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The Effect of Product Innovation as Mediation in Relationship Between Knowledge Management to Competitive Advantage (Case Study in SME of Typical Food Products of Riau, Indonesia)

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Abstract: The study aimed to examine the mediating effect of product innovation in the influence of knowledge management on competitive advantage. The approaches used in this study were qualitative and quantitative approaches. The population in this study was all the small and medium entrepreneurs of typical food products of Riau domiciled in Kepulauan Meranti Regency, which consisted of 238 business units (secondary data of Industry, Trade, and Cooperation Service (Disperindagkop) & SME of Kepulauan Meranti Regency, Riau Province, 2014). Product innovation as mediates the effect of Knowledge Management of the Competitive Advantage. It indicates that the higher the Knowledge Management will lead the higher the Competitive Advantage, if mediated Product innovation were also higher. The originality of the study was as follows: The studies that had been done before on knowledge management and other factors affecting competitive advantage mostly done on a smaller sample, i.e. in one work unit or department. Although the variables were the same, this study was conducted on different sample units. In addition, the use of the mediating effect of product innovation was also a complement to the previous studies.

Keywords: Product innovation, Knowledge management, Competitive advantage

INTRODUCTION

The role of small businesses in national economy, including Indonesia, cannot be underestimated. According to Storey (2002), small business is a decisive factor of the majority of the world economy. In yet developed countries, the role of small businesses dominates the existing business units. The number is far greater than the unit of medium and large scale enterprises. According to Price. R.W. (2004), small businesses have created two-thirds to three-quarters of new jobs in the US economy and small businesses accounted for 51 percent of Gross Domestic Product in the private sector and cover 47 percent of the sale of business.

The role of micro, small and medium enterprises (SMEs) in the Indonesian economy at least can be seen from: (1) their position as major players in economic activity in various sectors, (2) the largest job providers, (3) significant players in the development of local economic activities and community empowerment, (4) the creators of new markets and sources of product innovation, and (5) their contribution in maintaining the balance of payment through export activities.

Kepulauan Meranti Regency is the youngest district which has a quite rapid development of SMEs in the province of Riau. Based on data from the Department of Industry, Industry, Cooperatives & SMEs in 2014, the development of SMEs in Kepulauan Meranti Regency amounted to 11,016 business units. Among the number, 238 business units are entrepreneurs or small and medium enterprises of typical food products of Riau. From the results of a survey conducted by National Agency of Drugs and Foods Controls, only 40 percent of SMEs are prepared for the Asean Economic Community. Therefore, enterpreneurs or foods and beverages entrepreneurs expect the government to promote SMEs in the coming year (REGIONAL REPRESENTATIVE COUNCIL OF IKABOGA, RIAU).

Significant growth of typical food businesses of Riau especially in Kepulauan Meranti Regency, whether the increase in the number or quantity of the businesses is followed by an increase in the quality of the businesses themselves in the process of running the businesses or not needs to be studied. So, further study needs to be conducted on how small-and-medium-enterprises of typical food products of Riau can create a competitive advantage, especially from the ability of human resources, so that they can excel in business competition. To excel in competition, it is necessary to seek a new way, new ideas, experimentation, and creative solutions to develop products, processes, systems, and technologies that contain product innovations (Ling, 2011).

Various studies have been conducted proved that knowledge management has an influence on product innovation. It also has both direct and indirect relationship with competitive advantage. The studies conducted by Wulantika (2010), Leal (2013), Antonio, et al., (2010), show that there is a significant and effective relationship between knowledge management and product innovation. Then, earlier studies suggest a relationship between knowledge management and competitive advantage, such as the studies conducted by Kautsar (2012), Jennifer, et al., (2009), Elnath (2005), Dewi (2013), Anshori (2005), and Fifi and Devie (2013) that knowledge management has an influence on the competitive advantage of an organization. Implementation of knowledge management can be a solution for SMEs. In addition to increase the performance, it can also enhance the competitiveness of the business. Furthermore, that strategy of knowledge management in an organization is very effective to create a competitive advantage. The use of knowledge management will positively affect the company's competitive advantage. Based on these descriptions, a study was conducted, aiming to test and analyze the effect of Knowledge Management on Competitive Advantage, with Product innovation as a mediating (intervening) variable.

From the background above, the study aimed to examine the mediating effect of product innovation in the influence of knowledge management on competitive advantage. The originality of the study was as follows: The studies that had been done before on knowledge management and other factors affecting competitive advantage mostly done on a smaller sample, i.e. in one work unit or department. Although the variables were the same, this study was conducted on different sample units. In addition, the use of the mediating effect of product innovation was also a complement to the previous studies.

THEORETICAL BACKGROUND

Knowledge Management

Various notions of knowledge management, Maimunah, et al., (2008) that knowledge management is the activity of organizing, planning, collecting and organizing, leading, and controlling the data and information owned by a company then combining with a variety of thought and analysis from a wide variety of competent sources. Knowledge management can be seen as a holistic approach to achieve company's goals by focusing on knowledge (Borneman, et al., 2003). There are two (2) types of knowledge, i.e. tacit and explicit knowledge. Tacit knowledge is something that is stored in the human brain, while explicit knowledge is something that is contained in a document or other storage places other than in the human brain (Uriarte, 2008).

The purpose of knowledge management is to enhance and improve the operation of a company to achieve profitability, competitiveness, and increase profit. The concept of knowledge management in a company also aims to improve performance by growing the culture of sharing knowledge, where knowledge is an asset that can be managed, so that it can be communicated and used together (Priambad et al., 2010).

Knowledge management is an integrated process relating to the creation, dissemination, and utility of knowledge to realize the objectives of the company (Hangky and Dawsom, 2000). Knowledge management is also a series of actions to show the design of the organization along with the principles of management and business, procedures, and applied techniques. This can help employees to show their ability and creativity with extraordinary efficiency to create values for the business itself. In other words, the timeliness in receiving and transmitting the right information to the right employees will result in a competitive advantage for the company (Roberts, 2000).

Inovation

Today, business environment is changing rapidly. Product innovation has become a major and routine activity for the company, as well as marketing and finance. Product innovation plays an important role to break down barriers, increase attention and market support. That is why continuous product innovation is the key to success in the long term (Shapiro, 2002) in Samsir (2012). In the field of business, product innovation is needed since business truly faces tough competition, the situation is so complex and uncertain. The company that performs continuous product innovation is seen as a source of competitive advantage.

Damanpour, et al., (1988) in Samsir (2012) distinguish between product and process product innovation. Product product innovation involves the application of knowledge for the development of tangible new products and new equipments, while process product innovation involves the development of management and new organizational practices. Rademakers (2005) divides product innovation into several types that have the following characteristics: (i) product product innovation; products, services, or a new combination of both, (ii) product innovation process; new methods in carrying out value-added activities, such as distribution or a better or cheaper production, (iii) new organizational product innovation; a new method of managing, coordinating, and supervising employees, activities and responsibilities, and (iv) business product innovation; the combination of products, processes, and new organizational system (also known as a business model).

Other experts such as Tidd, et al., (2001) in Samsir (2012) emphasize the types of product innovation in terms of variations of the theme of product innovation, i.e. continuous change and discontinuous

change, business development through product innovation, architecture and components of product innovation, technology function, incremental product innovation, and intangible product innovation. Continuous and discontinuous changes aim to create, at least in one time, certain benefits through product offerings.

Competitive Advantage

Competitive advantage basically grows from the values or benefits created by the company for its buyers. Customers generally prefer to buy products that have more value than they desired or expected. However, the value will also be compared with the price offered. Purchasing the product will occur if customers consider the price of the products is appropriate with the value offered.

Competitive strategy is the search for a favorable competitive position in an industry, a fundamental area where the competition occurs. Competitive strategy aims to uphold a favorable position and can be defended against the forces that determine industry competition. Competitive advantage develops from the value created by the company to the customers or buyers. Competitive advantage illustrates how the company selects and implements generic strategies (low cost, differentiation, and focus) to achieve and maintain a competitive advantage. In other words, competitive advantage is related to how a company implement generic strategies in practical activities. Having and maintaining a competitive advantage are beneficial to achieve high performance.

Previous Studies

Knowledge management is an integrated process relating to the creation, dissemination, and utility of knowledge to realize the objectives of the company (Hangky and Dawsom, 2000). Lita (2010), Leal (2013), Antonio, et al., (2013), in their studies explain the relationship between knowledge management and product innovation, that there is a significant and effective relationship between knowledge management and product innovation.

Kauthar (2012) and Jennifer, et al., (2009), Elnath (2005), Meva (2013), and Fifi and Devie (2013) examine the relationship between knowledge management and competitive advantage, stating that knowledge management has an influence on competitive advantage in an organization. Implementation of knowledge management can be a solution for SMEs. In addition to increase achievement, it can also improve the competitiveness of the business. The use of knowledge management will positively affect the company's competitive advantage.

McGrath (2000) states that knowledge management has a significant influence on competitive advantage. The findings of Sari et al., (2014) also supported this study, concluding that knowledge management has positive and significant effect on competitive advantage of a company. Knowledge management that is growing faster will drive hospitality business to improve competitiveness, so that it will help to improve the performance of the company to achieve sustainable competitive advantage. According Pleffer in Azhar Affandi (2009), an important source of competitive advantage for every organization should concentrate on aspects of human resources as well as how to manage.

The empirical study of Kaya, et al., (2013), entitled "The Impact of HRM Capabilities on Product Innovation Mediated by Knowledge Management Capability" implying that the ability of human resources

management (HRM) positively related to the ability of knowledge management (KM) that transforms into product innovation. These results are supported by the study of Rofiaty, et al., (2014) entitled "The Effect of Knowledge Management on Product innovation, Implementation of Strategy and Organizational Performance" with the results stating that the effect of knowledge management directly to organizational performance has smaller value than its effect on organizational performance mediated by product innovation and implementation of strategy.

Fatah (2010) in his research entitled "The Effect of Product Product innovation and Market Orientation on Competitive Advantage" stating that simultaneously and partially, it shows that there is a significant difference between product product innovation and market orientation simultaneously to competitive advantage.

MATERIAL AND METHOD

The approaches used in this study were qualitative and quantitative approaches. The population in this study was all the small and medium entrepreneurs of typical food products of Riau domiciled in Kepulauan Meranti Regency, which consisted of 238 business units (secondary data of Industry, Trade, and Cooperation Service (Disperindagkop) & SME of Kepulauan Meranti Regency, Riau Province, 2014). While the sample was using Slovin's formula (Umar, 2012) and a sample of 238 respondents was obtained. The primary data collection method was conducted using interviews and questionnaires.

To measure the variables do distributing questionnaires to the respondents. For each answer given a score and the scores obtained using the Likert Scale. A score or weighting values used are strongly agree (5) to strongly disagree (1). Analysis equipment used in this study is a quantitative approach that is inferential statistical analysis with Structural Equation Modeling (SEM) with the hypothesis illustrated in the conceptual diagram below:

In the first phase is testing assumptions in the model SEM. The assumptions that must be met prior to SEM analysis is the assumption of normality, absence of outliers, and linearity. The multivariate normality assumption was tested with the help of software AMOS 6. normality test results obtained critical value

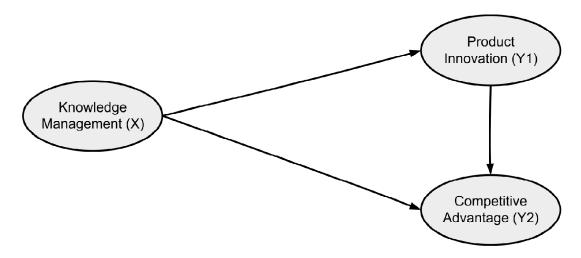


Figure 1: Conceptual Framework

ratio of 1.375 to the critical value for Z-stat 5% is equal to 1.96. Because the absolute value of CR for multivariate amounted to 1.275 < 1.96 then the multivariate normality assumptions are met. To test whether there is an outlier, it can be seen with mahalanobis distance (Md). Mahalanobis distance is evaluate using a value of 32.168. Mahalanobis distance with the most distant observation point is the value Md = 68.148. It compared with the value of 32.168, the furthest Md value < 68.148, there are indications of multivariate outlier, but basically outliers can not be removed if the outliers of data describing the condition of the data (not an error in the input data). Testing was conducted by the assumption of linearity Curve Fit. Linearity test results shows all significant linear model for the Sig < 0.05 thus concluded that the assumption of linearity have been met.

The second phase is the testing Goodness of Fit models. Results of testing the overall goodness of fit models, according to the results of the SEM analysis, to determine if a hypothetical model supported by empirical data, is given in Table 1 below:

Table 1 Goodness of Fit Overall Model

Criteria	Cut-of value	Result	Conclusion
Chi Square	Small	90.784	Fit Model
p-value	≥ 0.05	0.198	
CMIN/DF	≤ 2.00	1,068	Fit Model
RMSEA	≤ 0.08	0.026	Fit Model
GFI	≥ 0.90	0.946	Fit Model
AGFI	≥ 0.90	0.908	Fit Model
TLI	≥0.95	0.976	Fit Model
CFI	≥0.95	0.987	Fit Model

Source: Data Processed, 2016

The test results based on the Goodness of Fit Overall Table 1 shows that both criteria showed a fit model that is Chi Square, CMIN / DF, RMSEA, GFI, TLI and CFI. Therefore, the model SEM in this study is accepted for fit model, so it can be done in order to discussion further interpretation. In the following section presents the results of hypothesis testing SEM analysis of direct influence. The hypothesis was significant if the P-value of <0.05.

Table 2
Result of SEM Structural Model

No	Relationship	Coefficient	P-value	Conclusion
1	X to Y1	0.370	0.001	Significant
2	X to Y2	0.534	0.001	Significant
3	Y1 to Y2	0.449	0.001	Significant
3	X to Y1 to Y2	0.166	0.040	Significant

Source: Data Processed, 2016

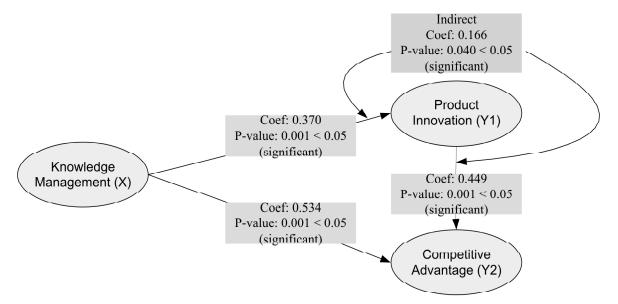


Figure 2: Result of SEM Structural Model

Based on Table 2 and Figure 2, structural model test results are presented as follow:

- 1. The Effect of Knowledge Management (X) on Product innovation (Y1) shows structural coefficient of 0.370, and P-value of 0.000. P-value < 0.05 and positive coefficient indicating that there is a significant and positive effect between Knowledge Management (X) and Product innovation (Y1). The higher the Knowledge Management (X), the higher the Product innovation (Y1).
- 2. The Effect of Knowledge Management (X) on Competitive Advantage (Y2) shows structural coefficient of 0.534 and P-value of 0.000. P-value < 0.05 and positive coefficient indicating that there is a significant and positive effect between Knowledge Management (X) and Competitive Advantage (Y2). The higher the Knowledge Management (X), the higher the Competitive Advantage (Y2).
- 3. The Effect of Product innovation (Y1) on Competitive Advantage (Y2) shows structural coefficient of 0.449 and P-value of 0.000. P-value < 0.05 and positive coefficient indicating that there is a significant and positive effect between Product innovation (Y1) and Competitive Advantage (Y2). The higher the Product innovation (Y1), the higher the Competitive Advantage (Y2).

Testing mediation obtained from several study directly influence the form of mediation. Table 2 and Figure 2 also presented the test results of mediation by using Sobel test: Test Results Sobel shows that the coefficient of Indirect Influence by 0166, and P-value of 0.040 < 0.05 indicates that Product innovation (Y1) mediates the effect of Knowledge Management of the Competitive Advantage (Y2). Given the marked positive coefficient indicates that the higher the Knowledge Management will lead the higher the Competitive Advantage (Y2), if mediated Product innovation (Y1) were also higher. Thus, Product innovation (Y1) as a mediating variable relationship between the Knowledge Management (X) and Competitive Advantage (Y2).

The test results showed that knowledge management had positive and significant effect on product innovation. The positive effect showed that the better the knowledge management owned by the entrepreneurs of small and medium enterprises of typical food products of Riau, the better product innovation, and vice versa. The findings also supported the study of Wulantika (2010) that knowledge

management is not the final destination of a company, but rather a method so that the company always have the energy to make product innovation in a fast time, thus, the company can maintain its vitality. Then Leal, (2013) also states that a good knowledge management plays a fundamental role in organizational product innovation. From these three indicators, the indicator which had the lowest value was the response to knowledge. meaning that the responses of the entrepreneurs of SMEs of typical food products of Riau in Kepulauan Meranti Regency on knowledge or education in the field of SMEs were still lacking. This means that from the results of this study, the management of small and medium enterprises of typical food products of Riau in Kepulauan Meranti Regency was still lacking in terms of finding the source of knowledge, disseminating it to employees, and responding to any development of knowledge quickly. Thus, the results can create new ideas that can eventually increase product innovation for the company. Based on the description of the analysis above, Small and Medium Enterprises, particularly typical food products of Riau in Kepulauan Meranti Regency in general had implemented knowledge management, although had not organized well by the management. The management of company must integrate the acquisition of knowledge optimally, like searching for new information through social media or training to make new ideas or the development of new ideas, so that utilization of knowledge management on product innovation run optimally and well integrated. Implementing a quick response to the development of technology and information to keep updated is also necessary, so that will bring up a new product innovation that lead to competitive advantage.

It was also found that knowledge management affected the improvement of competitive advantage in small and medium enterprises of typical food products of Riau in Kepulauan Meranti Regency. This means that any application of good knowledge management, such as doing obtaining for good knowledge, disseminating it to other people like employees, and responding to any development of knowledge will enhance competitive advantage for the company. From these three indicators, the indicator which had the lowest value was the response to knowledge. This means that the responses of the enterpreneurs of SMEs of typical food products of Riau in Kepulauan Meranti Regency on knowledge or education in the field of SMEs were still lacking. This means that from the research results, the management of small and medium enterprises of typical food products of Riau in Kepulauan Meranti Regency was still lacking in terms of finding the source of knowledge, disseminating it to employees, and responding to any development of the knowledge quickly. So, the company eventually will less competitive. The results of analysis and testing supported the study conducted by Fifi and Devie (2013) at once, that there is significant effect between knowledge management and competitive advantage. Where the use of good knowledge management in company will enhance the competitive advantage owned by the company.

In addition, product innovation affected competitive advantage in small and medium enterprises of typical food products of Riau in Kepulauan Meranti Regency. It can be interpreted that the increase in competitive advantage in small and medium enterprises of typical food products of Riau in Kepulauan Meranti Regency will increase as the increase in the application of good product innovation. The results of this study also supported the study conducted by Wahyono (2002) in Gusty (2014) that the continuous product innovation in a company is a basic need, which in turn will lead to a competitive advantage. Dewi (2006), that the willingness of company to develop product innovation of the products affects on improving the ability of the company in facing competition. Thus, product product innovation can be used as a source of competitive advantage of company. Suliyanto (2011) shows that product innovation has a positive

effect on competitive advantage. Thus, product innovation can be used as a source of corporate advantage. Applying a good product innovation by entrepreneurs of small and medium enterprises of typical food products of Riau in Kepulauan Meranti Regency, such as searching for new ideas, rewarding the employees who provide new ideas and implementing them into real will directly improve product innovation, product quality, and significant cost reduction that will eventually create a distinct advantage to the company. Therefore, this study recommended entrepreneurs to keep proactively make continuous product innovation to achieve a competitive advantage in similar industries, like SMEs.

CONCLUSIONS AND RECCOMENDATIONS

Product innovation as mediates the effect of Knowledge Management of the Competitive Advantage. It indicates that the higher the Knowledge Management will lead the higher the Competitive Advantage, if mediated Product innovation were also higher. The test results showed that knowledge management had positive and significant effect on product innovation. The positive effect showed that the better the knowledge management owned by the entrepreneurs of small and medium enterprises of typical food products of Riau, the better product innovation, and vice versa. It was also found that knowledge management affected the improvement of competitive advantage in small and medium enterprises of typical food products of Riau in Kepulauan Meranti Regency. This means that any application of good knowledge management, such as doing obtaining for good knowledge, disseminating it to other people like employees, and responding to any development of knowledge will enhance competitive advantage for the company. In addition, product innovation affected competitive advantage in small and medium enterprises of typical food products of Riau in Kepulauan Meranti Regency. It can be interpreted that the increase in competitive advantage in small and medium enterprises of typical food products of Riau in Kepulauan Meranti Regency will increase as the increase in the application of good product innovation.

Based on the findings, the entrepreneurs of small and medium enterprises of food products are suggested to pay attention to the response of employees to knowledge, such as based on books, social media & training, as well as to notice the factors in the implementation of product innovation, like rewarding employees for new ideas given to the company.

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