



## Diversification Strategy and its Impact on Sustainability: Research on Indonesian SMEs

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## 1. Introduction

Small and medium enterprises (SMEs) are crucial to Indonesia's economy since they account for more than 60% of Indonesia's Gross Domestic Product (GDP), securing its place as the country with the 16th greatest GDP (Budiarto, Vivianti, & Diansari, 2021). In general, SMEs play an important role in modern business worldwide because they are the engines of the economy, and 90 percent of businesses are in this group (Jia, Tang, & Kan, 2020; Konstantopoulou, Rizomyliotis, Konstantoulaki, & Badahdah, 2018). Yet, although they play a strategic role, they face a variety of challenges, including managerial skills (Li, Anaba, Ma, & Li, 2021; Udriyah, Tham, & Azam, 2019), technology (Agwu, 2018; Byoungcho & Cho, 2017), performance measurement (Maduekwe & Kamala, 2016), and most importantly strategy (Jayeola, Sidek, Rahman, Bali Mahomed, & Jimin, 2020).

Diversification is a strategy SMEs may employ to better compete in today's business environment and meet changing client expectations (Delbufalo, Poggese, & Borra, 2016). In today's business environment, diversification is essential; even firms that specialize in comparable product lines can improve their capabilities and experience (Pangboonyanon & Kalasin, 2018). When a corporation offers more than one product line within a single sector, this is referred to as "industry diversification." SMEs can diversify linearly by expanding their core business or by growing into a firm that is entirely separate from their initial activity to fill a market need, for example (Herrero, 2017). Sustainability is a major problem in all countries around the world, especially given the COVID-19 pandemic (Li et al., 2021; Yanto, Kiswanto, Baroroh, Hajawiyah, & Rahim, 2022). SMEs have been compelled to adapt to the uncertainties of the pandemic by applying a variety of solutions. Among the available solutions, diversification should be used in conjunction with efforts to improve managerial abilities (Garcia-Cornejo, Perez-Mendez, Roibas, & Wall, 2020). Furthermore, due to their small size, SMEs have greater flexibility and adaptability than larger corporations; as a result, the appropriate strategy is required to compete and achieve long-term sustainability (Konstantopoulou et al., 2018).

Due to their limited resources, SMEs rarely conduct non-linear business expansion strategies (Pangboonyanon & Kalasin, 2018); secondly, initiatives to improve sustainability are still at an all-time low (Coles, Zschiegner, & Dinan, 2014); and thirdly, the sustainability of SMEs is lower than that of large corporations (Jin, Navare, & Lynch, 2019). Several studies on sustainability have been conducted, for example, on the use of diversification in Spain (Garcia-Cornejo et al., 2020), on the individual context in Greece (Kornilaki, Thomas, & Font, 2019), on innovation in China (Jia et al., 2020), and on the technological context in Kenya (Chege & Wang, 2020). However, there are still unanswered questions because there has been little empirical research on the relationship between diversity and long-term viability in small businesses.

Following the findings of previous empirical studies, this research was conducted to explore SMEs' use of the diversification strategy and address the following research question: can business linearity guarantee sustainability? This research question is critical because the choice of diversifying in a linear or non-linear manner will have an impact on the survival of SMEs. Based on these research objectives, the purpose of this study was to investigate the impact of a linear diversification strategy on the long-term sustainability of a corporation. This paper is divided into four sections: having provided an overview of why this topic is still relevant, in the second section we review the previous literature; next, we detail the materials and methods employed, after which we provide the research findings and discuss their implications.

## **2. Literature Review**

The Resource-Based View (RBV) theory explains that organizations attempt to control all their resources in order to apply strategies that achieve efficiency. To put this theory into practice, business owners presume that a company's competitiveness is not dependent on external factors, such as market and industry circumstances, but is instead dependent on the effectiveness of the company's resource management. If a company can manufacture high-quality products or provide high-quality services at competitive costs, the company will be able to survive (Aziz & Samad, 2016). The effective use of resources will grant companies a competitive advantage since they have something that no one else does. According to RBV theory, companies must manage their resources optimally to generate products or services that are distinct from those of their competitors and difficult to replicate or replace with alternatives. Superior performance, according to the RBV, can be achieved through the use of valuable, scarce, unique, and easily controlled resources. Although the superiority of resources, which is solely an internal factor, is important, SME owners must also recognize that managerial skills are needed to transform resources into valuable assets to improve their competitiveness in a dynamic environment (Chinakidzwa & Phiri, 2020).

The basic purpose of a company is to reap financial rewards while maintaining a competitive advantage in order to survive (Jayeola et al., 2020). Changes in the environment, however, force companies to revise their strategy to ensure long-term sustainability (Jin et al., 2019). Diversification is a technique that many businesses employ to gain an advantage over their competitors by establishing new branches, product lines, and geographic markets (Delbufalo et al., 2016). The company will grow as a result of having access to new resources in a new location (Pangboonyanon & Kalasin, 2018). For SMEs, the right diversification plan is critical, because implementing the strategy incorrectly results in wasted resources. SMEs must give careful consideration to their diversification strategy type since linear diversification will lessen the complexity of the problem, but non-linear diversification, though challenging, is more likely to increase revenue. Despite the possibility of failure, diversification is vital for SMEs to expand their opportunities and ensure their long-term sustainability (Murphy & Tocher, 2017).

Several previous studies have described SMEs as having certain characteristics; for example, in Ethiopia, micro-enterprises have a workforce of fewer than five persons, whereas small firms have a workforce of six to thirty employees. In terms of the assets held, micro-enterprises have total assets of less than 100,000 birrs (manufacturing) and less than 50,000 birrs (services), small manufacturing businesses have total assets of less than 1.5 million birrs (manufacturing), and small service businesses have total assets of less than 500,000 birrs (Abagissa, 2021). In Korea, small businesses are classified according to the volume of sales they generate; for example, in the food manufacturing industry, enterprises with annual sales revenue of 10 billion Korean won

(USD 9,000 million) or less are classified as SMEs (Jeong, Shin, Kim, & Kim, 2021). In Malaysia, in general terms, small enterprises are split into two categories: manufacturing and services. Micro-sized manufacturing and service enterprises have fewer than 5 employees, while small businesses have 5–50 employees, and businesses with 51–150 employees are classified as medium-sized. Micro-manufacturing businesses have a sales turnover of less than RM 250,000, small enterprises have a sales turnover of between RM 250,000 and RM 10,000,000, and medium-sized businesses have a sales turnover of between RM 10,000,000 and RM 250,000,000. A sales turnover of less than RM 200,000 is recorded in the microservice sector, while that of medium-sized enterprises ranges from RM 200,000 to one million, and that of large businesses ranges from one million to five million ringgits (RM 5,000,000) (Mata, Falahat, Correia, & Rita, 2021). Nigeria uses the following criteria for SMEs: Micro-enterprises are those with fewer than 10 employees and annual revenues of less than ₦ 5,000,000.00; small businesses have between 10 and 49 employees with an annual turnover that generally ranges from ₦ 5,000,000 to ₦ 49,000,000; and medium-sized enterprises have between 50 and 199 employees and an annual turnover ranging from ₦ 50,000,000 to ₦ 499,000,000 (Agwu, 2018). In China, the business size is classified using three indicators: the number of employees, the amount of income generated, and the total value of the company's assets. For medium-sized businesses, the number of employees ranges from 300 to 1000, and the company's overall income ranges between 20 and 400 million Chinese yuan. Small businesses employ between 20 and 300 people and generate an income of between 3 and 20 million yuan each year (Jia et al., 2020). In Indonesia, SMEs are subject to the requirements of Law Number 20 of 2008 on SME requirements. Micro-enterprises have net assets of less than 50 million IDR, small businesses have net assets of 50–500 million IDR, and medium-sized firms have net assets of more than 500 million IDR. Furthermore, micro-firms have a sales turnover of less than 300 million IDR, small businesses have a sales turnover of 300 million–2.5 billion IDR, and medium-sized enterprises have a sales turnover of more than 2.5 billion IDR (Budiarto, Prabowo, & Herawan, 2017).

Small and medium enterprises (SMEs) continue to face challenges because they are focused on traditional goals such as economic development and job creation rather than investing in human resources, even though human resources are critical to surviving innovation (Jia et al., 2020). The worldwide economic crisis produced by the COVID-19 pandemic also created problems for SMEs, who have had to adapt their tactics to retain their business sustainability in the face of the crisis (Konstantopoulou et al., 2018). Organizations should also strive for financial and social sustainability as they are a part of the larger community (Binh, Thy, Vu, Khoa, & Thong, 2022; Kornilaki et al., 2019).

When enterprises are confronted with rapid changes in customer demand and specialized political initiatives, they must develop a diversification plan to ensure their long-term sustainability (Garcia-Cornejo et al., 2020). Diversification is one of the most effective strategies for companies facing competition and rapid market growth. Diversification is the addition or expansion of the type of business run by the company. Companies can achieve diversification in two ways; the first is to add lines and ventures that are related to existing products and geographic markets; the second is to diversify by adding entirely different products or geographic markets (Delbufalo et al., 2016). Although many companies use diversification, this strategy can lead to two possible outcomes: the first is that the company achieves high profitability, and the second is that it experiences reduced profitability. Because of the increasing number of new enterprises, the company will encounter increased business complexity.

An expansion of business divisions exposes companies to both systematic and non-systematic risks. Whereas systemic risk originates from the external environment, non-systematic risk originates from within the organization; as a result, an appropriate approach is required to lower the long-term risk (Herrero, 2017). As opposed to merely focusing on one activity, research indicates that business expansion is a better option for reducing risk (Tajuddin, Hashim, & Zainol, 2017). Previous studies have also established that diversification is necessary to maintain sustainability (Garcia-Cornejo et al., 2020). Non-linear diversification, on the other hand, can result in complex and difficult management situations, as enterprises are established in numerous regions (Delbufalo et al., 2016). Consequently, firms must increase their capabilities and alter their current resources to develop new goods and reduce the chance of failure while achieving long-term viability (Hockerts, 2015).

SMEs are more likely to choose diversification based on existing product lines due to the low risk involved, even though this conflicts with the risk-taking principle of entrepreneurial orientation (Hernández-Perlines & Rung-Hoch, 2017; Pangboonyanon & Kalasin, 2018). SME owners prefer to maintain a single business rather than diversify because diversification might have a detrimental influence on their ability to minimize risk (Herrero, 2017; Murphy & Tocher, 2017). The subject of this research is thus whether the sustainability of SMEs with a linear business model is better or worse than those opting for non-linear diversification, based on several key factors.

### **3. Method and Data Collection**

This research focuses on the implementation of diversification strategies to achieve sustainability. This study examines whether small firms' linearity has an impact on their sustainability; it is organized into stages of data collection, testing the data quality, and analyzing the results. The sample criteria used refer to Law

number 20 of 2008 regarding the requirements for SMEs. The object of this study is all types of SMEs: micro, small, and medium enterprises.

### *3.1. Sources and Types of Data*

The data collection tool used for this quantitative research was a questionnaire. There were three stages to its validation. It was pre-tested, first with research students, and then with several SME owners, to ensure they understood the questions. The pre-testing with research students was carried out because the research instrument adopted previously published indicators. After determining that the questions were understandable, the next step was to invite experts and SME owners to provide feedback on the questionnaire. It was then tested for validity on the first 30 respondents using Pearson Correlation. After the instrument was declared valid, the distribution of the questionnaires was resumed. Questionnaires were provided to SME owners in the province of Yogyakarta (Yogyakarta City, Sleman, Bantul, Gunung Kidul, and Kulon Progo Regency) both online and on paper. A non-respondent bias test was also used to ensure there were no data differences between the first 30 and last 30 respondents.

### *3.2. Sampling Technique*

A purposive sampling technique was used with the additional criterion of only including SMEs that employed e-commerce. This specific criterion was chosen because several previous studies have found that e-commerce is the primary tool SMEs use to survive (Ajmal, Yasin, & Norman, 2017; Jovanović, Vujadinović, Mitreva, Fragassa, & Vujović, 2020; Konstantopoulou et al., 2018; Virtanen, Björk, & Sjöström, 2017). Subsequently, 300 questionnaires were distributed offline and online (using Google Forms), although only 180 were completed. This number follows the rule of thumb that states that a sample size of 30–500 is appropriate for most research (Sekaran & Bougie, 2016).

This research linked linearity with sustainability in SMEs; therefore the first construct was linearity, using a nominal scale, while the second was sustainability, using a Likert scale. The linearity constructs were divided into three businesses types, namely:

1. SMEs with a single business unit.
2. SMEs with > 1 similar business unit (linear).
3. SMEs with > 1 non-similar business unit (non-linear).

Subjective measurements based on SME owners' assessments of the sustainability construct were used. This method is widely used because there is no objective data on SMEs (Ismail & King, 2005). Therefore, sustainability was measured using ten questions, which were answered using a 5-point scale (Jin et al., 2019):

1. Environmental sustainability.
2. Social sustainability.
3. Sustainability criteria for new product development.
4. Measuring new product progress on sustainability.
5. Future importance of sustainability.
6. Developing sustainability policies.
7. Managing their product's carbon footprint.
8. Using the Triple Bottom Line for product planning.
9. Including sustainability in their product development budget.
10. Selecting suppliers and partners based on sustainability.

Before testing the hypotheses, the data quality was examined using validity and reliability tests. The validity and reliability were tested using Pearson correlation and Cronbach alpha, while the hypotheses were tested using Analysis of Variance (ANOVA).

## **4. Results and Discussion**

The research was carried out over a five-month period by distributing online and offline questionnaires to participants. Although 400 questionnaires were issued, only 180 were returned. In accordance with past findings and the rule of thumb that successful research requires a minimum sample size of 100 participants, this amount was deemed adequate (Sekaran & Bougie, 2016). The findings in Table 1 reveal that the majority of studied SMEs (71.6 percent) were micro-enterprises with a small turnover and a small number of employees, which were experiencing a variety of issues connected to sustainability. It is interesting to note that the majority of SME owners did not have a university education; future research might examine whether the owner's level of education influences their company's long-term viability.

Following an examination of the respondents' demographic information, the data was tested. The reliability test yielded a Cronbach alpha score of 0.880, which is considered excellent. The validity test with Pearson correlation, on the other hand, yielded a statistically significant correlation of less than 5 percent, as shown in Table 2. The results of the testing showed that the data are consistent with the rule of thumb, with Cronbach alpha > 0.6 and a p-value on the Pearson correlation of 0.5, allowing further testing to be conducted. The results of the linearity tests shown in Table 3 demonstrate that there were statistically significant differences between SMEs with linearity in their diversification and those without. A one-way ANOVA

revealed that SMEs with similar enterprises had a higher mean value than other SMEs. For example, in the statement on social sustainability, the score of 4.62 for SMEs with more than one business (linear) was higher than both the score of 4.18 for SMEs with a single business and the score of 4.62 for SMEs with more than one business in a non-linear structure (3.98). The F value testing on the one-way ANOVA resulted in the conclusion that all indicators were statistically significant at the 99 percent level.

The findings of the means test revealed that the linearity of the three categories of SMEs influenced their long-term viability. However, because this did not demonstrate the difference between the groups, additional testing using the Bonferroni post hoc comparison test was required, the results of which are shown in [Table 4](#). The purpose of this test was to determine the difference for each sustainability indicator depending on the linearity of the business. The results of the Bonferroni test revealed consistent values since there was a statistically significant difference between type 2 (linear) and type 1 (single business) for five indicators in the data. Additionally, significant variations were observed between the SME types with respect to all type 2 (linear) and type 3 (non-linear) variables.

**Table 1.** Respondent descriptions.

Descriptions	Type	Yogyakarta	Bantul	Gunung Kidul	Sleman	Kulon Progo	Total
Business size	Micro	22	23	27	27	30	129
	Small	11	18	7	7	6	49
	Medium	-	1	1	-	-	2
Linearity	Type 1	19	15	21	19	20	94
	Type 2	4	12	8	13	8	45
	Type 3	10	15	6	2	8	41
Owner age	< 25 year	9	7	-	-	0	16
	26 – 30 year	10	23	16	31	32	112
	>30 Year	14	12	19	3	4	52
Gender	Male	15	27	22	28	11	103
	Female	18	15	13	6	25	77
Education level	Other	20	33	33	29	35	150
	Bachelor	13	9	2	5	1	30
Use of e-commerce	<3 year	33	35	35	34	36	173
	>3 year	-	7	-	-	-	7
Age of business	< 3 year	-	-	-	6	11	17
	3 – 5 year	22	-	13	19	16	70
	> 5 year	11	42	22	10	9	93
Type of business	Culinary	15	25	20	16	19	95
	Fashion	10	5	18	11	19	63
	Craft	2	5	3	-	2	12
	Others	2	1	3	4	-	10

Table 2. The results of validity testing.

Questions	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Total
S1	1										
S2	0.556**	1									
S3	0.364**	0.463**	1								
S4	0.336**	0.404**	0.131	1							
S5	0.362**	0.381**	0.194**	0.666**	1						
S6	0.766**	0.454**	0.403**	0.213**	0.341**	1					
S7	0.372**	0.638**	0.251**	0.271**	0.237**	0.311**	1				
S8	0.230**	0.286**	0.497**	0.238**	0.197**	0.280**	0.417**	1			
S9	0.254**	0.311**	0.143	0.777**	0.570**	0.370**	0.141	0.176*	1		
S10	0.262**	0.364**	0.179*	0.650**	0.983**	0.341**	0.221**	0.167*	0.585**	1	
Total	0.731**	0.780**	0.620**	0.708**	0.725**	0.810**	0.491**	0.414**	0.574**	0.706**	1

Note: \*\* sig < 1%, \* sig < 5%.



SMEs diversify for various reasons, but in general, diversification is conducted because they want to survive and capture opportunities in the market. In conditions of healthy market competition, they usually diversify to seize existing opportunities. However, they will also use a diversification strategy to survive in uncertain and competitive market conditions. When environmental conditions are uncertain, SME owners take the risk of diversifying because they will face financial vulnerability if they are solely dependent on one business unit (Murphy & Tocher, 2017). However, business owners must be careful because diversification will have one of two consequences: increased performance or decreased efficiency due to complex problems.

Previous studies have discovered that companies with linear diversification boost the efficiency of their capital allocation, whereas organizations with non-linear diversification incur new expenses and increase their risk (Delbufalo et al., 2016). Consequently, SMEs should expand their businesses through linear diversification because filling the market hole requires considerable resources from major corporations (Pangboonyanon & Kalasin, 2018). In this case, a company can diversify by producing value-added products to fill the gap in different market segments but within the same production sector (Garcia-Cornejo et al., 2020). Additionally, SME owners might innovate to attain their long-term objectives. Although it is preferable, this need not be accomplished by establishing an entirely new firm (Jin et al., 2019). It can be accomplished through the use of the appropriate marketing approach to ensure long-term viability, such as social media marketing (Konstantopoulou et al., 2018; Virtanen et al., 2017). It is not a good idea to start a business in a non-linear fashion since the additional capital and uncertainty that come with it might be risky, especially if the owner does not have strong analytical talents (Herrero, 2017). SMEs will benefit from linear business expansion because it ensures their long-term viability in terms of economic, social, and environmental sustainability.

Table 3. Result of linearity testing.

No	Indicators	Mean			F ratio	P-value
		Type 1	Type 2	Type 3		
1	Environmental sustainability	4.24	4.53	4.12	6.238	0.002**
2	Social sustainability	4.18	4.62	3.98	19.003	0.000**
3	Sustainability criteria for new product development	3.97	4.56	4.10	14.771	0.000**
4	Measuring new product progress on sustainability	4.43	4.64	4.00	14.822	0.000**
5	Future importance of sustainability	4.56	4.76	4.10	17.969	0.000**
6	Developing sustainability policies	4.12	4.47	3.90	10.081	0.000**
7	Managing their product's carbon footprint	4.17	4.40	4.18	33.926	0.007**
8	Using the Triple Bottom Line for product planning	4.10	4.36	4.12	27.537	0.005**
9	Including sustainability in their product development budget	4.32	4.60	4.10	7.736	0.001**
10	Selecting suppliers and partners based on sustainability	4.56	4.76	4.10	17.969	0.000**

Note: \*\* sig < 1%.

Table 4. Bonferroni post hoc comparison test between linearity and sustainability.

No	Indicators	Type 1 * Type 2	Type 2 * Type 3	Type 1 * Type 3
1	Environmental sustainability	0.017*	0.003**	0.748
2	Social sustainability	0.000**	0.000**	0.096
3	Sustainability criteria for new product development	0.000**	0.002**	0.750
4	Measuring new product progress on sustainability	0.096	0.000**	0.000**
5	Future importance of sustainability	0.095	0.000**	0.000**
6	Developing sustainability policies	0.004**	0.000**	0.166
7	Managing their product's carbon footprint	0.123	0.005**	0.279
8	Using the Triple Bottom Line for product planning	0.084	0.004**	0.336
9	Including sustainability in their product development budget	0.030*	0.000**	0.145
10	Selecting suppliers and partners based on sustainability	0.138	0.000**	0.000**

Note: \*\* sig < 1%, \* sig < 5%.

Increased financial strength leads to economic sustainability, maintaining the rural population leads to social sustainability, and protecting local skills and knowledge leads to environmental sustainability

(Hernández-Perlines & Rung-Hoch, 2017; Jovanović et al., 2020). However, it is a challenge to achieve the best possible trade-off between costs and the added value of the resultant product in a way that allows the business to make a positive contribution to the environment (Jin et al., 2019). This is critical since the economic downturn and unhealthful markets are impeding the development of SMEs, making it difficult for them to attain long-term viability and sustainability (Jia et al., 2020).

Numerous techniques for ensuring long-term viability can be implemented, including boosting efficiency through cost reduction, producing new products, and expanding market sectors (Hockerts, 2015). It is possible to achieve a better knowledge of sustainability by looking at individual emotions, moral ideals, and real behavior. When faced with an uncertain environment, business professionals make judgments based on their intuition about whether they will be successful or not (Kornilaki et al., 2019). SMEs rely on their owners' ability to strategize to survive (Ajmal et al., 2017). Therefore, SMEs must diversify their product lines and seize new market opportunities in the current competitive business environment (Tajuddin et al., 2017).

This study's findings provide new ideas that have not been explained in previous results; namely, there are three alternatives for SME owners to maintain sustainability. The first is to survive with a single business but by increasing their production. Secondly, SME owners can choose to launch a new company that is linear to reduce the complexity of the problem while still capturing new business opportunities and markets. Finally, the owner can launch a new business that is not linear. This alternative requires special attention because the owner is usually a risk-taker with better analytical skills (Herrero, 2017). Each of the three alternatives can be successful if the SME has distinctive and dynamic competencies to compete with other companies. The uniqueness of SMEs can help them compete with today's multinational companies (Mata et al., 2021).

Finally, an interesting fact in the field is that family-owned SMEs do a lot of non-linear diversification. This strategy means that their non-linear diversification reduces competition within a family in the same market segment. For example, when a family company's ownership is divided into two business units, they will tend to open a new business unit in a different sector than their family (Murphy & Tocher, 2017).

## 5. Conclusion

This research has shown that SME owners should use the right strategy when expanding their business and that linear business selections are the right solution for SMEs to achieve sustainability. According to the findings of this study, SMEs must align their resources with the appropriate strategy to operate at their maximum performance level. Technology, capital, and access to financial institutions are examples of constraints that must be considered during strategy implementation so that organizations do not only pursue short-term financial profitability but also long-term sustainability.

For SMEs, deciding whether to pursue a diversification strategy or not is straightforward because ownership is simple. However, SMEs must be careful when selecting a strategy because they have significant decision-making autonomy but limited ability to diversify; otherwise, they risk losing their market share. This linear diversification decision is vital for SMEs to improve their business continuity because, first, small businesses are extremely vulnerable to risks and environmental changes; second, small businesses face the risk of product obsolescence because they frequently operate in a volatile market share or are easily penetrated by stronger, lower-cost competitors (Murphy & Tocher, 2017).

In addition to increasing their advantages internally, government support can help SMEs become more competitive and increase their external competitiveness. SMEs benefit from government assistance in the form of tax breaks and reduced import duties, which lower costs and make them more competitive (Mata et al., 2021). The researchers employed ten sustainability measures from previous research to obtain results with excellent validity and dependability. Future research tasks will include establishing a link between the linearity of sustainability and family firms. First and foremost, whether the decision to create a new business is linear or not when the company is a family enterprise and whether the decision to do so will be based on family engagement (Delbufalo et al., 2016), and secondly, whether family businesses are responsible for business and inheritance concerns (Herrero, 2017).

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