



MSMEs Sustainability: Application of GSM-DE as a Business Growth Model for MSME

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Abstract. This study attempts to put Growth Stage Model (GSM-DE) into practice in the context of Micro, Small Medium Enterprises (MSMEs) in Magelang. The study was conducted by distributing questionnaires with specific criteria to 310 MSMEs owners and managers in Magelang. The results indicate that business resilience, entrepreneurial character, growth, and technology affect sustainability. The results suggest that GSM-DE is applicable in determining the factors that support sustainability. These are business resilience, entrepreneurial character, growth, and technology, so businesses must prioritize these four factors in order to ensure business sustainability.

Keywords: GSM-DE, Business Sustainability, Resilience, Growth, Technology

1 Introduction

Based on data from the Ministry of Cooperatives and Small and Medium Enterprises in March 2021, the contribution of MSMEs to GDP was 61.07% or IDR 8,573.89 trillion. To add more, MSMEs are able to employ up to 96.9% of the entire national workforce [1]. Researchers in Indonesia and overseas have extensively researched the significance of MSMEs in a nation's economy. These studies highlight how MSMEs are able to boost a nation's economy by generating job opportunities, raising people's incomes, and increasing GDP [2]–[5].

Until now, MSMEs in Indonesia have been regarded as entities vulnerable to changes and industrial dynamics [6]. According to a survey conducted by the Central Bank in 2021, the COVID-19 pandemic that has occurred since March 2021 has affected 87.5% of Indonesian MSMEs [7]. Due to a significant drop in sales, many MSMEs had difficulty maintaining business sustainability during the COVID-19 pandemic.

However, from a different perspective, it can be stated that approximately 12.5% of Indonesia's MSMEs could withstand the impact of the COVID-19 pandemic. Information technology and product modification are the best solutions for surviving uncertain times [7]. Furthermore, understanding the stages of business growth is also crucial for MSME owners to monitor and maintain business sustainability. Due to the massive

role of digitalization in the business world, one of the growth stages models that can be used in the context of MSMEs in Indonesia is GSM-DE (Growth Stage Model-Digital Era) [8]. This study is going to investigate the impact of business resilience, entrepreneurial character, strategy to avoid decline, accounting literacy, growth, and technology on business sustainability which refers to GSM-DE.

2 Growth Stage Model and Growth Stage Model - Digital Era

The Growth Stage Model (GSM), or the business growth stage model, is not new in the business world. Previous research [9]–[13] explained GSM as a reference to see how various measurement variables, including age, size, control, hierarchical levels, crises, and strategy, affect a business's growth and life cycle. This model begins by identifying 4 (four) stages [11], 5 (five) stages focusing on the current crisis [10], and GSM 6 (six) stages that illustrate how a business's resilience strategy is from the early stages of operations until the company experiences a market decline [13]. However, the previously studied GSM has become less relevant in Indonesia and the digital era [8]. The GSM-DE developed by Yuliani [8] produces constructs, indicators, and construct items for business sustainability in MSMEs. Resilience, accounting literacy, technology, and Business Model Innovation (BMI) are critical dimensions for MSMEs to maintain the sustainability of their businesses. Based on the construct of GSM-DE [8], this research proposed the following developed conceptual framework (Fig. 1).

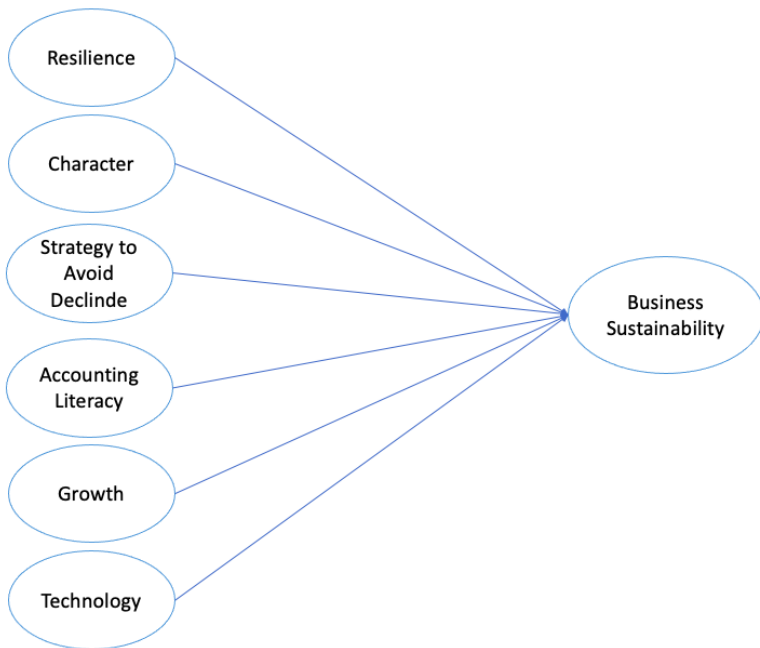


Fig. 1. Conceptual Framework

3 Method

In an attempt to determine factors affecting the business sustainability of MSMEs, this study was conducted to assess the relationship between Business sustainability and resilience, accounting literacy, technology, accounting literacy, growth, and technology. The questionnaire consists of seven sections to understand the influence of the variables in GSM-DE on business sustainability. After that, SPSS was used to analyze and interpret data in order to achieve the finding and the conclusion of the study. The measurement scale in this questionnaire uses a Likert scale with five categories, including strongly disagree (STS), disagree (DS), neutral (N), agree (S), and strongly agree (SS). Table 1 presents the research indicators used in the study.

Table 1. Research Indicators

Business Sustainability	Resilience	Character	Strategy to avoid decline	Technology	Accounting Literacy	Growth
Business Strategy	Innovation	Dare to take risks	Leadership	Use of Technology	Financial Knowledge	Revenue
Networking	Target Market	Collaboration	targeted customer leader value		Technology Media Diversity	Distribution of Financial Management Roles
Innovation	Technology	Discipline	business value			
Adaptive	Value	Honest	commitment		Types of Financial Statements	Length of Business
Unique Selling Point	Customer Engagement	Open-Minded				
Leadership	Team, Leadership Finance	Optimistic				
	Cooperation Legality	Not easily give up Creative Growth Mindset Independent				

This study distributed questionnaires to 310 tenants in Magelang. Respondents are MSME owners and managers who fulfill the following requirements:

- a. MSMEs that have more than three employees
- b. MSMEs that have been established for more than one year
- c. Not franchises

The regression equation in this study is as follows:

$$BU = \alpha + \beta_1BR + \beta_2EC + \beta_3SAD + \beta_4AL + \beta_5G + \beta_6T$$

4 Result and Discussion

4.1 Profile of respondents

The approach used in this study is a structured interview using a questionnaire, and instruments were obtained from the in-depth interview. We set 6 (six) hypotheses for his approach as follows:

- H1: Business resilience has a positive effect on business sustainability
- H2: Entrepreneurial character has a positive effect on business sustainability
- H3: Strategy to avoid decline has a positive impact on business sustainability
- H4: Accounting literacy has a positive effect on business sustainability
- H5: Growth has a positive impact on business sustainability
- H6: Technology maximization has a positive effect on business sustainability

Following that, among 310 participants in this study, 112 (36.13%) were male entrepreneurs, and 198 (63.87%) were female entrepreneurs. Ages ranged between 20 and more than 50 years. Most participants are aged 31-40, reaching 56.77%. The participants' MSME spanned many industries and sectors; some identified industries include fashion (batik), service (tour and travel, laundry, beauty salon, etc.), convenience stores, handicrafts, food, and beverage. 81.61% of participants were high school or vocational school graduates, and 96.77% were MSME owners. Respondents' profiles are presented in Table 2 and Table 3.

Table 2. Respondents Profiles

Age	Male	Female	Overall	Owner	Management
20-30 yo	16	43	59	50	9
31-40 yo	60	116	176	175	1
41-50 yo	33	38	71	71	
>50 yo	3	1	4	4	
overall	112	198	310	300	10

Table 3. Age and Education Level

Age	Elementary school	Junior high school	High school	Bachelor	others	N
20-30 yo			54	5		59
31-40 yo		3	128	42	3	176
41-50 yo	1		68	2		71
>50 yo			3	1		4
overall	1	3	253	50	3	310

A reliability test is also conducted to evaluate whether the data is reliable. The test results show that Cronbach's alpha is 0.940, which means the data is reliable.

Before testing the data using regression, it is necessary to test the sampling adequacy and reliability. Regarding the measure of sampling adequacy (KMO), Hair et al. [14] suggest that the value should be > 0.50 and factor loading > 0.70 . The results of the

sampling adequacy in Table 3 show the Measure of Sampling Adequacy (MSA) > 0.50. It can be observed that all of the values for the variables are as expected. Others. The reliability of each item is also reported in terms of Cronbach's alpha, which should preferably be > 0.5 [14], and all variables have adequate values (Table 4).

Table 4. Results of analyses of constructs

Variables	Mean	SD	Kurtosis	Communa- lity	The measure of Sampling Adequacy	Cronbach's alpha
<i>Business Sustainability</i>						0.789
1	4.12	0.417	1.953	0.574	0.926	
2	4.10	0.527	0.465	0.528	0.925	
3	4.21	0.560	-0.218	0.522	0.910	
4	3.62	0.667	-0.286	0.525	0.961	
5	3.95	0.513	4.020	0.649	0.891	
6	4.00	0.390	3.674	0.644	0.893	
<i>Business Resilience</i>						0.841
1	4.21	0.526	-0.055	0.562	0.932	
2	4.02	0.560	0.218	0.602	0.918	
3	4.04	0.756	-0.583	0.717	0.917	
4	3.95	0.510	0.844	0.667	0.937	
5	4.10	0.511	0.650	0.628	0.952	
6	3.84	0.670	-0.657	0.657	0.942	
7	4.02	0.511	0.857	0.687	0.918	
8	4.08	0.499	0.903	0.631	0.892	
9	3.75	0.608	1.457	0.691	0.834	
#	3.33	0.693	-0.401	0.606	0.890	
<i>Entrepreneur Characteristics</i>						0.806
1	3.88	0.507	1.971	0.562	0.948	
2	3.68	0.676	0.555	0.578	0.925	
3	4.11	0.460	2.413	0.692	0.909	
4	4.45	0.542	-1.085	0.774	0.848	
5	4.21	0.524	-0.026	0.678	0.931	
6	4.24	0.479	-0.237	0.739	0.914	
7	4.21	0.494	0.085	0.676	0.922	
8	4.21	0.567	-0.270	0.680	0.938	
9	4.20	0.558	-0.196	0.667	0.901	
#	4.17	0.460	0.732	0.685	0.889	
#	3.74	0.836	1.702	0.630	0.756	
<i>Strategy to Avoid Decline</i>						0.850
1	4.05	0.483	7.555	0.558	0.893	
2	4.20	0.479	2.366	0.663	0.889	
3	4.20	0.495	1.096	0.685	0.880	
4	4.15	0.443	1.052	0.718	0.867	
5	4.15	0.427	1.360	0.690	0.850	
<i>Accounting Literacy</i>						0.726
1	4.06	0.397	3.088	0.621	0.905	
2	4.35	0.549	-0.811	0.683	0.879	
3	3.71	0.613	-0.279	0.701	0.900	
4	3.96	0.420	3.812	0.612	0.923	
5	3.48	0.647	-0.191	0.740	0.868	
6	4.18	0.484	0.376	0.575	0.921	
<i>Business Growth</i>						0.741

Variables	Mean	SD	Kurtosis	Communi- nality	The measure of Sampling Adequacy	Cronbach's alpha
<i>Technology</i>	1	3.95	0.493	1.091	0.555	0.927
	2	3.83	0.578	0.021	0.597	0.934
	3	3.33	0.559	0.826	0.679	0.904
	4	4.21	0.521	4.078	0.693	0.887
	1	3.53	0.799	-0.197	0.774	0.877
	2	3.85	0.645	2.168	0.741	0.831

The results of hypothesis testing are presented in Table 5.

Table 5. Hypothesis Testing

Relationship	Coefficients	ρ	Status
Business resilience → Business Sustainability	0.466	**	Confirmed
Entrepreneurial character → Business Sustainability	0.175	**	Confirmed
Strategy to avoid decline → Business Sustainability	-0.076		
Accounting literacy → Business Sustainability	0.045		
Growth → Business Sustainability	0.126	**	Confirmed
Technology → Business Sustainability	0.125	**	Confirmed

The test results show that business resilience, entrepreneurial character, growth, and technology use positively and significantly impact business sustainability.

$$BU = \alpha + 0.466BR + 0.175EC - 0.076SAD + 0.045AL + 0.126G + 0.125T$$

4.2 Discussion

Business Resilience and Business Sustainability. Table 4 reveals that resilience significantly affects business sustainability in MSMEs based on hypothesis testing results. The ability of a system to prepare for risks, absorb impacts and recover and adapt after disruptive occurrences are referred to as resilience. When the level of business resilience rises, so does the level of business sustainability. According to the findings of this study, resilience appears to be one of the factors influencing business sustainability. If MSMEs are resilient, they can recover quickly from difficulties, e.g., the COVID-19 outbreak. Furthermore, this research is consistent with previous research on the relationship between resilience and business sustainability, which has a significant positive effect [15] [16] [17].

Entrepreneurial Character and Business Sustainability. The ever-changing business environment requires business owners to be able to adapt to all changes. The study results show that entrepreneurial character can support the sustainability of MSME businesses. Entrepreneurial character, an internal factor that determines business success, refers to surfaces such as: daring to take risks, collaboration, discipline, honesty, open-mindedness, optimism, persistence, creativity, growth mindset, and independence. Soares et al. [18] found that a company's investment in corporate entrepreneurship

education has ensured its development, sustainability, and a smoother succession process. In addition, this result is consistent with previous results conducted in South Africa [19].

Growth and Business Sustainability. Business growth is measured by four indicators: revenue, range of business, number of employees, and length of business. The study result shows that business growth positively affects business sustainability. With the addition of revenue, range of business, number of employees, and length of business, an MSME will have sufficient resources for further operations. Small entrepreneurial companies seek business growth for the same reasons as large companies to achieve a competitive advantage [20].

Technology and Business Sustainability. The digital era is a time when humans live with technology. The results indicate that technologies support the business of sustainability of MSMEs [21]. Some benefits that might be resulted from technology utilization are ease of marketing the product through online platforms, time and cost efficiency, increased productivity, ease of team management through the chat application, and customer service excellence. IT resources enable firms to develop sustainability capabilities, which help them deliver sustainable values to relevant stakeholders and gain a sustained competitive advantage. The role of automation, information, transformation, and infrastructure IT resources is examined in developing sustainability capabilities [22].

5 Conclusion

This research looks into the business growth model for MSMEs in the digital era. This research was conducted on 310 respondents from SMEs in Magelang to answer this question. Furthermore, this study discovered that business resilience, entrepreneurial character, growth, and technology use all impact business sustainability. However, this study only looks at one business research location, Magelang. We recommend that other researchers expand the research location to test the results' generality.

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