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FINANCIAL KNOWLEDGE AND LITERACY OF MSMEs FINANCIAL RESILIENCE DURING THE PANDEMIC COVID-19: EVIDENCE FROM INDONESIA

ANDI INDRAWATI

Lecturer of the Faculty of Economics and Business, 17 August 1945 University Samarinda and program in Economics, University of 17 Agustus 1945 Surabaya.

TRI RATNAWATI

Universitas 17 Agustus 1945, Surabaya, Indonesia.

SLAMET RIYADI

Universitas 17 Agustus 1945, Surabaya, Indonesia.

Abstract

The pandemic that is still engulfing the world, including Indonesia, has created uncertainty in the business world, including micro, small and medium enterprises. During economic recovery efforts, financial resilience is an important thing that MSMEs need to survive. We added financial sophistication to the previous study as a set of financial skills required by MSME entrepreneurs, in addition to financial knowledge, literacy, and inclusion, For the purpose of maintaining and expanding their business. The purpose of this study is to investigate the impact of financial knowledge and literacy on the financial resilience of MSMEs in Indonesia. In addition, our paper aims to build a model of financial skills for MSMEs, by testing financial inclusion as a mediating and financial sophistication as a moderating variable, which is validated using a questionnaire. We used purposive sampling in determining the sample and 294 questionnaires were processed as research data using SmartPLS. The results of the study prove that financial resilience depends on financial knowledge, literacy, inclusion, and sophistication. The interaction of financial sophistication strengthens the relationship between inclusion and resilience. In addition, financial inclusion mediates financial knowledge and resilience. Based on these results, we suggest the need to expand financial inclusion and sophistication so that MSMEs can survive in times of crisis.

Keywords: Financial knowledge, financial literacy, financial inclusion, financial sophistication, financial resilience, Indonesia.

1. INTRODUCTION

Small business actors often suffer losses due to economic and other shocks, such as the speed of technological development. They need financial resilience, otherwise, they are worried about disrupting the country's economic resilience. That it is crucial to pursue policies that promote income and expenditure resilience (Gathergood & Guttman-Kenney, 2013), The failure rate of SMEs is at an alarming level. Kuratko & Hodgetts (2010) and Zimmerer et al. (2008) stated that a significant proportion of newly formed SME's will fail within the first five years. The majority of studies in Australia, the United States, and the United Kingdom prove that 80-90 percent of small businesses will collapse within five to ten years (A. Ahmad et al., 2010; Zimmerer et al., 2008). Correspondingly, the absence of literature and information causes the failure rate of SMEs in Malaysia to be at 60 percent (N. H. Ahmad & Seet, 2009). Ullah et al. (2012) stated that the failure rate of SMEs in Pakistan increased from 90 percent to 95 percent. In Indonesia, based on data from The Central Statistical Agency predicts that economic growth will increase by 2.97 percent in the first quarter of 2020. while in the second quarter it decreased to -5.32% (Central Statistics Agency, 2020). Almost all sectors of GDP growth experienced a decline to minus, however, although most investments showed declining performance, the social entrepreneurship sector still persisted (Mirza et al., 2013).

Several policy synergies and extraordinary National Economic Recovery (PEN) measures have been implemented to counteract the pandemic's adverse effects on the economy and financial system. (BI, 2021) Strategic measures are required to increase the performance and sustainability of small and medium-sized enterprises. One approach to achieve this is to increase the financial expertise of SME actors so that management and accountability can be better accounted for, as in large corporations. so that they can continue to survive that financial resilience is achieved (Jeannie Drake, 2020).

MSMEs that have financial resilience will be able to choose to fight or flee. If the fight means that the entrepreneur decides to face it, by reducing his lifestyle, for example, while the flee or flight entrepreneur will give up and even run away from the problem. Ghozie (2014) stated that most businesses are unable to sustain themselves financially in their business, not because of competition, but because of a lack of management of human resources and financial management capabilities. In addition to the fact that business owners need more financial planning and knowledge of finance, many enterprises might grow rapidly and subsequently fail. (Widodo, 2012). Financial resilience is resisting life events that hurt one's income and assets. The effect of financial crisis may impact on society or on individual. Specific instances of financial stress, such as recessions, stock market losses, and terrorist attacks, affect the entire society. Others, such as unemployment, divorce, disability, and health problems, affect only the person.

Dealing with crises is much facilitated by financial resiliency. However, having good financial planning and management skills is essential if one wants to be able to endure a crisis. Additionally, having sound financial knowledge is essential for improving financial management by allocating funds in the right places (Barbera et al., 2017). Verrier and Lown (1984) stated that in an increasingly complex economy, families must be resilient in order to endure. The constant threat of recession, the unpredictability of Oil and fuel prices, changes in governmental policy, and easy access to credit or debit are all factors that have an effect on the economy. Hakim, Sunarti and Herawati (2014) argued that must-have financial management involves. Planning, organizing, implementing, and controlling the family's financial resources and assets.

The following is in line with the studies on financial knowledge, financial literacy, and financial technology. (Arora, 2016). In his research entitled "Evaluation of Financial Knowledge Among Working Indian Women" the author said a severe lack of financial knowledge among women especially with low levels of education and Financial Knowledge is significantly related to the level of financial literacy of Indian women. Venkataraman and Venkatesan (2018) obtained a similar conclusion when they discovered a substantial positive correlation between financial literacy and knowledge. Sufficient financial knowledge certainly produces intelligent individuals in avoiding every financial risk, one of which is high-interest rates.

In contrast, (Seay et al., 2016) found a negative correlation between financial knowledge and financial literacy and a positive correlation between financial responsibility and financial knowledge. Good correlation between financial literacy components and the use of mortgages with lower interest rates, increased share ownership, planning behavior, and pensions. According to (Rai et al., 2019), financial knowledge has no substantial effect on financial literacy. The results found are that working women who do not have financial knowledge will not be interested in existing investments and vice versa if their financial knowledge is high then they will be more interested in investment.

Morgan & Long (2020) financial literacy was found to have a Positive statistical effect on financial inclusion and savings. In addition, the impact of financial literacy on various financial inclusion indicators varies. In line with Grohmann et al. (2018) which said that at all levels of financial depth, increasing financial literacy is useful for increasing financial inclusion. It has been demonstrated that financial inclusion has a significant impact on the financial resilience of a family, whether in a bad or good way. This suggests that a decline in financial inclusion will increase financial resilience vulnerability. Choosing financial institutions as unsuitable solutions will exacerbate issues that result in inadequate financial resilience, (Pandin et al., 2021)

This is different from (Setyorini et al., 2021)Setyorini et al. (2021) titled " The impact of financial literacy and planning in enhancing financial resilience: the mediating effect of household behavior ", financial resilience is not supported. Montoro & Rojas-Suarez (2012) assessing the nation's economy's financial resiliency. They contended that the economy will be better able to weather a crisis if it is more robust. They have suggested two financial resilience factors that also apply to (local) governments. Aspect of economic resilience is the capacity to withstand the effects of financial shocks. Then financial resilience includes the capability to respond appropriately and swiftly put policies into place, as well as the capacity to deal financial shocks.

Kass-Hanna et al. (2021) found that financial literacy has a favorable sign relationship between various financial behaviors and digital literacy that build financial resilience. In contrast, Klapper & Lusardi (2020) Stated that the relatively low degree of financial literacy exacerbates consumer and financial market threats to financial resilience. According to Kass-Hanna, et al. (2021), Financial literacy is Digital literacy was found to have a clear and significant link with several financial practices. that build financial resilience, a more complex financial system, financial knowledge, skills, and good behavior; therefore, it is necessary to support individual financial resilience (Lusardi et al., 2014).

Hussain et al. (2019) found that education, gender, savings patterns, economic status, and financial inclusion are strongly related to financial resilience based pertaining to the chi-square test and the binary logistic model. However, Salignac et al., (2019) stated that the financial knowledge and behavior framework, however, is not solely an individual responsibility but is also related to financial resilience. Therefore, improving financial knowledge and behavior depends on addressing internal and external factors and financial resilience, until it is found that there is only a correlation between financial behavior and resilience.

The gap between some of these researchers can be seen in several articles on the importance of financial literacy; measuring the level of financial literacy among start-ups and established firms; and ensuring the relationship between financial literacy, access to finance, and company growth (Belayeth Hussain et al., 2019). Financial fraud and unethical trading practices can thrive in environments with low financial literacy. Financial market petitions have the potential to impede effective financial intermediation. Financial illiteracy among the general population, that there are still issues with financial viewpoint, understanding, and conduct (Hidajat, 2015). In addition to the research gap, the increasing role of digital technology creates additional skills in the form of financial sophistication. To our knowledge, there are no studies that add financial sophistication as part of an entrepreneur's financial skill set. The novelty of this research is the addition of financial sophistication to moderate financial inclusion and financial resilience.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Financial Resilience

Bruhn & Love (2014) suggested that financial inclusion promotes the income level of the poor and increases the possibility of employment, so influencing their future financial resilience, consequently. Those who neglect to participate in the economic system may fall victim to poverty traps.; as a result, they exercised a hampered economic development (Demirguc-Kunt et al., 2012). As a result of underdevelopment, their economic resilience is diminished. However, wealthy and impoverished people may use various tactics in these conditions. To address the vulnerabilities of their financial. Setyorini, et al. (2021) highlights several mechanisms employed by low-income households to mitigate the adverse effects of risk occurrences in the Philippines. One technique for low-income homes is informal on-site measures that involve soliciting immediate assistance from friends, relatives, and neighbors, selling their valuables, or higher interest from the loan sharks, particularly.

Ervina et al. (2020) suggested that one's ability and understanding in finance (financial knowledge) will be able to affect one's financial resilience. (Sabri & Zakaria, 2015) discovered that teaching basic personal financial knowledge to this set of young employees in Malaysia appears to be an effective strategy for educating them to be responsible and savvy consumers. The results also show that an increase in household income is associated with financial resilience. The first hypothesis, based on the literature review and prior research, is as follows:

H1: Financial knowledge positively affects financial resilience

2.2 Financial Literacy and Financial Resilience

Lusardi et al., (2014) stated that financial literacy is knowledge of basic financial concepts, such as calculating interest, the difference in interest calculation between nominal value and real value and the basis of risk diversification. Similarly, Vitt et al. (2000) and Huston et al. (2012) stated that financial literacy is defined as consisting of two key elements: how well a person can use financial information to manage his personal finances and how well a person can understand financial information both in For either short-term or long-term financial planning decisions.

According to Klapper and Lusardi (2020), there is a positive and significant relationship with financial literacy, indicating that adult household financial products are more familiar with financial concepts. In line with his opinion, Pandin, et al. (2021) The coefficient of determination test yielded a value of 0.547826, indicating that Financial Structure and Financial Literacy are the variables employed in the study. In addition, Kass-Hanna, et al. (2021) Demonstrate consistently that financial and digital literacy is essential for fostering financial inclusion and resiliency. Based on the review of relevant literature and prior research, the second hypothesis is:

H2: Financial literacy positively affects financial resilience

2.3 Financial inclusion as mediation between financial knowledge and literacy with financial resilience

Financial inclusion ensures unbanked and unbanked population involvement in the formal financial system. 'Unbanked' refers to those who do not have complete access to any kind of financial services, including payment accounts at financial institutions or mobile money services. (Luu et al., 2021). Financial inclusion also requires a more active role by institutions and the government to complement the business programs of microfinance institutions and private banks. It also requires innovative ideas and policies to ensure that small and medium-sized enterprises, which tend to be underserved by financial markets, have greater access to credit and other financial services (Belayeth Hussain et al., 2019).

The concept of financial inclusion is a process to ensure that when a vulnerable or weaker groups are in need to access the financial and credit services, they will have access to them at an affordable cost (Ratnawati et al., 2017). In developing countries, financial inclusion is understandable by the movement to open the widest possible access to banking services for people who have not used banking services (Shankar, 2011; Chakrabarty & Chaudhuri, 2001). A common measure of financial inclusion is the percentage of the adult population that has an account in a bank. Based on available data, it was found that 59 percent of the adult population in India has a bank account. Demirguc-Kunt et al. (2012) availability of financial services and goods are mentioned as dimensions for gauging financial inclusion. (Bongomin et al., 2017; Sanistasya et al., 2019), usage, product quality, and service delivery are correlated with one another.

Research by Hussain et al. (2019), based on the chi-square test and binary logistic model, the results show that financial inclusion, economic status, gender, savings patterns, and education are strongly related to financial resilience. In line with research by Pandin, et al. (2021) The financial resilience variable may be affected by financial structure, financial knowledge, financial behavior, financial inclusion, and financial decisions. as was discovered. Agrees with Pomeroy et al. (2020), According to the researcher's findings, access to formal financial services, also known as financial inclusion, can boost the financial resilience of rural fishing households. Current obstacles to the financial inclusion of households of small-scale fisheries, such as inadequate financial capability and financial literacy, include limited financial capacity. The third to seventh hypotheses are based on the literature review and previous research:

H3: Financial inclusion positively affects financial resilience

H4: Financial knowledge positively affects financial inclusion

H5: Financial literacy positively affects financial inclusion

H6: Financial inclusion mediates the relationship between financial knowledge and financial resilience

H7: Financial inclusion mediates the relationship between financial literacy and financial resilience

2.4 Financial sophistication as mediation between financial knowledge and literacy with financial resilience

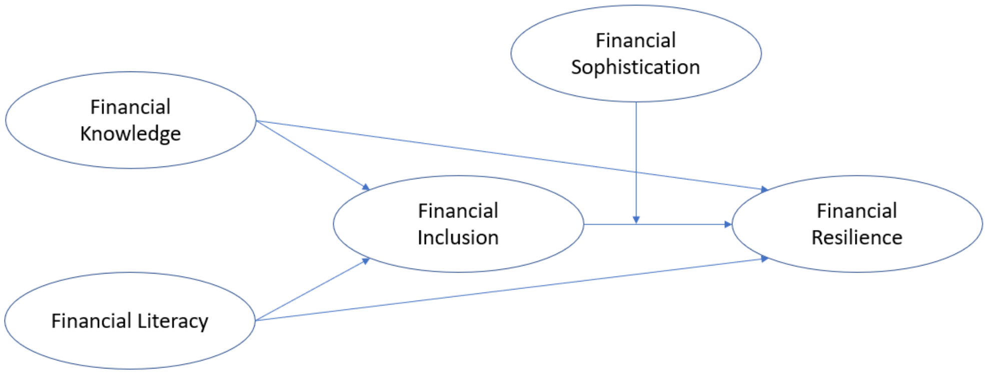
According to (Klapper & Lusardi, 2020), data indicates that many individuals need a fundamental comprehension of stock and bond prices, investment expenses, risk diversification, and portfolio choices. Therefore, the financial sophistication of People varies widely. Financially savvy consumers are better equipped to manage complex financial markets and achieve superior financial results. For example, financially affluent people are more inclined to plan for retirement. (Lusardi et al., 2014; Setyorini et al., 2021), more likely to invest in stocks (van Rooij et al., 2011), and less likely to employ expensive loan instruments (Lusardi et al., 2014).

Financial sophistication was described as a form of human capital that enhances the ability of households to make more effective and efficient financial decisions (Huston et al., 2012). Lusardi et al. (2014) also mentioned that the increasing presence of complex financial products into the retail market has proven difficult for those who are financially simple. This shows how important financial sophistication is to properly handle complex financial decisions (Huston et al., 2012; Stango & Zinman, 2009). Based on the literature review and previous research, the eighth and ninth hypotheses are:

H8: Financial sophistication has a positive effect on financial resilience

H9: The interaction of financial sophistication with financial inclusion has a positive effect on financial resilience

Figure 1: show the conceptual framework that describe the hypotheses for this study



3. RESEARCH METHOD

3.1 Sample Selection and Data Collection

The population in this study were all Micro Enterprises in Samarinda City, East Kalimantan, the data obtained from the Department of Industry, Trade, Cooperatives & SMEs of East Kalimantan Province and the Office of Industry, Commerce, Cooperatives & MSMEs of the City. For sample selection, we used purposive sampling. Due to the COVID-19 pandemic, we collected data using an online questionnaire. The research hypothesis was tested among MSME entrepreneurs in Samarinda City, East Kalimantan, Indonesia. There were 1,309 surveys distributed via email. The response rate was 22.3% and the last effective sample number was 292 respondents. The demographic data of the respondents are shown in Table 1.

Table 1: Demographic Data

Description	Gender	Age	Education	Business Permit	Business Type	Business Age
Male	161 (55%)					
Female	131 (45%)					
21-30 years		60 (21%)				
31-40 years		89 (30%)				
41-50 years		106 (36%)				
> 50 years		37 (13%)				
Middle school			38 (13%)			
High school			206 (71%)			
Bachelor degree			45 (15%)			
Magister degree			3 (1%)			
Permit				285 (98%)		
No-permit				7 (2%)		
Agrobusiness					5 (2%)	
Education					7 (2%)	
Fashion					46 (16%)	
Food & Beverage					97 (33%)	
Automotive					39 (13%)	
Others					98 (34%)	
≤ 2 years						30 (10%)
3-4 years						198 (68%)
≥ 5 years						64 (22%)

3.2 Variable Measurement

We adopted the items in the questionnaire from the previous literature, some of the questionnaires are a combination of several sources as shown in Table 2. There are five variables that were measured using a five-point Likert measurement scale, ranging from 1 for "strongly disagree" to 5 for "strongly agree". A total of seven items are used to measure financial resilience, eight items are financial knowledge and literacy, 6 items are financial inclusion and sophistication.

Table 2: Instrument Development

Variable	Total Item	Sources
Dependent variable:		
Financial Resilience (Y)	7	Mcknight & Rucci (2020)
Independent variables:		
Financial Knowledge (X1)	8	Halim & Astuti (2015); Arifin et al. (2017) Firli, (2017); Yuliani, et al. (2019).
Financial Literacy (X2)	8	Huston (2010), Lusardi et al. (2014)
Intervening variable:		
Financial Inclusion (Z1)	7	Sanistasya et al., (2019); Yanti (2019) and Bongomin et al. (2017)
Moderating variable:		
Financial Sophistication (Z2)	6	Huston et al. (2012); Acar & Göç (2011); Yanti, (2019)

Note: Questionnaires in Bahasa Indonesia can be requested from the corresponding author.

3.3 Data Analysis

We use the Smart PLS (Partial Least Square) statistical software version 3.0 to test the findings from the questionnaire (Ringle et al., 2015). Descriptive analysis and bootstrapping were carried out to measure the influence of, and correlation between the independent and dependent variables, mediating, and moderating variables. Average Variance Extracted (AVE) was used to test the validity of the variables, and the AVE of all variables were higher than 0.70 (Table 3). The Cronbach Alpha (CA) and Composite Reliability (CR) were used to test the reliability of the variables to ensure that each item had a good internal correlation. As shown in Table 3, CA and CR for all variables are higher than 0.70, an acceptable value.

Table 3: Construct Validity and Reliability

Variable	Reliability Test		Validity Test
	CA	CR	AVE
Financial Knowledge (X1)	0.896	0.923	0.707
Financial Literacy (X2)	0.875	0.923	0.801
Financial Inclusion (Z1)	0.949	0.959	0.798
Financial Sophistication (Z2)	0.962	0.970	0.842
Financial Resilience (Y)	0.714	0.874	0.776
Moderating Effect	1.000	1.000	1.000

Source: Data processed (Smart PLS)

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

The descriptive statistics in Table 4 show the mean, standard deviation and correlation of each variable. Correlation analysis shows that all variables have a positive and significant correlation with financial resilience as follows: financial literacy ($r = 0.3514$, $p < 0.01$), financial knowledge ($r = 0.4336$, $p < 0.01$), financial inclusion ($r = 0.3485$, $p < 0.01$), and financial sophistication ($r = 0.6604$, $p < 0.01$). The results also revealed a significant positive relationship between all variables and moderating variables, as follows: financial knowledge ($r = 0.3645$, $p < 0.01$), financial literacy ($r = 0.3422$, $p < 0.01$), financial inclusion ($r = 0.8951$, $p < 0.01$), financial sophistication ($r = 0.406$, $p < 0.01$), and financial resilience ($r = 0.504$, $p < 0.01$).

Table 4: Descriptive Statistics and Correlation

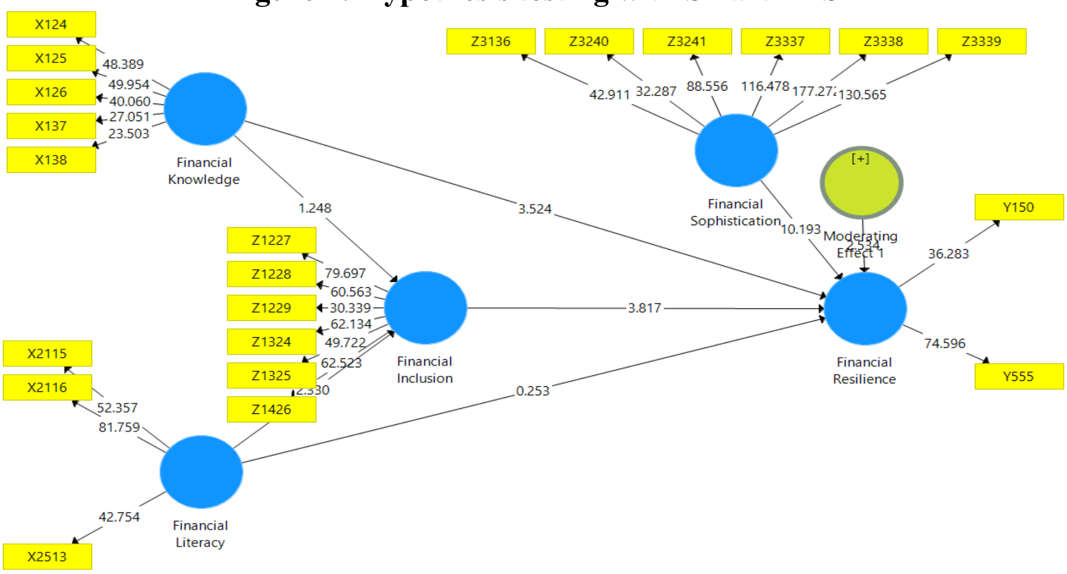
Variable	Mean	SD	FK (X1)	FL (X2)	FI (Z1)	FS (Z2)	FR (Y)	Moderating
FK (X1)	3,4892	1,2073	1					
FL (X2)	3,3413	1,3474	0,7599**	1				
FI (Z1)	2,7003	1,3769	0,2925**	0,3144**	1			
FS (Z2)	3,7654	1,3267	0,3999**	0,3017**	0,2706**	1		
FR (Y)	3,8322	1,3384	0,4336**	0,3514**	0,3485**	0,6604**	1	
Moderating	10,661	7,3479	0,3645**	0,3422**	0,8951**	0,6242**	0,5209**	1

**$p < 0.01$ (two-tailed test), SD = Standard Deviation
FK = Financial Knowledge (X1), FL = Financial Literacy (X2), FI = Financial Inclusion (Z1), FS = Financial Sophistication (Z2), FR = Financial Resilience, and Moderating = Interaction of FI and FS
Source: Data processed (Smart PLS)

4.2 Hypothesis Testing

Figure 2, Tables 5, and Table 6 present the results of hypothesis testing by bootstrapping SmartPLS (Ringle et al., 2015), direct and interaction-moderating effect, and indirect-intervening effect, respectively. As shown in Table 5, the results of hypothesis testing indicate that financial knowledge ($\beta = 0.198$, $p = 0.000$), financial inclusion ($\beta = 0.189$, $p = 0.000$), and financial sophistication ($\beta = 0.510$, $p = 0.000$), has a significant positive effect on financial resilience because $p < 0.05$.

Figure 2: Hypothesis testing with Smart-PLS



The direct effect between financial literacy and financial inclusion shows a significant positive result ($\beta = 0.229$, $p = 0.007$). In addition, table 5 also shows the results of the interaction between financial sophistication and financial inclusion which has a significant negative effect on financial resilience ($\beta = -0.138$, $p = 0.006$). Therefore, H1, H3, H5, H8, and H9 were verified while H2 and H4 were not verified.

Table 5: Direct and Interaction-Moderating Effect

	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Conclusion
FI -> FR	0,189	0,048	3,966	0,000	H3 accepted
FK -> FI	0,119	0,097	1,228	0,110	H4 rejected
FK -> FR	0,198	0,059	3,366	0,000	H1 accepted
FL -> FI	0,229	0,093	2,462	0,007	H5 accepted
FL -> FR	-0,014	0,052	0,265	0,396	H2 rejected
FS -> FR	0,510	0,055	9,306	0,000	H8 accepted
Moderating Effect 1 -> FR	-0,138	0,055	2,508	0,006	H9 accepted

Source: Data processed (Smart PLS)

Table 6 presents the indirect effect for the intervening variable, where the indirect influence of financial inclusion on financial literacy and financial resilience shows significant positive results ($\beta = 0.043$, $p = 0.020$) and $p < 0.05$. So H7 is verifiable, whereas H6 is unverifiable.

Table 6: Indirect–Intervening Effect

	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Conclusion
FK -> FI -> FR	0,023	0,020	1,150	0,125	H6 rejected
FL -> FI -> FR	0,043	0,021	2,057	0,020	H7 accepted

Source: Data processed (Smart PLS)

The direct effect hypotheses H2 and H4 cannot be supported, indicating that financial literacy and financial knowledge do not significantly affect financial resilience and financial inclusion, respectively. Meanwhile, from the indirect effect, there is no significant influence of financial inclusion mediation on the relationship between financial knowledge and resilience. This may be a plausible reason that the higher respondents have an understanding of financial literacy, MSME entrepreneurs do not adopt it to carry out financial management which in turn does not affect the financial resilience of MSMEs, especially facing the pandemic crisis. In addition. High-skilled entrepreneurs may need access to necessary and timely financial and credit services, which Vulnerable groups, including weaker and lower-income groups, require a higher or more affordable price. In Indonesia, many MSMEs do not have access to credit to increase business working capital. Thus, high financial knowledge and literacy do not guarantee financial resilience and inclusion. Unsupported financial inclusion as a mediating variable between financial knowledge and resilience demonstrates the same. (H6). This still needs support and a more active role by institutions and the government to complement the business programs of microfinance institutions. There is a need for policies to ensure MSME entrepreneurs have greater access to credit institutions and other financial services. In addition, MSME entrepreneurs with higher financial knowledge may not have the incentive to make financial reports in accordance with the requests of credit institutions and other financial services. This study demonstrates that financial literacy and inclusion positively impact financial resilience. (H1 and H3). These results are consistent with the results of research by Aggarwal, et al. (2014) that financial knowledge affects financial inclusion, respondents who have a sufficient level of financial knowledge, it is not related to age, family size, or marital status, but the level of financial knowledge is there is a strong positive relationship with the level of financial literacy and financial inclusion. Cuandra and Anjela (2021) also explain that the financial literacy component, one of which is financial knowledge, has a significant effect on financial inclusion, as well Kumari, et al. (2020) Indicating that financial knowledge and attitudes significantly impact financial literacy and participation in rural regions. Even though (L. L. F. dan T. Yuliani, 2019). Produced findings that were different that good financial knowledge indicates good financial literacy, it will open wider access to financial inclusion, and so in this case, financial knowledge affects financial inclusion through literacy.

In addition, this study's findings demonstrate that financial literacy has a favorable and significant impact on financial inclusion. (H5), and financial inclusion acts as a mediation that strengthens the influence between financial literacy and financial resilience (H7). The results of this study are consistent with the results of many studies, and A high empirical correlation exists between financial literacy and financial inclusion. (Aggarwal, et al., 2014; and Cuandra & Anjela, 2021). Grohmann (2018), stated that literacy good finance is an absolute requirement so that financial inclusion can be wide open, and without good literacy, inclusion is very difficult to obtain. Recent research results such as Klapper & Lusardi (2020), Morgan & Long (2020), and Pomeroy et al. (2020), also stated the same thing that high financial literacy will make financial inclusion beneficial for businesses.

Financial sophistication has a positive and significant effect on financial resilience (H8). In addition, financial sophistication acts as a moderator between financial inclusion and financial resilience (H9). Thus, for micro-enterprises in Indonesia, especially in Samarinda, financial inclusion will be able to strengthen the financial resilience of micro-enterprises, even though these micro-enterprises have succeeded in increasing their financial sophistication. The results of this study are consistent with the results of research by Huston et al. (2012) which states that the financial sophistication factor shows how to control financial sophistication which can provide more accurate estimates of the marginal influences of control variables such as education and gender. In the context of micro-enterprises in Samarinda City. The effect of the relationship between financial inclusion and financial resilience is equally low, both for micro-enterprises with low and high financial sophistication. This condition can be caused by most of the micro-enterprises in Samarinda City, which are mostly new, the description results show that 78% of the new businesses are less than 2 years to 4 years old. These micro-enterprises grew due to the weakening of economic growth due to the Covid-19 pandemic, so people were actually in a state of compulsion to open businesses to meet their daily needs. Because the business is still new, financial inclusion is also still very limited, so although there are micro-businesses with high financial sophistication as experienced by young people who open businesses because they are still inexperienced, access to finance is also limited, so the financial resilience of their business is still unstable. And easily shaken by external shocks.

5. CONCLUSION

In this study, we investigate the factors that influence financial resilience in MSMEs in Samarinda, Central Kalimantan, Indonesia, by adding financial sophistication as financial competency that is able to interact to influence financial resilience. The results of the study show that all variables are strongly correlated. The financial knowledge, inclusion, and sophistication have positively effects on the role of MSME entrepreneurs to improve financial resilience. In addition, financial sophistication facilitates financial inclusion with financial resilience. This study's findings encourage a greater appreciation of the significance of financial literacy. In improving financial resilience, especially during times of crisis, such as the Covid-19 pandemic. This is consistent with the Indonesian government's efforts to encourage the resilience of MSMEs as an important source of the Indonesian economy.

5.1 Theoretical contribution and implication

The findings of this research provide a theoretical contribution to the literature, namely by adding the role of financial sophistication that can strengthen financial inclusion and ultimately increase the financial resilience of MSMEs in Indonesia. To our knowledge, there have been no previous studies that have used financial sophistication in relation to financial inclusion and resilience. Therefore, this study extends the limited literature related to financial sophistication and financial resilience. The implication is that these findings can be used as a source of literature to examine financial resilience not only in MSMEs but also in businesses affected by the economic crisis caused by a pandemic.

5.2 Policy contribution and implication

In addition to providing a theoretical contribution to the literature, these findings also contribute to policy, particularly the Indonesian government's policy regarding MSMEs. This study demonstrates that financial resiliency is influenced by financial knowledge, inclusion, and sophistication. The role of financial sophistication in financial inclusion shows that government policy in overcoming the crisis caused by the Covid-19 pandemic has shown a direction that is able to increase the financial resilience of SMEs. However, the Indonesian government needs to be more detailed in making policies related to assistance for MSMEs. The demographics of the respondents showed that 13% of MSME entrepreneurs had a middle school education and 71% had high school. Only 16% obtained higher education (15% bachelor's and 1% master's degree). The implication is that in implementing policies to improve the financial competence of MSME entrepreneurs, the government needs to pay attention to the differences in the education of each entrepreneur. The right targets in policies related to MSMEs can increase financial resilience, which in turn will help improve the Indonesian economy.

5.3 Managerial contribution and implication

The results of this study also contribute managerially, especially in the financial management of MSMEs. The results of this study prove that expanding financial inclusion in micro-enterprises in Samarinda, Central Kalimantan – Indonesia can be done by increasing MSMEs entrepreneur's financial knowledge and improving financial literacy. Knowledge indicators that become the main concern are basic financial knowledge, and financial literacy indicators that become the main concern are basic literacy knowledge and money management. In addition, indicators of financial inclusion that are of primary concern are availability, use, and quality. Thus, micro-enterprises with strong financial literacy and an understanding of the principles of managing money, including healthy cash flow management, will have full access to financial inclusion, which is reflected in access to easy capital credit, services, and financial institutions can increase business income with the assistance of financial services.

5.4 Limitations and future research

This research has some areas for improvement that present the opportunity for future investigation. Initially, Purposive sampling is used, and the link to the questionnaire is distributed via email using convenience sampling. The response rate is only 22.3% which is still low with the number of MSMEs in Indonesia, based on data from the Indonesian Central Bureau of Statistics, the number of MSMEs in Indonesia is 65.46 million business units. In this research, we processed data from 292 MSME respondents in Samarinda City. As a result, the results of this research are still lacking in terms of generalization. It is suggested that further research can be carried out in other cities in Indonesia. Second, related to the research sample, we did not conduct stratified random sampling, which differentiates MSMEs based on the type of business. We have classified the business fields, but in this study, we did not distinguish the effect of the variables studied for each stratum. Information on research results based on strata will be able to contribute in more detail to government policies related to MSMEs. Therefore, future research can conduct studies using stratified random sampling, and examine the effect of strata type or line of business on financial resilience.

Thirdly, in this research, we did not conduct a robustness test with demographic control factors, such as respondents' gender, education, age, and length of business. Numerous prior studies have demonstrated that gender (Assyfa, 2020; Yunita, 2020), education level (Cahyadi et al., 2019; Darmawan & Pratiwi, 2020), and age (Aziz, 2021; Yusnita & Abdi, 2018) all have a role in enhancing financial literacy. Consequently, the future study can include a robustness test to ensure that the results are reliable and objective.

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The authors report there are no competing interests to declare.

DATA AVAIABILITY STATEMENTS

Data and questionnaires in Bahasa can be requested from the corresponding author.

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