

The influence of product differentiation strategy on operational performance at Small and Medium Enterprises (SMEs) in South Sulawesi, Indonesia

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ABSTRACT

In the last decade, many researchers have conducted studies on the efforts to improve corporate performance through the stimulation of specific business strategy approach. This study aims to analyze the effect of product differentiation strategy on operating performance of the company. The study was conducted on industrial of SMEs in South Sulawesi, Indonesia using a survey method with the sample of 75 respondents. The data were collected through questionnaires, and processed by the method of path analysis. The results show that the strategy of product differentiation (vertical and horizontal) affects the operational performance of industrial of the SMEs significantly and negatively. It has implications such as in the early stages of the implementation of this strategy; the company can issue additional production costs in the form of material costs, and more failing products without being accompanied by an increase in new customers. This study can be continued to further examine the relationship of differentiation strategy implementation and performance of the company involving a moderator variable lag-time and the role of production technology in the research model.

ABSTRAK

Dalam dekade terakhir, banyak peneliti telah melakukan penelitian pada upaya untuk meningkatkan kinerja perusahaan melalui stimulasi pendekatan strategi bisnis yang spesifik. Penelitian ini bertujuan untuk menganalisis pengaruh strategi diferensiasi produk pada kinerja operasi perusahaan. Penelitian dilakukan pada industri UKM di Sulawesi Selatan, Indonesia menggunakan metode survei dengan sampel 75 responden. Data dikumpulkan melalui kuesioner, dan diproses dengan metode path analysis. Hasil penelitian menunjukkan bahwa strategi diferensiasi produk (vertikal dan horizontal) mempengaruhi kinerja operasional industri UKM secara signifikan dan negatif. Ini memiliki implikasi seperti pada tahap awal dari pelaksanaan strategi ini; perusahaan dapat mengeluarkan biaya produksi tambahan dalam bentuk biaya bahan, dan produk gagal lebih tanpa disertai dengan peningkatan pelanggan baru. Penelitian ini dapat dilanjutkan untuk mengalsis lebih lanjut hubungan implementasi strategi diferensiasi dan kinerja perusahaan yang melibatkan variabel moderator lag-time dan peran teknologi produksi dalam model penelitian.

1. INTRODUCTION

The Indonesia government especially that of South Sulawesi, continues to encourage the growth of the SME industries. In South Sulawesi, until 2013, the number of SMEs is 16 745 units and these are special units for processing industry around 2300 units or 13.7% (BPS, SME Statistics 2013). In terms of quantity, the number of industrial units SMEs is

increasing. However, it needs to examine whether, in terms of productivity, quality competitive products are also increasing. In other words, it needs to see whether the existing SME industries can produce products that can compete for markets with foreign companies to enter Indonesia? SMEs to penetrate the export market until 2013 only 1.3% of the total registered SME units and almost zero per-

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cent for manufacturing SMEs penetrate the export market (BPS, SME Statistics 2013).

The low performance of SMEs leads to reduce their competitiveness. Porter (1980) suggested that competitive advantage is an important role for the performance of the company to compete and grow. The competitive companies should create the customers and can defend themselves from competitive market pressures. Porter (1985) suggested that competitive advantage also the critical factor for the performance of the company to compete and to grow. A competitive company is capable of creating customers and defends itself from competitive market pressures. One of the strategies that can provide competitive advantage is differentiation strategy (Porter 1985; Chase and Aquilano 1999).

Many studies have been conducted by researchers regarding the efforts to improve the performance of SMEs competitiveness. However, most of these studies look at the issue from the perspective of SMEs of capital, markets, and business opportunities. A small number of studies, especially of SMEs in South Sulawesi, examine the issue of them from the perspective of planning and their business policy. One of the problems associated with of SMEs business policy is the strategy of making the product. Many SME owners make many types of products, but are seldom competitive. Based on this condition, the researcher is interested in reviewing the extent of product diversification policy to improve business performance, especially the efficiency of its operating performance.

The phenomenon that occurs in the SME industry in South Sulawesi today is mostly as other industries of SMEs differentiating the products without ever doing an evaluation of cost efficiency, productivity and quality of each product. Yet, it was not realized and planned that the owners of the SME industries have implemented the substance of product differentiation strategy. This last phenomenon which is more interesting is the effect of product differentiation strategy implementation in the SME industry in South Sulawesi on the company's operational performance improvement.

2. THEORETICAL FRAMEWORK AND HYPOTHESES

Product Differentiation Strategy

Differentiation strategy aims to create an atmosphere that is different from its competitors in the aspects such enterprise brand images, feature technical, service, and network marketing, as well as quality. In general, companies that implement

strategies based on product differentiation will create differentiation and customer groups. This requires a lot of investment funds and a long time. However, the implementation of differentiation strategy in the long term can improve the company's performance, increasing brand image, improving distribution channels, and excellent service system, as well as the customer group (Lei and Liping 2012; Liu, Ruizhi, & XU, Chaoyang 2008; Porter, ME 1985)

Product differentiation is a strategy used to influence consumer connoisseurs of unique products that is a competitive advantage over similar products (Porter 1985). In essence, a product is considered to have different values and attributes in the eyes of the consumer rather than the attributes of other similar products. Ownership of specific knowledge about these attributes provide the basis for formulating a special promotion to associate with a strategy to target market needs, thus the capitalization of the unique attributes of the product concerned (Pan David W, John AW Baker 1999).

The implementation of differentiation strategy will produce a high quality product. This possibility involves high costs in all areas of functioning in order to support differentiation strategies (Wright, Peter et al. 1997; Hill 1988). In other words, in the short term, the implementation of the differentiation strategy will create the high production costs and the price of the final product is expensive. However, in the intervening time and the improvement of production processes, the cost per unit of production will go down with increased sales.

The next is the relationship between differentiation and quality performance. Quality is realization of "cost consciousness" differentiation strategy. This is due to the pursuit of quality; the company not only offers a better product (as the different) of competitors in their performance, but also produces products at a lower cost level. The quality can be understood from the external and internal aspects. Externally, the quality is in the form of performance, reliability, and durability. The quality aspect presents a differentiation strategy. The quality aspect is also that determine customer perception of the product. Internally, the quality is in the form of confirmation of the specification or the cost of failure is low.

The quality aspect tends to be on a low cost strategy. Several studies support this assertion is that they distinguish between the above two aspects of quality, i.e. the quality of the design and quality as a confirmation, and both affect the per-

formance of the organization. The quality of the design is positively related to customer satisfaction while the quality as confirmation affects the low cost (Forza and Filippini 1998, Fynes and Voss 2001; Prajogo Daniel I 2007). This study focused on the customer perception of the quality of the aspects of performance, reliability and durability of the products.

Through analysis and the selected target market, SME industries can decide the use of the desired level of product differentiation. Through differentiation, SMEs should make a quirk in its products, offering a product with specific features to the buyers which are willing to pay higher prices (Kotler 2004). With a higher price provide justifications that characterize its products are not offered by competitors, and also provide warranty and superior quality (Kaleka 2002; Albisu 1997). Therefore, the price is the way to communicate with customers, which often evaluate whether he will buy the product or not by comparing its price with product substitution. In the mind of the customer, the price is translated in the form of product quality. Yet, it is not enough for product differentiation. If the SMEs want to be continuously successful, they should make the customer acknowledge the special attributes or unique products so that they become loyal to the special features.

Product differentiation can be distinguished on horizontal and vertical differentiation. Products are said to be horizontally differentiated when consumers, if offered at the same price, would rank them differently showing different preferences for different varieties. Instead, they are said to be vertically differentiated or if offered at the same price, all consumers choose to buy one of the same, which is the highest quality (Hingley 2008; White 2000). In other words, in horizontally, product differentiation associated with product features and accessories. Vertical differentiation of product is related to product quality levels.

Operational Performance

The process of achieving the ultimate goal of efficiency, process flexibility, and improvement of the organization's operations is all of the company's performance. Only by improving the productivity, profitability, growth rate and the image of the company, a company can live and thrive. Jianliang (2003) states that performance means the degree or level of the company where they have already achieved. The performance of the operation means the actual practices and the results of an organization. In other words, the performance efficiency of

an organization can make use of resource efficiency to satisfy the needs of employees, to get the achievement of goals and to adapt to external changes. Minhua (2009) states that the performance of the operation is a reflection on the achievement of operating, in which including the creation of revenue, control costs, and the reflection of an accomplishment.

The Relationship Differentiation Strategy and Corporate Performance

Some of the literature studies and the results showed that there is a positive effect of the application of differentiation strategies on increasing the performance of the company (Aykan Ebru 2013; Teeratansirikool L et al. 2013; Parnell JA, Koseoglu MA 2010)

The implementation of product differentiation strategy in the SME industry is composed of two types, namely vertical differentiation with regard to the provision of quality products at multiple levels, and horizontal differentiation with regard to the provision of some of the features and product delivery. Meanwhile, operational performance indicators consist of volumes of production, costs of production, and product defects.

Hypothesis: product differentiation strategy (vertical and horizontal) significantly affects the operational performance.

3. RESEARCH METHOD

Samples and Procedures

The study used SMEs as research units. The categorization of the companies belonging to SMEs is based on the definition of the Act No. 9, 1995 the Republic of Indonesia, which reads:

"..... Small Business is an economic activity by small people who have a net worth not exceeding Rp 200 million, excluding land and buildings or have annual sales of not exceeding Rp 1 billion, belonging to citizens, standing alone and are not subsidiaries or branches of companies owned, controlled or affiliated directly or indirectly with a medium or large businesses, in the form of private enterprise, a business entity that is not incorporated including cooperatives. Yet, the medium-sized businesses are the business entities that have the following criteria: 1). Net worth of more than Rp.500,000,000.00 (five hundred million rupiah) up to not exceeding Rp 10,000,000,000.00 (ten billion rupiah), excluding land and buildings; 2). Have annual sales of more than Rp 2,500,000,000.00 (two billion five hundred mil-

lion rupiah) up to not exceeding Rp 50,000,000,000.00 (fifty billion rupiah)".

SME company data are recorded in the Bureau of Statistics - South Sulawesi around 16 745 units (BPS-Statistics of SMEs, Sulawesi 2013). This population is divided into the sectors of manufacturing around 2300 units or 13.7%, non-manufacturing sector is 13 145 units or approximately 78.5%, and the remaining sectors other than 1300 units or 7, 8%. Approximately 70% of this amount is located in Makassar and surrounding areas, the rest, spread across districts in South Sulawesi.

Based on, as the purpose of this study, the number of companies that produce more than one product have been established and registered in the Bureau Statistic at least five years from now is approximately 750 firms. The sample size of the study is 10 % of 750 firms, or 75 firms. The sampling was done by means of a stratified random sampling.

It uses questionnaires which were designed in three parts. First, the data contains individual and Characteristics of SMEs. Second, it is the strategy of diversifying product instrument. The measurement of differentiation strategies uses the instrument of perception director or the manager with Likerts scale. Drafting instrument differentiation strategy refers to the results of research conducted by Hingley (2008); and White (2000), although its content has been adapted to the purposes of this study.

The raw data were collected through questionnaires and then distributed to the 75 respondents. The questionnaires were addressed to the owners or the production managers of the company. The number of returned questionnaires is 70 respondents. This research instrument in the form of a questionnaire was designed in three parts. First, the data contains individual and characteristics of SMEs. Second, it is the strategy of diversifying product instrument. The measurement of differentiation strategies uses the instrument of perception director or production manager with Likerts scale.

The formulation of instrument of the differentiation strategy was inspired by the results of research conducted by Hingley (2008), and White (2000), although its content has been adapted to the purposes of this study. Product differentiation strategy consists of vertical and horizontal differentiation. Differentiation of vertical was loaded on the manufacture of products with varying quality. Differentiation horizontal load of accessories are the products and product distribution channels. The instrument of operational performance is measured by the volume and cost of production as well as the percentage of defective products. However, there is

a reluctance on the part of companies to provide the primary data "vulgar" especially related of performance data, so that the instrument of the performance are arranged in the form of managers' perceptions about the company's performance ratings which measured with a Likert scale.

Methods of Data Analysis

A descriptive analysis of the characteristics of the SME industry in South Sulawesi using a scale charts and methods of instrument range. The application of the method range of instruments is as in the following procedure. 1). Determine the highest weight and the lowest weight 5 points is 1 point for each item instrument; 2). Determine the number of respondents and calculate the highest score and the lowest score by multiplying the weight of each item by the number of respondents; 3). Determine the value of the score, with the condition-based multiple number of respondents (study using 70 samples respondent), with the following criteria: 1 point until 70 point is the very low; 71 point until 140 point is the low; 141 point until 210 point is the medium; 211 point until 280 point is the high; and 281 point until 350 point is the very high.

To determine the effect of variable differentiation strategy on operating performance, it used path analysis (Chun Li 1981; Dillon and Goldstein 1984). Path analysis was done by means of the software package SPSS for Windows version 17. The structure of the relationship among variables in the conceptual model of this research is a diagram of the path with the structure like the following equation.

The structure of the variables relationship:

$$Y = P_{yx1}X_1 + P_{yx2}X_2 + P_{ye} e. \quad (1)$$

Where:

P_{yx1} = Path coefficient for the direct effect of the vertical product differentiation variables on operating performance of SMEs in South Sulawesi

P_{yx2} = Path coefficient for the direct effect of the horizontal product differentiation variable on operating performance of industrial SMEs in South Sulawesi.

e = error.

Y = Operational Performance.

Compute all path coefficients p_i , where $i = 1, 2, \dots k$; through the following formula:

$$\begin{bmatrix} \rho_{x_u x_1} \\ \rho_{x_u x_2} \\ \dots \\ \rho_{x_u x_k} \end{bmatrix} = \begin{bmatrix} C_{11} & C_{12} & \dots & C_{1k} \\ & C_{22} & \dots & C_{2k} \\ & & \dots & \dots \\ & & & C_{kk} \end{bmatrix} \begin{bmatrix} r_{x_u x_1} \\ r_{x_u x_2} \\ \dots \\ r_{x_u x_k} \end{bmatrix}. \quad (2)$$

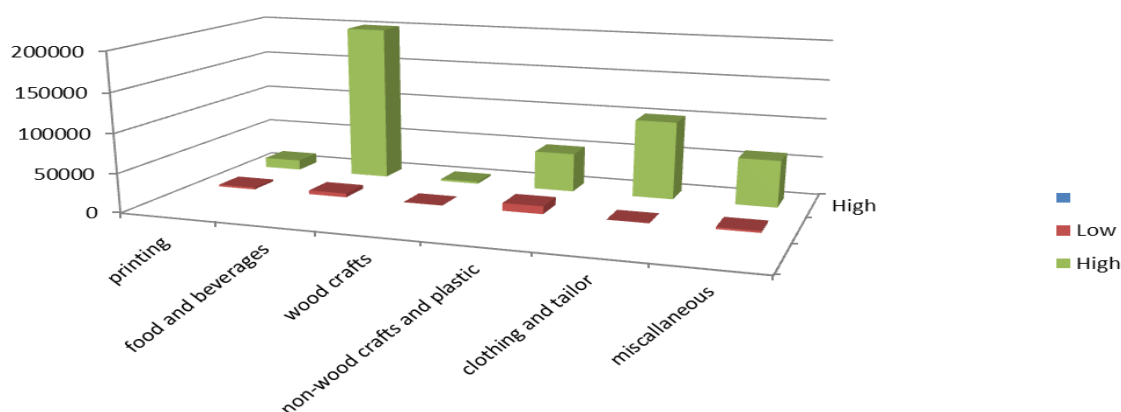


Figure 1
Initial Capital for the Small and Medium Industry at South of Sulawesi

Source : Amar M. Yunus et al. (2013), Data have been adjusted.

The test of path analysis is as follows testing assumptions, goodness of fit test, and tests of significance. Test assumptions are: (1) Test of linearity using the curve fit and apply the principle of parsimony namely when the whole model is significant or non-significant mean the model can be said to be linear; (2) Only recursive models that can be considered. In path analysis only recursive models that can be considered namely one-way causal flow system, whereas the models that have the reciprocal causal path analysis cannot be calculated, and (3) endogenous variable has a scale measuring at least in the interval scale. A path analysis of data can be done if the endogenous variables at least in the scale of measuring interval. Test conformance the model by using:

$$F = \frac{(n - k - 1)(R^2_{x_u(x_1, x_2, \dots, x_k)})}{k(1 - R^2_{x_u(x_1, x_2, \dots, x_k)})} \quad (3)$$

Where :

$i = 1, 2, \dots, k$.

k = Number of exogenous variables in the substructure being tested.

t = Following Snedecor F distribution table, with degrees of freedom (degrees of freedom) k and $n - k - 1$.

Criteria testing: Rejected H_0 if the calculated value of F is p -value < 0.05 . Test validation for coefficient path on each path to the direct effect is the same as in the regression analysis, using the p -value (p -value) of the t test, namely standardized regression coefficients (standardized β) partially. The next is to test the significance (test of significance) of each path coefficient and test for differences in the degree of influence of each exogenous variable on the endogenous variables. Testing criteria: Rejected H_0 if p -value < 0.05 .

4. DATA ANALYSIS AND DISCUSSION

Characteristics of SMEs in South Sulawesi

In this study, the type of SMEs in South Sulawesi is divided into 6 types of businesses, namely the printing business, food and drink, crafts of wood, plastics and non-woods craft, and tailor clothing and miscellaneous business group. In terms of initial capital to start their business, the types of businesses that require low initial capital is a wooden craft and the highest start-up capital is a group of food and beverage. Profile for the initial capital of each business group in South Sulawesi SME industry can be seen in Figure 1.

The number of workers at the beginning of the establishment of each the group showed that the business group of food and beverage to absorb labor is the highest among the other groups of SMEs. One company of the printing business group at its inception in 2005 has a workforce of only one person. The employment profile of each industry group of SMEs in South Sulawesi can be seen in Figure 2.

Description of Variables

Instrument Range method was used to describe the condition of the study variables. In Table 1, it shows that items 1 and 2, which is an indicator of vertical product differentiation shows the high and medium scores value, which means the average of the SME industry in South Sulawesi make four or more different types of products quality. On the other hand, on items 3 and 4, where as an indicator of horizontal product differentiation, indicates that the medium score value, which means that the average SME company that makes the product by adding accessories to the product and the type of distribution channel used is less than 50% are not

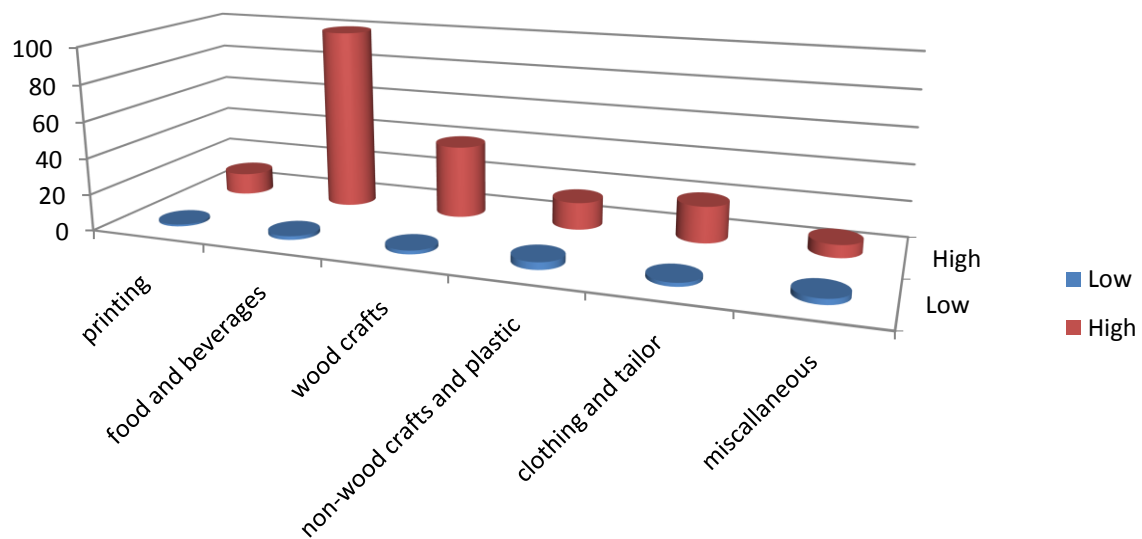


Figure 2
Initial Employee for the Small and Medium Industries in South of Sulawesi

Source : Amar M.Yunus, et al. (2013), Data have been adjusted.

the same or different with accessories products and distribution channels owned by the company's competitors.

The Effect of Product Differentiation Strategy on Operating Performance

Calculation results with the Multi regression analysis method by SPSS ver. 17 shows that the goodness of fit test in which all the variables in the model, namely a variable of product differentiation strategy (vertical and horizontal) as the independent variable and variable of operating performance as the dependent variable is feasible and significant, evidenced by significance value of F 4.6% or less than the standard 5% significance, p-value <0.05 (see Table 2).

Through partial test, with *t* test (test of significance), it indicates that the vertical product differentiation variable (X1) and horizontal product differentiation (X2) has significance value (p-value) of less than five percent (p-value 4.6 % and 3.4% <5%). It shows that product differentiation strategy variables (vertical and horizontal) significantly affect the operational performance of the company (Y).

The degree of the effect of each variable product differentiation strategy (vertical and horizontal) on operating performance can be demonstrated by the value of the coefficient β (standardized) in Table 2, which is translated in the form of equations of the path structure, such as the following:

$$Y = -35 X1 + (-26,1) X2 + e.$$

That is why the influence of vertical differen-

tiation variable (X1) on the operating performance variable (Y) by 35% is in the opposite direction, and the effect of horizontal differentiation variable (X2) by 26.1% is also in the opposite direction. Furthermore, there are other variables, which are not included in this model, the degree of the E (error) variables that affect operating performance.

The results above can be interpreted that the strategies of both vertical and horizontal differentiation have a negative effect on the improvement of operational performance. The more to differentiate the product, in the short term, can further reduce the operational performance. In this study, the operational performance is measured by cost efficiency and rate of defective products. Thus, the strategy of product differentiation can lead to increased absorption of manufacturing costs and increased product defects.

The results of this study is substantively consistent with results of the study of Wright, Peter et al. 1997; Hill 1988, which states that initially the company will bear the cost of production increased with the application of this differentiation strategy, but with the long term, companies gain cost efficiency and the formation of the loyalty of customers as an indicator of an increase in the positive performance of the company. On the other side, the results of research conducted by, among others, Aykan Ebru 2013; Teeratansirikool L et al. 2013; Parnell JA 2011; Parnell, JA, Koseoglu MA 2010; Xie W et al. 2009, concluded that by having the moderator variable such as internal and external factors

Table 1
Respondents response of Indicator Variable: Differentiation Product (Vertical and Horizontal)

Item of Variables	Scores					Total	Average	Value
	5	4	3	2	1			
1	85	48	45	20	16	214	3.06	High
2	0	24	39	62	20	145	2.07	Medium
3	15	52	60	52	6	185	2.64	Medium
4	40	24	45	54	14	177	2.53	Medium
Total	140	148	189	188	56	721		

Source : Amar M.Yunus, et al. (2013), Data have been adjusted .

Table 2
Calculation Results of Path Analysis

ANOVA^b

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.074	2	.537	.472	.046 ^a
	Residual	132.297	67	1.975		
	Total	133.371	69			

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y

Coefficients^a

Model	Unstd. Coefficients		Std. Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	9.851	.563		17.512	.000	8.728	10.974
X1	-.327	.070	-.350	-.387	.046	-.168	.113
X2	-.250	.105	-.261	-.473	.034	-.260	.160

a. Dependent Variable: Y

and the time lag, the application of differentiation strategies have positive influence on the improvement of the performance of the company.

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

The results of this study indicate that the application of the strategy of product differentiation negatively affect the operating performance in industrial SMEs in South Sulawesi. In the early stages of the implementation of this strategy, the companies issue additional production costs in the form of material costs, and the failing products is more without accompanied by an increase in new customers. These findings as well reconcile some previous research results that make a product with the same functionality but has a special uniqueness compared to the similar products from a competitor in which this requires large additional cost of production (Wright, Peter et al. 1997; Hill 1988). However, in this study, the researcher acknowledges that the measurement of product differentiation and operational performance using the data from the perceptual of directors and production managers. As advice from Ketokivi and Schroeder

2004, that it need to carefully in the interpretation and generalizations of the results obtained from the data perceptual on organizational performance. Moreover, by taking a small sample size of the population.

Further research can be done in two ways. First, study the strategy of product differentiation relationship with the company's performance by considering the intervening variables such as the SMEs operating life (Pan David W & John AW 1999; Lei Hui and Liping Ouyang 2012). Secondly, further study the involvement of environmental factors in relation to product differentiation strategies and firm performance (Nandakumar, MK et al. (2010); Liu, Ruizhi & Caoyang 2008) that is an effort to improve the competitiveness of the SME industry forward.

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