

THE ROLES OF ENTREPRENEURIAL SKILLS, FINANCIAL LITERACY, AND DIGITAL LITERACY IN MAINTAINING MSMEs DURING THE COVID-19 PANDEMIC



Heri Yanto^{1,2,3,4}

Kiswanto²

Niswah Baroroh³

Ain Hajawiyah⁴

Nurhazrina Mat
Rahim⁵

^{1,2,3,4} Universitas Negeri Semarang, Semarang, Indonesia.

¹Email: heri.yanto@mail.unnes.ac.id Tel: +628112901290

²Email: kiswanto@mail.unnes.ac.id Tel: +628170589323

³Email: niswahbaroroh@mail.unnes.ac.id Tel: +6285641480230

⁴Email: ainhajawiyah@mail.unnes.ac.id Tel: +6285642734078

⁵Universiti Teknologi Mara, Selangor, Malaysia.

⁵Email: hazrina@uitm.edu.my Tel: +60332587305



(+ Corresponding author)

ABSTRACT

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The COVID-19 pandemic has negatively impacted the economic growth of Indonesia. Government regulations to limit large-scale social activities has caused marketing and financial difficulties for micro, small and medium enterprises (MSMEs). Digital and financial literacy have the potential to overcome the problems. This study attempts to identify the determinants of MSME sustainability during the pandemic. By using a questionnaire, this study collected 204 data from MSMEs for further analyses. MSME sustainability is influenced by the digital and financial literacy of MSME owners and is a cause for concern. The implementation of health and safety measures (HSM) has an insignificant impact on business sustainability, but HSM affects financial and digital literacy. Entrepreneurial skills are important to improve HSM and owners' digital and financial literacy. The government and other parties need to provide more soft loans and facilitate MSMEs to develop entrepreneurial skills, digital and financial literacy to improve business sustainability during the pandemic.

Contribution/Originality: This research provides an alternative strategy to maintain MSMEs' business during pandemic. The roles of entrepreneurial skills, digital and financial literacy in maintaining MSMEs' business during the pandemic are discussed. These results of this study are considered important for policy makers and other parties in developing MSMEs during the pandemic.

1. INTRODUCTION

The COVID-19 pandemic that has been ongoing since the beginning of 2020 has greatly affected the development of the Indonesian economy. This is because the Indonesian government (GoI) has implemented various policies in order to limit interaction between people in large groups to curb the spread of the virus. This policy has caused the Indonesian economy to contract by around 2.19% based on real GDP growth (Haryono, 2021; OECD, 2021; Pink, 2021). Subsequently, in the third quarter of 2021, Indonesia's economic growth was positive at 3.51% (Haryono, 2021). In the nation's economy, up till now, MSMEs are still making a dominant contribution to GDP growth and employment (Thaha, 2020). However, restrictions on community activities have caused a reduction in MSMEs' operational activities during the pandemic. This reduction can affect their business continuity. The Indonesian Chamber of Commerce and Industry stated that as many as 30 million of the 64.2

million MSMEs had terminated their businesses due to the COVID-19 pandemic (Pratama, 2020). The sustainability of MSMEs is a very important issue for economic growth in Indonesia. Previous research has found that the adjustment of business strategy through innovation affects the survival of MSMEs (Carayannis, Sindakis, & Walter, 2015; Schaltegger, Lüdeke-Freund, & Hansen, 2012). The main problem during the pandemic has been the limitations placed upon direct social contact. Therefore, MSME innovation in the form of business digitization (Khai, Onn, Zulkifli, Kandasamy, & Ahmad, 2020) is a feasible strategy to overcome the problems posed by social restrictions in business.

In addition, financial literacy is considered important for individuals in making financial decisions (Nguyen & Doan, 2020). Likewise, the financial literacy of managers or owners also has a significant role in improving the survivability of MSMEs (Dahmen & Rodríguez, 2014; Ye & Kulathunga, 2019). The financial literacy of managers or owners of MSMEs also contributes significantly to the business decision-making process. Financial and accounting information used by managers or business owners affects the performance of MSMEs (Yanto, Pramono, & Jati, 2020). Although the results of this research come from the pre-pandemic business setting, nonetheless, these results provide an illustration of how financial and accounting literacy have a significant contribution to the development of MSMEs. Research on the sustainability of Indonesian MSMEs during the pandemic is still very limited. Patma, Wardana, Wibowo, Narmaditya, & Akbarina (2021) examined the sustainability of MSMEs by using internet technology adoption and marketing through social media as the mediator variables, and the technology acceptance model as the exogenous variable. Meanwhile, Hardilawati (2020) has been researching the MSME survival strategy during the pandemic. Pakpahan (2020) conveyed his ideas about government policies that must be enacted to provide financial and technological assistance to MSMEs. This research suggests a strategic role for the government regarding the provision of business facilities for MSMEs. Given that, until now, the end of the pandemic cannot be predicted, and research on the sustainability of MSMEs during the pandemic has become a more important issue. Previous research has also shown that pandemics are unpredictable (Jennings, Monto, Chan, Szucs, & Nicholson, 2008). This study mainly focuses on the role of financial and digital literacy as mediator variables between business sustainability, entrepreneurial skills and the implementation of health and safety measures during the period of the COVID-19 pandemic. By knowing the pattern of relationships between the variables in this research model, MSME owners or actors will learn about survival strategies during a pandemic. In this case, the study focuses on the roles of entrepreneurial skills, financial literacy, and digital literacy in maintaining MSMEs during the pandemic. The government can use the results of this research to implement policies for the ongoing development of MSMEs.

2. LITERATURE REVIEW

The COVID-19 pandemic has had a negative impact on economic growth at the national and global levels (Susilawati, Falefi, & Purwoko, 2020). This impact has also affected the growth of MSMEs in Indonesia because the government has imposed extensive social restrictions to accelerate the handling of the pandemic (GoI, 2020). The impact of these regulations has resulted in a slowdown in economic activity and a significant decline in the contribution of MSMEs to Indonesia's GDP from around 60% in 2019 (Suryowati, 2020; Syarizka, 2019) to 37.3% in 2020 (Fauzan, 2021). During the pandemic, many MSMEs experienced difficulties and had to shut down. Therefore, learning from MSMEs that have been able to survive during the pandemic will provide many benefits.

2.1. Financial Literacy and Business Sustainability

Business sustainability is influenced by factors that are both internal and external to the company. In normal situations, Losane (2013) hypothesized that a culture of innovation affects the survival of a company. This is evidenced by Bibi et al. (2020), who found that an innovative climate plays an important role in improving business performance mediated by innovative behavior. In the uncertain business environments caused by the pandemic, the

sustainability of MSMEs is determined by the agility of the company's management, which includes innovation in the field of corporate financial management.

During the COVID-19 pandemic, the government imposed restrictions on community activities which resulted in MSMEs experiencing capital difficulties (Pakpahan, 2020; Ye & Kulathunga, 2019). Research conducted by Chhatwani & Mishra (2021) found that financial literacy plays a significant role for individuals in reducing their financial vulnerability. The swift movement and accuracy of MSME owners or managers in managing finances will determine the performance of MSMEs (Yakob, Rusli, Yakob, & Hafizuddin-Syah, 2021). According to these findings, it is likely that financial literacy has a positive impact on MSME sustainability during the pandemic.

H1: Financial literacy has had a positive influence on the sustainability of MSMEs during the COVID-19 pandemic.

2.2. Digital Literacy and Business Sustainability

The main problem for MSMEs during the pandemic has been the limitation of direct contact between people, meaning that their business activities have been limited. As previously stated by researchers, innovation is the key to business sustainability (Carayannis et al., 2015; Schaltegger et al., 2012). Innovation in the field of marketing with technology during the pandemic was needed so that companies could continue to operate. Problems with offline sales has been a major obstacle for MSMEs during the pandemic due to extensive social restrictions. Thus, marketing innovation has become a priority (Kurniawati, Idris, Handayati, & Osman, 2021), as found by Patma et al. (2021), who have shown that marketing through social media positively affects the sustainability of MSMEs. Likewise, Octavia, Indrawijaya, Sriyudha, & Hasbullah (2020) also found that e-commerce adoption has a significant impact on MSMEs' performance.

Several other researchers have stated that the main strategy for dealing with extensive social restrictions is business digitalization (Arianto, 2020; Hardilawati, 2020). Digitalization of marketing requires MSME owners to be digitally literate. Research conducted by Ollerenshaw, Corbett, & Thompson (2021) found that MSME owners had to be equipped with digital literacy so that they could innovate and improve their companies.

H2: Digital literacy has positively affected the sustainability of MSMEs during the pandemic.

2.3. Health and Safety Measures and Business Sustainability

The application of social distancing has caused various difficulties for MSMEs in several countries, including decreased sales (Lutfi, Buntuang, & Hasanuddin, 2020), workforce reduction (Klein & Todesco, 2021), and business closures (Dai et al., 2021). However, the Indonesian government has still been able find a balance between the sustainability of MSMEs and controlling the spread of COVID-19 by implementing social restriction policies at the regional level and strategic health policies (Limanseto, 2021).

With the implementation of social restrictions, MSME business activities have decreased significantly, as stated by the Bank of Indonesia, which has shown that 87.7% of MSMEs have been affected by COVID-19 (Saputra, 2021). The severity of the negative impact of the pandemic on MSMEs has varied depending on the industrial sector, adaptability, and innovation (Rosita, 2020). Based on this theoretical study, the following hypothesis are formulated:

H3: The implementation of health and safety measures has had a negative impact on the sustainability of MSMEs during the pandemic.

2.4. Health and Safety Measures, Digital Literacy, and Financial Literacy

The implementation of restrictions on large groups of people during the COVID-19 pandemic has prompted MSMEs to respond. Previous research has found that MSMEs responded to the negative impacts of pandemic according to their capacity (Haneberg, 2021). The most prominent response has been to innovate and adapt to the business environment so that MSMEs can continue to operate. Gavrila & De Lucas (2022) stated that, during the

pandemic, companies have had to carry out digital transformations in order to ensure more sustainable growth. The implementation of health and safety measures has forced MSMEs to use innovative approaches to marketing that do not require direct contact with customers, such as online marketing (Arianto, 2020; Hardilawati, 2020; Kurniawati et al., 2021).

The application of social contact restrictions has not only had an impact on the marketing of MSMEs, but has had other impacts, such as problems with capital. Pakpahan (2020) found that, during the pandemic, many MSMEs experienced such problems. Furthermore, Pu, Qamruzzaman, Mehta, Naqvi, & Karim (2021) have stated that financial innovation with government assistance was indispensable for MSMEs to survive during the pandemic. Health and safety measures have also forced MSME owners or managers to improve their financial literacy so they can make financial innovations during the pandemic. Thus, this study formulates two hypotheses as follows:

H4: The implementation of health and safety measures has increased the digital literacy of MSME owners during the pandemic.

H5: The implementation of health and safety measures has had a positive influence on the financial literacy of MSMEs during the pandemic.

2.5. The Roles of Entrepreneurial Skills

Entrepreneurial skills comprise three main types, i.e., technical skills, managerial skills, and personal skills (Fitriati & Hermiati, 2011; Lyons, Lyons, & Jolley, 2019). Entrepreneurial skills play an important role in business continuity, as stated by previous research showing that entrepreneurial competencies significantly influence the business performance of a company (Barazandeh, Parvizian, Alizadeh, & Khosravi, 2015; Khan et al., 2021). In other words, MSME owners or managers who have good entrepreneurial skills also enable their companies to perform well.

During the pandemic, entrepreneurs have been required to do more to innovate in order to solve the problems faced by their companies. MSME owners should have the ability to innovate and ensure successful financial management (Fitriati & Hermiati, 2011; Lyons et al., 2019). Eniola & Entebang (2015) stated that MSME owners should be able to innovate in the financial sector so that their companies are able to face financial challenges. More specifically, Pu et al. (2021) found that innovation in the financial sector significantly impacts the sustainability of MSMEs. Thus, it is likely that entrepreneurial skills have significantly influenced the financial literacy of MSME actors during the pandemic.

Rapid changes in business information technology force entrepreneurs to continue to adapt their businesses in order to remain competitive. In other words, entrepreneurship in the digital era plays an increasingly important role (Achmad, Saputro, & Handayani, 2016). Likewise, Octavia et al. (2020) stated that entrepreneurial orientation has an impact on e-commerce adoption with market orientation as a mediator. Furthermore, Bauman & Lucy (2021) suggested improving entrepreneurial education so that students are able to adapt to the ever-changing business environment. Fitriati & Hermiati (2011) and Lyons et al. (2019) stated that one of the skills that entrepreneurs should have is technological development. Therefore, digital literacy is needed by MSME entrepreneurs (Ollerenshaw et al., 2021).

One of the personal skills of entrepreneurs is discipline (Fitriati & Hermiati, 2011; Lyons et al., 2019). However, they also need to ensure implementation of adequate health and safety measures in their companies. The purpose of implementing these measures is to improve employee welfare. Alefari, Barahona, & Salonitis (2018) have stated that employees are the most valuable asset that a company has. In addition, the implementation of good health and safety measures will benefit the company because it will affect employee commitment (Amponsah-Tawiah & Mensah, 2016). MSME owners or managers who consider employees to be their most valuable assets will properly implement effective health and safety measures in their companies.

Theoretically, entrepreneurial skills could play a significant role in increasing financial and digital literacy, as well as the implementation of health and safety measures. Therefore, the provision of entrepreneurial skills through entrepreneurship education is essential (Saptono et al., 2019). Based on the theoretical study above, this study formulates three hypotheses as follows:

H6: Entrepreneurial skills have affected the implementation of health and safety measures in MSMEs during the pandemic.

H7: Entrepreneurial skills have had a positive role in improving the financial literacy of MSME owners during the pandemic.

H8: Entrepreneurial skills have significantly contributed to the digital literacy improvement of MSME owners during the pandemic.

3. RESEARCH METHODOLOGY

3.1. Population and Sample

The population of this research included micro, small and medium enterprises (MSMEs) which are under the guidance of the Office of Cooperatives and MSMEs of Central Java (Dinkop-UMKM, 2021). The sample was determined by stratified random sampling with representatives from each district or municipality in Central Java with predetermined criteria. Sampling in each district reflected the potential of each region to provide representative data. By using Google forms to collect data, this study obtained 210 sets of data from respondents. The number of samples was expected to meet the requirements for SEM analysis using AMOS software; however, only 204 datasets were eligible for further analysis.

3.2. Research Variable

This study uses five variables—business sustainability, financial literacy, digital literacy, health and safety measures, and entrepreneurial skills. The business sustainability variable measured the level of business continuity of MSMEs during the pandemic. This variable measuring instrument was adapted from the work of Ye & Kulathunga (2019).

The financial literacy variable measured the MSME owners' understanding of finance. Questions relating to this variable were adapted from the work of Yanto, Ismail, Kiswanto, Rahim, & Baroroh (2021). The digital literacy variable measured the MSME owners' knowledge of digital technology for business purposes. This study developed the questions to measure the MSME owners' knowledge of digital technology with the operational definition presented by De Haan (2004) and adapted the scale developed by Van Laar, Van Deursen, Van Dijk, & De Haan (2017).

The health and safety variable measured the implementation of health and safety measures in MSMEs to curb the transmission of the COVID-19 virus. The entrepreneurial skills variable measured the skills of the MSME owners in terms of becoming a reliable entrepreneur. A measuring instrument was developed for this variable based on the work of Fitriati & Hermiati (2011) and Lyons et al. (2019).

3.3. Validity and Reliability of Instrument

This study used a questionnaire with Likert scale to measure the perceptions of MSME owners on business sustainability, implementation of health and safety measures, financial literacy, digital literacy, and entrepreneurial skills. The study used corrected item-total correlations or CITC to test the questionnaire validity and Cronbach's alpha to test the questionnaire reliability. The thresholds for validity and reliability are 0.3 and 0.7, respectively (De Vaus, 2013). The analysis using the corrected item-total correlation shows that the business sustainability item has a CITC coefficient above 0.3. These items also have good reliability with a Cronbach's alpha value above 0.7. Table 1 contains the results of the analysis showing that the questionnaire has met the validity and reliability requirements.

Table 1. Questionnaire validity and reliability.

Digital Literacy		Entrepreneurial Skills		Financial Literacy		Health and Safety Measures		Business Sustainability	
Item	CITC								
DL1	0.710	ES1	0.553	FL1	0.698	HS1	0.387	SB1	0.761
DL2	0.844	ES2	0.677	FL2	0.646	HS2	0.724	SB2	0.795
DL3	0.817	ES3	0.782	FL3	0.679	HS3	0.712	SB3	0.740
DL4	0.617	ES4	0.835	FL4	0.787	HS4	0.671	SB4	0.686
DL5	0.858	ES5	0.552	FL5	0.563	HS5	0.674	SB5	0.754
DL6	0.799	ES6	0.717	FL6	0.646	HS6	0.566	SB6	0.438
DL7	0.921	ES7	0.737	-	-	-	-	-	-
DL8	0.667	ES8	0.836	-	-	-	-	-	-
DL9	0.803	ES9	0.698	-	-	-	-	-	-
DL10	0.718	-	-	-	-	-	-	-	-
Cronbach's α 0.940		Cronbach's α 0.918		Cronbach's α 0.869		Cronbach's α 0.883		Cronbach's α 0.833	

3.4. Data Analysis

Descriptive and path analyses were employed to analyze the data. Descriptive analysis allows us to understand the extent of each variable, while path analysis determines the causality correlations between the exogenous and endogenous variables. The value of each variable is obtained by adding up the valid item scores for each. In addition to knowing the causal relationship of each variable, path analysis has an easier procedure in obtaining a fit model than structural equation modeling analysis with many parameters.

To measure the goodness of fit of the model that has been developed, this study uses eight indices as used by Yanto et al. (2021). The chi-squared is expected to be insignificant with a p-value above 0.05 (Ferdinand, 2005; Ghozali, 2007). The value of CMIN/DF should be less than 3.00 (Ferdinand, 2005). The following indices, i.e., GFI, AGFI, NFI, TLI, and CFI should have values above 0.9. Last, the value of the RMSEA should be less than 0.08 (Ferdinand, 2005; Ghozali, 2007). In addition to testing the goodness of fit with these eight indices, this study also conducted a multivariate normality test using the Bollen–Stine bootstrapping technique.

4. RESULTS AND DISCUSSION

4.1. Descriptive Analysis

The descriptive analysis shows that the average value of business sustainability is 15.99 (53%), with a maximum value of 24, a minimum value of 6.00, and a standard deviation of 4.26. This means that business sustainability of MSMEs is still relatively low. The descriptive analysis also showed that digital literacy among MSME owners is good, with an average value of 36.37 and a maximum value of 50 (72.74%). However, financial literacy only had an average value of 19.87 (66.23%) and a maximum value of 30.00. As an exogenous variable, the entrepreneurial skills of MSME owners had an average value of 34.63 (76.95%) and a maximum value of 45. Based on the perceptions of MSME owners, the implementation of health and safety measures has been categorized as good, with an average score of 21.15 (70.5%) and a maximum value of 30.00. Table 2 presents the results of the complete analysis of all the variables of this study.

Table 2. Descriptive analysis.

Variable	Min.	Max.	Mean	Std. Deviation
Business Sustainability	6.00	24.00	15.99	4.26
Digital Literacy	14.00	50.00	36.37	10.35
Financial Literacy	9.00	29.00	19.87	4.36
Entrepreneurial Skills	16.00	44.00	34.63	6.66
Health and Safety	11.00	30.00	21.15	4.75

4.2. Path Analysis

The analysis showed that the financial literacy of the owners or managers had a significant influence on the sustainability of MSMEs during the pandemic, with an estimated coefficient of 0.233 ($p < 0.05$). In addition, digital literacy also contributed to the sustainability of MSMEs during the pandemic, with an estimated value of 0.324 ($p < 0.001$). The health and safety measures had a negative, although not significant (-0.106 , $p > 0.05$), effect on the business continuity of MSMEs.

The application of a health protocol as a proxy for the health and safety measures had a significant effect on financial literacy (0.483, $p < 0.001$). In other words, the implementation of health and safety measures during the pandemic forced MSME owners or managers to learn financial management to save their businesses. In addition, the application of health and safety measures also influenced MSME owners or managers to learn digital technology so that they could continue to make sales without having to make direct contact with customers. The estimated value of the effect of health and safety measures on digital literacy is 0.382 ($p < 0.001$).

Entrepreneurial skills as an exogenous variable had a positive influence on the implementation of health and safety measures in companies, with an estimated value of 0.342 ($p < 0.001$). In addition, this exogenous variable also had a significant effect on financial literacy (0.453, $p < 0.001$) and digital literacy (0.282, $p < 0.001$). Out of the eight hypotheses proposed, seven were accepted and one (H3) was rejected. Table 3 provides more complete information about the results of the hypothesis testing in this study.

Table 3. Summary of hypothesis testing.

Hypothesis	Variable	Estimate	<i>p</i>	Result
H1	Business_Sust <--- Fin_Literacy	0.233	0.006	Accepted
H2	Business_Sust <--- Digit_Literacy	0.324	***	Accepted
H3	Business_Sust <--- Health_Safety	-0.106	0.224	Rejected
H4	Fin_Literacy <--- Health_Safety	0.483	***	Accepted
H5	Digit_Literacy <--- Health_Safety	0.382	***	Accepted
H6	Health_Safety <--- Entrepr_Skill	0.342	***	Accepted
H7	Fin_Literacy <--- Entrepr_Skill	0.453	***	Accepted
H8	Digit_Literacy <--- Entrepr_Skill	0.282	***	Accepted

Note: *** denotes significance at the 0.001 level.

The sustainability of MSMEs during the COVID-19 pandemic was largely influenced by the ability of MSME owners or managers to adapt to the changing environment. In the model developed by this study, business sustainability was influenced by financial literacy and digital literacy with a squared multiple correlation of 0.170, while the implementation of health and safety measures had no significant effect. In other words, 17% of MSME business sustainability was influenced by financial and digital literacy. During the pandemic, the managers and owners of MSMEs significantly improved their financial literacy, which was influenced by the variables of health and safety measures and entrepreneurial skills by 59.9%.

This study also found that, during the pandemic, MSME owners improved their digital literacy. The implementation of health and safety measures and the improved entrepreneurial skills affected digital literacy by 29.8%. Entrepreneurial skills influenced the implementation of health and safety measures in MSMEs by 11.7%. In other words, MSME owners who had good entrepreneurial skills would quickly enact business strategies according to the current business environment conditions. MSME owners seriously studied financial and digital literacy during the implementation of extensive social restrictions so that their businesses would continue to operate efficiently. Figure 1 provides a visual summary of the roles of entrepreneurial skills, digital literacy, and financial literacy in maintaining sustainability in MSMEs during the pandemic.

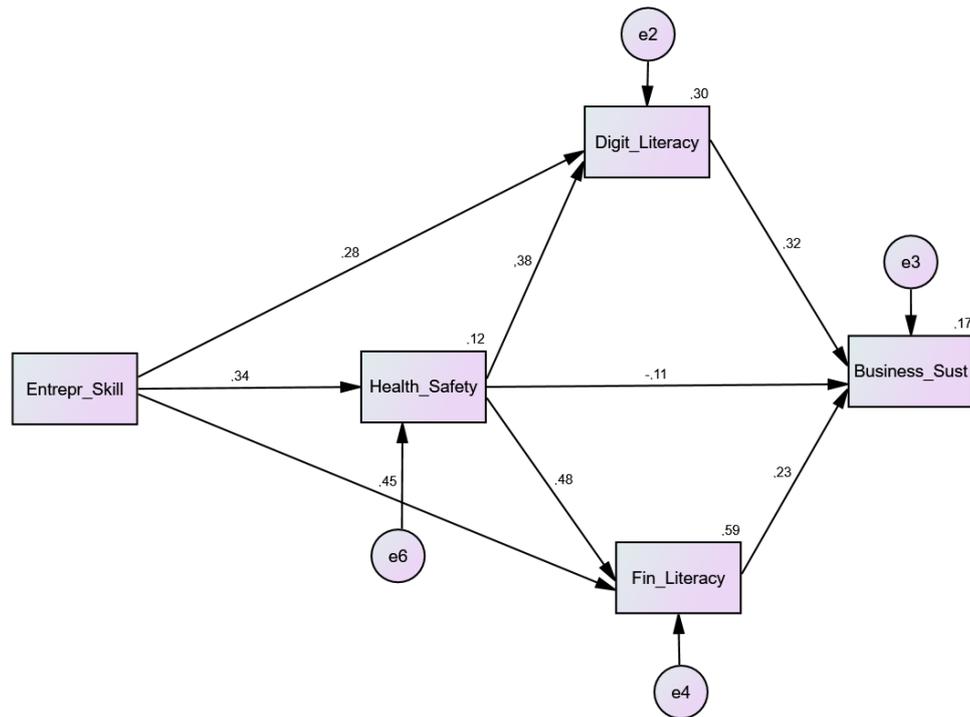


Figure 1. The determinants of MSME sustainability during the pandemic.

4.3. Goodness of Fit Test

This study used eight indices to test the goodness of fit of the developed model. The results show that the CMIN value is 3.529 with a p-value of 0.171, and a CMIN/DF value of 1.764. Both of these indices have met the requirements because the p-value is far above 0.05 (Ferdinand, 2005; Ghozali, 2007) and the CMIN/DF value is below 3.00 (Ferdinand, 2005). The GFI and AGFI values are 0.993 and 0.948, respectively, which means that both indices are above the minimum value of 0.9 (Ferdinand, 2005; Ghozali, 2007). In addition, this study also used three baseline comparison indices, namely NFI, TLI, and CFI, with values of 0.989, 0.975, and 0.995, respectively. These index values already meet the requirements because all values are above 0.9 (Ferdinand, 2005; Ghozali, 2007). The results showed that the model that was developed had an RMSEA value of 0.061 and a maximum standard value of 0.08 (Ferdinand, 2005; Ghozali, 2007). Thus, all index values for measuring goodness of fit have met the requirements. The multivariate normality was measured using critical ratio (CR) showing the result of -0.161, which is still far below the highest multivariate normality value of 2.58 (Ghozali, 2007).

4.4. Discussion

The spread of the COVID-19 pandemic around the globe has caused many changes to the business operations of large companies and MSMEs. The difficulties and decline in business activities have been caused by restrictions on contact between large groups of people. MSME actors have been challenged to continue to look for strategies to keep their companies running and profitable. The results of the study demonstrate that financial literacy significantly influences the sustainability of MSME businesses. In other words, the better the MSME owners' financial literacy, the higher the possibility of being able to maintain their business during the pandemic. Financial innovation (Losane, 2013) and companies' innovation climate (Bibi et al., 2020) will help companies to continue to operate and be competitive.

Financial difficulties for MSMEs caused by the COVID-19 pandemic (Pakpahan, 2020; Ye & Kulathunga, 2019) can be overcome if the owners have good financial literacy. This study supports the findings of Chhatwani & Mishra (2021), who showed that financial literacy will help individuals in dealing with financial difficulties. Yakob et al. (2021) also found that financial literacy helps MSME owners to improve their business performance. More

specifically, financial literacy can help MSMEs in dealing with financial difficulties caused by the COVID-19 pandemic.

The difficulties faced by MSMEs during the pandemic are not only financial problems but are also marketing problems. Previous research has stated that innovation in the field of marketing will help companies to continue operating (Carayannis et al., 2015; Schaltegger et al., 2012). The results show that digital literacy has had a significant effect on the sustainability of MSMEs during the pandemic. In other words, the better the digital literacy of the owner or manager, the better the sustainability of the business. This result is in line with the opinion that, during a pandemic, marketing innovation becomes very important (Kurniawati et al., 2021). More specifically, marketing innovation through social media (Patma et al., 2021) and e-commerce adoption (Octavia et al., 2020) have a significant effect on the survival of MSMEs (Patma et al., 2021). The current information technology revolution needs to be followed by MSMEs, and one feasible strategy is through business digitization (Arianto, 2020; Hardilawati, 2020).

Providing digital literacy for MSME actors is very important for business development and for dealing with various business difficulties during normal times as well as during the pandemic. In addition, increasing digital literacy will provide the tools for MSME owners to adapt their business processes to the latest developments in digital technology. The government, associations, universities, and other related parties can play a role in improving the digital literacy of MSME business actors. This is in line with the suggestion made by Ollerenshaw et al. (2021) that MSMEs must be equipped with digital literacy so that they are able to develop a better business.

This study also found that the application of health and safety measures has had a negative but insignificant effect on business sustainability. This is not in accordance with the hypothesis that was developed previously, which posited that health and safety measures have a significant influence on the business continuity of MSMEs. This is not in accordance with the findings of previous studies, which show that the implementation of mass social contact restrictions will harm companies (Dai et al., 2021; Klein & Todesco, 2021; Lutfi et al., 2020).

There are at least two aspects that cause health and safety measures to have an insignificant effect on the business continuity of MSMEs. *First*, it is most likely that this sample comprises MSMEs that have been able to survive during the pandemic. Thus, they perceive that the implementation of health and safety measures has not had a negative or significant effect on their business. *Second*, government policies have accommodated the interests of preventing the spread of COVID-19 while still providing ample space for companies to continue to grow (Limanseto, 2021). The policy of limiting community activities based on the conditions found in each region has allowed MSMEs to continue to operate.

The implementation of mass social contact restrictions has caused financial difficulties (Pakpahan, 2020; Ye & Kulathunga, 2019) and marketing difficulties (Kurniawati et al., 2021) for MSMEs. MSME owners or managers react in various ways to these issues according to their capacity (Haneberg, 2021). The first reaction is to study financial matters so that the business can obtain sufficient capital for company operations. This is evidenced by the positive and significant influence of the health and safety variable on financial literacy. In other words, the implementation of health and safety measures during the COVID-19 pandemic has forced MSME owners or managers to improve their financial literacy.

The reaction of MSMEs to marketing difficulties is to use online marketing, as suggested by Arianto (2020), Hardilawati (2020) and Kurniawati et al. (2021). The change from offline marketing to online marketing requires MSME owners or managers to learn about digital technology. This study discovered the phenomenon that the implementation of health and safety measures, due to the COVID-19 pandemic, forced company owners or managers to improve their digital literacy. In other words, digital literacy is an important capability for MSMEs in dealing with changes in information technology and facing a protracted pandemic.

There is no choice for MSMEs other than to continue to improve their digital literacy so that they are more agile in adapting to the rapidly changing business environment. This is in line with the suggestion made by Gavrila

& De Lucas (2022) that MSMEs must carry out digital transformation to continue to operate. Improving the digital literacy of MSMEs in Indonesia is not an easy task because the number of MSMEs has reached 64 million, although approximately half of them have stopped doing business (Pratama, 2020). It is eagerly expected that the government, universities, MSME associations, NGOs, and other parties will be able to facilitate MSMEs in improving digital literacy.

The role of the owners or managers of MSMEs in coping with the COVID-19 pandemic is seen as strategic. Their response to various business difficulties during a pandemic depends on their decision-making ability (Fitriati & Hermiati, 2011; Lyons et al., 2019). This study found that entrepreneurial skills have a significant effect on financial literacy. In other words, the better the entrepreneurial skills of the owners or managers, the better their financial literacy skills will be. This is in line with the results of the studies conducted by Eniola & Entebang (2015) and Pu et al. (2021), which showed that the financial innovation ability of owners or managers will help them improve the performance of their companies.

The results of this study also found that entrepreneurial skills have a positive and significant influence on increasing digital literacy of MSME owners or managers. This also means that the development of entrepreneurial skills in the digital era is increasingly important (Achmad et al., 2016). The findings of this study are consistent with the research findings of Ollerenshaw et al. (2021), which show that MSME actors need to be equipped with digital technology expertise for business development purposes. Improving the entrepreneurial skills of MSME actors is essential so that they are more resilient in dealing with financial problems and the constant changes in information technology.

This study has also found that entrepreneurial skills have a significant impact on the implementation of health and safety measures in MSMEs. In other words, the better the entrepreneurial skills of the MSME owner or manager, the better the implementation of health and safety measures in their companies. Entrepreneurial skills in the form of discipline and decision making (Fitriati & Hermiati, 2011; Lyons et al., 2019) encourage owners or managers to implement health and safety measures. To continue to increase employee commitment, companies should continue to improve the quality of health and safety implementation (Amponsah-Tawiah & Mensah, 2016).

This study found that the entrepreneurial skills of MSME owners or managers play an important role, as stated by Khan et al. (2021) in so far as entrepreneurial competency makes a significant contribution to the performance of MSMEs. Their owners or managers who have good entrepreneurial skills will be more innovative in the fields of finance and digital technology, and the implementation of health and safety measures. With the implementation of health and safety during the COVID-19 pandemic, managers or owners of MSMEs have made financial innovations by increasing financial literacy and digital technology innovation to keep the company running. Digital and financial literacy play an important role in terms of the sustainability of MSMEs. The application of health and safety measures does not have a negative influence on the business continuity of MSMEs. In other words, entrepreneurial skills, digital literacy, and financial literacy have pivotal roles in maintaining MSMEs during the pandemic.

Data show that, during the 2020 pandemic, the contribution of MSMEs fell to 37.3% of GDP (Fauzan, 2021) compared to 60% the previous year (Suryowati, 2020; Syarizka, 2019). Respondents from MSMEs that are still operating reported that the level of business continuity is still worrying, and they are vulnerable to going out of business. The government needs to provide soft capital loans with simple procedures so that the level of MSME resilience can increase, as stated by Pakpahan (2020) and Pu et al. (2021). In addition, to build more resilient MSMEs, the government, universities, associations, and NGOs need to continue to increase the capacity of MSME owners or managers in the fields of entrepreneurial skills, financial literacy and digital literacy. These three skills can benefit MSMEs in the face of rapid changes in the business environment. Technological changes, global competition, and pandemics will be more severe in years to come. The government is very interested in the development of MSMEs because they still contribute significantly to the Indonesian economy (Thaha, 2020).

5. CONCLUSION

MSME owners perceive that, during the pandemic, they have had business difficulties with a low business sustainability value of 53%. They reported that digital literacy is good, and that financial literacy is adequate. Entrepreneurial skills have reached a good level, while the implementation of health and safety measures in MSMEs has also been good.

Since the beginning of the pandemic, the government of Indonesia has imposed extensive social restrictions, so many MSMEs have experienced difficulties in running their businesses. Therefore, the sustainability of business during this pandemic has been a very important issue. This sustainability issue has been influenced by financial literacy and digital literacy, while the implementation of health and safety measures in MSMEs has had a negative but not significant effect on business sustainability. The significant effect of implementing health and safety measures on the survival of MSMEs may be due to the data being collected from those that are still operating. Another possibility is the existence of government policies that have optimized the health interests and business sustainability of MSMEs.

The implementation of health and safety measures forces MSME owners to improve digital literacy to replace conventional product marketing with online or digital marketing. In addition, the implementation of health and safety measures also forces MSME owners to improve their financial literacy in order to solve the financial problems faced during the pandemic. Entrepreneurial skills play a pivotal role in the sustainability of MSMEs. These skills have a significant influence on digital and financial literacy and the implementation of health and safety measures in MSMEs.

The government needs to continue to increase soft assistance with simpler procedures for MSMEs so that they become financially stronger. To maintain the sustainability of MSMEs during the pandemic, strengthening digital literacy, financial literacy, and entrepreneurial skills for the owners or managers is essential. Armed with these improvements, MSMEs are expected to be better able to adapt to new business environments and solve various problems they face. The government, universities, NGOs, and other parties need to continue to assist MSME owners in developing entrepreneurial skills, digital literacy, and financial literacy. Further research needs to be carried out to identify the various factors that affect the sustainability of MSMEs in various business sectors. Further research also needs to be done to formulate the MSME survival index.

The first limitation of this research is that the sample taken comprises MSMEs that have still been able to operate during the pandemic, so the influence of health and safety measures on business sustainability is not significant. Subsequent research could be carried out using MSMEs that have closed down in order to identify the cause of these cessations of business and identify strategies to reactivate those MSMEs. The second limitation is that the sample of this study was taken from various types of MSMEs. It is possible that the COVID-19 pandemic has different effects on the survival of MSMEs according to the vulnerability of the business sector. Therefore, there is a need for further research on the determinants of business sustainability in certain sectors, so that suggestions submitted to policy makers will be more specific.

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