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## COLLABORATIVE NETWORK AND INNOVATION AS A DRIVING FORCE OF BATIK SMES PERFORMANCE

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### Abstract

The aim of this study is to contribute to the literature review, and to the conceptual model of the relationship between the collaborative network on innovation, the relationship between innovation on SMEs performance. The study concerns on the performance of Batik SMEs in Surakarta Indonesia by involving 170 respondents as the research sample. The sampling was done by way of purposive sampling. The study showed that collaborative network has positive effect on the SME's performance and positive effect on innovation. Consequently, innovation can positively affect SMEs' performance. The findings highlight the importance for a company to create and to develop innovation and collaborative network to enhance SMEs performance.

Keywords: innovation, collaborative network, SMEs Performance.

### Introduction

The role of business innovation in improving the performance extensively investigated in many studies. Constantinescu (2012) confirmed that it is necessary for a Company to consolidate image in the market and maintain the reputation of Company and consumer's preferences. Also, marketing is becoming a key in creating an idea and innovation, thus, it needs to be developed to run a successful business (Jaakkola, Möller, Parvinen, Evanschitzky, & Mühlbacher, 2010). To this end, it is possible to create a product that has a high competitiveness in the market. These concepts are considered as the function of company marketing which may lead to the willingness of using this method in marketing (Walsh & Lipinski, 2009).

By reviewing the study of Gomes, Yasin, and Lisboa (2009), which emphasized that in the competitive realities and business operational activities, the companies have no choice but to develop their business strategy. In an era of dynamic, globally competitive, technology-based, and customer-driven, it is not enough for a company to implement orientation strategy. Thus, it is necessary to interact by choosing the competitive method for creating an innovation-oriented strategy. It is important for maintaining the unity of the organization. Bharadwaj, Varadarajan, and Fahy (1993) explained that the purpose of the competitive strategy is to achieve sustainable competitive primacy and thereby improve business performance. One of the primary objectives of the marketing strategy is to improve the company's long-term financial performance. The function of competitive marketing strategy is to improve the company's financial performance through the existence of sustainable competitive primacy.

Innovation is an important function in management. It affects the company performance. This statement is supported by Eshlaghy and Maatofi (2011) which concluded that there is a positive contribution of innovation toward company performance. Eris and Ozmen (2012) examined the impact of orientation market, organizational learning, and changes in company performance. The study showed that the orientation market, organizational learning, and innovation affect the company performance. Based on the aforementioned statement, the role of the company in creating the innovation to improve the business performance is highly necessary. According to Nuryakin and Retnawati (2016) the indicator of performance are sales performance, customer growth, and market coverage.

The research aims to show the empirical impact of collaborative network toward innovation and business performance in SMEs Batik. Moreover, this study also explained the importance of innovation as mediation in improving the business performance.

## **The Development of Hypotheses**

### **The Relationship between Collaborative Network on Performance**

Study by Singh and Garg (2008) mentioned that the research on SMEs needs to get a lot of attention in order to develop their business strategy. In reality, SMEs has many obstacles because of the lack of resources and innovative skills. To maintain the competitiveness, they need to have benchmark assets, process, and performance of the best product (Gurau, 2004). Nandakumar, Ghobadian, and O'Regan (2010) mentioned that the environmental dynamics and competition as the moderator effect of the relationship between business strategy and competitive levels of performance. Business performance can also be seen from sales performance, customer growth, and market coverage (Nuryakin and Retnawati 2016).

By considering the previous study, it is revealed that the social responsibility of a Company in the form of cross-sectoral collaboration has a different role in the inter-organizational collaboration. Howden and Pressey (2008) mentioned that the effort to understand the source value of a customer in the relationship between buyer and supplier is seen as a priority and a key to company survival. While Walter, Ritter, and Gemünden (2001) stated that the relationship between buyer and supplier has an important purpose, i.e., to cooperate by creating shared values. SMEs are also required to have competitive advantage. The other studies have explained that competitive advantages should be possessed by business performance (Nuryakin, WA, & Setyawan, 2017).

Base on the aforementioned studies, it possible to draw the hypotheses as follows:

**H1: Collaborative Network affects the performance positively**

### **The Relationship between Collaborative Network on Innovation**

The study of Clarke and Fuller (2011) examined the role of multi-organization business partnership that focuses on the strategic collaborative impact on company performance. Another study conducted by Gomes et al. (2009) creates the strategic business model. It explained that in a dynamic, globally competitive, and technology-based and customer-driven situation, strategic orientation is not enough. Therefore, the collaboration by choosing a competitive method to create an innovation-oriented strategy is more important than maintaining organizational sustainability. While Freeze and Kulkarni (2007) explained that the responsibility for utilizing the process and technologies provided by the organization as a framework for creating human resources which is responsible for using knowledge of an organization, process, and technologies needed in order to improve the experience in every field. Competition makes business organization able to set a clear goal that needed by consumers (N & N, 2016).

Based on the abovementioned studies, it is possible to draw the hypotheses as follows:

**H2: Collaborative Network has positive impact on the innovation**

### **The Relationship between Innovation and Performance**

The study of Lin and Chen (2007) explained about the innovation from individual, organization and group approach by focusing on the personal traits, management innovations, and organizational competitiveness. Scholars from different disciplines have been exploring innovation from various perspectives. It allows other researchers to get better of the innovation nature. A review of the literature reveals that organizational-level innovation studies can be grouped in various researches.

Holtzman (2008) emphasized the importance of organizational growth and innovation as part of company and kind of chance to achieve the success of the company in the future. Meanwhile, strategies include the acquisitions and continuous process of improvements that successfully affect but difficult to maintain, expensive, and risky to integrate.

The result showed that there are two dynamic factors which interact in inter-organizational networks which create cycle improvement and contribute to developing the innovation capacity in order to improve organizational competitiveness. Research with the same result was done by (Najib & Kiminami, 2011). This research proves that collaboration committed by SMEs clusters in the form of synergy among companies with institutional research impacts on innovation.

Based on the studies above, the hypothesis is:

**H3: Innovation has a positive effect on performance**

### Research Sample

The respondents of this research are the SMEs entrepreneurs of the Batik business group in Surakarta. In this analysis unit, the respondents are 170 owners of Batik SMEs. The samples were derived from the purposive sampling technique. The essential consideration utilized in this research is by observing the experiences of the Batik SMEs entrepreneurs in expanding their business.

### Instrument and Measurement

This research uses primary data derived from questionnaires filled by the respondents. All of the variables of this research, i.e., collaborative network, innovation, and performance, are measured by questionnaire using Likert-scale with the average answer of 1-7. This scale describes the answer rating from 'strongly disagree' to 'strongly agree'. Meanwhile, the instrument of this research is the indicator from the three constructs, i.e., collaborative network, innovation, and performance.

### The Result of Data Analysis

The technique used in the model and hypothesis testing is the Structural Equation Modelling (SEM) with the AMOS program. The analysis process is done by way of the measurement model to test the unidimensionality. Indicators are forming the constructs by seeing the parameters resulted by the goodness of fit. Measurement model will use convergent validity which is to test those indicators, whether it is valid or not in measuring what is supposed to be measured. Furthermore, it is also necessary to examine the indicator of significance whether those indicators have the same dimension in forming the latent variable or not. The next analysis is done in the Structural Equation Modeling with the same steps, i.e., testing the parameters resulted from the goodness of fit and directly testing the research hypothesis about the causality relation developed in the model.

Then, we examine questionnaire item by using confirmatory factor analysis to test the relation of the constructs and its indicators (validity of the question form).

**Table 1. Scale item for measures**

Variable and indicator (measured on 1 – 7 Likert Scale)	Standardized factor loading
Network Collaboration	
• Collaborate with the supplier in providing raw materials.	0.724
• Collaborate with the partner in creating a product.	0.726
• Collaborate with the buyer in increasing quality of the product.	0.750
• Collaborate with marketing network in selling product.	0.760
Innovation	
• Innovation in developing a new product.	0.777
• Innovation in marketing activities.	0.751
• Innovation in designing a new product.	0.799
• Innovation in the production process.	0.781
Performance	
• Selling Growth.	0.763
• Profit Increase.	0.791
• Market share Increase.	0.784
• Customers Increase	0.747

### Results

The result of the Structural Equation Modelling (SEM) test is shown in figure 2. The result of the full model confirmatory testing shows the good result which fulfills the goodness of fit criteria. They are Chi-Square of 54.224, the probability value of 0.353, TLI value of 0.960, GFI value of 0.939, AGFI value of 0.907 and RMSEA value of 0.021 that indicates that those values are in accordance to the cut-off as decided. Thus, it shows that the model of the research is acceptable and fulfills the selected criteria.

Figure 2. The Relationship of Network collaboration, Innovation, and Performance

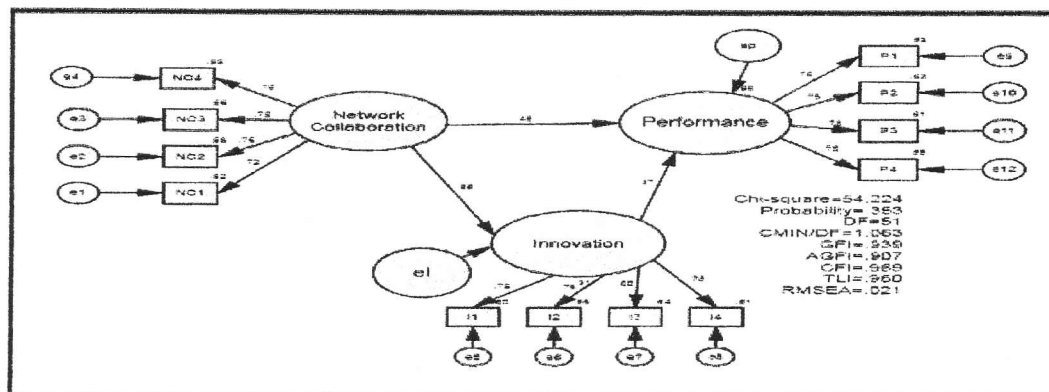


Table 1. indicates the *standardized path coefficients*, the relation of network collaboration, innovation, and performance. Also, the result of the research is also shown in Table 1, forming three hypotheses.

Table 1. Result of the Coefficient Testing of Relation Path of Network collaboration, Innovation, and Performance

Hypothesis		Standardized path coefficients	t value	Prob.	Result
H1	Network Collaboration → Performance	0.498	4.017	0.000	Significant
H2	Network Collaboration → Innovation	0.476	4.239	0.000	Significant
H3	Innovation → Performance	0.602	4.306	0.000	Significant

Note: \*Significant at  $p \leq 0.05$ ; if  $(t) \geq 1.96$

Table 2. describes the relation of Network collaboration, Innovation, and Performance. The t value and probability value portrays the positive relationship and significance of each variable.

The relationship of network collaboration and the performance shows that the counting result of structural path indicates a positive and significant relation between network cooperation and performance which can be seen on the value ( $t = 4.017 > 1.96$ ) with significance value of ( $0.000 < 0,05$ ). Thus, hypothesis 1 is accepted.

The relation of network collaboration and innovation shows that the counting result of structural path indicates a positive and significant relationship between network cooperation and innovation which can be seen on the value ( $t = 4.239 > 1.96$ ) with the great value ( $0.000 < 0,05$ ). Thus, hypothesis 2 is accepted.

The relation of innovation and performance shows that the counting result of structural path indicates a positive and significant relationship between innovation and performance which can be seen on the value of ( $t = 4.306 > 1.96$ ) with the significance of ( $0.000 < 0,05$ ). Thus, hypothesis 3 is accepted.

### Discussion

This study aims to prove the relation of Network collaboration, innovation, and performance in the context of Batik SMEs research in the area of Surakarta. The result determines that network collaboration significantly and positively influences the performance. It supports the study which explains the role of company network both intra and extra industry as a moderator variable in the relation of company performance (Stam & Elfring, 2008). This result supports the previous study which is done by Jamsa, Tahtinen, Ryan, and Pallari (2011) with the significant result of the organization in benefiting their network as a source of chance and resource which may function as expansion method.

The research result proves that network collaboration positively and significantly influences invasion. It supports the research done by Chang (2012) which says that the company with an orientation of market sensitivity, ability to gain knowledge, social networkability, and integrative ability to communicate and negotiate has the importantly needed potentiality. This result is also in line with the study of Lorenzoni and Lipparini (1999) that organization network (interfirm relationship) is the important part of organizational capability (unique organizational capability) which has a strong influence on increasing the company growth and innovation.

The final result of this study proves that innovation positively and significantly affects performance. This result supports the study done by Eshlaghy and Maatofi (2011) resulting in the fact that innovation role contributes positively to company performance. Meanwhile, the other research results which support this study revealed that it is important to the company to act critically toward their innovation which is the essential part of the company and the chance of success of the future company (Holtzman, 2008).

### Theoretical Contribution and Conclusions

This study gives a new empirical prove about the relation of network collaboration to the performance with the innovation mediation variable. It is in line with the previous study. It explains that company motivated to develop the competitiveness of global market starts applying innovation as the primary strategy to anticipate the fast changes of technology and the tight global competition through collaboration and value creation (co-creation) with the customers (Ngugi, Bournemouth University, Johnsen, & Erde'lyi, 2010). Theoretical contribution is important in this study; this also proves the previous study which says that innovation is a critical component of the company competitiveness in increasing the performance and is part of the growth strategy to enter the new market as well as to expand the market (Kumar, 2012).

### REFERENCE

- Bharadwaj, S. G., Varadarajan, P. R., & Fahy, J. (1993). Sustainable competitive advantage in service industries A Conceptual Model and Research Proposition. *Journal of Marketing*, vol. 57, 4, pg. 83.
- Chang, C.-C. (2012). Exploring IT entrepreneurs' dynamic capabilities using Q-technique. *Industrial Management & Data Systems*, 112(8), 1201-1216. doi: 10.1108/02635571211264627
- Clarke, A., & Fuller, M. (2011). Collaborative Strategic Management: Strategy Formulation and Implementation by Multi-Organizational Cross-Sector Social Partnerships. *Journal of Business Ethics*, 94(S1), 85-101. doi: 10.1007/s10551-011-0781-5
- Constantinescu, A. (2012). The Internet Marketing and the SMEs. A comparative analysis of dentistry strategies for online and printed advertising. *International Conference "Marketing – from information to decision" 5th Edition*.
- Eris, E. D., & Ozmen, O. N. T. (2012). The Effect of Market Orientation, Learning Orientation and Innovativeness. *International Journal of Economic Sciences and Applied Research* 5, vol. 05. 01, pp. 77-108.
- Eshlaghy, A. T., & Maatofi, A. (2011). Learning Orientation, Innovation and Performance. *European Journal of Social Sciences*, Volume 19, Number 1.
- Freeze, R. D., & Kulkarni, U. (2007). Knowledge management capability: defining knowledge assets. *Journal of Knowledge Management*, 11(6), 94-109. doi: 10.1108/13673270710832190
- Gomes, C. F., Yasin, M. M., & Lisboa, J. o. V. (2009). Benchmarking competitive methods and strategic choices of Portuguese SMEs. *Benchmarking: An International Journal of Agribusiness in Developing and Emerging Economies*, Vol. 16 No. 6, 2009, pp. 729-740. doi: 10.1108/14635770911000079
- Gurau, C. (2004). Positioning strategies in the value-added chain of the biopharmaceutical sector the case of UK SMEs. *The Journal of Consumer Marketing*, vol 21 number 7, 476 - 485.
- Holtzman, Y. (2008). Innovation in research and development tool of strategic growth. *Journal of Management Development*, Vol. 27 No. 10, pp. 1037-1052. doi: 10.1108/02621710810916295
- Howden, C., & Pressey, A. D. (2008). Customer value creation in professional service relationships: the case of credence goods. *The Service Industries Journal*, 28(6), 789-812. doi: 10.1080/02642060801990361
- Jaakkola, M., Möller, K., Parvinen, P., Evanschitzky, H., & Mühlbacher, H. (2010). Strategic marketing and business performance: A study in three European 'engineering countries'. *Industrial Marketing Management*, 39(8), 1300-1310. doi: 10.1016/j.indmarman.2010.06.005
- Jamsa, P., Tahtinen, J., Ryan, A., & Pallari, M. (2011). Sustainable SMEs network utilization : the case of food enterprises. *Journal of Small Business and Enterprise Development*, Vol. 18 No. 1., pp. 141-156. doi: 10.1108/14626001111106479
- Kumar, K. (2012). Strategic orientation, innovation patterns and performances of SMEs and large companies. *Journal of Small Business and Enterprise Development*, Vol. 19 No. 1., pp. 132-145. doi: 10.1108/14626001211196442
- Lin, C. Y.-Y., & Chen, M. Y.-C. (2007). Does innovation lead to performance An empirical study of SMEs in Taiwan. *Management Research News*, Vol. 30 No. 2., pp. 115-132. doi: 10.1108/01409170710722955

- Lorenzoni, G., & Lipparini, A. (1999). The leveraging of interfirm relationships as a distinctive : Organizational Capabilitiy. A Longitudinal Study *Strategic Management Journal*, vol. 20, 4, pg. 137.
- N, K., & N, F. (2016). Effects of Convenience Online Shopping and Satisfaction on Repeat-Purchase Intention among Students of Higher Institutions in Indonesia. *Journal of Internet Banking and Commerce*, vol. 21, no. 2.
- Najib, M., & Kiminami, A. (2011). Innovation, cooperation and business performance. *Journal of Agribusiness in Developing and Emerging Economies*, Vol. 1 No. 1, pp. 75-96. doi: 10.1108/20440831111131523
- Nandakumar, M. K., Ghobadian, A., & O'Regan, N. (2010). Business-level strategy and performance The moderating effects of environment and structure. *Management Decision*, Vol. 48 No. 6,, pp. 907-939. doi: 10.1108/00251741011053460
- Ngugi, I. K., Bournemouth University, B., UK, Johnsen, R. E., & Erde'lyi, P. (2010). Relational capabilities for value co-creation and innovation in SMEs. *Journal of Small Business and Enterprise Development*, Vol. 17 No. 2(pp. 260-278). doi: 10.1108/14626001011041256
- Nuryakin, & Retnawati, B. B. (2016). Using Technological Relational Capabilities to Investige Marketing Performance in International Wooden Market. *Information*, Volume 19. Number 7(A), , pp. 2555-2563.
- Nuryakin, WA, V. D., & Setyawan, M. B. (2017). Mediating Effect of Values Creation in The Relationship Between Realtional Capabilities on Business Performance. *Contaduria Y Administracion*.
- Singh, R. K., & Garg, S. K. (2008). Strategy development by SMEs for competitiveness : a review. *Benchmarking: An International Journal of Agribusiness in Developing and Emerging Economies*, Vol. 15 No. 5,, pp. 525-547. doi: 10.1108/14635770810903132
- Stam, W., & Elfring, T. (2008). Entrepreneurial orientation and new venture performance: The moderating role of intra-and extraindustry social capital. *Academy of Management Journal*, 51(1), 97-111.
- Walsh, M. F., & Lipinski, J. (2009). The role of the marketing function in small and medium sized enterprises. *Journal of Small Business and Enterprise Development*, Vol. 16 No. 4, pp. 569-585. doi: 10.1108/14626000911000929
- Walter, A., Ritter, T., & Gemünden, H. G. (2001). Theoretical Considerations and Empirical Results from a Supplier's Perspective. *Industrial Marketing Management*, Vol 30, pg. 365-377.

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