

## Networks, Innovation, And Smes Performance In Indonesia East Corridors

Nungky Viana Feranita<sup>1\*</sup>, Alifian Nugraha<sup>1</sup>, Sampir Andrean Sukoco<sup>1</sup>

<sup>1</sup>Department of Business Administration, Sekolah Tinggi Ilmu Administrasi Pembangunan

DOI: <https://doi.org/10.32528/iss.v1i1.22>

\*Correspondensi: Nungky Viana Feranita

Email: [nungky\\_viana@stiapembangunanjember.ac.id](mailto:nungky_viana@stiapembangunanjember.ac.id)

Published: Januari, 2022



**Copyright:** © 2022 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY NC) license (<http://creativecommons.org/licenses/by/4.0/>).

**Abstrak:** The purpose of this study is to analyze the influence of networks on SMEs performance both directly and indirectly through innovation. The sample in this study were 165 SMEs in East Java, which focused on a number of districts / cities that became the eastern development corridor area and had superior food and beverage businesses. The data that has been collected is then analyzed using path analysis. Four hypotheses were formulated to answer the question: (a) There is a direct effect of networks on SMEs innovation, (b) There is a direct effect of networks on SMEs performance, (c) There is a direct effect of innovation on SMEs performance, (d) There are indirect effects of networks on SMEs performance through innovation. Of the four hypotheses proposed in this study, there are three hypotheses that were accepted and one hypothesis that was rejected. The results of testing the direct influence hypothesis show that there are two pathways that have a significant effect, namely networks on SMEs innovation, as well as innovation on SMEs performance. The results of testing the indirect effect hypothesis show that the networks influences the performance of SMEs through innovation.

**Keywords:** Networks; Innovation; Performance; SMEs

### INTRODUCTION

Small and Medium Enterprises (SMEs) are business activities that play a role in the process of equalization and increase in people's income, and encourage economic growth, and play a role in realizing national stability in general and economic stability in particular [1]. The development of SMEs in Indonesia is one of the priorities in national economic development. This is because SMEs are the backbone of a populist economic system that is able to broaden the economic base and contribute to accelerating the improvement of the regional economy and national security.

In 2018, SMEs in Indonesia contribute 99.99% of the total business units, 97.02% of the total workforce, 60% of the total Gross Domestic Product (GDP), 14.17% of total non-oil and gas exports, and 58.18% of the total investment. These figures show the importance of SMEs in shaping the Indonesian economy. However, SMEs in less developed countries have the opportunity to survive and even grow in the long term [2].

The problem of SMEs in the marketing sector is focused on three aspects, namely the issue of market and product competition, the problem of access to market information and the institutional problems of supporting SMEs [3]. Innovating is one way to present superior products to attract consumers. Innovation cannot be separated from business life because innovation is a spirit or soul in a developing company. Innovation is not only done by large businesses but also done by small businesses for the sustainability of their businesses [4].

---

Another factor that needs attention due to SMEs constraints is business networks. Weak access to market information and the lack of optimal SMEs products in reaching consumers can be caused by weak or less optimal business networks that support SMEs business activities. Business networks involve other business units in the business activities carried out, both production and marketing. Business networks is the result of decisions and efforts of business actors to improve performance.

Considering there are still problems related to the performance of SMEs, it is important to study and evaluate SMEs performance. This study is intended to investigate the performance of Indonesian SMEs by highlighting networks in improving performance both directly and indirectly through innovation. Several previous empirical studies have emphasized networks on SMEs innovation [5] [6] [7] [8] and the role of networks on SMEs performance [9] [10] [11] [12] [13]. However, several studies have investigated the effects of networks on SMEs performance through the mediating effect of innovation variables [14] [15] [16] [17] [18] directing the authors to concentrate this study as the central focus.

The purpose of this study is to analyze the effect of networks on SMEs performance both directly and indirectly through innovation. Specifically, this study aims to analyze (1) the effect of networks on SMEs innovation, (2) the effect of networks on SMEs performance, (3) the effect of innovation on SMEs performance, (4) the effect of networks on SMEs performance through innovation.

SMEs need to build networks with other companies and external agents to empower the creation and diffusion of knowledge, through one factor, namely innovation [5]. To innovate, companies need knowledge capital. Knowledge capital is defined as a series of information and knowledge that is produced, obtained and used in the value creation process. Innovation networks depend on the ability of SMEs to develop and strengthen knowledge capital [6]. In addition, SMEs need to open themselves up to work together with stakeholders in developing sustainable competitive advantages. A sustainable innovation networks that is well designed and managed can provide clear benefits for SMEs. The aim of the concept of joint innovation is to capture a strategic approach to innovation, cooperation and sustainability [7]. Referring to the description above, it can be concluded that the networks influences SMEs innovation. Therefore, the research hypothesis is as follows.

H1: Networks affect SMEs innovation.

Networks offer SMEs opportunities in Finland to succeed internationally [9]. The higher level of networks competence is positively related to the tendency of SMEs to internationalize, as well as international performance. Manufacturing SMEs in Taiwan are highly dependent on external entities and work closely with partners to improve performance [13]. Referring to the description above, it can be concluded that the networks affects SMEs performance. Therefore, the research hypothesis is as follows.

H2: Networks affect SMEs performance.

Innovation is the main variable in improving the performance of SMEs. In Bulgaria, product innovation has a direct and positive effect on SMEs performance, while process innovation has a positive and significant effect, but only an indirect effect on performance [19]. The results of research conducted in Cameroon, show that innovation accompanied by the use of corporate IT has a significant effect on SMEs performance [20]. The use of IT can accelerate the innovation process and improve SMEs performance in terms of cost efficiency and process rationalization. Referring to the description above, it can be concluded that innovation influences the performance of SMEs. Therefore, the research hypothesis is as follows.

H3: Innovation affect SMEs performance.

Previous research has found that one of the factors that influence SMEs performance through innovation is networks. The results of research conducted on SMEs in Malaysia found that the existence of the relationship between business networks and SMEs performance is conditioned by innovation capability [17]. So it is important for SMEs to create synergies between business networks and innovation capabilities in improving SMEs performance. Referring to the description above, it can be concluded that the networks influences the performance of SMEs through innovation. Therefore, the research hypothesis is as follows.

H4: Networks affect SMEs performance through innovation.

Based on theoretical and empirical studies, Figure 1 shows the framework and research hypothesis.

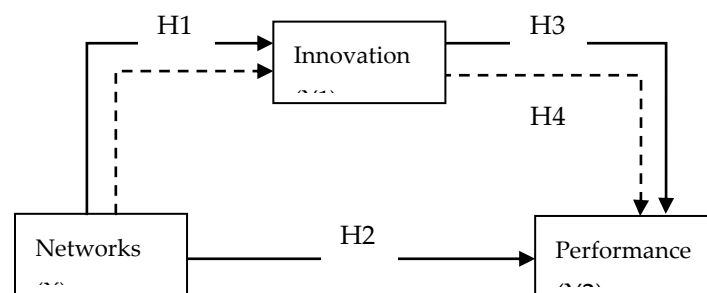


Figure 1. Conceptual Framework.

## METHOD

This research uses a survey method with a quantitative approach. This study explains the causal relationships of network variables, innovation variables and performance variables through empirical hypothesis testing. The population of this research is all SMEs in East Java which focuses on several regencies / cities that are the eastern development corridor area which have superior food and beverage businesses, which are 208 SMEs. The selected regencies / cities are Banyuwangi Regency, Jember Regency, Lumajang Regency, Bondowoso Regency, Situbondo Regency, Probolinggo Regency and Probolinggo City. Sampling in this study uses proportionate sampling method based on the proportion of each district / city. The method used to determine the number of samples is to use the Slovin formula with an error rate of 5%, obtained a sample of 165 SMEs.

This study uses a questionnaire with a 5- point Likert scale and adapted from the appropriate literature. Measurement of networks variable was adapted from questionnaires developed by Presutti & Odorici [21], measurement of innovation variable was adapted from questionnaires developed by Wu [22], and measurements of performance variables were adapted from questionnaires developed by Ar & Baki [23] and McDermott & Prajogo [24].

Data collection methods in this study used a questionnaire. The unit of analysis in this study is the organization represented by the leaders / entrepreneurs / owners / managers of SMEs. The questionnaire was submitted directly to the respondent by visiting the respondent.

Based on questionnaire data obtained from 165 respondents, it was found that the majority of respondents were women (81.8%), most respondents were aged between 41-50 years (54.5%), almost all respondents were married (96.4%), last education most of the respondents were dominated by high school / vocational school graduates (39.4)%. Most respondents have led businesses for 6-10 years (44.8%).

## RESULTS AND DISCUSSION

The test results of the instrument validity on the network variables, innovation and performance of SMEs have a significant correlation value because the value of  $\rho < \alpha$  (0.05), so it can be concluded that all items are declared valid. Instrument reliability test results on all variables have coefficient *Cronbach alpha* greater than 0.06, so that all instrument variables are declared reliable. The research data fulfilled the assumption test requirements consisting of normality test, outlier test, and multicollinearity test.

The results of the direct influence test are presented in Table 1. Based on Table 1 it can be seen that networks has a significant effect on innovation, but network has no significant effect on the performance of SMEs, and innovation has a significant effect on the performance of SMEs.

Table 1. Results of Direct Impact Hypothesis Testing

Hypotheses	Path Coefficient			Notes
	Estimate	C.R	P	
H <sub>1</sub> (X) → (Y <sub>1</sub> )	0,00942	3,03435	0,000 <sup>a</sup>	Significant
H <sub>2</sub> (X) → (Y <sub>2</sub> )	0,00435	1,39762	0,162	Not Significant
H <sub>3</sub> (Y <sub>1</sub> ) → (Y <sub>2</sub> )	0,21494	2,79122	0,005 <sup>a</sup>	Significant

<sup>a</sup>significant at 5% level

Networks has a positive and significant effect on SMEs innovation so that hypothesis 1 is accepted. That is, if the network of SMEs actors is increasingly widespread, it will also increase SMEs innovation. This finding provides evidence that networks consisting of indicators of social networks and business networks will significantly influence SMEs innovation. These findings support the results of previous studies [5] [6] [7] [8].

Networks has no significant effect on the performance of SMEs so that hypothesis 2 was rejected. That is, the network has not been able to improve the performance of SMEs. The findings provide evidence that the network consisting of social and business network indicators does not significantly influence the performance of SMEs. From an empirical perspective, the results of this study are not in line with the results of previous studies [9] [13]. Specifically, there are differences in the use of indicators to measure networks and performance variables so that they can provide different results.

Innovation has a positive and significant effect on the performance of SMEs so that hypothesis 3 is accepted. That is, if innovation increases, if innovation is increasing it will improve the performance of SMEs. This finding provides evidence that innovation consisting of indicators of product, process and organizational innovation will have a significant effect on the performance of SMEs. This finding supports the theory and findings of previous studies [19] [20] [25] [26] [27].

The indirect effect test results are presented in Table 2. One indirect pathway model that was tested proved to have a significant effect.

Table 2. Results of Indirect Influence Hypothesis Testing

Hypothesis	Path Coefficient			Notes
	Estimate	C.R	P	
H <sub>4</sub> (X) → (Y <sub>1</sub> ) → (Y <sub>2</sub> )	0,057	2,0556	0,039 <sup>a</sup>	Significant

<sup>a</sup>significant at 5% level

Networks has a positive and significant effect on the performance of SMEs through innovation so that hypothesis 4 is accepted. That is, innovation becomes a mediating variable between networks and SMEs

performance. These findings support the theory and findings of previous studies [14] [16] [17] [18]. The findings of this study show that networks has a positive but not significant effect on SME performance directly. However, the networks has a positive and significant effect on the performance of SMEs indirectly (through innovation mediation variables). So it can be concluded that the mediation of innovation that occurs in networks relations and performance is a full mediation, meaning that the influence of the networks on the performance of SMEs runs through innovation mediators.

## CONCLUSION

This study aims to analyze the influence of networks on SMEs performance both directly and indirectly through innovation. Of the four hypotheses proposed in this study, three hypotheses were accepted and one hypothesis was rejected. The results of testing the hypothesis of direct influence show that networks affects SMEs innovation, innovation affects SMEs performance, and networks does not affect SMEs performance. The results of testing the indirect influence hypothesis indicate that networks affect SMEs performance through innovation.

This research is only limited to SMEs in East Java, which are focused on regencies / cities which are the eastern development corridor areas that have superior food and beverage businesses. So the results of this study do not reflect SMEs in East Java or generalize to other regions. Further studies are expected to be able to use objects in various regions to generalize research results.

## ACKNOWLEDGMENT

The researcher thanked the Ministry of Research, Technology and Higher Education, Republic of Indonesia, for funding this research..

## REFERENCES

- [1] I.D.K.R. Ardiana, I.A. Brahmayanti, and Subaedi, "Kompetensi SDM UKM dan Pengaruhnya Terhadap Kinerja UKM di Surabaya," *Jurnal Manajemen dan Kewirausahaan*, vol. 12, no. 1, pp. 42-55, March 2010.
- [2] T. Tambunan, "SMEs Development in Indonesia: Do Economic Growth and Government Support Matter?" *International Journal of Asia Pacific Studies*, vol. 4, No. 2, pp. 113-136, August 2008.
- [3] P. Anoraga and D. Sudantoko, *Koperasi, Kewirausahaan, dan Usaha Kecil*. Jakarta: Rineka Cipta, pp. 34-44, 2002.
- [4] W. Dhewanto and D. Hendrati, *Manajemen Inovasi peluang Sukses Menghadapi Perubahan*. Yogyakarta: Andi, pp. 51-57, 2014.
- [5] J. Capó-Vicedo, M. Expósito-Langa, and F. X. Molina-Morales, "Improving SME competitiveness reinforcing interorganisational networks in industrial clusters," *Int Entrep Manag J*, vol. 4, pp. 147-169, October 2007.
- [6] B. Laperche and Z. Liu, "SMEs and knowledge-capital formation in innovation networks: a review of literature," *Journal of Innovation and Entrepreneurship*, vol. 2, no. 21, pp. 1-16, December 2013.
- [7] C. Iturrioz, C. Aragón, and L. Narvaiza, "How to foster shared innovation within SMEs' networks: Social capital and the role of intermediaries," *European Management Journal*, vol. 33, no. 2, pp. 104-115, April 2015.

- 
- [8] M. McAdam, R. McAdam, A. Dunn, and C. McCall, "Regional Horizontal Networks within the SME Agri-Food Sector: An Innovation and Social Network Perspective," *Regional Studies*, vol. 50, no. 8, pp. 1316-1329, 2016.
- [9] L. Torkkeli, K. Puumalainen, S. Saarenketo, and O. Kuivalainen, "The effect of network competence and environmental hostility on the internationalization of SMEs," *J Int Entrep*, vol. 10, pp. 25-49, January 2012.
- [10] R. Schweizer, "SMEs and networks: Overcoming the liability of outsidership," *J Int Entrep*, vol. 11, pp. 80-103, December 2012.
- [11] P. Naudé, G. Zaefarian, Z. Najafi Tavani, S. Neghabi, and R. Zaefarian, "The influence of network effects on SME performance," *Industrial Marketing Management*, vol. 43, no. 4, pp. 630-641, May 2014.
- [12] F. J. Lin and Y. H. Lin, "The effect of network relationship on the performance of SMEs. Designing implementable innovative realities," *Journal of Business Research*, vol. 69, no. 5, pp. 1780-1784, May 2016.
- [13] A. Solano Acosta, A. Herrero Crespo, and J. Collado Agudo, "Effect of market orientation, network capability and entrepreneurial orientation on international performance of small and medium enterprises (SMEs)," *International Business Review*, vol. 27, no. 6, pp. 1128-1140, December 2018.
- [14] S. Roberts, R. Lawson, and J. Nicholls, "Generating Regional-Scale Improvements in SME Corporate Responsibility Performance: Lessons from Responsibility Northwest," *Journal of Business Ethics*, vol. 67, pp. 275-285, 2006.
- [15] S. Sandberg, "Experiential knowledge antecedents of the SME network node configuration in emerging market business networks," *International Business Review*, vol. 23, no. 1, pp. 20-29, February 2014.
- [16] W. Maharani and A. A. Gozali, "Collaborative Social Network Analysis and Content-based Approach to Improve the Marketing Strategy of SMEs in Indonesia," *International Conference on Computer Science and Computational Intelligence (ICCSCI 2015)*, *Procedia Computer Science*, vol. 59, pp. 373-381, 2015.
- [17] C. R. B. Che Mat, "The effect of innovation and dynamics capabilities on the relationship between Malaysian SMEs' business network and firm performance," PhD dissertation, Dept. of Business and Management, Brunel University, London, 2017.
- [18] S. Mongkol, "The role of interorganisational networks in foreign market exploitation by SMEs : a case study of Thailand's food sector," PhD dissertation, Dept. of Business and Management, Kingston University, London, 2018.
- [19] Z. Vladimirov, "SME Innovations and Performance: The Mediating Role of Product Innovation," *International Review of Entrepreneurship*, vol. 14, no. 2, pp. 209-234, 2016.
- [20] A. D. Tsambou and B. Fomba Kamga, "Performance Perspectives for Small and Medium Enterprises in Cameroon: Innovation and ICTs," *Timisoara Journal of Economics and Business*, vol. 10, no. 1, pp. 68-87, 2017.
- [21] M. Presutti and V. Odorici, "Linking entrepreneurial and market orientation to the SME's performance growth: the moderating role of entrepreneurial experience and networks," *Int Etrep manag J.*, 2018.
- [22] G. C. Wu, "Effects of Socially Responsible Supplier Development and Sustainability-Oriented Innovation on Sustainable Development: Empirical Evidence from SMEs," *Corporate Social Responsibility and Environmental Management*, vol. 24, pp. 661-675, June 2017.

- 
- [23] I. M. Ar and B. Baki, "Antecedents and performance impacts of product versus process innovation: Empirical evidence from SMEs located in Turkish science and technology parks," *European Journal of Innovation Management*, vol. 14, no. 2, pp. 172-206, 2011.
- [24] C. M. McDermott and D. I. Prajogo, "Service innovation and performance in SMEs," *International Journal of Operations & Production Management*, vol. 32, no. 2, pp. 216-237, 2012.
- [25] Verreynne, A. M. Williams, B. W. Ritchie, S. Gronum, and K. S. Betts, K.S, "Innovation diversity and uncertainty in small and medium sized tourism firms," *Tourism Management*, vol. 72, pp. 257-269, 2019.
- [26] P. Sok, A. O'Cass, and K. M. Sok, "Achieving superior SME performance: Overarching role of marketing, innovation, and learning capabilities," *Australasian Marketing Journal*, vol. 21, no. 3, pp. 161-167, 2013.
- [27] M. Anwar, "Business Model Innovation and SMEs Performance – Does Competitive Advantage Mediate?" *International Journal of Innovation Management*, vol. 22, no. 7, February 2018.