value < 0.05, meaning that financial literacy can significantly affect DFS adoption and financial performance.

Table 3. Summary of Hypothesis Results

Hypothesis	*t*	*P*	Remarks
H_1: Financial Literacy → DFS Adoption	2.933	0.004*	Supported
H_2: Financial Literacy → Financial Performance	5.750	0.000*	Supported
H_3: Financial Literacy → DFS Adoption → Financial Performance	2.622	0.009*	Supported
H_4: Digital Literacy → DFS Adoption	3.067	0.002*	Supported
H_5: Digital Literacy → Financial Performance	0.396	0.692	Not Supported
H_6: Digital Literacy → DFS Adoption → Financial Performance	2.634	0.009*	Supported
H_7: Government Support → DFS Adoption	13.255	0.000*	Supported
H_8: Government Support → Financial Performance	4.432	0.000*	Supported
H_9: Government Support → DFS Adoption → Financial Performance	5.539	0.000*	Supported

Hypothesis	*t*	*P*	Remarks
H_{10}: DFS Adoption → Financial Performance	6.397	0.000*	Supported
H_{11}: DFS Adoption → Financial Inclusion	13.774	0.000*	Supported
H_{12}: Financial Inclusion → Financial Performance	4.418	0.000*	Supported

Note: *significant : $p < 0.05$

DFS adoption mediates the effect of financial literacy on financial performance. Then, H_4 and H_6 are supported, indicating a significant influence between digital literacy on DFS adoption and DFS adoption mediates the effect of digital literacy on financial performance. In contrast, H_5 (the impact of digital literacy on financial performance) is not supported because it has a t-statistic value of 0.396 and a p-value of 0.692. Meanwhile, H_7, H_8, and H_9 are supported, which states that there is a significant influence between government support on DFS adoption and financial performance. DFS adoption mediates the effect of government support on financial performance. Similarly, H_{10} and H_{11} are supported, meaning that DFS adoption significantly affects financial performance and inclusion. Finally, H_{12} is supported, meaning financial inclusion can significantly influence financial performance. Furthermore, a detailed description of the influence between variables in the structural model can be seen in Figure 2 below:

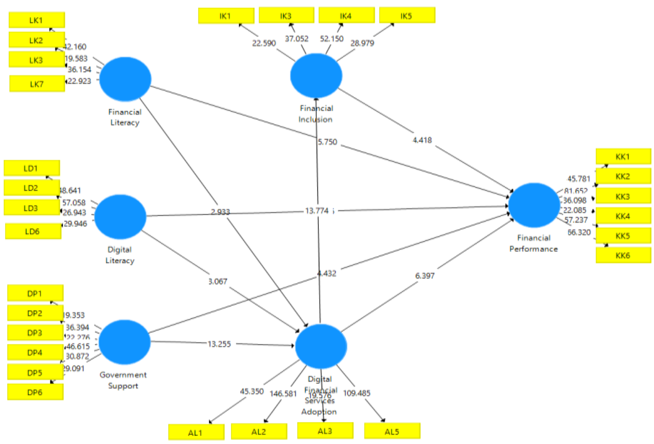

Figure 2. Structural Model

In the next stage, we assess the model's feasibility through the R-Square value. The R-Square value explains the extent to which the diversity of endogenous latent variables (financial performance) can be accounted for by the diversity of exogenous variables. With a value of 0.797, it indicates that approximately 79.7% of the variation in endogenous variables can be explained by variations in exogenous variables. This suggests that the applied model concept is quite feasible.

5. Discussion

First, financial literacy has a significant effect on digital financial services adoption. It means that the better the level of financial literacy of MSME players, the greater their interest in digital financial services adoption. In line with the findings of Mabula and Ping (2018) and Hermawan et al. (2022), the amount of financial literacy possessed by MSMEs and the ability to apply it in their business activities will encourage the use of digital financial services to improve work efficiency. Likewise, financial literacy has a significant effect on financial performance. The survey results show that financial literacy is one of the factors that has an essential role in improving MSMEs' financial performance. This finding confirms that indicators of MSMEs' understanding of important financial terms and the application of transaction recording applications are essential aspects of improving financial performance. Therefore, this is relevant to the results of Agyei (2018), Harmadji et al. (2022), and Yanto et al. (2022). Moreover, adopting digital financial services can mediate financial literacy's effect on financial performance. That is, the better financial literacy of MSME players can encourage digital financial services adoption and ultimately improve their financial performance, following the opinion of El Chaarani et al. (2022).

Second, digital literacy has a significant effect on digital financial services adoption. It states that the high digital literacy of MSMEs can increase their interest in using digital financial services in business activities. The observations made to MSMEs in Central Java prove that their good digital literacy is the principal capital in increasing interest in adopting digital financial services, so it is compatible with the study of Yanto et al. (2022). However, on the contrary, digital literacy does not significantly affect financial performance. That is, the increasing digital literacy of MSMEs is not enough to help improve their financial performance. That means digital literacy is not a determining factor for improving the financial performance of MSMEs in Central Java, consistent with the findings of Setyawati et al. (2022). Meanwhile, digital financial services adoption can mediate digital literacy's effect on financial performance. It implies that MSMEs with a high level of digital literacy can increase the use of digital financial services to boost their financial performance. The results show that the primary indicator is that they have implemented cooperation with delivery services and utilize digital media and digital financial services in sales.

Third, government support has a significant effect on digital financial services adoption. Consistent with some previous literature, such as Kurniawan et al. (2023) and Lestari et al. (2022), which underlines the increasing digital financial services adoption among MSMEs as a form of government support. Government support also significantly affects financial performance, namely the increasing government support and the increasing financial performance of MSMEs. The existence of government support can develop markets and make it easier for MSMEs to obtain valuable resources in these markets. Moreover, this support can facilitate MSMEs in linking external networks. When MSMEs can develop their demands, it makes it easier for them to improve their financial performance. Furthermore, adopting digital financial services can mediate government support's effect on financial performance. The most dominating indicator of government support is support and promotion and good socialization of digital financial services regulations and policies so that MSME players in Central Java are interested in utilizing the available services for their business operations. Thus, the existence of government support for digital financial services adoption can increase entrepreneurial activities in MSMEs at the financial level. Therefore, this finding aligns with Harmadji et al. (2022) and Peter et al. (2018) research.

Fourth, digital financial services adoption has a significant effect on financial inclusion. Digital financial services adoption also has a significant impact on financial performance. It shows that the higher the interest of MSMEs to adopt digital financial services, the higher their level of financial inclusion. Likewise, their financial performance will also improve. This result is reinforced by a report from the Central Java Provincial Government (2022) that implementing financial digitization in MSMEs in Central Java has positively impacted the performance of MSMEs and the regional economy, especially after the Covid-19 pandemic. The primary indicator of their desire to adopt digital financial services is that they feel the convenience and security of transactions. In addition, the strong impetus is also influenced by the lifestyle of people who have switched to digital. Thus, this result is consistent with previous research from Daud et al. (2022) and Mabula & Ping (2018).

Finally, financial inclusion has a significant effect on financial performance. It states that the greater the increase in financial inclusion of MSME actors, the greater the opportunity for MSMEs to improve their financial performance. The observation results confirm that the most dominating indicator of financial inclusion in improving the financial performance of MSMEs is that MSME players have conducted financial transactions through banks and transfers and the affordability of bank distance from business locations. Thus, this finding underlines previous findings from Arner et al. (2020) and Thathsarani & Jianguo (2022) that the quality, availability, and ease of access to financial services determine the level of financial inclusiveness that supports the achievement of stable financial performance of MSMEs.

6. Conclusion, Limitations, and Suggestions

Conclusion

The contributory factors to the financial performance of MSMEs in Central Java have been identified in this research, with a conceptual model size of 79.7% variance. A model development from the RBV (Resource Based View) was applied to produce more comprehensive findings in identifying the determinants of MSME financial performance. The results suggest that the factors affecting MSME financial performance include financial literacy, government support, digital financial services adoption, and financial inclusion. Each of these variables significantly influences MSMEs' financial performance. At the same time, the mediating role of digital financial services adoption can influence financial literacy, digital literacy, and government support in improving the financial performance of MSMEs. However, digital literacy is not a determining factor in improving the financial performance of MSMEs.

Limitation and suggestions

This research is an essential concept in developing MSMEs through financial digitalization. Practically, it implies that a good understanding of financial literacy and inclusion and digital financial services adoption can affect the ability of MSMEs to achieve their financial performance. In addition, the external factor of the role of government support in formulating digital technology-based policies is crucial. So, the government can continue actively guiding and assisting MSMEs, specifically in adopting digital financial services to improve financial performance, following the strategic direction of the Financial Services Authority (OJK) regarding the priority target of financial inclusion 2023 for the MSME sector.

Furthermore, further research is needed to obtain more optimal results in identifying the determinants of MSME financial performance by adding other external factors. In addition, sample determination based on wider regional considerations needs to be applied, not limited to the Central Java region, so it is expected to produce more ideal findings.

7. Acknowledgment

The Directorate General of Higher Education funded this research. As a team of beginner lecturer researchers, we are very grateful for the trust that has been given so that we can complete this research. Hopefully, this research can be helpful for all parties in need.

References

Abou-Foul, M., Ruiz-Alba, J. L., & Soares, A. (2021). The impact of digitalization and servitization on the financial performance of a firm: an empirical analysis. *Production Planning & Control*, *32*(12), 975–989.

Agyei, S. K. (2018). Culture, financial literacy, and SME performance in Ghana. *Cogent Economics and Finance*, *6*(1). https://doi.org/10.1080/23322039.2018.1463813

Arifuddin, M., Qamari, I. N., & Surwanti, A. (2022). Digital Literacy, Digital Culture and Business Performance: A Comprehensive Conceptual Framework. *Journal of Marketing and Emerging Economics*, *2*(10), 59–67.

Arner, D. W., Buckley, R. P., Zetzsche, D. A., & Veidt, R. (2020). Sustainability, FinTech and Financial Inclusion. *European Business Organization Law Review*, *21*(1), 7–35. https://doi.org/10.1007/s40804-020-00183-y

Badan Pusat Statistik. (2020). *Ekonomi Indonesia 2020 Turun sebesar 2,07 Persen*. https://www.bps.go.id/pressrelease/2021/02/05/1811/ekonomi-indonesia-2020-turun-sebesar-2-07-persen--c-to-c-.html

Bank Indonesia. (2021). *Pertumbuhan Ekonomi Indonesia Triwulan IV 2020 Melanjutkan Perbaikan*. https://www.bi.go.id/id/publikasi/ruang-media/news-release/Pages/sp_233321.aspx

Barney, J. (1991). Firm Reources ad Sustained Competitive Advantege. In *Journal of Management* (Vol. 17, Issue 1, pp. 99–120).

Cooper, D. R., Schindler, P. S., & Sun, J. (2006). *Business research methods* (9). Mcgraw-hill New York.

Daud, I., Nurjannah, D., Mohyi, A., Ambarwati, T., Cahyono, Y., Haryoko, A. D. E., Handoko, A. L., Putra, R. S., Wijoyo, H., Ari-Yanto, A., & Jihadi, M. (2022). The effect of digital marketing, digital finance and digital payment on finance performance of indonesian smes. *International Journal of Data and Network Science*, *6*(1), 37–44. https://doi.org/10.5267/J.IJDNS.2021.10.006

Davis, G. F., & DeWitt, T. (2021). Organization theory and the resource-based view of the firm: The great divide. *Journal of Management*, *47*(7), 1684–1697.

Dedy Sasongko. (2020). *UMKM Bangkit, Ekonomi Indonesia Terungkit*. Djkn.Kemenkeu.Go.Id. https://www.djkn.kemenkeu.go.id/artikel/baca/13317/UMKM-Bangkit-Ekonomi-Indonesia-Terungkit.html

Dewi, I. A. P. R., & Candraningrat, I. R. (2022). Relationship of financial literacy and financial performance to business sustainability. *International Research Journal of Management, IT and Social Sciences*, *9*(4), 598–611. https://doi.org/10.21744/irjmis.v9n4.2120

Dian Ade Permana. (2020). *Di Jawa Tengah, 86,2 Persen Usaha Mikro Kecil Terdampak Pandemi Covid-19*. Kompas.Com. https://money.kompas.com/read/2020/12/02/102956126/di-jawa-tengah-862-persen-usaha-mikro-kecil-terdampak-pandemi-covid-19

Dinkop-UMKM Jawa Tengah. (2023). *Data UMKM Per Kategori*. https://satudata.dinkop-umkm.jatengprov.go.id/data/umkm-kategori

Edward, E., Chairunnisa, F., & Siregar, A. P. (2023). *Digitalpreneur Competency Model and Digital Literacy on MSME Business Performance in Jambi Province*. *4*(3), 473–482.

El Chaarani, H., Vrontis, P. D., El Nemar, S., & El Abiad, Z. (2022). The impact of strategic competitive innovation on the financial performance of SMEs during COVID-19 pandemic period. *Competitiveness Review: An International Business Journal*, *32*(3), 282–301.

Estensoro, M., Larrea, M., Müller, J. M., & Sisti, E. (2022). A resource-based view on SMEs regarding the transition to more sophisticated stages of Industry 4.0. *European Management Journal*, *40*(5), 778–792.

Gamo, K. G., & Gollagari, R. (2020). Role of Local Government and MSMEs Performance: The Case of Ethiopia. *International Journal of Small and Medium Enterprises*, *3*(1), 1–17. https://doi.org/10.46281/ijsmes.v3i1.511

Gao, J., Siddik, A. B., Khawar Abbas, S., Hamayun, M., Masukujjaman, M., & Alam, S. S. (2023). Impact of E-Commerce and Digital Marketing Adoption on the Financial and Sustainability Performance of MSMEs during the COVID-19 Pandemic: An Empirical Study. *Sustainability*, *15*(2), 1594. https://doi.org/10.3390/su15021594

Gomber, P., Koch, J. A., & Siering, M. (2017). Digital Finance and FinTech: current research and future research directions. *Journal of Business Economics*, *87*(5), 537–580. https://doi.org/10.1007/s11573-017-0852-x

Gusman, N., Soekarno, S., & Mirzanti, I. R. (2021). The Impact of Founder's Financial Behavior Traits and Literacy on SMEs Performance: Empirical Evidence from SMEs in Indonesia. *Jurnal Keuangan Dan Perbankan*, *25*(3), 671–687.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). A Primer on Partial Least Squares Structural Equation Modeling *(PLS-SEM)*. SAGE Publications.

Harmadji, D. E., Yuliana, R., Arifin, R., & Putri, A. K. (2022). The Role of Government, Financial Literacy, and Inclusion on the Financial Performance of MSMEs in Malang City. *Jurnal Keuangan Dan Perbankan*, *26*(3), 552–566.

Herlinawati, E., & Machmud, A. (2020). The effect of innovation on increasing business performance of SMEs in Indonesia. WSEAS Transactions on Business and Economics, *17*, 51–57.

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). https://doi.org/10.24843/jiab.2022.v17.i01.p12

Hidayat, M., Latief, F., Nianti, D. A., Bahasoan, S., & Widiawati, A. (2020). *Factors influencing resilience of micro small and medium entrepreneur (MSME) during COVID 19 outbreak in South Sulawesi Province Indonesia*.

Hu, X., Ocloo, C. E., Akaba, S., & Worwui-Brown, D. (2019). Effects of business-to-business e-commerce adoption on competitive advantage of small and medium-sized manufacturing enterprises.

Hu, Z., Ding, S., Li, S., Chen, L., & Yang, S. (2019). Adoption intention of fintech services for bank users: An empirical examination with an extended technology acceptance model. *Symmetry*, *11*(3). https://doi.org/10.3390/sym11030340

Insi Nantika Jelita. (2021). *Gara-gara Pandemi Covid-19, Diperkirakan 30 Juta UMKM Bangkrut*. Media Indonesia. https://mediaindonesia.com/ekonomi/433606/gara-gara-pandemi-covid-19-diperkirakan-30-juta-umkm-bangkrut

Kaban, R. F., & Safitry, M. (2020). Does Financial Literacy Effect to Perfomance and Sustainability of Culinary Msmes in Greater Jakarta? *Ekonomi Bisnis*, *25*(1), 1. https://doi.org/10.17977/um042v25i1p1-13

Kementerian Koordinator Bidang Perekonomian Republik Indonesia. (2021). *UMKM Menjadi Pilar Penting dalam Perekonomian Indonesia*. https://ekon.go.id/publikasi/detail/2969/umkm-menjadi-pilar-penting-dalam-perekonomian-indonesia

Kulathunga, K. M. M. C. B., Ye, J., Sharma, S., & Weerathunga, P. R. (2020). How does technological and

financial literacy influence SME performance: Mediating role of ERM practices. *Information (Switzerland)*, *11*(6). https://doi.org/10.3390/INFO11060297
Kurniawan, Maulana, A., & Iskandar, Y. (2023). The Effect of Technology Adaptation and Government Financial Support on Sustainable Performance of MSMEs during the COVID-19 Pandemic. *Cogent Business and Management*, *10*(1). https://doi.org/10.1080/23311975.2023.2177400
Lakuma, C. P., Marty, R., & Muhumuza, F. (2019). Financial inclusion and micro, small, and medium enterprises (MSMEs) growth in Uganda. *Journal of Innovation and Entrepreneurship*, *8*(1), 1–20. https://doi.org/10.1186/s13731-019-0110-2
Lestari, E. D., Hamid, N. A., Rizkalla, N., Purnamaningsih, P., & Urus, S. B. T. (2022). The Effect of Financial Literacy, Cost of Technology Adoption, Technology Perceived Usefulness, and Government Support on MSMEs' Business Resilience. *GATR Global Journal of Business Social Sciences Review*, *10*(3), 132–147. https://doi.org/10.35609/gjbssr.2022.10.3(3)
Mabula, J. B., & Ping, H. D. (2018). Use of technology and financial literacy on SMEs practices and performance in developing economies. *International Journal of Advanced Computer Science and Applications*, *9*(6), 74–82. https://doi.org/10.14569/IJACSA.2018.090611
Morgan, P. J., & Pontines, V. (2018). Financial Stability and Financial Inclusion: the Case of Sme Lending. *Singapore Economic Review*, *63*(1), 111–124. https://doi.org/10.1142/S0217590818410035
Newbert, S. L. (2007). Empirical research on the resource-based view of the firm: an assessment and suggestions for future research. *Strategic Management Journal*, *28*(2), 121–146.
Nguyen, P. V., Huynh, H. T. N., Lam, L. N. H., Le, T. B., & Nguyen, N. H. X. (2021). The impact of entrepreneurial leadership on SMEs' performance: the mediating effects of organizational factors. *Heliyon*, *7*(6), e07326. https://doi.org/10.1016/j.heliyon.2021.e07326
Nur Hamidah, Rida Prihatni, & IGKA Ulupui. (2020). The Effect Of Financial Literacy, Fintech (Financial Technology) and Intellectual Capital On The Performance Of MSMEs In Depok City, West Java. *Journal of Sosial Science*, *1*(4), 152–158. https://doi.org/10.46799/jsss.v1i4.53
Oggero, N., Rossi, M. C., & Ughetto, E. (2020). Entrepreneurial spirits in women and men. The role of financial literacy and digital skills. *Small Business Economics*, *55*(2), 313–327. https://doi.org/10.1007/s11187-019-00299-7
Okello Candiya Bongomin, G., & Munene, J. C. (2021). Analyzing the Relationship between Mobile Money Adoption and Usage and Financial Inclusion of MSMEs in Developing Countries: Mediating Role of Cultural Norms in Uganda. *Journal of African Business*, *22*(1), 1–20. https://doi.org/10.1080/15228916.2019.1695189
Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review*, *18*(4), 329–340.
Pemerintah Provinsi Jawa tengah. (2022). *Dorong Pertumbuhan Ekonomi 2022, Pemprov Jateng Andalkan Investasi dan UMKM*. Portal Resmi Provinsi Jawa Tengah. https://jatengprov.go.id/publik/dorong-pertumbuhan-ekonomi-2022-pemprov-jateng-andalkan-investasi-dan-umkm/
Peter, F. O., Adegbuyi, O., Olokundun, M. A., Peter, A. O., Amaihian, A. B., & Ibidunni, S. A. (2018). Government financial support and financial performance of SMEs. *Academy of Strategic Management Journal*, *17*(3), 1–10.
Purwidianti, W., Tubastuvi, N., Darmawan, A., & Rahmawati, I. Y. (2022). Does Financial Behavior Mediate The Relationship Between Financial Literacy and Financial Experience Towards Financial Performance of Small Businesses? *International Conference on Sustainable Innovation Track Accounting and Management Sciences (ICOSIAMS 2021)*, 235–241.
Puspitasari, R., & Astrini, D. (2022). The Impact of Financial Literacy and Financial Inclusion on the Performance of MSME in Bogor City. *Asian Journal of Economics, Business and Accounting*, *22*(23), 125–131. https://doi.org/10.9734/ajeba/2022/v22i2330741
Ratnawati, K. (2020). The Influence of Financial Inclusion on MSMEs' Performance Through Financial Intermediation and Access to Capital. *Journal of Asian Finance, Economics and Business*, *7*(11), 205–218. https://doi.org/10.13106/jafeb.2020.vol7.no11.205
Rita, M. R., Nugrahanti, Y. W., & Kristanto, A. B. (2021). Peer-To-Peer Lending, Financial Bootstrapping and Government Support: the Role of Innovation Mediation on Msme Performance. *Economic Horizons*, *23*(3), 247–261. https://doi.org/10.5937/ekonhor2103259R
Setyawati, I., Qasas, A., Pramana, A. A., & Ibrahim, R. (2022). Digital Literacy and Financial Literacy On Entrepreneurial Behavior In Msmes (Fishery Products For Coastal and Mining Communities Southeast Sulawesi). *International Journal of Management and Education in Human Development*, *2*(3),

605–609.

Shofawati, A. (2019). The Role of Digital Finance to Strengthen Financial Inclusion and the Growth of SME in Indonesia. *KnE Social Sciences*, *3*(13), 389. https://doi.org/10.18502/kss.v3i13.4218

Sri Anik. (2022). *Kinerja UMKM tersungkur karena pandemi, digitalisasi solusinya*. The Conversation. https://theconversation.com/kinerja-umkm-tersungkur-karena-pandemi-digitalisasi-solusinya-176982

Suryani, U., Arief, M., Bramantoro, S., & Hamsal, M. (2022). The Impact of Digital Literacy and E-Commerce Adoption with O2O Business Adoption on The Performance of Small and Medium Enterprises. *International Journal of EBusiness and EGovernment Studies*, *14*(2), 199–223.

Thathsarani, U. S., & Jianguo, W. (2022). Do Digital Finance and the Technology Acceptance Model Strengthen Financial Inclusion and SME Performance? *Information*, *13*(8), 390.

Tricahyono, D., & Sudrajat, A. I. (2022). Will digital literacy moderate the relationship between digital capabilities and the business performance of MSMEs in Indonesia? *Sustainable Future: Trends, Strategies and Development*, *1*, 198–201. https://doi.org/10.1201/9781003335832-50

Widnyana, I. W., Wijaya, I., & Almuntasir, A. (2021). Financial capital, constraints, partners, and performance: An empirical analysis of Indonesia SMEs. *JEMA: Jurnal Ilmiah Bidang Akuntansi Dan Manajemen*, *18*(2), 210–235.

Wong, K. K.-K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, *24*(1), 1–32. https://doi.org/http://marketing-bulletin.massey.ac.nz/V24/MB_V24_T1_Wong.pdf

Yanto, H., Kiswanto, Baroroh, N., Hajawiyah, A., & Rahim, N. M. (2022). The Roles of Entrepreneurial Skills, Financial Literacy, and Digital Literacy in Maintaining MSMEs during The Covid-19 Pandemic. *Asian Economic and Financial Review*, *12*(7), 504–517. https://doi.org/10.55493/5002.v12i7.4535

Ye, J., & Kulathunga, K. (2019). How does financial literacy promote sustainability in SMEs? A developing country perspective. *Sustainability*, *11*(10), 2990.

Yufra TANEO, S. M., Noya, S., Melany, M., & Astridya SETIYATI, E. (2022). The Role of Local Government in Improving Resilience and Performance of Small and Medium-Sized Enterprises in Indonesia*. *Etsa Astridya SETIYATI / Journal of Asian Finance*, *9*(3), 245–0256.