

How does the PEN Program Affect the Sustainability of MSMEs: A Case Study in Bantul



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ABSTRACT

The Indonesian economy has faced a pandemic for the last two years. The Covid-19 pandemic is the starting point for implementing digital technology for MSMEs. MSMEs and the government maintain the sustainability of MSMEs, which are one of the pillars of the economy. This study aims to analyze the impact of digital technology implementation, human capital and PEN program in maintaining business sustainability directly or through competitive advantage. The object of research is culinary MSMEs in Bantul Yogyakarta Regency. SEM PLS is employed to estimate the primary data by using WARPS PLS 6.0 application. The results revealed that digital technology variables could directly affect business sustainability. Meanwhile, human capital and the PEN program affect business sustainability through competitive advantage. The results suggest government extend the fiscal stimulus.

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1. Introduction

The Covid -19 pandemic that has occurred over the last two years has had various impacts on MSMEs. The COVID-19 pandemic not only affects well-being but also threatens the institutions and structures of the global economic order. As a result, the recession hit many economies (OECD, 2020). The COVID-19 crisis has affected the world economy regarding international trade and tourism. Most economic activities remain limited due to lockdowns, social distancing, and travel restrictions, which is a substantial blow to many businesses. Businesses and industries on any scale have been severely impacted due to COVID-19 and are struggling to remain sustainable. Many of the MSMEs have experienced a decline in performance and even went bankrupt. However, some MSMEs still maintain the sustainability of their business. It cannot be denied that the performance of MSMEs significantly impacts global economic performance. A 99% of all business units form a GDP of 60.5%. Moreover, MSMEs contribute 96.9% (Limanseto, 2022).

Bantul is one of the areas in the Special Region of Yogyakarta which has the second largest number of MSMEs after Sleman. Based on One Bantul Data, in 2020 the number of MSMEs is 49,801 units. This number increased 3.32% from the previous year. The percentage of this business is dominated by food processing businesses of 40.77%. The handicraft business occupied the second position with 35.46%, while the chemical and building materials, metal and services, as well as clothing and leather businesses followed in the next position. The large number of businesses in the food or culinary sector certainly has an impact on the economy, both when the economy is expansive and contractive, such as when the Covid-19 pandemic hit. The culinary business sector received a significant impact. On the other hand, this field is also the fastest growing with digital technology innovation.

It is important to maintain the sustainability of these MSME businesses due to the significant contribution of MSMEs to the economy. MSMEs require the proper strategy to improve their performance and competitiveness (Ahmedova, 2015). Changes in business strategy, operations, business behaviour, and the pressure to find new sources and opportunities to rebuild are recognized as crucial survival challenges for most MSMEs. Omar, Ishak, & Jusoh (2020) explained that financial and marketing are primary strategies for maintaining business stability. It will stimulate creativity for business actors to maintain their existence. The role of information and communication technology or digital technology is increasingly important since the spread of the Covid-19 pandemic. The condition limits all activities related to physical contact. Advances in digital technology are a way out for MSMEs by switching to online businesses so they can keep their business wheels running. The existence of digital technology increases the connectivity of humans, machines, and other resources. In its utilization, MSMEs are encouraged to conduct various innovations that lead to the increasing income (Rahmadan, Indrawari, & Ridwan, 2021) and marketing performance. The end of this progress is a sustainable business and economic growth.

Human capital is an intangible asset that is also important in supporting MSMEs' sustainability. Collaborating with qualified human capital and digital technology can maintain sustainability and improve MSME performance. Sung, CY, Kim, KC, & In (2016) found that an increase in human capital will support the competitiveness and sustainability of a business. Human capital in the form of experience and expertise affects and improves performance (Nawarini, et al., 2018).

Business sustainability also depends on capital through access to finance. During the pandemic, governments in every country launched various economic stimulus programs such as CARES in the USA, PRIHATIN in Malaysia (Ahmad, 2020), and CBN Stimulus in Nigeria (Okoh, Mac-Ozigbo, Onyemauche, & Aderemi, 2022). Furthermore, the members of the G-20 have allocated a portion of their GDP to provide fiscal stimulus to maintain business competitiveness (Sharma, Pandey, & Gaur, 2022). Indonesia has also implemented the policy as stated in the National Economic Recovery (PEN) program. The types of PEN aids in this study are funding aids, new credit guarantee, postponement of installment payment, decrease in loan interest rate and extension of credit term. These kinds of aids policy are related to financing as an effort to support business sustainability. Fiscal stimulus helps ease business

expenses during the Covid-19 pandemic (Shafi, Liu, & Ren, 2020). Fiscal stimulus policies aimed at MSMEs are common in various countries. Several previous studies have examined the sustainability of MSMEs by descriptive qualitative. However, there has been no quantitative study regarding fiscal stimulus programs.

2. Literature Review

According to McAdam et al. (2016), one of the supporters of business sustainability is expertise in using technology. Technology is a medium for creativity through social networking, free access to information (internet), and specialized machines and devices in business operations. Solow's economic growth theory states that technology is required to increase a sector's economic growth to create sustainable benefits. Technological progress will be one of the main drivers for the growth of small businesses in order to compete in global and emerging markets (Bonito & Pais, 2018). The utilization of digital technology can be an alternative for MSMEs to compete globally (Rumetna & Sembiring, 2017; Tülüce & Doğan, 2014). One of the utilization is the development of financial technology, which has become a competitive advantage for the MSME business (Putri et al., 2022). The existence of technological updates in companies can lead to an increase in production factors (Unnikrishnan, Iqbal, Singh, & Nimkar, 2015). Another study states that security technology utilization positively correlates with productivity. In addition, MSMEs in business expansion emphasize the demand for technology to increase productivity (Asare et al., 2015). Several studies have found that competitive advantage positively affects business sustainability. Competitive advantage is a strength to generate more value for consumers who outperform competitors (Aboelmaged, 2018). According to Haseeb et al. (2019) sustainability performance depends on the competitive advantage created through the application of technology. Technology strategic adjustment is the key to sustainability performance.

The factor affecting the sustainability of MSMEs is an investment in human resources (Berndt et al., 2016). Science and public policy knowledge also greatly determines the sustainability of MSMEs. Setyawan et al. (2015) explained that human capital is one of the competitive resources owned by MSMEs. The human capital factor plays an important role in sustainability. Adequate human resources and competitiveness will contribute to the sustainability of MSMEs (Suh & Lee, 2018). Wajdi et al. (2018) explained that the aspects of human capital play a significant role in SME business performance. One step is to increase human resources' ability to perform efficiency and productivity of economic activities. The sustainability of MSMEs is highly dependent on the level of efficiency and productivity (Ahmedova, 2015) and is an indicator that reflects the sustainable profitability of a company (Nugroho et al., 2017).

Das, Rangarajan, & Dutta (2020) provide a model that can be applied to improve strategies to develop MSME sustainability: public policy and government facilitation. MSMEs are a stable employment provider for the community. Thus, MSMEs need to be supported by financial access. In addition, MSMEs can reduce economic inequality. During the Covid 19 pandemic, MSMEs must support the people's economy and contribute to reducing the impact of Covid-19. A survey by Lu, Wu, Peng, & Lu (2020) revealed that MSMEs demand financial programs from the government to maintain their business during the Covid-19 pandemic. Kurtz et al. (2020) surveyed 40 countries, and 19 mentioned the priority of government support in subsidized loans. This implies that the economic viability of MSMEs is significantly enhanced by the CBN Post COVID-19 stimulus package in selected COVID-19 epic centres in Nigeria. PRIHATIN, a similar scheme, also recovered MSMEs' performance in Malaysia (Ahmad, 2020).

3. Research Method

The research method used is quantitative. The unit of analysis in this research is MSME actors using research variables: Digital Technology (X₁), human capital (X₂), PEN program (X₃), the MSME's competitiveness (Y), and MSMEs sustainability (Z). The sample in this

research is MSMEs in Bantul Regency. The sample was selected using a purposive sampling technique. The sampling criteria were (1) SMEs in the culinary field and (2) those who hold PEN. The number of samples is determined by Cohen's approach based on the number of arrows hitting one construct and considering the significance level (1%, 5%, and 10%) and the magnitude of R². Thus, the minimum sample size used in this current study is 65 MSME units.

This study employs the Partial Least Square (PLS) analysis tool, a variant-based structural equation modelling (SEM) technique that simultaneously tests measurement and structural test models. PLS produces efficient information and is easy to interpret. PLS can also be used on small data sets, does not require normality, linearity, and heteroscedasticity assumptions, and can be used on indicators that are reflective and formative of latent variables (Hartono, 2011). The model framework is presented in Figure 3.1.

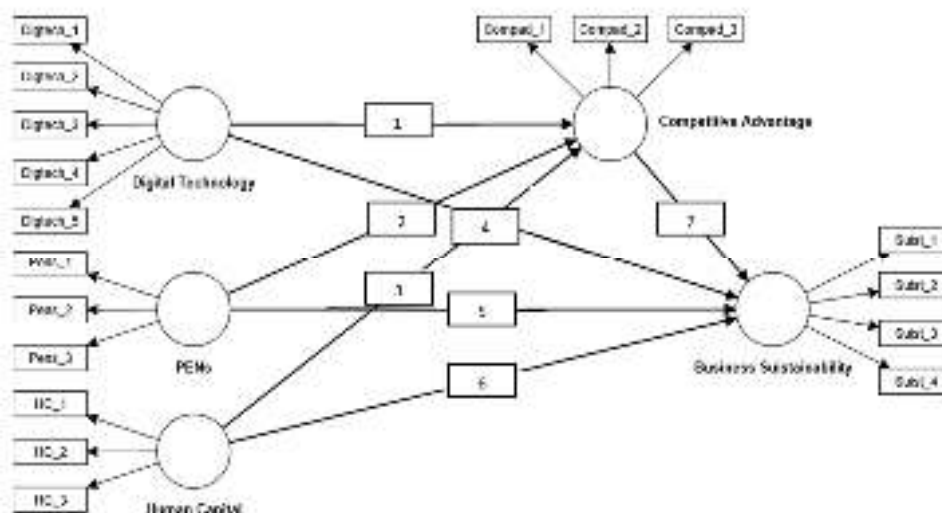


Figure 3.1. Model Framework
Source: Data estimation result

This study used a questionnaire with a 5-point Likert scale; namely, one strongly disagrees, two disagree, three neutral, four agree, and five strongly agree.

Table 3.1 Variabel Measurement

Variable	Indicator
Digital Technology (adapted from Harini, et.al, 2017) cited in Budiarto, Vivianti, & Diansari (2021)	Since doing online sales, it's easier for me to get consumers Through online sales there is effective interaction and communication with consumers I can provide my product quality information online The product catalog that I put on the online shop attracts consumers to buy my products Sales are becoming more and more effective
PEN aids (Cited in Nasir, et.al, 2022)	PEN aids helped me maintain my business during covid-19 PEN aids helped me to pay my business loan installments during Covid-19 PEN aids helped me increase my business income during covid-19
Human Capital (Cited in Hamdan, 2021)	I or my workforce have good leadership qualities I or my workforce have adequate skills for the products being sold I or my workforce can work well together
Competitive Advantages (Cited in Hamdan, 2021)	My business always experiences an increase in income My business utilizes local raw materials to make products that are sold My business has more and more business relationships
MSME sustainability (Cited in Hamdan, 2021)	My business always show progress My business is expanding in marketing Business capital is increasing My business is expanding into foreign markets

4. Results and Discussion

This study uses primary data which collects data using Google Forms. The data used in this study were 85 respondents. The characteristics of the respondents are presented in table 4.1. Respondents were dominated by the age of 26-35 years as much as 45.9% with high school education level. During the pandemic, the majority of their business decreased. Among the various types of PEN aids, 63.64% of respondents received financial aids of Rp 2.400.000,-. This is in line to the statement of the desire for the government aid. This is interesting to study more deeply, especially the effect of each type of PEN aids.

Table 4.1. Characteristic of Respondents

Respondent's characteristic		Frequency
Owner Age	16-25 years	27
	26-35 years	39
	36-45 years	11
	46-55 years	8
Education	studying	12
	Bachelor	18
	Senior High School	54
	Junior High School	1
Business conditions during pandemic	Stable	19
	Increase	6
	Decrease	51
	Stop	9
Type of PEN aid recieved	Funding aids Rp.2.4 million	42
	New Credit Guarantee	11
	Postponement of installment payment	7
	Decrease in loan interest rate	5
	Extention of credit term	12
	Other	27

Sources: Primary data

To account for research results, research instruments must be tested for validity and reliability. According to Hair et al. (2013), the requirement for convergent validity is that the threshold value of Average Variance Extracted (AVE) must be > 0.50 . Table 4.2 shows that the AVE value in each construct is already at the threshold (> 0.50). Thus, it can be considered valid convergently. There is also a Cronbach Alpha value to test construct reliability. Table 4.2 shows that all constructs meet the requirements above 0.70. Therefore, it can be concluded that all constructs meet the criteria and are reliable.

Table 4.2. Result of the measurement model, reliability and validity

Constructs	Items	I_i	α	ρ_A	AVE
Competitive Advantage	Compad_1	0.888	0.789	0.791	0.705
	Compad_2	0.787			
	Compad_3	0.841			
Digital Technology	Digtech_1	0.901	0.904	0.926	0.726
	Digtech_2	0.883			
	Digtech_3	0.676			
	Digtech_4	0.883			
	Digtech_5	0.895			
Human Capital	HC_1	0.894	0.883	0.884	0.810
	HC_2	0.901			
	HC_3	0.905			
PEN	Pens_1	0.936	0.892	0.894	0.823
	Pens_2	0.884			
	Pens_3	0.900			

Constructs	Items	l_i	α	ρ_A	AVE
Business Sustainability	Suist_1	0.874	0.870	0.902	0.720
	Suist_2	0.884			
	Suist_3	0.912			
	Suist_4	0.710			

Notes: l_i = factor loadings; ρ_A (rho_a) = reliability coefficient; α = Cronbach's alpha; AVE = Average Variance Extracted

Before performing model analysis, it is necessary to test the model's suitability and whether it can adequately represent existing phenomena with the theoretical concepts. According to Kock (2018), it needs to be tested by evaluating to test the suitability of the model. The test is to see the Average R-Square (ARS) value that must be ≤ 0.05 . Table 4.3 shows that the P-value for $ARS \leq 0.001$ or less than 0.05, so it can be concluded that the fit model is met. The subsequent analysis assesses the path coefficient (β) and its significance level (P-value) for the path coefficient, which helps make decisions in hypothesis testing.

Tabel 4.3. Structure Model and Indirect (mediation) Result

Hypotheses	β	T values	p Values	Result
Digital Technology -> Business Sustainability	0.288	2.404	0.016	Supported
Digital Technology -> Competitive Advantage	0.196	1.254	0.210	Not Supported
Human Capital -> Business Sustainability	-0.053	0.378	0.705	Not Supported
Human Capital -> Competitive Advantage	0.354	2.829	0.005	Supported
PENs -> Business Sustainability	0.098	0.878	0.380	Not Supported
PENs -> Competitive Advantage	0.288	2.596	0.009	Supported
Competitive Advantage -> Business Sustainability	0.644	7.489	0.000	Supported
Indirect (mediation) Result				
HC -> Compad -> Suist	0.228	2.584	0.010	Supported
PENs -> Compad -> Suist	0.185	2.167	0.030	Supported
Digtech -> Compad -> Suist	0.126	1.198	0.231	Not Supported
Quality indicators				
R^2 Competitive Advantage = 0.543				
R^2 Business Sustainability = 0.781				

Notes: Significance of estimates; *** $p < 0,001$, ** $p < 0,01$, * $p < 0,05$; β = Path coefficients

Notes: β = Path coefficients; BC= bias corrected, CI= confidence interval; HC = Human Capital; PENs =Government Support; Compad = Competitive Advantage; Digtech = Digital Technology; Suist = Business Sustainability.

Source: Data Processed WarpPLS 6.0

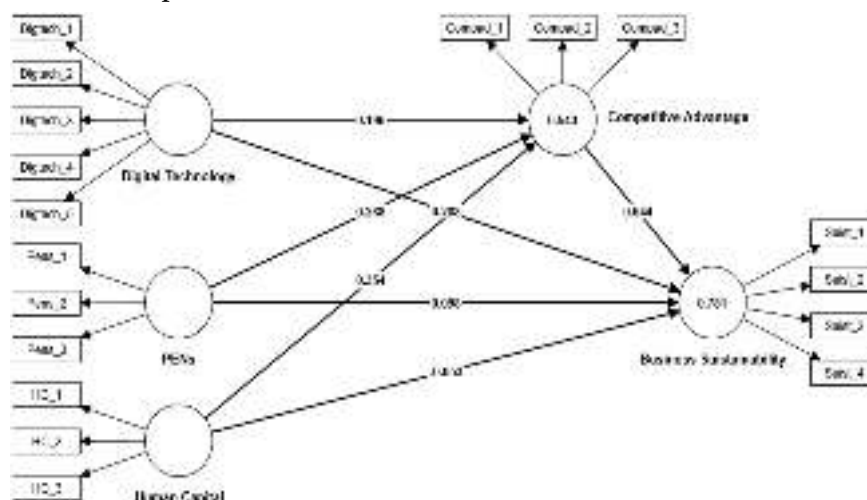


Figure 4.1. Structural Model

Source: Primary data estimation result by WarpPLS 6.0

The result shows that digital technology variables can directly affect business sustainability. It is because using digital technology can maintain relationships between MSME entrepreneurs and consumers through the speed and ease of transactions, introducing new product variations, and responding to consumer criticism and suggestions. Meanwhile, human capital and PEN affect business sustainability through competitive advantage. Figure 4.1 shows the magnitude of the effect of competitive advantage on business sustainability of 0.644. Haseeb et al. (2019) explained that sustainability performance depends on the competitive advantage developed through applying technology. Technology strategic alignment is the key to sustainability performance.

Digital technology has a positive and significant direct effect on Business Sustainability, while there is no effect through competitive advantage. In Solow's growth theory, increased economic growth driven by technological advances can generate social benefits from economic activity. Digital technology collaboration and human resources have a significant role in the existence of MSMEs (Ardhi, 2021). The role of digital technology is to facilitate the process of financial transactions. This is in line with Azzahra et al. (2021) conclusion that the digital dimension has a direct positive and significant effect on business sustainability. According to Garzoni et al. (2020), digital technology can create business opportunities and entrepreneurial competencies in the digital entrepreneurial ecosystem. Currently, digital technology has spread to modern society in urban and rural areas to be adopted for business sustainability. The utilization of digital technology is not only effective in helping SME business growth but also as a consumer intermediary to access products and services easily. In addition, Liu & Sukmariningsih (2021) concluded that digital platforms could bridge buyers and suppliers of MSMEs during the Covid-19 pandemic. Digital Technology should be used as a tool to achieve sustainable development. MSMEs must transform information and management systems from traditional to digital to survive after the Covid-19 pandemic. The government has to accelerate network and infrastructure provision, especially in areas not yet covered by 4G technology. Further, the government should provide and monitor digital marketing train regularly, assist with access to capital, and assist with regulations in logistics to make shipping costs cheaper.

The research results show that human capital does not directly affect business sustainability but has a significant positive effect indirectly through competitive advantage. These results are in line with the research of Srikalimah et al. (2020), where human intellectual capital indirectly affects business sustainability through competitive advantage. Competent, capable, and able to work with human resources to drive business innovation ideas that can increase business profits. According to (Ardhi, 2021), human resource quality affects MSMEs' comparative advantage in increasing competitiveness through product innovation with unique characteristics and providing quality services. Sung, CY, Kim, KC, & In (2016) added that improving human resources is one of the factors affecting the development of competitiveness and sustainability of MSMEs. Lesakova (2014) emphasizes the need for professionally trained, educated, and creative human resources for the competitiveness and sustainability of MSMEs.

Meanwhile, the government program through the PEN program has a positive and significant impact on business sustainability through competitive advantage. This is in line with research by Bartik et al. (2020), Omar, Ishak, & Jusoh (2020) dan Okoh, Mac-Ozigbo, Onyemauche, & Aderemi (2022). Sharma, Pandey, & Gaur (2022) examined variations in the competitive advantage of countries due to the fiscal stimulus allocated for COVID-19 by the G-20 governments. The study found that several countries, such as Japan, the United States, India, Australia, and Canada, had allocated a significant stimulus of gross domestic product (GDP) to support competitive advantage. The research stated that various economic stimuli in the form of the financial program significantly affected MSMEs' competitiveness during a pandemic. This result follows research (Kennedy, 2021) that MSMEs can survive after receiving productive program funds from the government. In addition, several PEN schemes for MSMEs are in the form of debt restructuring programs, delay the debt instalment payments for six months, 6% interest subsidies, and 0% tax subsidies. MSMEs can also apply for loans with low-interest rates of only 3%. For MSME actors, the PEN program can maintain

and increase the economic strength of business actors in running their businesses (Marginingsih, 2021). Micro-business financing will turn the economic wheels (Marginingsih, 2021).

5. Conclusion

Based on empirical analysis, digital technology directly determine the sustainability of MSMEs. Meanwhile, human capital and the PEN program affect business sustainability through competitive advantage. In principle, digital technology, human capital, and the PEN program are essential to maintaining business sustainability. Through increasing human capital, use of digital technology and the management of PEN aids become more optimal. Which leads to the sustainability of the business. Therefore, Human capital needs to be continuously improved through education and training. This will create continuity in building innovative, competitive, and sustainable business plans by utilizing digital technology. Thus, the role of the government through the cooperative and MSME government office is vital to provide various fiscal stimulus and guidance for MSMEs to increase their competitiveness. First limitation of this research lies in the limited object of research in only one field of business. It is advisable to conduct further research on the determinants of MSME sustainability in all business fields. Second, the number of samples is limited and the type of PEN aids is not yet specific. Future research can focus more on the specific type of PEN aids because government aids have a major impact on business sustainability.

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