THE ROLE OF KNOWLEDGE MANAGEMENT AND INNOVATION MANAGEMENT ON MANUFACTURING PERFORMANCE

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ABSTRACT

The purpose of this research is to analyze the effect of knowledge management on manufacturing performance, the effect of innovation on manufacturing performance of manufacture in Banten. The method used in this research is quantitative method, data collection method by distributing questionnaires to 105 manufactur managers. The questionnaire was distributed electronically using simple random sampling technique. The results of the questionnaire returned were 105 respondents. Based on the results of data analysis, it is concluded that knowledge management have a significant effect on manufacturing performance, An increase in the knowledge management variable will be followed by an increase in manufacturing performance, and a decrease in the variable knowledge management will be followed by a decrease in manufacturing performance, innovation have a significant effect on manufacturing performance, The novelty of this research is the variable relationship model of knowledge management, innovation and manufacturing performance, .The results of this study can become a reference reference for future research to be applied in other places or countries.

Key Words: knowledge management , innovation, Manufacturing performance,

I. INTRODUCTION

The application of knowledge management in manufacturing is only limited to a culture of knowledge sharing carried out in the context of fraud prevention. According to Adinugraha et al. (2021) knowledge sharing is considered not optimal, from the results of the branch recap it can be concluded that almost all employees never share knowledge. The flow of information from management to employees is also very weak. The company has not provided comprehensive management information facilities to employees. The habit of working based on experience rather than knowledge is also a challenge that management must immediately overcome. Often employees are placed in changing positions and need knowledge to support their work processes. According to Anas et al. (2020) and Alessa et al. (2021) obstacle faced by employees is not being able to document training data that can be used as new knowledge for other employees. Employees sent in order to acquire knowledge in training and development is sometimes unable to provide the entire content and understanding of the material very clearly, and does not even expose the knowledge gained in it a report or data. This can be detrimental to management by losing knowledge and funding resources from training and thus inefficient. According to Adinugraha et al. (2021); Anas et al. (2020) and Alessa et al. (2021) Knowledge is seen as the most important resource in the company. Effective use of knowledge will not only create competitive advantage, but also improve performance. organization. To get the maximum benefit from the knowledge they have and to find out what knowledge they must have, companies must manage their knowledge through knowledge management. According to Desky et al. (2020) knowledge management strategies are the main vehicle for organizations to achieve their goals, and to compete well. Knowledge management is recognized as an important weapon for maintaining competitive advantage and improving performance.
According to Arif et al. (2021); Dijkstra et al. (2010) and Desky et al. (2020) the organization consciously identifies the knowledge it has and uses it to improve performance and produce various innovations. Organizations must recognize the importance of effective knowledge management because the costs of ignoring it are enormous. So that the evaluation of knowledge management performance becomes increasingly important because it provides a reference to direct organizations to improve their performance and competitiveness. To carry out innovation, organizations are required to have good and in-depth knowledge, so that in the knowledge creation process the organization tries to improve its working methods. The innovation process depends a lot on knowledge, especially because knowledge represents a field (realm) much deeper than on data, information and conventional logic; Therefore, the power of knowledge lies in its subjectivity, which underlies the values and assumptions that form the foundation for the process learning. revealed that the competitive advantage based on knowledge can also be maintained because more and more are known by the organization, the more it learns. According to Desky et al. (2020) Learning opportunities for organizations that already have a knowledge advantage are a valuable advantage in comparison organizations that have learning opportunities but do not yet have knowledge of the same things. Manufacturing is expected to be able to build a competitive advantage with a knowledge base, the ability to create knowledge that is faster, new and able to outperform its competitors. Management has not considered knowledge as a strategy and company asset, so it has not been developed and implemented properly. According to Arif et al. (2021); Dijkstra et al. (2010) and Desky et al. (2020) Management has not encouraged employees to work innovatively and appreciate work. Management is believed to be able to apply quality knowledge management strategies and is expected to be able to produce quality goods or services in order to create a conducive work environment in improving employee performance. This study aims to determine the effect of knowledge management aspects on employee performance through the competitive advantage of the Management headquarters.

Innovation is considered as an important mechanism for becoming more competitive and for survive in the global business world According to Kim et al. (2021) innovation is an important force in improving organizational performance as well as can increase economic growth and development. More than that, the organization must innovative to survive and thrive in a competitive and fast-paced environment changed. For that, the important thing and what an organization must have is success creating innovation According to Henseler et al. (2009); Iriani et al. (2021)) it is explained that an innovation can be in the form of a new product or service, a new production process technology, new structural and administrative systems or new plans for organizational members. There has been a lot of research on the relationship of knowledge management. Empirical evidence from According to Henseler et al. (2009); Iriani et al. (2021) and Juliana et al. (2021) and Kim et al. (2021) stated that the KM strategy has a direct effect on organizational performance and also has an indirect effect through innovation as a mediating variable. The results of the research by Yousif Al-Hakim and Hassan (2013) are supported by research Nugroho et al. (2020); Novitasari et al. (2021) and Fabiyani et al. (2021) who analyzed the relationship between Strategic knowledge management (KM), corporate innovation strategies and organizational performance in 310 Spanish organizations. Result Research shows that both KM strategies (codification and personalization) are influential on innovation and organizational performance directly or indirectly. Research the same was done by According to Fabiyani et al. (2021) whose results support the research of Nugroho et al. (2020); Novitasari et al. (2021) and Fabiyani et al. (2021)) research focuses on sharing knowledge (knowledge sharing) on innovation capabilities and innovation performance. Result of This study shows that knowledge sharing has no effect on ability innovation and innovation performance.

**H1: Knowledge management has a significant effect on manufacturing performance,**

According to Purwanto et al. (2021); Pramono et al. (2021) and Rahaman et al. (2021) The innovation process depends a lot on knowledge, especially because of knowledge represents a field (realm) much deeper than data, information and logic conventional; therefore, the power of knowledge lies in its subjectivity, that is underlying the values and assumptions that become the foundation for the learning process Innovation is related to knowledge that can be used to create new products or processes and services in order to increase competitive advantage and meet the ever-changing needs of customers. According to Purwanto et al. (2021); Pramono et al. (2021) and Rahaman et al. (2021) suggest that there is a significant positive relationship between innovation and business performance. Furthermore Rahaman et al. (2021) provide support to research by Pramono et al. (2021) and Rahaman et al. (2021) show that the positive influence of innovation or relationship orientation on organizational performance

**H2: Innovation has a significant effect on manufacturing performance,**
II. METHOD

The data analysis method used in this research is Partial Least Square which is a powerful analytical method because it does not assume the data must be use a certain scale and can use a small sample. According to Hair et al. (2019); Hair et al. (2012) and Hair et al. (2017) Partial Least Square can also be used for theory confirmation. When compared with covariance based SEM, then the PLS component bases are able to avoid the two big problems faced covariance based SEM (CBSEM), namely inadmissible solution and indeterminacy factors. The hypothesis in this study will be tested using a Partial Least Square (PLS), which is based on the p-value and then the coefficients will also be analyzed regression and coefficient of determination.

The method used in this research is quantitative method, data collection method by distributing questionnaires to 105 managers of manufacture in banten. Data collection techniques in the following study used a questionnaire with a Likert scale of 1-5 with a total of 21 items of written statements given to 105 manufacturing managers to be filled in and returned later. Data analysis techniques in this study used the help of SmartPLS 3.3.3. Data analysis is used to find out the amount of influence of the innovation and knowledge management variables and the dependent variable.

Each closed question / statement item is given five answer options, namely: strongly agree (SS) score 5, agree (S) score 4, disagree (KS) score 3, disagree (TS) score 2, and strongly disagree (STS) score 1. The method for processing data is by using PLS and using the SmartPLS version 3.0 software as a tool. The population in this study were 105 managers of manufacture in Banten Indonesia. The questionnaire was distributed electronically using simple random sampling technique. The results of the questionnaire returned were 100 respondents.

![Figure 1. Research Model](image)

Based on the theoretical study and previous research above, the research model is as in Figure 1. While the research hypothesis is as follows:

**H1:** Knowledge management has a significant effect on manufacturing performance,

**H2:** Innovation has a significant effect on manufacturing performance,

III. RESULT AND DISCUSSION

The results of research and data processing that have been obtained by researchers from respondents on the effect of knowledge management and loyalty on performance. Researchers distributed questionnaires as many as 105 respondents. The questionnaire given to respondents contains 21 statement items. According to Hair et al. (2017) and Hair et al. (2018) The testing phase of the measurement model includes testing for convergent validity, discriminant validity and composite reliability. The results of the PLS analysis can be used to test the research hypothesis if all indicators in the PLS model have met the requirements of convergent validity, discriminant validity and reliability testing. According to Hair et al. (2019); Hair et al. (2012); Hair et al. (2017) Convergent validity test is done by looking at the loading factor value of each indicator against the construct. In most references According to Hair et al. (2018) a factor weight of 0.5 or more is considered to have sufficiently strong validation to explain latent constructs. In this study, the minimum limit for the accepted loading factor is 0.5, provided that the AVE value of each construct is > 0.5. Based on the estimation results of the PLS model found all indicators have a loading factor value above 0.5 so that the model has met the convergent validity requirements. According to Hair et al. (2012); Hair et al. (2017) and Hair et al. (2018) part from looking at the loading factor value of each indicator, convergent validity was also assessed from the AVE value of each construct. AVE for each complete construct can be seen in table 2. According to Hair et al. (2018) The AVE
value for each construct of this study is more than 0.5. So the convergent validity of this research model has met the requirements. The value of loadings, cronbach's alpha, composite reliability and Variance Extracted (AVE) shown in table 2

<table>
<thead>
<tr>
<th>Tabel 1. Cronbach’s Alpha, Composite Reliability, and Average Variance Extracted (AVE)</th>
<th>Cronbach’s Alpha</th>
<th>rho_A</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>innovation</td>
<td>0.978</td>
<td>1.056</td>
<td>0.945</td>
<td>0.913</td>
</tr>
<tr>
<td>knowledge management</td>
<td>0.914</td>
<td>0.912</td>
<td>0.923</td>
<td>0.910</td>
</tr>
<tr>
<td>manufacturing performance,</td>
<td>0.978</td>
<td>0.924</td>
<td>0.921</td>
<td>0.901</td>
</tr>
</tbody>
</table>

**Construction Reliability Testing**

According to Hair et al. (2017) and Hair et al. (2018) Construct reliability can be assessed from the Cronbach's alpha value and the composite reliability of each construct. The recommended composite reliability and cronbach's alpha value is more than 0.7. The results of the reliability test in Table 1 above show that all constructs have composite reliability and Cronbach's alpha values are greater than 0.7 (> 0.7). In conclusion, all constructs have met the required reliability.

**Discriminant Validity Testing**

Discriminant validity is done to ensure that each concept of each latent variable is different from other latent variables. According to Hair et al. (2019) the model has good discriminant validity if the AVE square value of each exogenous construct (the value on the diagonal) exceeds the correlation between this construct and other constructs (values below the diagonal). The results of the discriminant validity test in Table 4 show that all constructs have a square root value of AVE above the correlation value with other latent constructs (through the Fornell-Larcker criteria) so that it can be concluded that the model has met discriminant validity.

**Hypothesis test**

According to Hair et al. (2019); Hair et al. (2012); Hair et al. (2017) Hypothesis testing in PLS is also known as the inner model test. This test includes a significance test for direct and indirect effects as well as a measurement of the magnitude of the influence of exogenous variables on endogenous variables. To determine the e-marketing and knowledge management on e-quality, a direct and indirect effect test is needed. The effect test was performed using the t-statistic test in the partial least squared (PLS) analysis model using the SmartPLS 3.0 software. With the bootstrapping technique, the R Square value and the significance test value are obtained as shown in the table below:

**Table 2. Discriminant Validity**

<table>
<thead>
<tr>
<th>Promotion Cost</th>
<th>Production Cost</th>
<th>Sales Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation</td>
<td>0.934</td>
<td></td>
</tr>
<tr>
<td>Knowledge management</td>
<td>0.813</td>
<td>0.912</td>
</tr>
</tbody>
</table>
| manufacturing performance, | 0.311  | 0.454             | 0.916             

**Table 3. R Square**

<table>
<thead>
<tr>
<th>Manufacturing performance</th>
<th>R Square</th>
<th>R Square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.783</td>
<td>0.787</td>
</tr>
</tbody>
</table>

Based on Table 3 above, the R Square value is 0.783 which means that the sales performance variable can be explained by the production and promotion cost variable of 78 %, while the remaining 22% is explained by other variables not discussed in this study.

**Table 4. Hypotheses Testing**

<table>
<thead>
<tr>
<th>Original Sample (O)</th>
<th>Sample Mean (M)</th>
<th>Standard Deviation</th>
<th>T Statistics</th>
<th>P Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation -&gt; manufacturing</td>
<td>0.125</td>
<td>0.068</td>
<td>0.217</td>
<td>3.100</td>
</tr>
</tbody>
</table>
**H1: Knowledge management has a significant effect on manufacturing performance,**

Based on the results of the analysis in table 4, it is obtained T Statistics of 3.100 > 1.96 and P-Values 0.000 < 0.050 so that it can be concluded that H1 is accepted. Knowledge management has significant effect on manufacturing performance. An increase in the Knowledge management variable will be followed by an increase in manufacturing performance, and a decrease in variable Knowledge management will be followed by a decrease in manufacturing performance. This result is align with according to Henseler et al. (2009); Iriani et al. (2021) and Juliana et al. (2021) and Kim et al. (2021) that an increase in the Knowledge management variable will be followed by an increase in manufacturing performance and a decrease in variable Knowledge management will be followed by a decrease in manufacturing performance.

**H2: Innovation has a significant effect on manufacturing performance,**

Based on the results of the analysis in table 4, it is obtained T Statistics of 2.334 > 1.96 and P-Values of 0.002 < 0.050, so it can be concluded that H2 is accepted. Innovation has effect on sales performance. An increase in the variable Innovation will increase the manufacturing performance variable and a decrease in the variable Innovation will decrease the manufacturing performance variable. This result is align with according to Purwanto et al. (2021); Pramono et al. (2021) and Rahaman et al. (2021) that An increase in the variable Innovation will increase the manufacturing performance variable and a decrease in the variable Innovation will decrease the manufacturing performance variable.

**IV. DISCUSSION**

The results of this study indicate empirical support for a positive relationship and significant between knowledge management variables on organizational performance, this is appropriate with his research According to Supriadi et al. (2020); Suheny et al. (2020) and Wanasida et al. (2021) which states that Knowledge management has emerged as a source of sustainable competitive advantage. According Muslimat (2021); Pujiati (2021); Dewi (2021) knowledge management is a management tool that can be used to support achievement of organizational goals and showing competitive advantage so that they are able creating good organizational performance. In addition, research results also shows a positive influence between organizational culture on performance organization, the results of this study support the research According to Sena et al. (2020) and Suardhita et al. (2020) Furthermore, the research results also show that the positive influence of knowledge management of the organization's performance supports his statement from Suardhita et al. (2020) which states that innovation is related to knowledge can be used to create new products or processes and services to improve competitive advantage and meeting customer needs that are always changing. Result research Achmad (2021); Khoiri (2021) also shows that organizational culture has a positive effect on innovation. This study supports the research of Purwanto et al. (2021); Pramono et al. (2021) and Rahaman et al. (2021) which states that for the success of innovation and adopting technological advances, companies must able to meet the requirements in terms of internal behavior and external relations the same time. This study does not support the study of According to Rudyanto et al. (2020); Sena et al. (2020) and Suardhita et al. (2020) which shows positive relationship between business performance and innovation. Research empirically examines the relationship between knowledge management and performance This study does not support the study of Supriadi et al. (2020); Suheny et al. (2020) and Wanasida et al. (2021) which shows positive relationship between business performance and innovation. Research empirically Araujo (2021); Erlangga (2020); Gunartin (2020) examines the relationship between knowledge management and performance. According to Nugroho et al. (2020); Novitasari et al. (2021) and Fabiyani et al. (2021) who state that knowledge management affect organizational performance either directly or indirectly through innovation. Empirically this research supports the research of Adinugraha et al. (2021); Anas et al. (2020) and Alessa et al. (2021) which states that knowledge management affects innovation but innovation has no influence on organizational performance.
V. CONCLUSION

Based on the results of the analysis show knowledge management has significant effect on manufacturing performance, innovation has effect on manufacturing performance. Based on the results and discussion, it can be concluded that (1) Quality learning has a significant effect on employee performance. (2) Management process knowledge has a significant effect on employee performance. (3) The sharing process knowledge has a significant effect on employee performance. (4) Innovation is not affect employee performance. (5) The quality of learning has a significant effect against the competitive advantage of employees. (6) The knowledge management process is influential significant to the competitive advantage of employees. (7) Knowledge sharing process has a significant effect on the competitive advantage of employees. (8) Innovation is not affect the competitive advantage of employees. (9) Competitive advantage is influential significant to employee performance. It is recommended to improve employee performance through the quality of learning. It is necessary to improve and monitoring of: employee knowledge sharing habits, the importance of active learning in achieving goals, employee activeness in seeking information, habitual discussion among employees, as well as improvements through action learning. Future studies may consider the use of a larger sample size large and from manufacturing in this study. Besides that it can also considered the use of other variables, given that innovation does not successfully mediate knowledge management and organizational performance.

REFERENCES


