Improving Competitive Advantage and Business Performance through the Development of Business Network, Adaptability of Business Environment and Innovation Creativity:

An Empirical Study of Batik Small and Medium Enterprises (SME) in Pekalongan, Central Java, Indonesia

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Abstract - The purpose of this study is to observe how the business network, adaptability on business environment, and innovation creativity simply affect the competitive advantage and business performance of Batik SME in Pekalongan, Central Java, Indonesia. This study uses Structural Equation Modelling as multivariate analyses tool. AMOS software 16 was used as the aid tool to solve the problem in Structural Equation Modelling (SEM) application. Respondents in this study were the owner and manager of Small to Medium Sized Enterprises of batik industry in Pekalongan, Central Java, Indonesia. The testing result showed that innovation creativity has insignificant influence on competitive advantage; the adaptability of business environment has insignificant influence on competitive advantage; business network significantly affected competitive advantage; competitive advantage significantly influenced the SME business performance. The ability of entrepreneurs to build business network has eased an information exchange and also to make a social relatedness in order to improve the competitive advantage. The result of the study provides contribution to Resources-Based View (RBV) theory, where the companies were able to improve all their capabilities in enhancing the competitive advantage and SME’s performance.

Keywords : Business network; Adaptability on business environment; Innovation creativity; Competitive Advantage; Business Performance; SME

Paper Type : Research Paper

Introduction

The role of SME in economic development and growth is crucial, and its contribution is not only in developing countries but also in developed ones. SME is considered as the exceptional industry since this kind of industry does not only absorb the larger sales force compared to the larger industry, but it also provides the most significant contribution to the national gross domestic product (GDP) (Tambunan, 2009). In the frame of national economy performance, SME has contributed 52.67% to the total GDP of Indonesia. This indicates that more than half of the Indonesian’s economy has been supported by the SME (Kementerian Negara Koperasi and UKM, 2009).

The development and SME’s role is not minor, since they can provide huge contribution in worker absorption. Many efforts have been performed by SME to create competitiveness, such as building a relationship with a larger industry, create a proper management, convenient technology, and continuous innovation.

The creation of product value and investment value in agro-industry from 2006 to 2008 both in small- and large-industry have already experienced the improvement though had not been too significant. Production value, which is resulted from the larger industry, was higher than the production value from the small industry. Similar performance was also recorded in non-agro industry sector. Production and investment values during 2007/2008 did not experience significant improvement. Investment value of the large industry was higher than the small ones. It has reversed comparison with the amount of business unit and the workers’ absorption. Though the big industry and the worker’s absorption have been not too
significant, yet it has been able to produce significant production and investment values compared to the small medium industry (Meutia, 2012).

The amount of business unit and workers in both agro-industry and other industrial sectors has been increasing. The increasing number of the SME has been dominated by small medium industry as opposed to the big ones. Since last decades, number of business unit and workers absorption in small medium industry has significantly increased. It shows that there has been a positive contribution of the SME in Central Java to the national economy, which had been dominated by small medium industry.

Based on the data from Badan Pusat Statistik (Bureau of Statistics), Central Java (2009), textile industry has provided the largest contribution to the economy of Central Java. Batik is one of the work of art and it becomes the famous heritage of Indonesia. Batik has been adored by many countries. Batik has made Indonesia to be one of the excellent countries that produces the most unique silky traditional fabric in the world. This label comes from a long-standing tradition of batik, which has deeply rooted in Indonesian culture, as a rich various, creative and artistic tradition. In addition, batik has also been acknowledged by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) as “Intangible World Heritage” in October 2009. The similar label was also given to “keris” (traditional personal sacred weapon) and puppets. In Central Java, Pekalongan has been well known for the batik production, Batik Kampong in Indonesia. The introduction of imported batik in Indonesia becomes a threat and also a chance for batik industries, especially in Pekalongan, to maintain their competitive advantage and business performance. The ability to access government’s support, adaptability on business environment and the ability to build business relationship will be the most important factors in maintaining batik’s competitive advantage in the market (Meutia, 2012).

Unfortunately, some literatures show the lack of consistency on main factors to reach the success of SME (O’Regan and Ghobadian, 2004). The studies have found mixed views; some experts stated that SME’s success is heavily influenced by the individual itself that is the entrepreneur and also the parties who explain the importance of external factors and internal factors coming from the outside environment such as economic condition, government’s policy. On the other hand, the availability of financial support and the nature of infrastructure support (Yusuf, 1995) has also found to explain that entrepreneurs as the owner of the business plays an important role in deciding the success of a business (Baum and Locke, 2004; Che Rose et al., 2006; Man and Lau, 2005).

Business network is one succeeding factor in business because through the business network an industry will be able to share the information; exchange the useful information benefited both sides (Flora and Flora, 1993; Malecki, 1996; Woolcock, 1998). Even though there is a positive evaluation in social capital’s role in company’s development, yet some researchers argued that social relationship would not always push the process of innovation development, on the contrary it will create belief, community development, higher tolerance to the external side and the creation of new ideas (Glaeser et al., 1995; Putzle, 1997). An entrepreneur who has high social capital (based on extensive social network, status, personal relatedness, and existing reference) will tend to accept more funds from the investor compared with another entrepreneurs who has lower rate in these dimensions (Shane and Cable, 1998). Business network provides a support such as access to the opportunity and resources; as a result, it will finally influence the micro-business performance (Burt, 1992; Johannisson, 1996).

The ability to build business network will enable the SME owner to reach any business information much easier, particularly for the information that comes from the outside of his company. Keats and Hit (1998) stated that dynamic environment significantly related to the performance. The result of this is hoped to show an influence of business environment on the company’s performance (Hansen and Wenerfelt, 1989). There have been two factors that triggered the company’s performance. The first is the role of external factors in determining the company’s success; meanwhile the second one highlights
the internal aspects of MSE, especially the entrepreneurs’ characteristic. Study which focuses on external factors, generally observed the government’s role in creating a conducive environment to reach the small business’ success (Hazlina, 2007).

Innovation creativity is another factor contributing to the SME’s competitive advantage. Wahyono (2002) stated that continuous innovation in an organization was the basic needs to reach the competitive advantage. Conventionally, innovation can be expressed as a breakthrough in adapting the dynamic environment, which is related with new products. Nevertheless, simultaneously with the development of a company, innovation caters new ideas and new process application. Innovation is also viewed as company’s mechanism in adapting with dynamic environment.

Any changes in business environment have forced the companies to create any new thoughts, new ideas, and to offer the innovative products. Innovation has an important part in SME’s improvements because it will not only be the important tool to maintain the company’s survival, but it also to win the strenuous competition.

Batik is a product of high innovation creativity, which becomes one of the Indonesian cultures that need to be maintained its existence. High creativity, ability to adapt with business environment change and business network will be the important variables in improving the competitive advantage and the SME business performance. These variables have partially been investigated by previous researches on the SME, but they have been no study performed to explore the competitive advantage of batik industry, especially batik industry in Pekalongan.

Based on the above explanation, this study is aimed at empirically investigating and analysing the influence of business network, adaptability on business environment and innovation creativity on the SME’s competitive advantage and its business performance.

**Literature Review and Hypothesis Development**

**The Influence of Business Network and Competitive Advantage**

Network theory shows that the ability of the SME owner to get access into rare sources could economically be secured through a network, and this in turn will contribute to the business’ success (Zhao and Aram, 1995). Florin (2003) stated that network provides added value to their member by letting them to gain access to social resources which are implanted in a network, where the network itself provides a means to the SME owner to get external resources which are needed by the organization (Jarillo, 1989).

Granovetter (1983) stated that individual who has business network, consist of relatives and colleague will likely gain an access to larger information compared with the individual who does not link to a network. Based on this reasoning, Fischer and Reuber (2003) stated that company owner needs to develop and improve its relationship with external environment to enhance their business growth.

Network can improve social capital of SME the owner (Coleman, 1988) since an access to the information is implanted in retrieved network. Therefore, Granovetter (1983) concluded that individual who has business network consist of family and friends (strong relatedness) will likely gain an access to larger information compared with the individual who have no kind of this network. Based on this logical reasoning, Fischer and Reuber (2003) stated that the owner of an organization needs to improve their relationship with external environment to enhance the business growth. Based on these empirical evidences, it can be generated hypothesis to this study as follows:

H1: The larger business network, the higher competitive advantage of the SME

**The Influence of Adaptability on Business Environment and Competitive Advantage**
Environment is the entire condition of external environment, which influences an organization. Environment consists of internal and external environment. Internal environment is closely related with the entire condition of an organization such as resources, capability, and core competence, which are owned, by an organization (Hitt et al., 2001). Meanwhile, the external environment includes the general environment, type of industry and competitors.

The lack of market power and dynamic environment surrounds the company as a consequence of new emerged markets faced by the SME makes it to be susceptible to any external influence compared to the toughness of a bigger company (Man and Lau, 2002). Baringer (1997) found that an organisation, which has a rapid growth enable to operate in a friendlier environment, compared to the organisation that has a slower pace. This clearly indicates that there is a positive influence of the environment’s opportunity on the business competitive advantage.

According to Amit and Schoemaker (1993), organization has to be able to adapt itself with a fast changing environment and technology to achieve its competitive advantage. The previous studies (Beal, 2000; Sinkovics et al., 2004; Barokah, 2009) stated that environment adaptability affects the competitive advantage. The ability of entrepreneurs in adapting themselves to business environment becomes an internal source, which is hard to be imitated by other companies, and this in turn will create competitive advantage for the organization itself. Based on the above explanation and previous empirical findings, the second hypothesis can be generated as follows:

H2: The higher the environment adaptability, the higher the SME’s business performance

The Influence of Innovation Creativity and Competitive Advantage

In today’s environment that is characterized by a rapid changing of customer’s preference, technology, and competition, a company must create competitive advantage to survive. The ability of an organization to innovate, keep its organisation learning, market orientation and entrepreneurship have been considered as the main capability of a company to reach its competitive advantage (Hult and Ketchen, 2001; Hurley and Hult, 1998; Ireland et al., 2001). These capabilities also help the company to reach its competitive advantage and create a trend in the market. Former study explained that each of the four capabilities has adequately provided a power, although it does not give enough strength to develop a continuous competitive advantage. Competitive advantage is closely related with the developing generation of innovative product, and it in turn provides an advantage for the companies to win the competition.

According to Chiavesio (2004), a leading company is characterized by dynamic strategic behaviour in their ability to innovate, have a proper relationship management with market, suppliers, internationalize the process, organize and manages the business network by creating a new value for the customer (Mizik and Jacobson, 2003). Based on the above explanation and previous empirical findings, the third hypothesis can be constructed as follows:

H3: The higher innovation creativity, the higher competitive advantage of the SME

The Influence of Competitive Advantage and SME's Business Performance

The result from Diosdad’s (2003) study shown that competitive advantage can be viewed from company’s position compared to their competitors’ weaknesses and strengths. Competitive advantage was derived from the ability of a company to keep their source superiority and its capability. Competitive advantage indicates the company’s skill and source superiority viewed by the customers or based on the lower cost attainment, market share and portability performance. Competitive advantage can also be viewed from the amount and source of capital accumulated by the company.
According to Barney (1991), a company can be identified as a company that has mutual competition when it applies to value creation strategy, which is not simultaneously applied by their competitors (Sinkovics et al., 2004). Jennings and Lumpkin, (1992) stated that there is a lack of study focusing on the SME, as a matter of fact; environment and strategy strengthened the company’s performance. Strategic approach has a potent to improve competitive ability, which provides a contribution to the company’s performance improvement (Sinkovics et al., 2004).

Respatya (2001) stated that a company that produces goods and service has basically started paying attention on its competitive advantage to keep its surviving to earn profit. Competitive advantage pushes the SME’s business performance through profit generation, sales development, and increasing the number of customers. Lisman et al., (2004) and Ariya (2003) states that competitive advantage has positively influenced the organizational performance. Based on the above explanation and previous empirical findings, the fourth hypothesis can be generated as follows:

H4: The higher the competitive advantage, the higher the SME’s business performance

Based on the above-proposed hypotheses, a theoretical framework could be developed as shown in Figure 1.

Figure 1. Theoretical Framework

Research Method
Population in this study is the owner and manager of the SME of batik industry in Indonesia. Data collection was done through mail survey in the early 2011 using the technique of purposive sampling. The SME selected based on the purposive sampling technique with the following criteria: (i) it has at least 3 years working experience. This is to evaluate trend and the dynamic of batik market, (2) it has permanent workers which means that the company is relatively stable and able to continuously produce, (3) it involves not only distribution activities, but also production activities, (4) and it covers marketing nationwide.

According to Ghozali (2005), the minimal sample size by using the Structural Equation Modelling (SEM) analyses with the AMOS 16.0 software is 100 subjects. 197 respondents were analysed in this study. Data was analysed using the SEM technique with AMOS 16.0 software. To measure the variables investigated in the study, few indicators are used based on previous researches and theories. As for the variable business network, three indicators were used, namely: (i) the amount of network with production sector; (ii) the amount of network with the supplier; (iii) the amount of network with distribution channel.

The second variable of the study is the adaptability on business environment. It is defined as the ability to adapt with dynamic uncertain environment such as the adaptability with the changes in
customer’s preference, market changes, competition, and the government’s policy alteration and technology speed (Covin and Slevin, 1989; Stamp, 2008; Hazlina, 2010; Mc Ginnis, 1993). Meanwhile, competitive advantage is the government’s ability to provide an added value to win the competition. It is the result of product differentiation between competitor and it is not only a product of differentiation (Coyne, 1997). Competitive advantage indicators include: (i) the creation of better customer loyalty compared to the competitor, (ii) the creation of better product development compared to the competitor, (iii) the creation of better technological development compared to the competitor, (iii) and the creation of more various product development compared to the competitor. Finally, the business performance was measured by four indicators, namely: (i) sales development, (ii) working capital growth, (iii) customer growth, and (iv) profit development (Wiklund, 1999; Wiklund and Shepherd, 2005; Stamp, 2008).

Results and Discussion
AMOS 16.0 software program was adopted in the study for data analysis based on the SEM technique. The stratified analysis level is described with path diagram to analyze the logic relatedness and the sequence of variables in this study. The aim of path analysis is to identify which variable that has antecedent role and consequent role as well as to decide the direct and indirect effects of variables. This study has met the SEM assumption by using the software of AMOS 16.0 (Hair, 2010), in the criteria of the sample size. The sample of the study is 197, which is more than the required sampled criteria of 100. Normality value is below the required criteria as 2.514 < 2.58, there are no outlier and multicollinearity, discriminant validity > 0.7 and composite reliability > 0.5. All has met the requirement criteria. The results of interaction between competitive advantage and the SME’s business performance are reported in Table 1.

Table 1. Goodness of Fit Index

<table>
<thead>
<tr>
<th>Goodness-of-fit-index</th>
<th>Cut-off-value</th>
<th>Value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probability</td>
<td>≥ 0.05</td>
<td>0.017</td>
<td>Marginal</td>
</tr>
<tr>
<td>RMSEA</td>
<td>≤0.08</td>
<td>0.039</td>
<td>Fit</td>
</tr>
<tr>
<td>GFI</td>
<td>≥0.90</td>
<td>0.916</td>
<td>Fit</td>
</tr>
<tr>
<td>AGFI</td>
<td>≥0.90</td>
<td>0.896</td>
<td>Marginal</td>
</tr>
<tr>
<td>CMIN/DF</td>
<td>≤2.00</td>
<td>1.303</td>
<td>Fit</td>
</tr>
<tr>
<td>TLI</td>
<td>≥0.95</td>
<td>0.955</td>
<td>Fit</td>
</tr>
<tr>
<td>CFI</td>
<td>≥0.95</td>
<td>0.963</td>
<td>Fit</td>
</tr>
</tbody>
</table>

Based on Table 1, it can be seen that goodness of fit index for all used criteria has chi-square value of 145,938, probability value of 0.017< 0.05 (marginal) it should be > 0.05, RMSEA = 0.039 < 0.08, GFI = 0.916 > 0.90, AGFI = 0.896 < 0.90 (marginal) it should be > 0.90, TLI = 0.955 > 0.95, CFI = 0.963 > 0.95. Only the probability value and AGFI value were categorised into marginal value. All criteria of goodness of fit index have been met the requirements since their values were within the expected range, which means that our proposed model can be used to test the hypotheses. The result of hypotheses testing is reported in Table 2.

Table 2. Regression Weights

<table>
<thead>
<tr>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive Advantage &lt;--- Innovation creativity</td>
<td>0.129</td>
<td>0.073</td>
<td>1.761</td>
</tr>
<tr>
<td>Competitive Advantage &lt;--- Business network</td>
<td>0.243</td>
<td>0.069</td>
<td>3.540</td>
</tr>
<tr>
<td>Competitive Advantage &lt;--- Adaptability business Environment</td>
<td>0.062</td>
<td>0.087</td>
<td>0.720</td>
</tr>
<tr>
<td>Business Performance &lt;--- Competitive Advantage</td>
<td>1.242</td>
<td>0.224</td>
<td>5.545</td>
</tr>
</tbody>
</table>

Note: *** represent significant at level 0.0.
To test all proposed hypothesis, we can refer to the CR or the p-value. The border to accept and reject the proposed hypothesis is CR ±1.96. Business network was found to be significantly influenced the competitive advantage since it has CR value of 3.540, which is greater than 1.96. This implies that the ability of entrepreneurs to build the business network will ease them to have information exchange and it will also create a closed social relatedness to improve competitive advantage. The ability of a company to build business network with supplier will also create a certain availability of material. It will guarantee their continuing competitive advantage, especially in producing a better quality of goods compared to the competitors. Building a closer relationship with production sector and distribution channel will also improve the information on the customer's demand and preference. It also contributes to a more product development varieties as compared to the competitor.

The study found an insignificant influences of adaptability business environment on the competitive advantage (CR 0.720 < CR 1.96). This finding indicates that the entrepreneur who is too responsive with the changes in an environment will not be beneficial for the company since their wills a bulkiness of unsold inventory and at the same time there has been a new model of fashion in the market. It needs more fund to create new designs because the changing trends in fashion can get easily booming and fading. Empirical results showed that respondents were not too aggressive in dealing with any changes that happened in a business environment, because they viewed it as an ordinary phenomenon. Most respondents were able to predict the changes that take place in a business environment; therefore, they were adapted to dealing with the changing trends, as they have already known how to deal with it.

In addition, the study found that if respondents continuously adapted themselves with the changing customer's preference, there would be no gain for their business. If the designs of fashion become outdated, most of the products will be unsold, their warehouse will be full by unsold goods, and it will be disadvantageous for the company. In order to avoid the unsold product, the Batik companies need to create a new design and material that are always searched by the customers, as the Pekalongan Batik has been known as the leader in the industry. Accordingly, the ability to continuously adapt with business environment will cause the additional of investment value such as keeping up the technological change and market changes, but in reality, the result has not fulfilled their wishes. Thus, the companies stated that they produce a design, which is specially ordered by customers.

Furthermore, the study also found no influence of innovation creativity on competitive advantage (CR 1.761 < CR 1.96). Innovation creativity will continuously burden the SME to keep the change of new technology, including new machine and material. Based on the data in the field, creativity is needed in Batik industry, but it will not be the main factor to attain the competitive advantage. Innovation creativity, particularly in computer usage is aimed to create new design and new motives. Respondents do not pursue the seasonal product since it includes in uncertain demand. Based on the data, the entrepreneurs or creativity teams often observed the worldwide trend to create the new design that will be launched into the market. They usually exchange their information with national designers. Handwritten Batik usually has unique design and traditional characteristic and it is mainly intended to serve exporting needs. Be creative in responding the changes in product development and customer's preference will improve the competitive advantage, especially when the respondents are able to improve a better quality of product.

Finally, the study documented that the competitive advantage has significant influence on the SME’s business performance since it has CR value of 5.545 > 1.96. This finding indicates that the greater the competitive advantage, the higher the SME’s business performance will be. This finding is supported by the studies of Lisman et al. (2004) and Ariya (2003) which explain that competitive advantage positively influenced the company’s performance. One major factor in competitive advantage that the SME should maintain is the difficulty rate of design and motives, so as to make it hard to be imitated by
the competitor. Although the competitor can easily imitate the design, but the end products can be different in quality because of the perfect Batik making process. High creativity in Batik processing could easily make the Batik entrepreneur in Pekalongan to be the leader both in the national and international Batik markets. The result of this study is also in line with the Resources Based View (RBV) theory, which stated that an organization would maximally empower their capabilities to improve their relationship in increasing business network. The result from this study also explains that competitive advantage will be reached if innovation creativity is continuously employed since innovation is one of the major capabilities in an organization.

Conclusion

Of four hypotheses tests, the study only did not reject the hypothesis 1 and hypothesis 4. The study found that business network significantly influenced the competitive advantage, and the ability to build business network with supplier will produce the certain availability material. It will also guarantee that competitive advantage especially the production continuity and superior quality of goods that are produced by the company compared with its competitor.

Hypotheses 2 and 3 were rejected, they study found insignificant influences of adaptability on the business environment, and innovation creativity on the competitive advantage. An entrepreneur who is too responsive with the changes in an environment will provide disadvantage to the company since there will be a bulkiness of unsold goods, at the same time the market has already faced the new trend. High innovation creativity should be supported by a huge fund to create a new designs, new technologies, and new machines to keep pace with the changes in the market. Meanwhile, hypothesis 4, which stated that competitive advantage influences the SME’s business performance, was not rejected. The result of the study supported the resources based view theory, which stated that intangible assets influence the competitive advantage and the SME’s business performance (Barney, 1991). This implies that the SME companies could improve their capabilities by enhancing its competitive advantage and the SME's performance following the resources based view theory.

In designing strategy for improving the SME business performance, limitations of the study should be noted. Further studies on these issues are hoped to taken care of these study limitations. This study only investigated variables from internal side of a company, while none of the external variables such as business environment and government’s support was investigated.

References


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