

The Role and Moderating Effect of Community on SMEs' Innovation and Performance: An Empirical Study in Indonesia*

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Abstract

The most crucial elements of SME growth and development are performance and innovation. In actuality, SMEs find it challenging to enhance their performance and innovation due to limited access to resources. Collaboration with other SMEs in the form of local communities can be an alternative solution to gaining access to external resources. Unfortunately, not many studies have explored the role of the local SME community in the development of innovation and performance of SMEs. This study tries to fill this gap by examining the role of local communities in expanding SMEs' access to resources, in their efforts to improve innovation and performance. Data was collected using an online questionnaire distributed to food and beverage SMEs in Malang Regency. As many as 150 questionnaires were received and considered valid for statistical data analysis using the WarpPLS program. The results show that the SME community plays an important role in improving the innovation and performance of food and beverage SMEs. It is also found that innovation can be a good mediator of community relations with the performance of SMEs. Furthermore, it is also confirmed that the SME community moderates the relationship between innovation and the performance of food and beverage SMEs.

Keywords: SME Community, SME Innovation, SME Performance

JEL Classification Code: L210, L230, L250, L260, M21

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1. Introduction

Covering 99 percent of total business in Indonesia, 97 percent of the national workforce, and contributing 61 percent to the Gross Domestic Product (The Indonesian Central Agency of Statistics, 2020), making Small and Medium Enterprises (SMEs) the essential business entities of the Indonesian national economy. Unfortunately, this predicate is not in line with the actual condition of SME. Very limited access to resources is one of the main obstacles to SME development (Eggers, 2020). Whereas Resources Based Theory suggests that the capability of a firm to acquire resources is the main determinant of its performance (Barney, 1991).

Access to external resources is an alternative solution to limited internal resources. The Resource Dependency Theory proposed by Pfeffer and Salancik (1978) proposed that organizations cannot rely solely on their internal resources; they rely on external resources as well. Organizations must therefore work together with other entities to gain access to the resources they require to survive. Networking and collaboration are ways for SMEs to solve the problem of

limited resources by gaining access to external resources. Previous studies confirmed that networks and collaborations of SMEs have a positive effect on SME innovation (Caseiro & Coelho, 2019; Kang & Park, 2012) and SME performance (Gerschewski et al., 2020; Wang et al., 2015). Innovation and performance are the two main factors that support the development of an SME.

One of the kinds of networking and collaboration carried out by SMEs in Indonesia is in the form of Paguyuban. Paguyuban in Bahasa Indonesia term means association or community. SME communities were established in various regions in Indonesia to work together to achieve their mutual goals. Community as a form of collaboration between SMEs is often driven by collectivism, which is a cultural characteristic in the Asia region, especially in Indonesia. SME communities are usually established based on the same area or similar type of business.

The phenomenon of the SME community's important role in its members' development has often been observed. Unfortunately, not many empirical studies have confirmed this role. This study attempts to fill this void by investigating the impact of the role of the community on SME innovation and SME performance and its moderating effect on these two variables.

2. Literature Review and Hypotheses Development

2.1. SME Community

The word community is taken from the Latin word *communitas*, which means joint possession or use. The lexical meaning of community is a group of people living in the same location or sharing common interests and goals. A community gives meaning and benefits to its members. The SME community in this study is defined as a group of SMEs that share common interests and goals, make a partnership, and share resources with each other to develop together. The community can be considered as one of SMEs' efforts to build networks and collaboration to gain access to external resources.

Various studies show the significance of the role of external parties in the performance and growth of a firm. Bennett and Robson (2003) cited various previous authors who discuss that external resources boost strategic knowledge, which creates a competitive advantage and expands economic potential. External parties might provide resources to fill information and knowledge shortages (Chrisman & McMullan, 2004), especially for small business actors or SMEs in their lack of resources and skills. Many studies on SMEs confirm the importance of external support for SME business performance. External parties can be customers, suppliers, or distributors (Zulu-Chisanga et al., 2021),

government (Taneo et al., 2022; Bennett & Robson, 2003), or other parties (Adam & Alarifi, 2021; Gerschewski et al., 2020; Bylund & McCaffrey, 2017; Wang et al., 2015). Those empirical results show that SME networking with external/collaboration supports SME performance. SME Community is also one of the external parties for cooperation. Limited access to information and funding resources forces SMEs to collaborate with external parties to obtain community support. Seo and Lee (2019) confirmed that local community support for SMEs has a significant impact on performance. It is important to have access to external resources to stimulate business performance (Guerrero & Urbano, 2014).

Performance is a well-known concept in measuring business growth and success. For a long time, performance has been used by researchers as a measuring variable for business success. Business performance is related to the company's overall achievement as a result of the efforts made to earn profit and growth. According to Wood (2006), the extent to which SMEs succeed in their objectives can be used to gauge corporate performance. The measurement can be done by looking into three indicators, turnover, profit, and demand. From the above elaboration, the following hypothesis is developed:

H1: *SME Community has a positive and significant correlation to SME performance.*

2.2. SME Innovation

Mircevska (2015) argued that innovation is the critical aspect to ensure the long-term existence of SMEs, in a dynamic and competitive world. However, insufficient resources are a distinctly marked weakness of SMEs. Again, external support can be a way out of this limitation. External parties have a very important role in helping SMEs gain new knowledge and innovation (Seo & Lee, 2013; Uhlaner et al., 2012). The new information and knowledge that SMEs get from their collaboration with external parties will create innovation opportunities. Additionally, external assistance helps SMEs access the human and financial resources necessary for product and process innovation (Adam & Alarifi, 2021).

The study by Nguyen et al. (2022) confirmed a positive correlation between external linkage with innovation capability. In line with that, Gnyawali and Park (2009) argued that a collaboration strategy supports SMEs to build their ability to engage in technological innovations. From various studies on SME networks and collaborations, the dominant view revealed that these relationships are positively associated with innovativeness as well as performance (Caseiro & Coelho, 2019; Kallmuenzer & Scholl-Grissemann, 2017; Gronum et al., 2012) networks have been linked as a solution to resource limitation.

Based on the above-mentioned discussion, the following hypothesis is derived.

H2: *SME Community has a positive and significant correlation to SME innovation.*

OECD (2018) defines business innovation as a new or developed process or product that differs significantly from the previous version. This process or product has been brought into use by the firm or introduced on the market. In line with this, in the context of SMEs, O'Regan, and Ghobadian (2006) asserted that innovation indicates a more efficient and profitable version of processes or products than existing ones. Innovation is a company's method of adjusting to a changing environment. Innovation-capable businesses will be able to adapt to change. Process and product modification can be exploited to improve firm performance (Currstine, 2006). In another study, Hussain et al. (2022) confirmed that innovation in governance also impacts performance.

Most empirical studies confirmed that innovation contributes positively to business performance (Jiménez-Jiménez & Sanz-Valle, 2011). This condition is in line with similar studies with the object of SME research. Numerous academic studies confirm the strong and positive relationship between innovation and SME performance (Falahat et al., 2020; Cruz-Ros et al., 2021). Scholars have authenticated the positive influence of innovation on SME performance (Ismanu et al., 2021). Even in a pandemic, innovation in SMEs can be a solution for improving their performance (Adam & Alarifi, 2021). Therefore, SMEs are required to strengthen their innovation capacity and capabilities if they want to improve their business performance (Agyapong et al., 2017; Zulu-Chisanga et al., 2016; Oura et al., 2016).

In concluding the above discussion, the following hypothesis is derived:

H3: *Innovation has a positive and significant correlation to SME performance.*

External support has been confirmed by researchers as an important factor in improving SME innovation and performance (Gerschewski et al., 2020; Caseiro & Coelho, 2019; Jones & de Zubielqui, 2017; Wang et al., 2015; Kang & Park, 2012). Additionally, networking and collaboration with other parties can strengthen the impacts of innovation on performance (Li & Atuahene-Gima, 2001). Adam and Alarifi (2021) looked at how external support affected the relationship between innovation and SME business performance. The results obtained, the moderating variable from external support has a significant positive effect on the performance results of SMEs in Saudi Arabia. This discussion leads to the fourth hypothesis:

H4: *SME community moderates the correlation between innovation and performance.*

The connection between the variables studied is given in the conceptual framework as shown in Figure 1:

3. Research Methods and Materials

This research was conducted on SMEs, which are members of the SME community in the Great Malang Region. Hair et al. (2013) guide the minimum sample size requirements in the SEM-PLS analysis where the value or sample size is equal to or greater (\geq) with the following

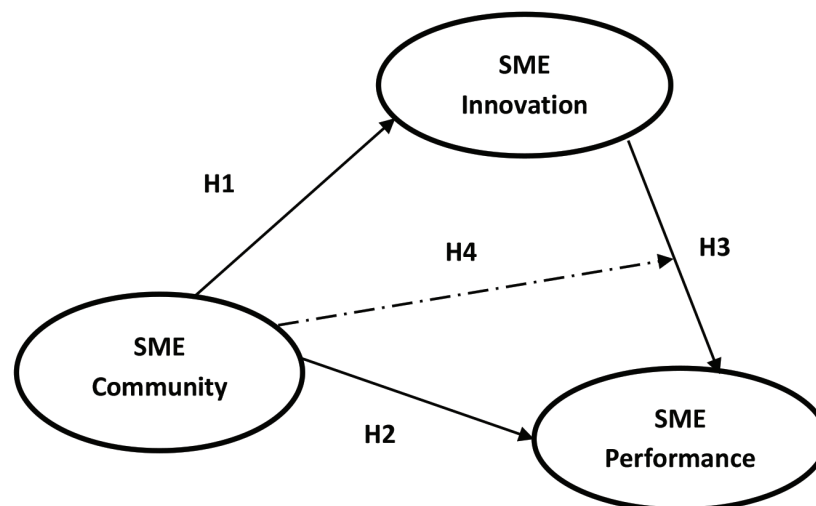


Figure 1: Conceptual Framework

2 conditions. The first condition is where the sample size is 10 times larger than the largest number of formative indicators used to measure a construct or latent variable. The second condition is when the number of samples is 10 times the largest number of structural paths that lead to a certain construct or latent variable. This guideline is usually called the 10 times rule of thumb, which simply requires that the minimum sample size is 10 times the maximum number of paths that hit a latent variable in the PLS model. Based on the above rules, the sample requirements to be submitted in this study are a minimum of 150 samples because there are a maximum of 15 paths that lead to latent variables as indicators or items that measure the latent variables of the community's role. Data collection was carried out by distributing online questionnaires through SME community coordinators who responded by 150 SMEs with valid answers.

A distributed questionnaire was used to measure three variables in this study, the role of the SME community, SME innovation, and SME performance. The role of the SME community is measured by indicators of capital assistance and facilities, legal assistance and cooperation, training, and sources of innovation (Munizu, 2010; Suprayitno, 2018; Anggraeni, 2013). The innovation variable is measured using indicators of organization innovation, process innovation, product innovation, and marketing innovation (Hassan et al., 2013; Al-Ansari et al., 2013). While SME performance is measured by indicators of profitability, market response, and market value (Kurniawan, 2019; Al-Ansari et al., 2013).

All indicators were assessed using a Likert scale with 5 gradations from 1 (strongly disagree) to 5 (strongly agree). The Likert scale is used to measure or assess the opinions or perceptions of a person or group of people regarding a social phenomenon.

The WarPLS software was used to analyze the data. WarPLS is employed because it is effective with both small samples and complex research models. It also does not require data normality. WarPLS program gives the output value of indirect and total influence. WarpPLS output is useful in testing the hypothesis of mediating or intervening variables, and therefore, manual calculations with Sobel are not needed to test the significance of indirect effects. Furthermore, WarpPLS can provide coefficients and *p*-values directly on the research framework with moderating variables (Hair et al., 2014; Sholihin & Ratmono, 2013; Vinzi et al., 2010).

4. Results and Discussion

4.1. Results

Analysis of the fit model is guided by the Model Fit and Quality Indices according to the WarpPLS 5.0 User Manual (Kock, 2015). An outline of the goodness of fit model is shown in Table 1.

The information in Table 1 indicates that the created model is effective (Kock, 2015; Hair et al., 2014). The model is thus perfect for use in testing the study hypotheses.

Table 1: Evaluation of Goodness of Fit Model

Goodness of Fit	Value	Cut-Off	Information
Average Path Coefficient (APC)	0.001	0.05	Significant (good)
Average R-Squared(ARS)	0.001	0.05	Significant (good)
Average Adjusted R-squared (AARS)	0.001	0.05	Significant (good)
Average Block VIF (AVIF)	1.553	≤ 5: acceptable ≤ 3.3: ideal	Ideal
Average full collinearity VIF (AFVIF)	1.716	≤ 5: acceptable ≤ 3.3: ideal	Ideal
Tenenhaus GoF (GoF)	0.512	≥ 0.1: small ≥ 0.25: medium ≥ 0,36 big	Big
Sympson's paradox ratio (SPR)	1.000	≥ 0.7: acceptable 1: ideal	Ideal
R-squared contribution ratio (RSCR)	1.000	≥ 0.9: acceptable 1: ideal	Ideal
Statistical suppression ratio (SSR)	1.000	≥ 0.7: acceptable	Acceptable
Nonlinear bivariate causality direction ratio (NLBCDR)	1.000	≥ 0.7: acceptable	Acceptable

The validity and reliability of the instrument used in this study are checked using the fit measurement model. Validity is checked using the Average Variances Extracted data, while reliability is using composite reliability and Cronbach Alpha data. Table 2 shows the AVE is greater than 0.50. The composite reliability and Cronbach Alpha values for all variables are greater than 0.70. According to the rules of thumb evaluation of the measurement model by Hair et al. (2014), the measurement instrument used in this research is valid and reliable.

The results of the analysis using the WarpPLS software are presented in Figure 2, while the path coefficients, which indicate the magnitude of the relationship between variables and their significance, are presented in Table 2.

The results of the analysis (Table 3) show that all research hypotheses are accepted. The SME community

has a direct and indirect effect on the performance of SMEs through innovation. Innovation as a mediating variable has an important role because the indirect effect has a greater path coefficient (0.285) than the direct effect (0.16) on the performance of SMEs. The SME community has proven to strengthen the relationship between innovation and SME performance.

4.2. Discussion

The SME community plays an important role in improving the performance of food and beverage SMEs directly for the following reasons. First, the community consists of SME managers, so access to productive resources directly impacts their business performance. Second, since the members of the communication management board are

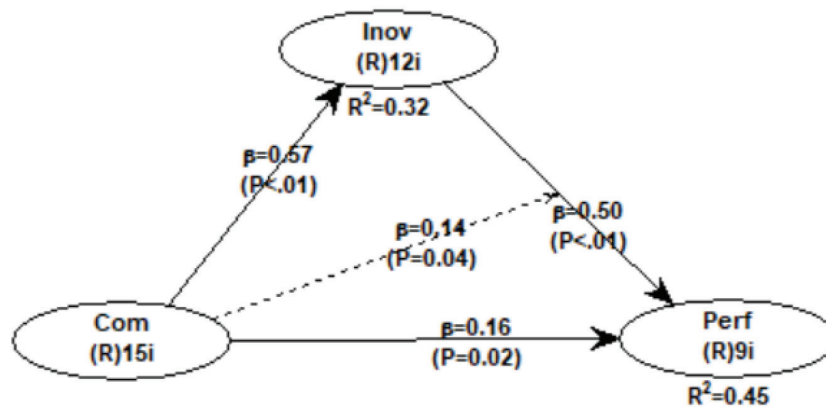


Figure 2: Statistical Analysis Result

Table 2: Evaluation of the Measurement of Fit Model

Variable	Validity: AVE	Reliability	
		Composite Reliability	Cronbach Alpha
The role of the Community	0.565	0.951	0.944
Innovation	0.507	0.924	0.908
Performance	0.643	0.941	0.928

Table 3: Hypotheses Test Result

Hypothesis	Construct	Relationship	Significance	Effect	Hypothesis Result
H1	Com → Inov	0.57	$P < 0.01$	Moderate	Supported
H2	Com → Perf	0.16	$P = 0.02$	Small	Supported
H3	Inov → Perf	0.50	$P < 0.01$	Moderate	Supported
H4	Com*Inov → Perf	0.14	$P = 0.04$	Moderate	Supported

located close to SMEs, this facilitates communication and speeds up the acceptance of information by SME managers. Third, the community better understands local culture related to efforts to improve performance than external parties such as government employees related to the empowerment of SMEs, large companies, and the academic community from universities. Suarniki et al. (2019) found that the community plays an important role in directly improving the performance of SMEs. The interaction of SME community members through WhatsApp groups is very dynamic. The networking that occurs among community members is not only a common friendship but also sharing of business information, business transactions, and business partnerships. Many members increase their sales turnover because they are actively involved in WhatsApp groups. Information sharing is regularly done through WhatsApp groups, such as business plan preparation training, exhibition activities, access to cheap and quality raw materials, potential business opportunities, financial governance, and business legality management. Hence, the community can bridge connectivity among members, resulting in a growing sense of togetherness and loyalty among them.

Innovation as a mediation of community relations with the performance of food and beverage SMEs. This means that the role of the community in sharing business information, business transactions, and business partnerships in improving performance will be greater if followed by innovation. The innovations in this research include product, process, organization, and marketing innovations. The results of statistical analysis show that the influence of the community on improving the performance of SMEs is greater through innovation as a mediation than direct influence. This emphasizes the importance of innovation as a driver of SME performance as Mircevska (2015) argued that innovation is the critical aspect to ensure the long-term existence of SMEs, in a dynamic and competitive world. The SME community that collaborates with external parties such as local governments, large companies, and universities can also support SMEs with the human and financial resources that underlie product and process innovation (Adam & Alarifi, 2021).

The community improves the link between innovation and the success of SMEs in the food and beverage industry. The role of the SME community in this study is measured by indicators of capital assistance and facilities, legal assistance and cooperation, training, and sources of innovation. This finding proves that the interaction between innovation and the role of the community is stronger in improving the performance of SMEs than the direct influence of the community. Li and Atuahene-Gima (2001) found that networking and collaboration can amplify the impact of innovation on performance. The research of Adam and

Alarifi (2021) shows that the moderating variable from external support has a significant positive effect on the performance results of SMEs in Saudi Arabia.

5. Conclusion

This research proves that the SME community plays an important role in improving the performance of food and beverage SMEs directly or indirectly through innovation. The indirect role is greater than the direct effect, proving that innovation is a crucial factor in improving the performance of food and beverage SMEs. The role of the SME community, which is followed by product, process, organizational, and marketing innovation has a greater impact on improving the performance of food and beverage SMEs.

Another important finding is the role of community in moderating the relationship between innovation and the performance of food and beverage SMEs. Innovation alone is not strong enough to improve the performance of SMEs; it needs to be integrated with the help of capital and facilities, cooperation, training, and access to productive resources to maximize the performance of SMEs.

This study provides practical and theoretical implications. The practical implication is that food and beverage SME managers need to use the SME community as a medium to improve performance. Food and beverage SMEs can choose the type of innovation that suits their conditions and then integrate it with roles facilitated by the SME community. Theoretically, this study supports the idea that small and medium-sized businesses (SMEs) are just as dependent on the community for their success as multinational businesses are. This is especially true given that SMEs in the food industry make up the majority of SMEs in developing nations like Indonesia.

Although this research provides practical and theoretical contributions, it has several weaknesses. First, food and beverage SMEs have a very broad scope, ranging from processed products that take a long time to those that are ready and only last one day after they are produced. The innovations needed to handle various types of food and beverage products to improve the performance of SMEs are certainly different. Second, the data in this study was cross-sectional, so it could not reveal the development of the role of community and innovation over a certain period, for example, in the last three years, to show the resilience of food and beverage SMEs in facing economic turmoil.

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