

## Network Advantage: Mediating Effect on Business Performance

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### Abstract

The aims of this research is to contribute to the literature and the conceptual model of the effect of relational capital on network advantage and business performance, the effect of network competence on network advantage and business performance, the effect of knowledge sharing on network advantage and business performance and the effect of network advantage and business performance. The number of samples in this study examined was 289 sample SMEs Furniture on Central Java Indonesia. The purposive sampling technique was used to the data collection methods. The results of this study showed that relational capital is a significant negative effect on business performance and positive significance on network advantage. Network competence is a significant effect on business performance and negative impact on network advantage. Network competency is a significant effect on business performance and network advantage. Relational capabilities is a significant effect on business performance and network advantage. Network advantage is a significant effect on business performance.

**Keywords:** relational capital; network competence; knowledge sharing; network advantage; business performance.

**JEL classification:** M31.

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### 1. INTRODUCTION

The study in this research is built based on the difference of research result on the role of relational capital in enhancing business performance to encourage further research. The research that has been conducted to provide the evidence of the role of relational capital in business performance performs different results.

The other research results also proved a strong relationship between relational capital and business performance, while the other research results do not support the relationship between relational capital and business performance. The researchers examining the role of

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relational capital with business performance conclude that relational capital has a positive effect on business performance (Ngugi *et al.*, 2010; Smirnova *et al.*, 2011; Wang and Feng, 2012; Zohdi *et al.*, 2013). Research developed by Smirnova *et al.* (2011) gives results that market orientation by using customer orientation dimension, positively affect on relational capability and have no significant effect on business performance.

Research with a different result is done by Moen *et al.* (2008). The result of his research indicates that the use of technology for searching sales has a negative impact on the satisfaction of company in the development of new market knowledge. Another result proves there is no significant relationship between the use of ICT in international cooperation and the satisfaction of business with international performance. Furthermore, a study with the similar result was also conducted by Combs and Ketchen (1999). The result of his research concluded that inter firm cooperation contributes negatively toward the company's performance which is measured based on ROA and market growth.

Another study was committed by Ciszewska-Mlinarič *et al.* (2012) which gave evidence that relational capabilities and customer networks have no significant effect on company's performance as measured by the efficiency. The relational capability with customer network has no significant effect on company's performance as measured by production capability. The other studies show that marketing capability, market sensing capability dimension and brand management capability have a significant effect on the growth of the company. In contrast, CRM capability has a negative effect (N. A. Morgan *et al.*, 2009).

There was a study that also examined the role of co-operating cooperation in improving the performance which also shows a negative effect. The study was conducted by Daral and Levsen (2002). The study showed the results that corporate cooperation has no significant effect on the company's performance. Furthermore, the study described the importance of the use of technology in establishing a corporation with the other company. The relationship among internet users also affects the movement of competition as well as the company's performance.

The purpose of the study is to contribute a thought on the role of relational capital which owned by the company as the effort to enhancing on business performance. A many studies has ever conducted in order to provide the evidence of the role of relational capital of a company toward business performance have contributed different results. Based on the description mentioned before, the role of advantage business network is important for the company as the effort to develop the relational capability, resulting from the pattern of corporate interaction with its business network and cooperation in the network. The existence of interaction in advantage business network which is established and resulted from the relational capital of company becomes interesting to be discussed.

## **2. THE LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **2.1 The relationship between *Relational Capital on Business Performance and Network Advantage***

There are several common aspects in defining research which containing the efforts to build corporate relationships. Relational capital is related to the company's intangible assets and focuses on the acceleration of knowledge, support innovation and creation of competitive advantage (Smirnova *et al.*, 2011). Thus, relational capital implies that partners

who involved in business can obtain specific relationship information and gain benefits through knowledge integration.

The general dimension of the relational model in some references is explained that the relational ability is an increased company's efforts to communicate, coordinate and manage business interactions (Day and van den Bulte, 2002). Furthermore, Day and van den Bulte (2002) explained the relational aspect is an ability of a concept and need to be tested empirically. The other researchers have developed a relational capability that contains three key factors – process configuration capabilities, communication skills with customers and business control capabilities (Dyer and Singh, 1998; Jacob, 2006). These dimensions measure the company's ability to provide customer-specific solutions as an indicator of the company's relational capabilities.

The relational capability provides a particular issue in the context of the business interaction. Several studies have focused on the understanding of corporate behavior and the role of business culture in shaping business relations practices (Ayios, 2004). It has reinforced the view that the role of the interpersonal relationship remains as important and may create trust not only among firms but also interpersonal relationship (Butler and Purchase, 2008).

Resource Based View (RBV) pioneered by Barney (1991) emphasized the internal capability as the primary root in achieving a company's sustainable competitive advantage. The other researchers explain that the internal capability consists of a patent which protected by law, technological knowledge, and production skills that are valuable and difficult to be duplicated by the competitors (C. Lee *et al.*, 2001). The internal capabilities are also widely applied to the technology companies, for example in the studies of Moen *et al.* (2008); Mohannak (2007); Yeh-Yun Lin and Yi-Ching Chen (2007); Ismail and Mamat (2012). Some entrepreneurial literature in the Resource-Based View (RBV) shows significant internal capacity that significantly affects the performance of technology, including the entrepreneurial orientation, technological capabilities and financial resources invested in the company.

The study of Zohdi *et al.* (2013) explained that demands of the customer on the company constantly changing, and understanding the change is important in order to achieve the success of the company. On the other hand, competitors are also looking for and attracting more customers, in this case, the competitors will not let any other companies defeat them. Also, the change of conditions and rules governing the market and technological change are effectively affecting the company's success in the market. Another study conducted by Lawson-Body and O'Keefe (2006) on inter-organizational information-based systems can provide strategic advantages through customer loyalty. The results of the study also showed the impact of internet utilization on inter-organizational relations (IOR) and their customer loyalty.

Carvalho and d. Reis (2012) examined the role of information technology in analyzing the manager's view on the application of creativity technique, and corporate relationship, which places innovative products on the market. Such creativity techniques used in an organization to contribute to the creation of ideas and ultimately impact the launch of new products in the market. The research with similar results was conducted by Jämsä *et al.* (2011) which showed the utilization of business networks as an important factor and a source of opportunity as a mean for companies to make changes toward sustainable competitive advantage. Chang (2012) Explained company-oriented market sensitivity, the ability to gain knowledge, the capability of social networking and the ability to

communicate and negotiate with the customers requires a mastery of technology. Another study was demonstrated that relational abilities and technology are positively associated with the performance of the business (Nuryakin and Retnawati, 2016).

Smirnova *et al.* (2011) in his study examined the effect of market orientation on the development of relational capability and company performance that showed the result that market orientation with customer orientation dimension positively affects relational capabilities and has no significant effect on business performance. The orientation of the market with the orientation dimension of the competitors has an insignificant effect on the relational capabilities and significantly affects the business performance Nuryakin *et al.*, 2018. The market orientation with cross-functional coordination dimension has no significant effect on relational capability and business performance. The relational capability affects the business performance. The study of C. Lee *et al.* (2001) examined the internal capabilities and external network on the performance of the company. The internal capabilities that are operationalized on entrepreneurial orientation, technological capabilities, and invested financial resources are critical factors in influencing company performance. The results also showed that the three dimensions of internal capability impact the innovation performance. The interaction between internal capabilities based on the partnership has a statistically significant effect on performance.

Based on various studies above, it can be concluded hypothesis in this research as follows:

***H1a: Relational capital has positive effect on network advantage***

***H1b: Relational capital has positive effect on business performance***

## ***2.2 The Relationship of Network Competence on Network Advantage and Business Performance***

The study of business to business relationship shows that intercompany relationships and collaborative efforts in networking are the effort to manage companies in highly complex business (Human and Naude, 2009). The key factor in managing a company's network is the competence and capability required at the enterprise level to engage the network in improving the company's performance. By adopting the theory of Resource-Based View pioneered by Barney (1991) emphasized the need of enterprise efforts to validate the size of network competencies and the ability to build a business network.

The concept of network competence in the study of Jian and Wang (2013) initially derived from Resource-Based View from the internal company, as the main pillar in the literature of strategic management. Company resources or competencies are defined as all of assets, abilities, processed and knowledge of the company (Barney, 1991). According to Barney, a view based on resource and competitive advantages in the assumption that heterogeneous companies regarding their control over the strategic resources area are a very important asset. The competence of a corporate network is defined as the ability to improve the business network and handle specific network relationship Jian and Wang (2013). In his study, Jian and Wang (2013) argued that network competencies are defined as the ability of the company to develop and manage the relationship among primary suppliers, customers and other organizations. Network competencies are also defined as the ability of the company to deal effectively in the interaction of these relationships as the competence of a

company, so it has a direct influence on the competitiveness of company's performance. Network competencies considered the company's specific ability to handle, use and utilize company relationship (Ritter *et al.*, 2002).

Gomes *et al.* (2009) in his research revealed that recent global changes had forced companies around the world to re-create their business strategy. The structure of company's strategy determines the behavior that can impact the profitability of the company. The theory of competitive advantage explains that the managers need to define a strategy in order to survive and win the competition in the level of the global market (Porter, 1980, 1985). If the company can maintain and encourage intra-industry competition, the company must also have the capability of achieving superior corporate performance.

The study conducted by Hormiga *et al.* (2011) tested the relationship of relational against customers, suppliers, informal network of companies and corporate reputation on the success of the company's performance. Further, the research result indicated that the customers and suppliers relationship has a significant correlation to the success of company's performance. The results of the same study were conducted by Borchert and Bruhn (2010). From the study, it can be concluded that human capital, relational capital, team performance and company team size affect the company's objectives that are measured by company's performance. Another study that explains the role of relational capital in company performance is done by Taghieh *et al.* (2013). The result of the study showed that the intellectual capital and relational capital affect the company's financial performance. The study also concluded that intellectual capital and relational capital also have a significant effect on the market value of the company. The resulting study of Human and Naude (2009) showed a positive relationship between network competence and networking capabilities, and the relationship between networking and performance of companies. The results of another study on relational marketing indicate that exchanges between buyers and sellers are often embedded in social relationships (Eisingerich and Bell, 2008).

Based on various studies above, it can be built the hypothesis in this research as follows:

***H2a: Network competence has positive effect on network advantage***

***H2b: Network competence has positive effect on business performance***

### ***2.3 The Relationship of Knowledge Sharing on Network Advantage and Business Performance***

A study conducted by Freeze and Kulkarni (2007) showed the result that organizational management is related to tangible knowledge asset. Further, it is explained that the company should have the responsibility to take advantages of the processes and technologies provided by the organization as a framework for a having responsible human resource and to utilize the knowledge in an organization; the processes and technologies are needed to improve the different knowledge effectively.

The other studies conducted by Emadzade *et al.* (2012) showed that although companies have applied the knowledge management, the company will tend to offer consistent support toward knowledge management so the company's performance may improve. The impact of knowledge management has a significant relationship toward organizational resource and performance. The study also showed that some resource

knowledge (e.g. organizational structure, knowledge application) is directly related to the performance of the organization, while the others (e.g. technology, knowledge convergence) are not directly related to the performance of the organization. The same research was conducted by Hoffman *et al.* (2005) which showed the result that the relationship between social capital and knowledge management could achieve superior and sustained performance in the market. This study also showed the result that the organizations with the high level of social capital have more knowledge management skills. Several other researchers with similar results also demonstrated the role of the ability of knowledge management in improving organizational performance (Darroch, 2005; Kiessling *et al.*, 2009; S. Lee *et al.*, 2012).

The companies need to exchange the resources and cooperation which is a coordinated action taken by the parties to achieve mutual results (Lenox *et al.*, 2006). In the perspective of relational relationships among companies, the role of cooperation is needed by the company (Rindfleisch and Moorman, 2003). On the other hand, the customer is committed to having a corporation with the company in order to create a working relationship (R. M. Morgan and Hunt, 1994). The study of Obadia (2008) which examined the relationship between export and import through a pattern of cooperation regarding the collaboration activities between two exchange partners.

In a study conducted by Lawson-Body and O'Keefe (2006) described the inter-organizational relationship as a process of a company builds long-term relationships with customers in order to achieve the goal, i.e. both sellers and buyers work toward a set of the target. Trust is an important factor in any inter-organizational relationships where companies have no direct control over their actions. Interorganizational relationships which are built through the process of interaction can be characterized by interdependence among team and individuality, and between competition and cooperation (Nouwens and Bouwman, 1995).

Based on the above studies, it can be built the following hypothesis:

***H3a: Knowledge sharing has positive effect on network advantage***

***H3b: Knowledge sharing has positive effect on business performance***

#### **2.4 The Relationship between *Network Advantage* and *Business Performance***

The study of Singh *et al.* (2008) explained that research on SMEs had gained a lot of attention in the development of the business strategies they have built. In the export sector, SMEs are facing a lot of obstacles because of their lack of resources and innovative capabilities. In order to maintain their competitiveness, they must have a benchmark of their assets, processes and performance concerning the best product in their industry with developing on business performance (Wulandari *et al.*, 2017).

Furthermore, in the study which was developed by Nandakumar *et al.* (2010), it was explained that the environmental dynamic and competition as a moderator effect in the relationship between the strategy of the business and the competitive level of performance. In a highly dynamic environment, a leadership strategy on cost and dynamic environment and differentiation strategy are more helpful in improving the financial performance. Research with similar results was done by Nuryakin *et al.* (2018) which concluded that relational capabilities and SMEs performance.

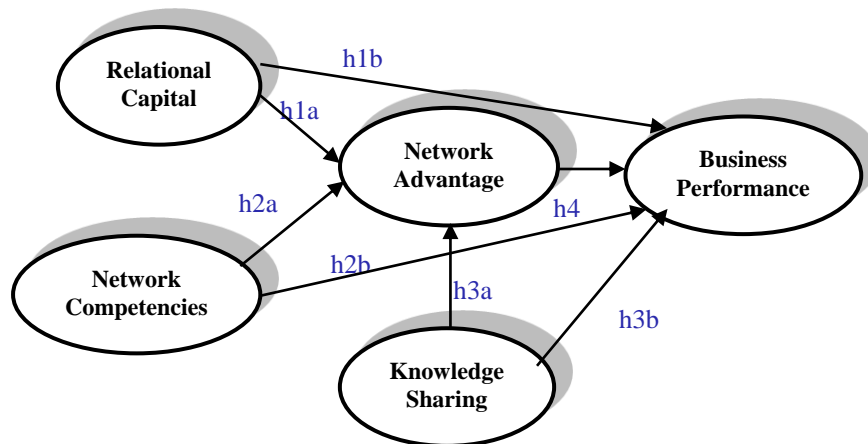
R. M. Morgan and Hunt (1994) examined and developed the theory of the commitment-trust. The relational commitment-trust theory affirms that cooperation among organizations will create a tight relationship when it is built based on trust, relational commitment and the willingness to have long-term cooperation. The other studies have shown the role result of the belief that consists of three components: dependability, knowledge and expectations; have a significant correlation between both confidence and emotional intelligence when compared to financial performance (Heffernan *et al.*, 2008).

Study of Zhou *et al.* (2007) examined the role of social networks on the performance of small and medium enterprises in the international market. The result showed that networking in the industry in Guanxi had a positive effect on export performance and financial performance. Carvalho and d. Reis (2012), in his research, examined the role of information technology in analyzing the manager's view on the implementation of creativity techniques which shows the results of corporate relationship in using information technology affect the success of the company in placing the innovative products in the market. Referring to the studies conducted by Nuryakin *et al.* (2018) showed the result that network competence in the form of collaboration has a different role to performance. Howden and Pressey (2008) in his study explained the effort to understand the source of assessment of the customer in the relationship between buyer and supplier which is seen as a priority and a key of the sustainability of a company. Study of Walter *et al.* (2001) explained the important purpose for the supplier and customer of the company involved in a relationship is to have cooperation in ways that create value.

From the various studies mentioned before, it can be built hypothesis in this research as follows:

**H4: Network advantage has positive effect on business performance.**

Based on the above studies, it can be developed a research model as in the following Figure no. 1.



**Figure no. 1 – The conceptual model among Relational Capital, Network Competence, Knowledge Sharing on Network Advantage and Business Performance**

Based on a previous study and literature review, the framework which is developed in the research above. The picture shows the effect of relational capital on network advantage, the effects of network competence and knowledge sharing on business performance.

### **3. METHOD**

Techniques used in this study started from the identification, selection and formulation of the problem up to the formulation of hypothesis and its relation to the theory and test hypothesis. This research is qualitative research that examines the relation of causality between the dependent variable and independent variable. The variable of independent in the research is the relational capital, network competence, and knowledge sharing. The variable of this study are variable of the intervening is the network advantage, and dependent variable is business performance.

#### **Sample research**

The population in this study is in a region and meet certain conditions relating to research problems. Population in this research is the whole of SMEs Furniture in the Region of central Java which has export-orientation are 768 population. The number of samples was 289 SMEs. The sampling technique is conducted by using purposive sampling of furniture SMEs in managing on SMEs in Indonesia.

#### **Data collection technique**

The research uses primary data by using questionnaire. The distribution of questionnaires is done by providing written answers from information on the questionnaire list of the researcher. It was done against the respondents who have been selected according to the certain criteria of the researcher, i.e. by using purposive sampling method in finding the respondent.

#### **Operational definition variables and measure**

Relational capital is the company's intangible assets used for communicating, coordinating and managing the business interaction among its relations. The measurement using interval through (10) ten-point rating scale approach (1 to 10). The indicator of relational capital in this research consists of proximity to the customers, quality of information from customers, long-term relationship with the partners and the relationship with a long-term orientation. Network competence is the competence and ability required at the enterprise level to engage in a business network. The measurement using interval through (10) ten-point Likert approach (1 to 10). The indicator of network competence in this research consists of: the ability to interact with marketing, ability to interact with employees, ability to communicate with suppliers, and ability to negotiate with customers.

Knowledge sharing is the effort of the company in transferring the knowledge owned by internal parties to its business network. The measurement is using interval through (10) ten-point rating scale approach (1 to 10). The knowledge sharing indicators in this research consists of information sharing, knowledge sharing and knowledge transfer. The network advantage in this study is the business network which is established by the company which has strength in the form of integration in operational activity and company. The measurement is using interval through (10) ten-point rating scale approach (1 to 10). The



network advantage indicator in this research consists of integrated network, mutually beneficial, commitment, and interdependent networks. The business performance in this research is the achievement obtained by the company in a certain period. The measurement is using interval through (10) ten-point rating scale approach (1 to 10). The indicator of business performance in this research consists of the growth of sales, the increased sales value, profit increase, and increased production.

#### **Data Analysis Technique**

The analysis used in model testing and hypothesis is the Structural Equation Modeling (SEM) analysis AMOS program. The first analysis was applied to the measurement model to test unidimensional. The indicators that are forming the construct by considering the parameter which resulted from the goodness of fit. By implementing measurement model, the convergent will be generated to test these indicators, whether it is valid in measuring what should be measured, and the significance of the indicator also need to be tested, whether the indicators have the same dimensions in forming the latent variables. The next analysis is applied to the Structural Equation Modeling by using the same step, i.e. testing the parameters produced by the goodness of fit and then directly testing the hypothesis of research about the causality relationship developed in the model.

### **4. RESEARCH RESULT**

#### **Data Screening**

Before performing the statistical tests, the first step to do is screening the data to be processed. One assumption of the use of parametric statistics is the multivariate normality assumption. Multivariate normality is an assumption that every variable and all linear combination of variables are normally distributed. If the assumption is fulfilled, the residual value of the analysis is also normally distributed and independent, i.e. the difference between the predicted value and the actual value of the score or the error will be symmetrically distributed around the means value equal to zero. Therefore, one way to detect is to see the value of skewness and kurtosis. The normality value can be seen from the value of skewness or the value of z compared to the critical value, i.e. for the alpha 0.01, the critical value is  $\pm 2.58$  while the critical value of 0.05 is  $\pm 1.96$ . The result of screening data in the data screening on the Normality test shows that the skewness value does not exceed  $\pm 2.58$ , so it can be concluded that the data is normally distributed.

#### **Confirmatory Factor Analysis**

The model of confirmatory factor descriptive is a model intended to describe a state or a concept by using indicators on a strong theoretical basis (Hair Jr. *et al.*, 1998). By using this analysis, it will be obtained the variables which may confirm a factor. Based on the result of data processing by using AMOS program, it can be seen each dimension has an indicator with the critical ratio value  $c.r \geq 2.00$ . It means all indicators used in the relationship between exogenous variables are accepted. The result of standardized estimate also shows all indicators have value above loading factor of 0.5.

### The analysis of full model Structural Equation Modelling (SEM)

The examination of hypothesis in this research was using the help of Structural Equation Modeling (SEM) AMOS program. The analysis test result of Structural Equation Modeling (SEM) in full model can be seen in [Figure no. 1](#). At the same time, [Table no. 1](#) describes the assumption test results in the development of Structural Equation Modelling (SEM). The result of confirmatory on full model showed a good result which fulfils the criteria of goodness of fit. The model structure is used to describe the causality models of research with tiered relationships. The test results showed some other goodness of fit that has not met the criteria such as Chi-Square equal to 184.333. The probability value is 0.010. Both assumptions were not met. However, the value of TLI was 0.971, the value of GFI was 0.908, AGFI value was 0.877 and RMSEA was 0.041, these values have met the desired range. The phenomenon mentioned above indicates that the research model is accepted and fulfilled the appropriate criteria (standard).

The following table describes the detail of p-value and path coefficient variables in this study.

**Table no. 1 – The result of path coefficient test of Relational Capital, Network Competence, Knowledge Sharing on Network Advantage and Business Performance**

The Structure of Relationship	Path Coefficient	Value of CR	Probability	Information
Relational Capital → Business Performance	-0.084	-0.545	0.586	Insignificant
Relational Capital → Network Advantage	0.294	2.516	0.012	Significant
Network Competence → Business Performance	0.341	3.011	0.003	Significant
Network Competence → Network Advantage	0.089	1.039	0.299	Insignificant
Knowledge Sharing → Business Performance	0.262	2.577	0.010	Significant
Knowledge Sharing → Network Advantage	0.371	5.190	0.000	Significant
Network Advantage → Business Performance	0.502	3.442	0.000	Significant

Based on the table above, it can be seen that the regression influence between relational capital and business performance is -0.084 and the CR = -0.545, it means the variable of relational capital has a negative impact and has an insignificant effect on business performance. The influence of relational capital on network advantage equal to 0.294 and the value of CR = 2.516, it means the variable of relational capital has a positive and significant effect on network advantage. The impact of network competency on business performance equal to 0.341 and CR = 3.011, it means the variable of network competence has a positive and significant effect on business performance. The influence of network competence and network advantage equal to 0.089 and the value of Cr = 1.039, it means network competence variable has a positive effect but insignificant effect on business performance.

Another result of this study also shows the influence of knowledge sharing on business performance equal to 0.262 and the value of CR = 2.577; it means the variable of knowledge sharing has a positive and significant impact on business performance. The impact of knowledge sharing on network advantage equal to 0.371 and the value of Cr = 5.190, it means the variable of knowledge sharing has a positive and significant impact on network advantage. The influence of network advantage on business performance equal to 0.502 and CR = 3.442, it means the variable of network advantage has a positive and significant effect on business performance.

## 5. CONCLUSION AND MANAGERIAL IMPLICATION

The relational capital is arising certain issues in the context of the business interaction. Several studies have focused on the understanding of corporate behaviour and the role of business culture in making the practice of business relationship. The result of the study has strengthened the view that the role of the interpersonal relationship remains as important. The relational capital can create a trust not only among companies but also to the interpersonal. However, the result of this study shows that the relational capital has a negative effect on business performance.

Also, the result of this study provides evidence that relational capital has a negative effect on business performance but significantly affect the network advantage. The result of this study is not in line with the other previous studies. This phenomenon does not reinforce the view that the interpersonal relationship remains as important. The relational ability can create trust not only among companies but also at a high level of trust in the interpersonal level (Butler and Purchase, 2008). Study of C. Lee *et al.* (2001) examined the internal capability and external network which affecting the company performance, an internal capability that is operationalized on entrepreneurial orientation, technological skills, and financial resources invested over a certain period. The research of Kanagal (2002) that examined the marketing strategy in competitive advantage (CMS) in relationship marketing (RM) as one of the keys to improve the business performance. Relationship marketing (RM) is defined as the identification, establishment, maintenance, modification enhancement and termination of the relationship with customers to create value for the customer and benefit for the organization by the existence of a series of exchange relationship.

Furthermore, the results of the study also show that the competencies of the company in establishing a business network have a positive effect on the performance and insignificant effect the network advantage of its business. The results of this study are in line with the previous studies conducted by Chen and Sharma (2013) who explained the importance of networking and relational capital on trust network.

The results of the study also show that there is a significant direct relationship among trust, competence, communication, conflict management, commitment and ethical values. Another study conducted by Lamprinopoulou and Tregear (2011) found that the horizontal relationship configuration between SME producers has little effect on marketing performance unless it is accompanied by a strong vertical link between a primary member of SME cluster and other actors in supply sector.

In this research, knowledge sharing affects business performance and network advantage. Research with the same results performed by Najib and Kiminami (2011). The results of this study show that the cooperation undertaken by SME clusters in the form of strategy among companies and research institutional greatly impact the innovation. Meanwhile, the strategy from the government does not have an impact on corporate innovation as well as the business performance. Research conducted by Freeze and Kulkarni (2007) demonstrated the need of responsibility in utilizing the process and technology provided by the organization as a framework for creating responsible human resources to utilize the knowledge in an organization, process and technology necessary to effectively improve the knowledge capability and different relational. Another study conducted by Emadzade *et al.* (2012) showed that even though companies have applied the knowledge to the management, companies offer a consistent supportive that knowledge management can

improve the company's performance. The impact of knowledge management has a significant relationship on organizational resources and performance.

The results of the study also show that network advantage significantly affects the improvement of business performance. Moreover, the results of the study are in line with some knowledge that resources (e.g. organizational structure, application of knowledge) are directly related to the performance of the organization, while the others (e.g. technology, knowledge converge) are not directly related to the performance of the organization. An identical study was conducted by Chiu (2008) which shows that the positive impact of network competence on innovation performance.

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