**Knowledge Sharing and Environmental Dynamism****on Business Performance: An Empirical Study in Muslim Fashion SMEs**

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**Abstract**

This paper aims to examine the effect of knowledge sharing capability and product innovation on business performance with environmental dynamismas moderating variable. Respondents of this study were 148 Muslim owners or leaders of fashion SMEs in Semarang, Indonesia. A hierarchical regression analysis was used to examine the relationship between knowledge sharing capability and product innovation on business performance with environmental dynamismas moderating variable. This study found that knowledge sharing capability have a significant effect on product innovation and business performance. Furthermore, product innovation has a significant effect on business performance and environmental dynamismcan be a mediator of the relationship between product innovation on business performance.

 **Keywords**: Knowledge sharing capability, Product innovation, Environmental dynamism, Business performance

**Introduction**

Knowledge sharing capability has a significant contribution to the development of innovation and competitive advantage for companies (Azadehdel et al., 2013) and being a driver of human resources to carry out innovation (Lin, 2007; Rahab, 2011). Knowledge sharing can be developed through formal and informal mechanisms to ensure knowledge sharing activities in various fields through easy access to data and information, sharing of experiences and knowledge. Knowledge sharing is related to accessing information between employees by giving and receiving voluntarily, which is considered capable of being a driver for increasing innovation capability.

A person's motivation has an essential role in sharing knowledge within the organization, so that trust and cooperation are determinants of the success of knowledge sharing in organizations (Javadi et al., 2012; Kishore et al., 2015). Effective knowledge sharing will enable the transfer of knowledge among employees and reduce the negative impact among employees so that affective knowledge sharing can create cost efficiency, company growth, and improve innovation performance (Abdelwhab Ali et al., 2019). Furthermore, innovation performance will determine organizational performance (Antonio Davila et al., 2018; Da Costa et al., 2018).

Environmental conditions change rapidly and significantly affect the success of management when making decisions (Fiedler, 1964) so that various innovations are carried out when facing environmental changes to survive in the market (Drucker, 1985). The role of product innovation becomes important when facing dynamic environmental changes in order to be able to provide new products according to customer expectations and have the potential to improve business performance (Tajeddini, 2016).

Studies of the relationship between knowledge sharing and business performance are still contradictory. This happens because they do not understand the behavior of the relationship between these variables. Previous studies have shown that knowledge sharing is a determinant of business performance (Uluwafemy et al,, 2016; Wahyu et al., 2016). Furthermore, tacit knowledge sharing can improve company performance (Rohana Ngah & Ibrahim, 2009). Knowledge donating and knowledge collecting significantly affect company performance both in finance and operations (Son & Phong, 2020). Another study shows that explicit knowledge sharing cannot improve operational performance (Wang & Wang, 2012; 2014). In this study, the researcher places product innovation to solve the differences in the results of previous research. The research results are expected to contribute to the development of knowledge and solve problems faced by Muslim fashion SMEs to improve business performance.

**Literature Review and Hypothesis Development**

**Knowledge sharing capability and product innovation**

Knowledge sharing is the foundation for sharing knowledge among employees, and also for contributing to the implementation of knowledge and innovation. Knowledge sharing through sharing data, information, and knowledge among employees will significantly affect innovation capability (Luciana Andrawina et ., 2008; Man Fung Lo, 2018; Muafi, 2020). Explicit and tacit knowledge sharing is considered capable of improving the quality of innovation and speed of innovation (Wang & Wang, 2012b). Effective knowledge sharing practices can improve innovation performance through cost efficiency and company growth (Abdelwhab Ali et al., 2019). Besides, knowledge sharing affects innovation performance (Paavo et al., 2015) and strongly relates to innovation capability (Kumar & Rose, 2012). Therefore, the proposed hypothesis is as follows:

H1: Product innovation is influenced by knowledge sharing capability.

**Knowledge sharing capability and business performance**

Knowledge sharing allows organizations to transfer knowledge from experts to other employees so that organizations can capture knowledge and reduce negative impacts that will occur. SMEs that can utilize tacit knowledge sharing among employees will be more creative and innovative to improve company performance (Ngah & Ibrahim, 2011). Studies show that knowledge sharing significantly affects organizational performance (Wahyu et al., 2016; Kucharska, W. and Erickson, 2019; Muafi, 2020). Knowledge-sharing capability significantly affects organizational growth and creates cost efficiency (Abdelwhab Ali et al., 2019). Furthermore, knowledge-sharing culture also has a significant effect on company performance (Marouf, 2007). The facts show that knowledge donating and knowledge collecting have a strong relationship with organizational performance (Kim et al., 2013). Therefore, the proposed hypothesis is as follows:

H2: Business performance is influenced by knowledge sharing capability

**Product innovation and business performance**

Studies show that innovation performance is a determinant of organizational performance (Antonio Davila et al., 2018; da Costa et al., 2018). Product innovation capability can improve business performance (Wahyu et al., 2016). Likewise, the speed and quality of innovation can improve financial performance and operational performance (Wang & Wang, 2012a). The interaction between product and service innovation models will benefit long-term business performance (Visnjic, et al, 2014). Innovation capability has a vital role in improving business performance (Alam, 2013). Product innovation can improve business performance (Tajeddini, 2016). Therefore, the proposed hypothesis as follows:

H3: Business performance is influenced by product innovation

**Environmental dynamism as moderating variable**

The heterogeneous consumer choices encourage companies to adapt to changing markets and increasingly dynamic technologies (Atuahene-gima & Ko, 2001). This condition requires the speed of innovation to adapt to changes in technology and competition (Kayhan Tajeddini, 2008). The success of an organization's management when making decisions to achieve goals depends on environmental conditions (Fiedler, 1964). The facts show that product innovation has an essential role in creating competitive advantage and business performance (Akamavi, 2005; Lages et al., 2008). When facing a dynamic environment, companies that want to be successful must share innovations to grow fast and survive in the market (Drucker, 1985). Companies facing a dynamic environment are required to innovate products that meet customer expectations to improve business performance (Tajeddini, 2016). Therefore, the proposed hypothesis is as follows:

H4: Environmental dynamism moderates the relationship between product innovation and business performance

Figure 1: Conceptual Model

**Research method**

**Sample and data collection**

Small and medium enterprises in the Muslim fashion sector are becoming the objects of this research. The research location is in Semarang, Central Java, Indonesia, with a total of 148 respondents. Data was collected by distributing 220 questionnaires, but only 148 respondents (67.27%) returned and analyzed. The description of the respondents in general consists of men (24.50%) and women (75.50%) with ages between 19 to 57 years and experience managing a business since 2 to 26 years.

**Measurement**

Primary data in this study is collected through surveys, and respondents' answers were measured by using a rating scale of 1 – 10 (Hair et al, 2010), with the lowest score (1) and the highest (10). Research variables are measured through indicators adopted from some literatures. The knowledge sharing capability variable is measured through four indicators adopted from (Raed Kanaan & Masa’deh, 2013), which are; the desire to share knowledge voluntarily, being willing to share knowledge with colleagues who need it, being open to suggestions related to knowledge from colleagues, and having a high level of expertise. Product innovation variable is measured through five indicators adopted from the perspective of (Muhammad Shakeel, 2014), including product novelty and uniqueness, new products according to customer needs, frequency of new product introductions, product contribution to market expansion, and products providing the best value for customers. The environmental dynamism variable is measured through indicators adopted from (Muhammad Shakeel, 2014), namely changes in customer needs, changes in strategy to deal with competitors, the rate at which products become obsolete, and changes in technology. Business performance is measured through four indicators adopted from (Nuryakin et al., 2018) ( Nuryakin et al., 2018; Yang et al., 2011), namely growth in the number of customers, profit growth, sales volume growth, and sales area growth.

**Data Analysis and Measurement Model**

The research data is processed using SPSS 23 to facilitate hypothesis testing. The results of the classical assumption test show that the data is feasible to be analyzed using multiple linear regression, this can be proven from the Kolmogorov Smirnov test value of > 0.05, meaning that the data distribution is close to normal and no multicollinearity (VIF < 10); and Glejser test results show p-value of > 0.05, meaning that there is no heteroscedasticity. Table 1 shows the validity test results with a p-value of <0.05 so that all indicators of the research variables are also declared valid, and the Cronbach Alfa value of > 0.06 shows reliable.

Table 1. Results of Data Validity and Reliability

|  |  |  |
| --- | --- | --- |
| Variables and indicators | p-value | Cronbach Alfa |
| **Knowledge sharing capability**Willingness to share knowledge voluntarily.Willing to share knowledge with colleagues who need it.Be open to suggestions regarding knowledge from colleaguesHave a higher level of work expertise**Product innovation** The novelty and uniqueness of the productNew products according to customer requirementsFrequency of new product introductionProduct contribution to market expansionProducts provide the best value for customers**Environmental dynamism** Changes in customer needsChanges in strategy to face competitorsThe rate at which the product becomes obsoleteTechnological change rate**Business performance**Growth in the number of customersProfit growthSales volume growthSales area growth | 0.000.000.000.000.000.000.000.000.000.000.000.000.000.00  0.000.000.000.00 | 0.825 0.8320.830  0.872 |

**Results**

The relationship between knowledge sharing capability, product innovation, and business performance is developed to facilitate hypothesis testing. Table 2 shows the effect of knowledge sharing capability on product innovation (std = 0.42 with p-value 0.00<0.05), then the effect of knowledge sharing capability on business performance (std = 0.43 with p-value 0.00 <0.05) so that H1, H2 are accepted. The effect of product innovation on business performance shows (std = 0.35 with p-value 0.00 <0.05), so H3 is accepted. The results of the moderation test show that environmental dynamism moderates the relationship between product innovation and business performance, as evidenced by the moderating regression coefficient (std = 0.24 with p-value 0.04 <0.05) so that H4 is accepted.

Table 2. Hierarchical regression on moderating role environmental dynamism

on the product innovation and business performance

|  |  |  |
| --- | --- | --- |
| Independent variable | Regression Model 1 | Regression Model 2 |
| Product Innovation | Business Performance |
| Knowledge Sharing Capability | 0.42\* | 0.43\* |
| Product Innovation |  | 0,35\* |
| Environmental Dynamism \* Product InnovationR SquareAdjusted R SquareF-value | 0.140.130.00 | 0.24\*\*0.360.350.00 |

 Note: \* sig< 0.01; \*\* sig <0.05

**Discussion**

 Knowledge sharing capability affects product innovation. The desire to voluntarily share knowledge and be willing to share knowledge with colleagues will encourage the creation of information and knowledge sharing and impact the growth of enthusiasm for new product innovations. Likewise, the openness to receive suggestions from colleagues and their expertise also encourage enthusiasm for product innovation. The results of this study are in line with the findings which state that knowledge sharing affects innovation performance (Paavo et al., 2015). The study is also in line with the findings that knowledge sharing strongly relates to innovation capability (Kumar & Rose, 2012).

Knowledge sharing capability has a significant effect on business performance. Awareness and willingness to share knowledge voluntarily with colleagues in need will transfer new knowledge and information. Voluntary knowledge transfer among co-workers to meet customer needs and desires will impact increasing sales and company performance. The openness of colleagues to share knowledge will encourage enthusiasm to meet customer needs and desires and impact business performance. The results of this study are in line with the findings that knowledge sharing has a significant effect on organizational performance (Wahyu et al., 2016; Kucharska, W. and Erickson, 2019; Muafi, 2020). Knowledge sharing capability can create cost efficiency and organizational growth (Abdelwhab Ali et al., 2019).

Product innovation affects business performance. The ability of SMEs to create unique and appropriate to the customer needs will be able to encourage increased sales. Likewise, the speed of introduction of new products according to market needs will be able to expand the market, increasing sales and impacting business performance. These results align with research findings that innovation performance is a determinant of organizational performance (Antonio Davila et al., 2018; da Costa et al., 2018). In addition, product innovation capability can improve business performance (Wahyu et al., 2016). Thus, environmental dynamism can mediate the relationship between knowledge sharing capability and business performance.

The ability of SMEs to innovate new products that are unique and different from competitors according to customer needs is essential in facing changes in the business environment. New product innovations supported by the ability to adapt to changes in the environment will encourage increased business performance. The results of this study are in line with the finding that in the face of a dynamic environment, one must share innovations to grow fast and survive in the market (Drucker, 1985). Companies facing a dynamic environment are required to innovate products that meet customer expectations to improve business performance (Tajeddini, 2016).

**Conclusion**

New product innovations that are unique and different from competitors are needed by SMEs when facing changes in the business environment. The success of product innovation requires support for effective knowledge sharing among colleagues. Likewise, improving business performance can be increased when SMEs can innovate new products according to market needs. New product innovations that can follow the dynamics of the environment, such as according to customer needs, replacing obsolete products, and adapting technology, will improve business performance. This research was conducted with the object of Muslim fashion with a limited area in Semarang, Central Java, so that that future research can be carried out in a broader object.

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