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Financial literacy and sustainability in SMEs: Do financial risk attitude, access to finance, and organizational risk-taking tolerance mediate?

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ABSTRACT

Small and medium-sized enterprises (SMEs) contribute significantly to the economic growth of emerging economies. However, SMEs have difficulty maintaining their performance. This paper examines the impact of financial literacy on the sustainability of SMEs with the roles of access to finance, financial risk attitude, and organizational risk-taking tolerance as mediators. This study concentrated on the Indonesian market and used questionnaires to collect data from the owners or chief financial officers of SMEs. The extent of the correlations was examined using partial least squares structural equation modeling. It was found that financial literacy, financial risk attitude, and organizational risk-taking tolerance are significant antecedents of SME sustainability. Access to finance, on the other hand, was not a factor in SME sustainability. A financial risk mentality was also revealed to have a substantial influence on the association between financial literacy and SME viability in the study. Furthermore, the relationship between financial literacy and SME viability was found to be mediated by organizational risk-taking tolerance. This study has significant relevance for SMEs, as it confirms that financial literacy is crucial for continued success. SMEs with proper financial literacy will have a superior attitude to financial risk and organizational risk-taking tolerance, ensuring their sustainability. Future studies can investigate SME sustainability in other emerging economies and compare their performance and sustainability.

Contribution/Originality: This study focuses on SME sustainability in Indonesia's emerging market, whereas previous studies were conducted in developed countries. This study also includes organizational risk-taking tolerance as a mediating variable.

1. INTRODUCTION

Indonesia has a robust small and medium-sized enterprise (SME) sector. SMEs are critical to constructing an economically resilient industrial sector as they greatly contribute to economic advancement by creating jobs, improving technology, reducing poverty, and producing new goods (Irham, 2020; Kristian, 2020; Susanto et al., 2021). A properly functioning SME sector is needed to maintain stable and sustainable economic growth. Similarly, economic development provides SMEs with the opportunity to improve their competitiveness and reach out to clients in both local and international markets. However, after a certain period, sustainability issues can emerge for SMEs (Ye & Kulathunga, 2019). Moreover, COVID-19 has posed more challenges to sustainability in the SME sector (Gregurec, Tomičić Furjan, & Tomičić-Pupek, 2021). Because of the significance of SMEs' contributions to the expansion of the economy, sustainability challenges have become a prominent subject of research (Susanto et al., 2021).

In a developing country such as Indonesia, the SME sector has been critical to economic growth, accounting for 61% of GDP and employing approximately 97% of the workforce (Irham, 2020; Perengki Susanto, Abdullah, & Wardi, 2019). The sector has supported the country in its recovery from economic and financial crises, including the Indonesian monetary crisis in 1998 and the global crisis in 2008. Unfortunately, the SME sector was the most severely affected by the COVID-19 pandemic, as stated by Hartati, Senior Economist from the Institute for Development of Economics and Finance, Indonesia. According to the Ministry of Cooperatives and SMEs, 37,000 SMEs were severely impacted by the epidemic, evidenced by a 56% reported drop in sales, 22% claimed financing issues, 15% reported product distribution issues, and 4% reported issues procuring raw materials (Kristian, 2020). Hence, the sector has stagnated and is unable to promote economic stability. Therefore, interest in determining a path to the sustainability of SMEs has emerged.

Previous studies have revealed that knowledge is a valuable resource that is difficult to replicate or impart (Barney, 1991; Barney, 2002) and that this information delivers a sustainable competitive advantage. According to the resource-based view (RBV), a strategy is the application of collective and tacit knowledge, which is a fundamental resource for gaining a competitive advantage and improving organizational performance (Barney, 1991). It is claimed that intellectually rich organizations are capable of producing higher returns and applying risk management to ensure sustainability in a crisis or uncertain environment (Hampton, Blundel, Eadson, Northall, & Sugar, 2023).

Financial literacy is a key resource for entrepreneurs to cognitively process newly developed information in an uncertain period. This is a skill that is not easily imitable or replicated by a competitor. Rahmandoust, Shah, Norouzi, Hakimpoor, and Khani (2011) stressed the relevance of knowledge of finances in entrepreneurial success and sustainable growth. As a result, the RBV supports this assertion. This is supported by Ying, Hassan, and Ahmad (2019); Hussain, Salia, and Karim (2018) and Ye and Kulathunga (2019), who underlined the relevance of information resources, such as financial literacy and business expertise, in aiding SMEs to maintain their performance in a complex business environment and volatile market conditions. According to this set of studies, financial literacy influences financial risk perception and access to funding, increasing the adaptability and sustainability of SMEs. Additionally, entrepreneurial decisions are usually made in an environment of uncertainty (Dvorsky, Belas, Gavurova, & Brabenec, 2021) in which financial literacy shapes an understanding of what degree of risk is acceptable and what should be done to manage risk in advance. Such practices by SMEs could help to sustain them in periods of uncertainty.

The above implies that financial knowledge impacts the sustainability of SMEs through financing availability, risk attitude, and risk-taking tolerance. Therefore, the question arose on whether financial literacy and SME sustainability are linked through these three factors. Hence, the main goal of this study is to determine the role of access to finance, risk mindset, and risk-taking tolerance in mediating the relationship between financial literacy and SME sustainability. The results are expected to add to both theory and practice in the following ways: First, although financial literacy has been empirically proven to be important, its influence on the sustainability of SMEs has not been explored in the post-COVID-19 period and in the Indonesian context. Second, this study incorporates three prominent theories—the knowledge-based perspective, the dual process theory, and the pecking order theory—to explain SMEs' viability. The estimated model has an R-squared value of 27%. Kaban and Safitry (2020), for example, found a 5.1% variation in previous research using sustainability models. Using the RBV, knowledge-based view, dual process theory, and pecking order theory to explain the sustainability of SMEs with a higher R-squared score, statistical confidence increased in the accuracy of the prediction model. Third, Ye and Kulathunga (2019) discussed the significance of organizational risk-taking tolerance in SME sustainability, as well as the importance of organizational risk-taking tolerance in mediating the relationship between financial literacy and SME sustainability. This study provides unique insights into the significant effects of organizational risk-taking tolerance on the viability of SMEs, as well as a partial mediation by organizational risk-taking tolerance on the relationship between financial literacy and the sustainability of SMEs. Fourth, the findings of this study can be used as the basis for policy making by the government and related institutions in designing programs to enhance SMEs' financial literacy that are tailored to their needs.

The remainder of this paper is structured as follows: The relevant literature, hypothesis development, and conceptual framework are all discussed in Section 2; Section 3 explains the research methods and model estimates; Section 4 examines the major findings and managerial implications; and the final section discusses the research limitations and potential future research.

2. LITERATURE AND HYPOTHESIS DEVELOPMENT

2.1. Theoretical Underpinning

According to the resource-based perspective, a business can obtain a competitive edge by making effective and efficient use of valuable resources (Barney, Wright, & Ketchen, 2001; Wernerfelt, 1984), particularly where knowledge-based resources are highly valued (Coff, 2003). As a result, a knowledge-based perspective emphasizes the need to acquire and master knowledge in order to ensure organizational sustainability (Coff, 2003; Maijanen, 2020). This viewpoint holds that enterprises that possess good knowledge, such as financial management or financial literacy, are generally superior to their competitors (Kulathunga, Ye, Sharma, & Weerathunga, 2020). Furthermore, financial literacy is a source of information that might impact SMEs' viability. Several studies have defined financial literacy as the knowledge and cognitive abilities required to manage money and make sound financial decisions (Adomako, Danso, & Ofori Damoah, 2016). In accordance with OECD/INFE (2018), financial literacy is defined as "the awareness, knowledge, skills, attitude, and behavior required to make sound financial decisions and achieve individual financial well-being." Thus, entrepreneurs, particularly small and medium-sized firms (SMEs), require financial literacy to assess their company's financial issues and make sound financial decisions. It also helps SMEs assess their need for funds from the sophisticated credit market and provides the knowledge needed to respond to developments in the business context and capitalize on the possibilities presented by changes (Eniola & Entebang, 2017; Kotzé & Smit, 2008). Financial literacy assists entrepreneurs in controlling risk by maintaining financial reserves, diversifying investment portfolios, and purchasing company insurance. As a result, it may aid SMEs in remaining viable throughout a difficult and uncertain period. In contrast, low financial literacy can seriously hinder the sustainable development of SMEs. Henceforth, according to the knowledge-based view, knowledge of finances has direct and indirect impacts on firm sustainability.

The dual process theory supports the premise that both intuitive and cognitive processes can influence complex decisions (Brakel & Shevrin, 2003; Moreira Costa, De Sá Teixeira, Cordeiro Santos, & Santos, 2021). According to Ye and Kulathunga (2019), when making financial decisions, people with high financial literacy are influenced by cognitive and intuitive processes. Widdowson and Hailwood (2007) argued in favor of this, claiming that strong financial literacy will enable people to profit from more competitive financial markets by using their knowledge and risk management abilities. Furthermore, firms first employ internal finances. When it comes to requiring more funds to develop enterprises and deal with market conditions, an appropriate source of funding must be chosen. Managers employ intuition to select and use the funding effectively (Khan, Salamzadeh, Kawamorita, & Rethi, 2021), which is supported by Myers' pecking order hypothesis (Myers, 1984). Additionally, having good financial literacy is advantageous for businesses in the fund-obtaining process since it allows them to convince their banks to lend them additional capital for business sustainability (Hye, 2022; Lusardi & Mitchell, 2011; Reich & Berman, 2015; Widdowson & Hailwood, 2007). Once again, the dual process theory and the pecking order hypothesis show that financial literacy has both direct and indirect effects on a company's long-term viability. As a result, the goal of this study is to look at the direct and indirect consequences of financial literacy on the long-term viability of SMEs, with a focus on the roles of access to finance, financial risk attitude, and organizational risk-taking tolerance.

2.2. Hypothesis Development

2.2.1. Financial Literacy and Sustainability

As previously stated, financial knowledge is an internal intellectual resource that supports business sustainability through value creation and better financial and risk management. To deal with rapid economic developments, financial literacy is necessary (Huston, 2010). A person who is well versed in finance is more likely to execute good financial management, risk management, and investment in complicated assets. Inadequate financial management practices and frequent financial mismanagement result from a lack of financial literacy, which can lead to poor financial performance, loss, and failure. Therefore, Wise (2013) claimed that financial literacy is crucial for SMEs' long-term viability in both the developed and developing worlds.

Several studies have demonstrated the importance of financial literacy in the long-term viability and profitability of SMEs (Babajide et al., 2021; Ye & Kulathunga, 2019). Kulathunga et al. (2020), for example, discovered that financial knowledge is an essential component in the financial success of SMEs. Babajide et al. (2021) showed that financial knowledge is required for a viable business model. As per Ye and Kulathunga (2019), financial knowledge has a favorable influence on SME sustainability in Sri Lankan SMEs. One may claim, in support of the proposed assumption and empirical evidence, that financial literacy increases SME sustainability in crisis scenarios, such as the COVID-19 pandemic. Hence, we postulate the following:

H1: Financial literacy promotes SME sustainability.

2.2.2. Access to Finance and Sustainability

Some SME owners start their businesses using personal funds and are supported financially and operationally by their families. They will require additional capital or funds for expansion, invention, and long-term viability. Hence, access to capital is critical for SME sustainability. Access to finance is described as the availability of financial products and services such as deposits on demand, credit, payments, or insurance (Ye & Kulathunga, 2019). Access to financial services should be cost-effective, efficient, and flexible enough to meet financing requirements. Unlike large firms, one of the most significant challenges for SMEs is difficulty obtaining capital. Due to the risky nature of starting a new business, banks and financial institutes charge high interest rates on loans (Irwin & Scott, 2010; Khan, Li, Safdar, & Khan, 2019). Therefore, financial constraints and limited access to finance prevent SMEs from reaching their potential.

The significance of financial access for SMEs has been highlighted in many past studies (Andries, Marcu, Oprea, & Tofan, 2018; Giang, Trung, Yoshida, Xuan, & Que, 2019; Hermes & Lensink, 2011). Gambetta, Azadian, Hourcade, and Reyes (2019) emphasized that inadequate financial markets and weak financial instruments in developing countries lead to inefficient allocation of financial resources across corporate entities. In addition, access to external financial resources for SMEs is complicated and costly. Some previous studies have reported that access to finance, especially credit with soft interest rates, is important for SME sustainability over time (Gambetta et al., 2019; Tiwari, Shahbaz, & Islam, 2013). According to Ye and Kulathunga (2019), accessibility to funding benefits the long-term viability of SMEs. Many governments have provided stimulus support with the intention of supporting SMEs in their recovery from the effects of the COVID pandemic. Therefore, we hypothesize that:

H2: Access to finance promotes SME sustainability.

2.2.3. Financial Literacy, Access to Finance, and Sustainability

When capital is required, managers need to select the best source from the available options, e.g., internal funding sources, such as personal capital and retained earnings, and external funding in the form of debt and initial public offering. In this situation, SMEs adopt the pecking order theory using their financial knowledge. In a similar vein, a strong, financially literate person is well-informed about the economic conditions and market environment, including interest rates and inflation. Thus, good financial literacy helps to select the right option where SMEs map the risk returns and attempt to avoid unnecessary losses. They will pay off their obligations on time to avoid unnecessary consequences that may cause banks and other lenders to discontinue lending in the future (Wise, 2013). Additionally, having strong financial literacy is beneficial for firms in the fund-obtaining process since it helps them persuade their banks to provide additional capital for business sustainability (Lusardi & Mitchell, 2011). Therefore, financial literacy improves SMEs' access to funding and makes it easier to build an effective capital structure, all of which contribute to their long-term viability. Empirically, Ye and Kulathunga (2019) discovered that financial literacy influences access to finance and also mediates the relationship between financial literacy and the sustainability of Sri Lankan SMEs. Thus, we propose the following hypotheses:

H3: Financial literacy increases access to finance.

H4: Access to finance mediates the relationship between financial literacy and the sustainability of SMEs.

2.2.4. Financial Risk Attitude and Sustainability

Managing risk is crucial to the long-term success of a business (Oláh et al., 2019). In today's fast-paced world, SMEs must manage risk in order to remain competitive and sustainable. Managers' attitude to risk management will result in either taking or avoiding risk. Therefore, the attitude toward financial risk impacts decisions regarding which company sectors to engage in and when to invest based on the economic situation. Companies that take the right risk approach will outperform their competitors (Rauch & Frese, 2000). In support of this, empirical investigations have discovered that a positive mindset toward risk management improves the viability of SMEs (Díez-Esteban, García-Gómez, López-Iturriaga, & Santamaría-Mariscal, 2017; Grable, 1999; Xiao, Alhabeeb, Hong, & Haynes, 2001; Ye & Kulathunga, 2019). During the COVID-19 crisis, when the way of conducting business drastically transformed, SMEs had to accept and manage risk in order to survive. Therefore, the attitude toward financial risk is critical in SMEs' long-term viability and development in an uncertain market environment. As a result, we propose that:

H5: Financial risk attitude improves the sustainability of SMEs.

2.2.5. Financial Literacy, Financial Risk Attitude, and Sustainability

According to the dual process hypothesis, greater knowledge impacts the cognitive and intuitive decision making processes (Chaiken & Trope, 1999; Reyna & Brainerd, 2011). Cognition is used to acquire, alter, evaluate, elaborate, store, and utilize information, whereas intuition is used to judge and comprehend an occurrence that cannot be empirically confirmed or rationally justified (Chan & Park, 2013; Duréndez, Dieguez-Soto, & Madrid-Guijarro, 2023). As a result, financial literacy impacts the attitude toward risk and how much risk should be accepted and whether it will be manageable Hallahan, Faff, and McKenzie (2004); Van Rooij, Lusardi, and Alessie (2011) and Heru-Kristanto (2022). Consequently, losses driven by uncertainty will be minimized and sustainability will be preserved. Furthermore, financial literacy can improve a company's attitude toward financial risks and difficulties, as well as managerial knowledge and talents, resulting in better resource and financial management (Nkundabanyanga, Kasozi, Nalukenge, & Tauringana, 2014). According to empirical research, financial awareness positively influences financial risk behaviors (Hsiao & Tsai, 2018; Ye & Kulathunga, 2019). A favorable attitude toward financial risk improves the long-term viability of SMEs, and financial knowledge is predicted to affect business sustainability through a positive attitude toward financial risk in a complicated environment such as that brought about by the COVID-19 pandemic. As a result, SMEs with strong financial literacy are more likely to successfully manage risk and sustain their success. Based on this, the following hypotheses are proposed:

H6: Financial literacy increases financial risk attitude.

H7: Financial risk attitude mediates the relationship between financial literacy and the sustainability of SMEs.

2.2.6. Organizational Risk-Taking Tolerance (ORTT) and Sustainability of SMEs

Organizational risk-taking tolerance (ORTT) refers to a company's readiness to take risks purposefully when pursuing innovation and unpredictable business possibilities that are inherent in the business environment (Hock-Doepgen, Clauss, Kraus, & Cheng, 2021). Risk-taking comprises taking calculated and managed risks in order to gain market share and returns, rather than taking aggressive risks that undermine the company's performance (Ajor & Alikor, 2020). Innovation and business expansion are required to have sustainable business performance, as their risk-taking behavior will produce high business returns. This behavior is reinforced by the risk and return theory, indicating a positive relationship between risk and returns, meaning that high risk will produce a higher return (Brigham, Gapenski, & Dave, 1999).

SMEs that have a high risk tolerance continually look for new ideas and opportunities with the intention of expanding their business. This enables SMEs to recognize trends and new technology advancements, assess opportunities, and stimulate entrepreneurial activity (Choo, 2013; Liu, Deng, & Wang, 2000). These SMEs promote innovation and creativity within the organization so that employees can produce new ideas to enhance company efficiency and extend market capacity. As a result, we propose the following hypothesis:
H8: Risk-taking tolerance promotes the sustainability of SMEs.

2.2.7. Financial Literacy, Risk-Taking Tolerance, and Sustainability

SMEs with strong financial literacy are more likely to comprehend investing, savings, risk management, insurance, and credit management. They can use their financial knowledge to build effective financial management procedures, allowing them to have a high level of organizational risk tolerance. Risk-taking SMEs embrace new opportunities, and they are excited to try out innovative products and market strategies. This behavior will have an impact on their long-term viability. Based on this, the following hypotheses are proposed:

H9: Financial literacy increases the risk-taking tolerance of SMEs.

H10: Risk-taking tolerance mediates the relationship between financial literacy and the sustainability of SMEs.

2.3. Conceptual Research Model

The theoretical foundation and hypothesis discussion in sections 2.1 and 2.2 led to the development of the model depicted in Figure 1.

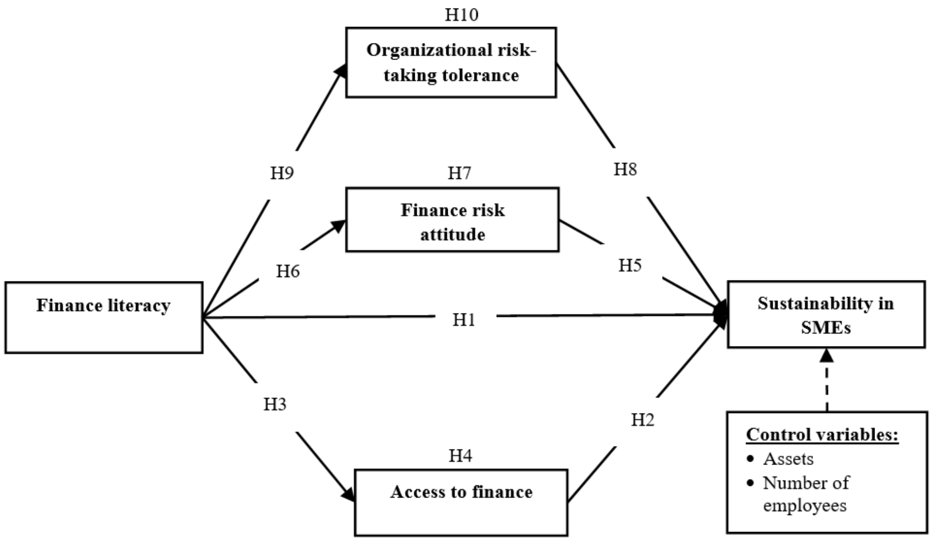

Figure 1. Research framework.

3. RESEARCH DESIGN AND MODEL ESTIMATION

3.1. Questionnaire and Measurement

Structured questionnaires were distributed to SMEs located in West Sumatra, Indonesia. This study has five constructs with a total of 30 questions. The questionnaire consists of two parts, construct questions and demographic information. Measurement items from previous studies were used for all components. The measurement items for the sustainability of SMEs were adopted from (Imran, Salisu, Aslam, Iqbal, & Hameed, 2019); financial knowledge, access to credit, and financial risk mindset measurement items were adopted from Ye and Kulathunga (2019); and five items for organizational risk-taking tolerance were adopted from (Hock-Doepgen et al., 2021; Tellis, Prabhu, & Chandy, 2009). Except for financial risk attitude, a five-point Likert scale was used to collect responses, ranging from 1 (strongly disagree) to 5 (strongly agree).

As this research is based on a specific period (COVID-19), the wording and expressive character of the measurement items have been altered accordingly. The questionnaire was sent to two academic researchers in behavioral finance for face validity testing. The required modifications were made based on their recommendations, making it clearer to understand. Furthermore, since focus of this research is based in Indonesia, a professional translator translated the questionnaire into Basha Indonesia. The second stage of the face and content validity involved a pre-test pilot study with 30 SMEs in the region. Based on the outcome of the pretest, the final version of the questionnaire was created.

3.2. Data Collection

A total of 822 questionnaires were distributed to SMEs operating in West Sumatera, and 632 questionnaires were returned, resulting in a 76.81% response rate. The data was collected between September and October of 2021. The questionnaires were answered by either the Chief Financial Officer or the Director of Finance. The answers were screened and processed in the manner described by Hair, Sarstedt, Hopkins, and Kuppelwieser (2014), and 22 were omitted due to missing information or unclear responses (Johnson & Wichern, 2001). This left a final total of 601 questionnaires available for analysis and hypothesis testing. The demographic profiles of the respondents are shown in Table 1.

Table 1. Respondent profiles.

Demographic	Category	Number of Respondents	Percentage
Business age	3–20 years	323	53.74
	21–38 years	181	30.12
	39–54 years	97	16.14
Asset value	<$35,500	556	92.51
	>$35,500	45	7.49
Employees size	<10 people	582	96.01
	>10 people	28	3.99

3.2.1. The Measurement Model

Initially, the measurement model was tested to assess the convergent validity and discriminant reliability (Hair, Hult, Ringle, & Sarstedt, 2017). Table 2 displays the results, which show that all structures had appropriate item factor loadings. All reflecting constructions had Cronbach's alpha and composite reliability ratings more than 0.70, indicating internal consistency and dependability (Hair et al. (2017). The convergent validity results show that the indicators' dependability is higher than 0.70, and the average variance extracted (AVE) is greater than 0.50, both of which are significantly greater than the recommended cut-off value. To verify the validity of discrimination, Fornell–Larcker criteria and heterotrait-monotrait (HTMT) analyses were employed. Table 3 indicates the value of each construct's outer loadings; the value for each construct should also be higher than the correlation with all other study variables (Hair et al., 2017).

Table 2. Results summary.

Construct	Convergent validity		Internal consistency reliability	
	Loading	Average variance extracted (AVE)	Cronbach's alpha	Composite reliability
Access to finance	0.734–0.866	0.666	0.875	0.908
Financial literacy	0.714–0.868	0.668	0.832	0.889
Financial risk attitude	0.821–0.877	0.742	0.885	0.92
Organizational risk-taking tolerance	0.881–0.917	0.758	0.847	0.903
SME sustainability	0.660–0.802	0.542	0.731	0.825

Table 3. Results summary for discriminant validity.

Construct	Fornell–Larcker criterion					Heterotrait-Monotrait ratio (HTMT)				
	1	2	3	4	5	1	2	3	4	5
Access to finance	0.816					1				
Financial literacy	0.668	0.818				0.761	1			
Financial risk attitude	0.468	0.49	0.862			0.503	0.559	1		
Organizational risk-taking tolerance	0.264	0.223	0.074	0.87		0.284	0.237	0.145	1	
SME sustainability	0.344	0.44	0.181	0.312	0.736	0.371	0.517	0.22	0.364	1

The diagonal square roots of the AVE (figures in bold in Table 3) is greater than all other off-diagonal correlations. The cross-loadings and other factors explain the lack of discriminant validity. However, they fail to demonstrate that two constructs are perfectly connected for cross-loading assessment when indicator loadings for each construct are marginally above the cut-off values for the Fornell–Larcker criterion assessment (Henseler, Ringle, & Sarstedt, 2015). According to Henseler et al. (2015), a HTMT range of confidence should not include 1 in order to complete the discriminant validity evaluation. The HTMT ratio is well within the tolerance limit of 0.85, and the measurement model's variance inflation factor (VIF) is less than 3.00, suggesting low multicollinearity among the items and no bias.

3.2.2. The Structural Model and Hypothesis Testing

The structural model's outcomes are summarized in Table 4, which includes path coefficients for the direct and indirect impacts.

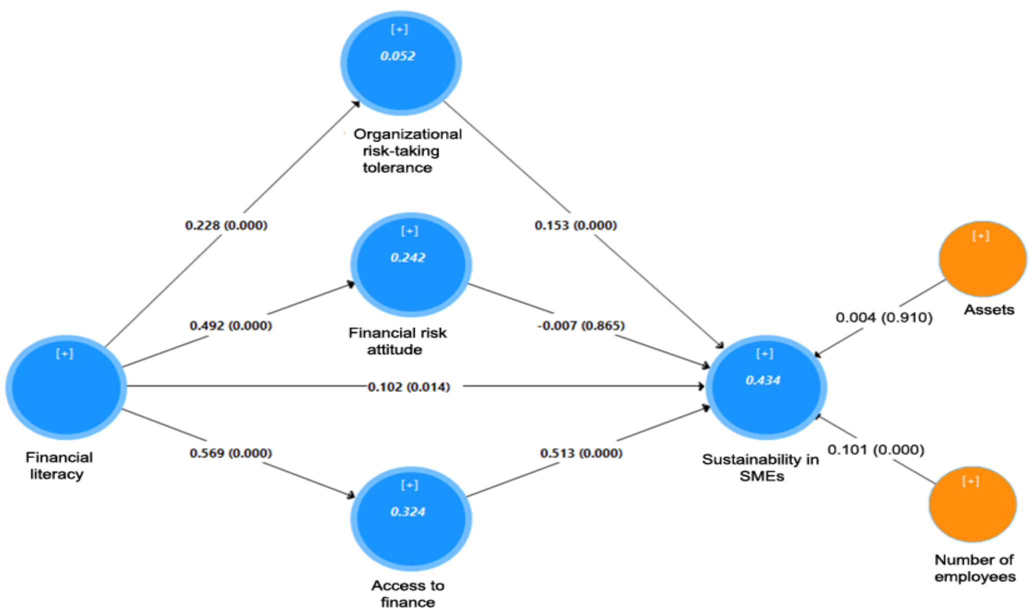

Figure 2. Result of the structural model.

Figure 2 depicts the structural model coefficients as well as a summary of the model fit. The R-squared values for access to finance, financial risk attitude, organizational risk-taking tolerance, and SME sustainability are 32.3%, 24.2%, 5%, and 43.4%, respectively, suggesting that the model is suitable.

We have considered a sub-sample of 5,000 bootstrapping with no sign and two tails. The estimated results show that, except for H2 and H4, our study hypotheses were found to be significant, so 70% of the study's hypotheses are accepted.

4. EMPIRICAL RESULTS AND DISCUSSION

4.1. Financial Literacy to Access to Finance, Financial Risk Attitude, and Organization Risk-Taking Behavior

Panel A in Table 4 details the interactions between the exogenous and endogenous variables. Financial literacy was discovered to have a significant positive impact on the sustainability of SMEs ($\beta = 0.10$, p-value < 0.01). Based on the findings, SMEs with excellent financial literacy will have sufficient financial understanding to respond to a rapidly changing business environment. Therefore, the current study strongly supports H1. This is consistent with the RBV and the utilization of knowledge-based resources. Intangible resources, such as financial literacy, possessed by SMEs, according to both perspectives, are sources of knowledge that will contribute to the competitive advantage and sustainability of SMEs (Addo & Asante, 2023; Das & Teng, 2000). Financial literacy is required to deal with fast economic shifts, such as the COVID-19 pandemic, so SMEs with appropriate financial literacy will have greater insights into strategic concerns in financial aspects, resulting in improved performance. This study supports the findings of earlier studies (Allgood & Walstad, 2016; Gambetta et al., 2019; Khan et al., 2019; Zhang, Liang, Xu, & Hou, 2023), which state that financially knowledgeable SMEs are more inclined to use appropriate financial management techniques, thereby promoting corporate sustainability.

It was discovered that financial literacy has a considerable favorable influence on access to funding sources ($\beta = 0.571$, p-value < 0.01), implying that SMEs with a high level of financial knowledge will be able to access funding sources more easily. In particular, SMEs with high financial literacy will have knowledge of funding decisions that can minimize the cost of capital; the SMEs will no longer have to rely on their own capital to fund their business because they will have access to credit-granting financial institutions. Therefore, H3 is accepted, and the finding is in line with the pecking order theory Myers (1984), which states that to meet funding needs, companies will first use internal funds, such as personal capital and retained earnings, then external funds from debt, and finally equity (Myers, 1984). Adequate financial literacy enables SMEs to obtain additional capital from external parties at a more affordable cost. This is consistent with the findings of prior investigations (Fatoki, 2014; N. Khan et al., 2019; Wise, 2013).

Financial literacy ($\beta = 0.493$, p-value < 0.01) generates a positive attitude toward financial risk, so H6 is accepted, demonstrating that the higher the financial literacy, the better the managers' financial risk attitude is, for example, SMEs will invest in risky assets, anticipating a greater return. Financial literacy is an intangible resource that can influence the propensity for and perception of financial risk in SMEs. A risk-taking mentality is inextricably linked to a high level of financial understanding. This study's findings are consistent with those of Hsiao and Tsai (2018), who discovered a link between financial knowledge and a favorable attitude toward financial risk. In terms of finances, literate SMEs that have a better understanding of finance and risk management will find it easier to profit from the growing competition in the financial market (Widdowson & Hailwood, 2007). Raising a company's understanding of finances can lead to a more positive attitude toward financial risks and challenges, as well as increased managerial expertise and skills, which leads to better resource and financial management (Nkundabanyanga et al., 2014).

This research also shows that sound financial literacy is connected to organizational risk-taking tolerance ($\beta = 0.229$, p-value < 0.01), confirming H9. SMEs' financial understanding will encourage their managers to become risk takers, selecting investments with a high risk and a high expected return. Managers of SMEs are more tolerant of business risk, perceive every challenge favorably, and are more willing to innovate. This is consistent with Liu et al. (2000), who argued that SMEs with good financial literacy will establish an atmosphere in which business opportunities are always pursued and staff are encouraged to put forward new ideas for business development.

4.2. Direct Influence on SME Sustainability

Access to finance ($\beta = 0.513$, p-value < 0.01) was found have a substantial impact on the long-term viability of SMEs. Therefore, H2 is accepted. This indicates that SMEs that have access to funding can maintain their performance. In countries such as Indonesia, the government and semi-government have been facilitating low-cost funds to small and medium-sized businesses to boost economic growth. As a result, SMEs are improving and driving substantial economic growth. Our findings confirm those of previous studies (Andries et al., 2018; Giang et al., 2019; Hermes & Lensink, 2011; Ye & Kulathunga, 2019) and also supports the RBV (Adomako et al., 2016), which asserts that a firm can achieve a competitive edge by utilizing valued resources, such as access to low-cost funding in the form of debt. Hence, they can extend and expand their business operations with the intention of capturing additional market shares and exporting products to foreign markets. Otherwise, in a highly competitive market, it is difficult for any company to sustain performance.

Financial risk attitude ($\beta = -0.007$, p-value > 0.10) has an insignificant positive effect on the sustainability of SMEs, thus H5 is not accepted. This implies that financial risk attitude is not a determinant of the sustainability of SMEs in Indonesia. This could be because financial risk attitude is a manager's personal characteristic that can determine the sustainability of SMEs. However, this may differ across regions. This finding does not support the studies by Díez-Esteban et al. (2017); Giang et al. (2019); Grable (1999) and Xiao et al. (2001), who documented that financial risk attitude is positively correlated with the sustainability of SMEs

Table 4. Results summary for the structural model.

Relationships		Coeff.	Std. dev.	T-statistic	P-value	Decision
Panel A: Control variables						
Assets → Sustainability of SMEs		0.002	0.037	0.113	0.910	NA
Number of employees → Sustainability of SMEs		0.106	0.023	4.312	0.000	NA
Panel B: Exogenous variables						
H1	Financial literacy → Sustainability of SMEs	0.100	0.042	2.456	0.014	Accepted
H2	Access to finance → Sustainability of SMEs	0.513	0.035	14.649	0.000	Accepted
H3	Financial literacy → Access to finance	0.571	0.028	20.060	0.000	Accepted
H5	Financial risk attitude → Sustainability of SMEs	-0.007	0.039	0.170	0.865	Rejected
H6	Financial literacy → Financial risk attitude	0.493	0.038	12.799	0.000	Accepted
H8	Organizational risk-taking tolerance → Sustainability of SMEs	0.152	0.037	4.081	0.000	Accepted
H9	Financial literacy → Organizational risk-taking tolerance	0.229	0.044	5.220	0.000	Accepted
Panel B: Indirect effects						
H4	Financial literacy → Access to finance → Sustainability of SMEs	0.293	0.025	11.732	0.000	Accepted
H7	Financial literacy → Financial risk attitude → Sustainability of SMEs	-0.004	0.019	0.168	0.867	Rejected
H10	Financial literacy → Organizational risk-taking tolerance → Sustainability of SMEs	0.034	0.010	3.598	0.000	Accepted

Organizational risk-taking tolerance (ORTT) impacts an SME's sustainability ($\beta = 0.152$, p-value < 0.01). The study's findings demonstrate that the higher the ORTT, the greater the sustainability of SMEs. Therefore, H8 is validated. ORTT refers to a company's willingness to take calculated risks to capitalize on possibilities for innovation. Companies that have a high risk tolerance will constantly think optimistically, be more creative and inventive, and exploit chances in any economic situation. Companies that have a high ORTT aim to offer products that are in line with market demand, innovate, and stimulate creative activity, resulting in the competence to maintain performance. This study's conclusion is consistent with the risk-return theory: the more willing and able a company is to take risks and handle them successfully, the greater the expected return, and this will impact business sustainability. This study's outcome is similar to the findings of other research (Choo, 2013; Liu et al., 2000), which revealed that ORTT has a substantial influence on the long-term viability of SMEs.

4.3. The Mediating Roles of Access to Finance, Financial Risk Attitude, and ORTT

In this study, access to credit, financial risk attitude, and organizational risk-taking tolerance were used as moderators in the relationship between financial literacy and the sustainability of SMEs. Panel B in Table 4 displays the results for the mediating effects. According to the findings, access to finance has an effect on the relationship between financial literacy and SME sustainability because the p-value is less than 1%, so H4 is accepted. This implies that having good financial literacy allows them to select the right financing option (Lusardi & Mitchell, 2011). These findings are supported by the dual process theory and the pecking order theory, as there are both direct and indirect effects of financial literacy on company sustainability. Our findings support those of Ye and Kulathunga (2019), who proved that access to capital serves as a bridge between financial knowledge and the long-term viability of Sri Lankan SMEs.

The findings also show that financial literacy (β = -0.004, p-value > 0.10) had no discernible mediation influence on the relationship between financial literacy and the sustainability of SMEs, so H7 is rejected. This research shows that financial risk attitude is influenced by cognitive and intuitive thinking habits, but they are enough to maintain business sustainability. This study contradicts prior research findings that suggested that high financial knowledge of SMEs increases managers' financial risk attitude, ensuring the business's sustainability (Hsiao & Tsai, 2018; Nkundabanyanga et al., 2014; Widdowson & Hailwood, 2007; Wiseman, 1998). A possible explanation for this could be that different cultures promote different risk perceptions. Therefore, financial risk attitude does not mediate the relationship between financial understanding and the long-term survival of SMEs.

Panel B in Table 4 demonstrates that organizational risk-taking tolerance is high (β = 0.034, p-value < 0.01) and acts as a moderator in the link between knowledge of finances and the long-term viability of SMEs. Therefore, H10 is accepted. This study supports the RBV and knowledge-based resources. SME owners with adequate financial literacy will have good knowledge of investments and savings, insurance, risk management, and credit management. With adequate financial literacy, ORTT will be higher, and managers of SMEs will be brave enough to innovate, try new ideas for products, support creativity and the use of technology, and manage risks properly to maximize opportunities and minimize risks. The higher the financial knowledge, the more the ORTT will increase, so the ability to seize opportunities increases, thus increasing business sustainability. Furthermore, the more experience a company has in strategic risk management, the more accurately it will be able to predict the effects of specific risks, resulting in business sustainability. This study's conclusion is consistent with previous research by Liu et al. (2000) and Choo (2013), who found that SMEs with high risk-taking tolerance encouraged creativity and innovation and were able to maintain their sustainability.

5. CONCLUSION

The purpose of this study was to investigate the impact of financial literacy on the long-term viability of small and medium-sized businesses, as well as the roles of financial risk attitude, access to finance, and organizational risk tolerance as moderators. In this empirical study, financial literacy, financial risk mindset, and organizational risk-taking tolerance were discovered to be key variables in SME sustainability. Access to finance, on the other hand, was not a factor in the sustainability of SMEs. It was also discovered that financial literacy positively increases financial risk attitude, loan availability, and organizational risk-taking tolerance. The study also revealed that a positive attitude toward financial risk mitigated the association between financial literacy and the viability of SMEs. Furthermore, the association between financial literacy and the sustainability of SMEs was mediated by organizational risk-taking tolerance. Finally, this research revealed that financial risk mindset and organizational risk-taking tolerance influence the relationship between financial literacy and SME sustainability.

The above empirical results have some practical implications. For example, SMEs are an economic sector that influences the economic growth of a country. Therefore, financially literate SMEs will have financial knowledge related to investments and savings, the preparation of financial reports, financial performance analysis, risk management, and credit management. To be able to maintain sustainability, the financial literacy of entrepreneurs needs to be improved through workshops and training courses. With increased financial literacy, managers will be able to improve their financial risk attitude, and they will be more willing to use external funds in the form of debt as additional capital. They will also be more inclined to seize opportunities in a rapidly changing economy and will still be able to exploit innovation opportunities. In order to meet market demand trends, SMEs will be more daring in their innovation and will encourage creativity. These SMEs are the ones that can survive. Adequate knowledge of finances has the ability to increase SME managers' financial risk mindset as well as their organizational risk-taking tolerance, allowing them to maintain their performance. Because financial literacy is an essential factor of sustainability, the findings of this study can be used by the government and related institutions to develop programs to increase SMEs' financial literacy.

This study focused on the RBV, knowledge-based resources, and the dual process theory in connection to the financial literacy of SMEs. Future researchers could include enterprise risk management techniques, social capital, family ties, financial education, financial risk tolerance, and capital structure to uncover other factors influencing the sustainability of SMEs. Studies on business sustainability can be conducted and compared by the business sector to determine which SME sector is better equipped to continue being successful. As this research concentrated on the Indonesian market, future studies can investigate the resilience of SMEs in other emerging economies and compare their performance and sustainability.

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Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
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