

The Effectiveness Model of Knowledge Sharing in Business Innovation to Improve the Performance of Micro Small and Medium Enterprises

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Abstract. Innovation performance can be an important indicator for organizations because it can enhance competitive advantage. In the organizational context, the results of innovation can be drawn by increasing efficiency, productivity, quality, competitive advantage, and market development. Micro, small, and medium enterprises (MSMEs) generally have to face challenges such as limited financial resources, sub-optimal operations, inefficient supply chains, limitations in technology application, and unpreparedness in facing competition and market changes. To be able to face this challenge, MSMEs need to take an innovative approach in business operations. This study aims to improve understanding of the effectiveness of knowledge sharing in organizations. An understanding of knowledge sharing activities through the business innovation process is expected to be able to produce a mechanism to improve MSME performance. Research data were obtained by distributing questionnaires directly and online to SMEs Data processing is done by testing the conceptual model using PLS-SEM. The conceptual model was tested with 137 samples obtained directly and online from MSME actors. The test results show the factors that encourage knowledge sharing activities so that they can influence business innovation and encourage the performance of MSMEs, namely, trust, organizational culture, organizational structure, employee attitudes, and motivational methods.

Keywords: innovation, knowledge sharing, organizational performance, MSMEs

I. INTRODUCTION

Sharing knowledge can be interpreted as social interaction in the form of knowledge, experience, and skills exchange between individuals (Lin, 2007). Knowledge can be said as a strategic asset that determines organizational success, where personnel equipped with the right experience will give the organization a better position in competitive terms (Han & Anantatmula, 2007) in (Ooi et al., 2012).

Previous research shows that the importance of sharing knowledge in an organization is to improve innovation performance and reduce ineffective learning efforts (Lin, 2007).

Innovation performance can be an important indicator for an organization because it can

enhance competitive advantage, thus impacting overall organizational performance (Putro & Ilmaniati, 2018). In the organizational context, the outcome of innovation can be drawn by increasing efficiency, productivity, quality, competitive advantage, and market development (Srinivasan et al., 2015).

In various countries, MSMEs generally have to face quite similar challenges, such as limited financial resources, suboptimal operations, inefficient supply chains, limitations in the application of technology, and unpreparedness in facing competition and market changes. To meet these challenges, MSMEs need to take an innovative approach in their business operations.

MSMEs in Indonesia continues to be the focus of the government to be empowered because they can provide the most significant employment opportunities for the community and are proven able to survive in conditions of economic crisis (Ilmaniati & Putro, 2019). The business sector in Indonesia is 99% MSMEs, which provides 89% of private-sector employment and contributes to GDP by 60% (APFC, 2018). The Government of Indonesia classifies the types of MSMEs based on net assets and annual sales obtained by MSMEs. Based on

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the survey results (APFC, 2018), 69% of MSMEs in Indonesia is included in the micro category, which has an annual income of fewer than 300 million rupiahs. The survey also showed that 60% of MSMEs in Indonesia was established by older age founders (35 years and above). Fewer young people who establish MSMEs can be one of the challenges for MSMEs in Indonesia to innovate.

Socio-economic conditions in Indonesia are considered to be less supportive of young people to enter the entrepreneurial world. Social factors such as a family culture that forces young people to become professional workers after completing their education, not for entrepreneurship. The lack of training centers to improve entrepreneurial skills and innovation is also seen as a barrier factor for young people to become entrepreneurs.

The survey results (APFC, 2018) showed that several MSMEs in Indonesia were not yet well connected with international knowledge networks that could assist their MSME business operations in the future. This situation indicates that sharing of knowledge among MSME actors can be a factor that will improve MSME performance in Indonesia.

This study has three objectives that address the problem situation in the background of the study: (1) Explain the relationship between tacit knowledge sharing and explicit knowledge sharing on the innovation process and their impact on MSMEs performance, (2) Identify the factors that influence tacit knowledge sharing and explicit knowledge sharing in the innovation process, and (3) Explain the relationship between business innovation and MSMEs performance.

This research will identify and analyze the potential of MSMEs that can be developed using knowledge sharing and the factors that influence them by reviewing the operations of MSMEs that have been running. This study also examines the influence of knowledge sharing elements in the innovation process that has an impact on improving MSME performance so that the development model is obtained.

II. RESEARCH METHOD

This research is a quantitative study using statistical tests. A survey method with a questionnaire instrument was used to collect data. The PLS-SEM approach is used to analyze data and research models. WarpPLS 4.0 software will be used to assist data processing and testing of conceptual models.

This study examines and identifies the existence of MSMEs in the process of innovation with knowledge sharing activities in each MSME, which has business activities in West Java, Indonesia. The MSMEs are new business actors and have decades of experience. MSMEs respondents' criteria were adjusted to the number of assets that have been determined in the legislation.

This study collected primary data in the form of a survey by distributing questionnaires directly to MSMEs. Data is taken by a random sampling method, which is randomly assigned to businesses around West Java province. In addition, to increase the number of respondents, the questionnaire was also sent through social media such as Twitter and Facebook, forums on the mobile chat application. Data collection activities were carried out in June 2017 for approximately 2 months. After waiting for the process of filling out the questionnaire directly and online, there were 140 data obtained. Based on the inspection of the completeness requirements, the total amount of data that can be processed is 137.

This study takes the research model formulated in previous research by (Putro & Ilmaniati, 2018), as depicted in Figure 1. There are 11 latent constructs that are used with 11 hypotheses that are formulated to explain the relationship between the 11 constructs, namely:

- H1: Trust has a significant positive effect on (a) tacit and (b) explicit knowledge sharing.
- H2: Organizational culture has a significant positive effect on (a) tacit and (b) explicit knowledge sharing.
- H3: Organizational structure has a significant positive influence on (a) tacit and (b) explicit knowledge sharing.

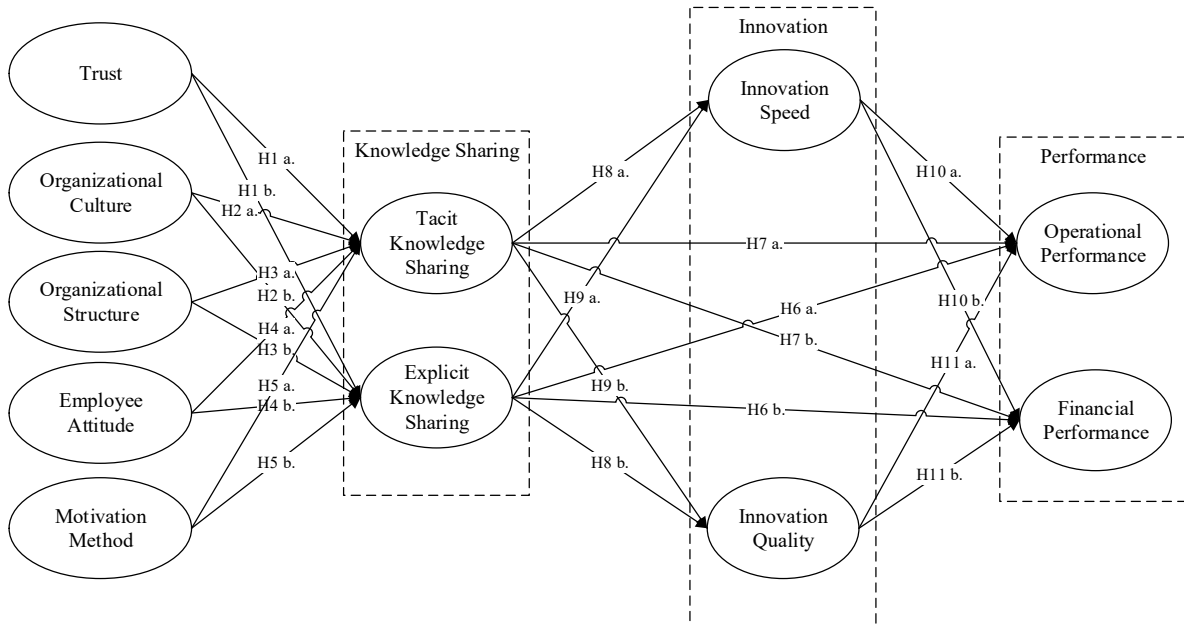


Figure 1. Research Model (Putro & Ilmaniati, 2018).

Table 1. Variables Operationalization References

No	Variable	Operationalization reference	Number of items
1	Trust (KP)	Kim & Lee (2004); Fang & Chiu (2010)	4 items
2	Organizational culture (BP)	Gazor et al. (2012)	3 items
3	Organizational structure (SO)	Al-alawi et al. (2007); Gazor et al. (2012)	3 items
4	Employee attitude (SK)	Wei et al. (2010); Chen et al. (2012)	5 items
5	Motivation method (MO)	Lin (2008)	5 items
6	Tacit knowledge sharing (TK)	Wang & Wang (2012)	6 items
7	Explicit knowledge sharing (EK)	Coakes (2006); Huang et al. (2011)	5 items
8	Innovation speed (KCI)	Wang & Wang (2012); Kadar et al. (2014)	5 items
9	Innovation quality (KLI)	Wang & Wang (2012); Kadar et al. (2014)	5 items
10	Operational performance (KOP)	Wang & Wang (2012); Yildiz et al. (2014)	6 items
11	Financial performance (KFP)	Wang & Wang (2012); Yildiz et al. (2014)	4 items

H4: Employee attitudes have a significant positive effect on (a) tacit and (b) explicit knowledge sharing.

H5: The motivation method has a significant positive effect on (a) tacit and (b) explicit knowledge sharing.

H6: Tacit knowledge sharing is positively associated with (a) innovation speed and (b) innovation quality.

H7: The division of explicit knowledge is positively associated with (a) innovation speed and (b) innovation quality.

H8: Explicit knowledge sharing has a significant positive effect on (a) operational performance and (b) financial performance of the company.

H9: Tacit knowledge sharing has a significant positive effect on (a) operational performance and (b) financial performance of the company.

H10: Significant positive performance on (a) operational performance and (b) financial performance of the company.

H11: The quality of innovation is positively

associated with (a) operational performance and (b) financial performance of the company.

The operationalization of the variables in this study was carried out by referring to previous studies such as Kim & Lee (2004); Fang & Chiu (2010); Ismail Al-Alawi, Yousif Al-Marzooqi, & Fraidoon Mohammed (2007); Gazor, Koohkan, Kiarazm, & Nazari Ameleh (2012); Wang & Wang (2012); Wei, Liu, & Calabrese (2010); Chen, Chuang, & Chen (2012); W. B. Lin (2008); Coakes (2006); Huang, Davison, & Gu (2011); Kadar, Moise, & Colomba (2014); Yıldız, Baştürk, & Boz (2014). It was summarized in Table 1.

III. RESULT AND DISCUSSION

Based on the data collected, it can be concluded that the majority of respondents are MSMEs in the culinary field, which have only been operating for less than 5 years and are

located in Bandung or Cianjur, West Java, Indonesia. The majority of MSME's business scale is classified as micro because it has several workers less than 5 people, with an asset value of less than 50 million rupiah and annual sales value less than 300 million rupiahs.

Measurement model analysis

The measurement model is tested based on the reliability and validity of the latent construct measurement items. Reliability is tested by looking at the value of composite reliability and Cronbach alpha. The results of data processing show that the composite reliability and alpha Cronbach for each construct have values above the recommended value. The validity of the measurement model can be tested by looking at convergent validity (AVE values) and discriminant validity (Fornell-Larcker Criterion values). The results of data processing showed that the AVE value and the Fornell-Larcker Criterion value for

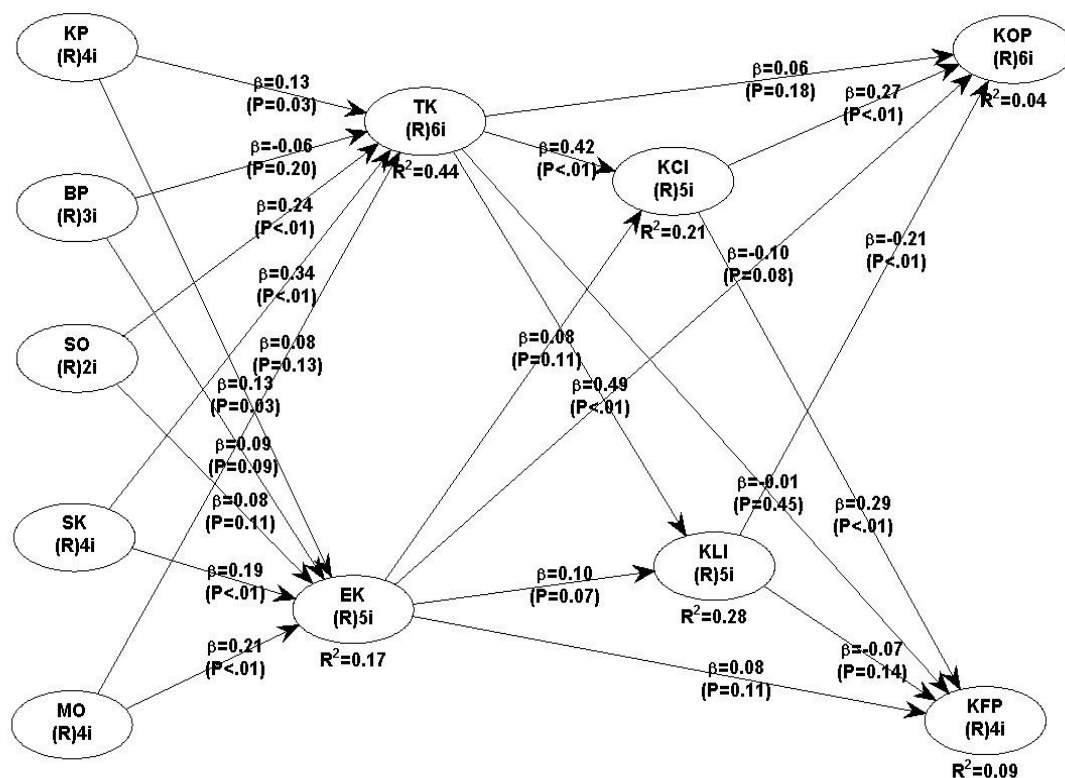


Figure 2. Path Diagram for Evaluation of Structural Models.

each latent construct measurement item were above the recommended value. Testing the measurement model that shows the reliability and validity parameters above the recommended amount indicates that the latent construct measurement items used in the study are appropriate and proper.

Structural model analysis

The results of data processing in the structural model in Figure 2 show several significant variables. The significance of the variable relationship is indicated by the p-value. P-value is eligible if the value is <0.01 for the 99% confidence level, <0.05 for the 95% confidence level, and <0.1 for the 90% confidence level. Table 2 is a recapitulation of data processing for structural models.

The structural model in this study is quite

able to explain the relationship between variables, both exogenous and endogenous. This model can be seen from the R-Square value of the research model. Based on (Henseler, Hubona, & Ray, 2016), R-square values of 0.67, 0.33, and 0.19 in the PLS pathway model are categorized as large, moderate, and weak. Tacit knowledge sharing is a variable that can be explained quite well with a value of 0.445, which includes moderate criteria. Another variable that is also quite well explained by the model is the innovation speed variable with a value of 0.278, which is a weak-medium criterion. In addition, in this research model, other endogenous variables are still in the weak criteria, with variations in values around 0.1.

The relationship between latent variables in the structural model of this study also showed no collinearity. As a rule of thumb, $VIF \leq 5$ is needed

Table 2. Structural Model Evaluation Results

No.	Hypothesis	Path	Coef.	Std. error	P-Value	Annotation	Hypothesis test results
1	H1a	KP --> TK	0.129	0.068	0.030	Significant*	Accepted
2	H1b	KP --> EK	0.131	0.068	0.028	Significant*	Accepted
3	H2a	BP --> TK	-0.058	0.068	0.195	Not significant	Rejected
4	H2b	BP --> EK	0.092	0.068	0.088	Significant**	Accepted
5	H3a	SO --> TK	0.237	0.068	<0.001	Significant***	Accepted
6	H3b	SO --> EK	0.084	0.068	0.109	Not significant	Rejected
7	H4a	SK --> TK	0.338	0.068	<0.001	Significant***	Accepted
8	H4b	SK --> EK	0.189	0.068	0.003	Significant*	Accepted
9	H5a	MO --> TK	0.078	0.068	0.126	Not significant	Rejected
10	H5b	MO --> EK	0.208	0.068	0.001	Significant*	Accepted
11	H6a	TK --> KCI	0.422	0.068	<0.001	Significant***	Accepted
12	H6b	TK --> KLI	0.488	0.068	<0.001	Significant***	Accepted
13	H9a	TK --> KOP	0.062	0.068	0.181	Not significant	Rejected
14	H9b	TK --> KFP	-0.008	0.068	0.454	Not significant	Rejected
15	H7a	EK --> KCI	0.084	0.068	0.107	Not significant	Rejected
16	H7b	EK --> KLI	0.099	0.068	0.074	Significant**	Accepted
17	H8a	EK --> KOP	-0.096	0.068	0.080	Significant*	Rejected
18	H8b	EK --> KFP	0.083	0.068	0.112	Not significant	Rejected
19	H10a	KCI --> KOP	0.271	0.068	<0.001	Significant***	Accepted
20	H10b	KCI --> KFP	0.290	0.068	<0.001	Significant***	Accepted
21	H11a	KLI --> KOP	-0.212	0.068	0.001	Significant*	Rejected
22	H11b	KLI --> KFP	-0.073	0.068	0.141	Not significant	Rejected

to avoid collinearity problems (Hair, J., Black, W. C., Babin, B. J., & Anderson, 2014). VIF value describes the degree of multicollinearity that can affect the estimation process, where the VIF value > 10 indicates the high multicollinearity.

The results of the overall model fit test indicate that the 10 criteria of the model goodness have met the acceptance limit requirements and the GoF (Goodness of Fit) values in the large category. Based on the recapitulation results, it can be concluded that the overall model of this study is a good fit.

Discussion

Previous studies have discussed the relationship between knowledge sharing, innovation, and performance, especially in formal structured companies or institutions (Wang & Wang, 2012; H.F. Lin, 2007; and Zaqout & Abbas, 2012). There are few discussions about the relationship of knowledge sharing, innovation, and performance at MSMEs in certain regions. MSMEs are different from formal companies and educational institutions because they generally do not have a clearly defined organizational structure and bureaucratic hierarchy. Therefore, the relationship between knowledge sharing, innovation, and performance at MSMEs can differ from formal companies and institutions.

A study by Wang & Wang (2012) shows that tacit knowledge sharing has no significant effect on the speed of innovation, while explicit knowledge sharing and innovation quality has no significant impact on operational performance. Lin (2007) states that knowledge sharing (in the form of knowledge donating and knowledge-collecting) significantly affected innovation's capability. Zaqout & Abbas (2012) show that performance is affected substantially by tacit knowledge sharing but is not affected by explicit knowledge sharing.

Based on the result, tacit knowledge sharing has a positive influence on the process of creating business innovation in terms of speed and quality of innovation. This sharing can be interpreted that MSMEs whose employees regularly share knowledge in the form of skills and work experience will be faster and better in

producing an innovative product or idea. This knowledge can be considered by MSMEs owners to routinely hold joint discussion forums as a means to share skills and experience in dealing with work problems.

Unlike tacit knowledge sharing, explicit knowledge sharing only gives a positive influence on the quality of innovation. This knowledge can be interpreted that MSMEs whose employees regularly share documents and work reports will be better able to improve the quality of innovations and products created. MSMEs owners can consider creating a mechanism where companies always share papers and reports relating to the development of innovation as a solution to the problem. Another significant effect of explicit knowledge sharing is toward the operational performance of MSMEs. However, this significant influence is negative. This influence means that the activity of sharing knowledge in the form of sharing documents and reports is possible to reduce the performance of MSMEs in maintaining productivity, relationships with consumers, and managing company assets. Therefore, the mechanism developed by MSME owners in terms of sharing documents and reports between employees must be designed in such a way so as not to provide excessive and undue information.

The quality of innovation also has a significant negative effect on MSME operational performance. -It means the overall innovation performance in the form of innovation results (processes, products, or services) is possible to reduce the operational performance of the UMKM itself. Therefore, the owner of UMKM should not focus too much on making something innovative but ignores the relationship with consumers and ignores productivity.

The impressive result in this research is that the speed of innovation has a significant positive effect on the performance of MSMEs in operational and financial terms. This result can be interpreted as the ability of MSMEs to accelerate activities and tasks in building competitive advantage against competitors in the industry by shortening the product life cycle and improving relationships with consumers, producers, and

company assets, even increasing sales and company profits. Therefore, MSMEs owners must ensure that they are always first and foremost in introducing new products and business ideas to consumers.

IV. CONCLUSION

Models that can explain tacit and explicit knowledge sharing in business innovation activities that impact MSME performance can be described in this study. Tacit knowledge sharing has a positive effect on the business innovation process, both in quality and speed. On the other hand, explicit knowledge sharing has a positive impact only on the quality of innovation. Regarding MSMEs' performance, explicit knowledge sharing, and the quality of innovation has a negative effect on the company's operational performance. The speed of innovation becomes the most crucial factor in this model. The speed of innovation positively directly affects the company's operational and financial performance.

Based on the conclusions, this study has several limitations and suggestions for further research that can be considered. First, there was no discussion about the indirect effect of latent variables. In the new development of the model, it is necessary to test the mediating effect of hidden variables in the model further. Second, the performance is still measured through the perception of MSME actors. Further research needs to consider a more measurable measure of performance variables, such as the number of customer growth or profit value per month. Third, it was found that the variance of the research model that explained the performance of MSMEs was relatively small. The development of further research models requires the interaction of relationships between latent variables that might explain MSME performance.

ACKNOWLEDGMENTS

The authors thank the Ministry of Research, Technology, and Higher Education of the Republic of Indonesia (KEMENRISTEKDIKTI) and the University of Suryakencana for providing

facilities and financial support under Research Grant #009/MoU/REK/UNSUR/II/ 2018.

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