

ANALYSIS OF THE EFFECT OF KNOWLEDGE MANAGEMENT, COMPETENCY, AND INNOVATION ON EMPLOYEE PERFORMANCE

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Abstract: The conformity of employee competencies with their positions and innovation in work implementation is required by the presence of the Civil Servants (PNS) professional demands. Knowledge management is necessary to fulfill the knowledge needs of employees so that competence, innovation, and employee performance can be improved. This study aims to analyze the effect of knowledge management, competence, and innovation on employee performance. All employees in the Finance and Equipment Bureau of the Ministry of Agriculture were involved as the research object. The data were obtained using the census method of 103 Finance and Equipment Bureau employees, interviews with appraisal officials and personnel managers, and employee performance appraisals in 2019. The data processing uses Structural Equation Modeling - Partial Least Square (SEM PLS) analysis. This study indicates that knowledge management has a significant effect on innovation and competence, whereas innovation significantly affects performance. However, knowledge management and competence do not seem to have a significant effect on employee performance. Knowledge management indirectly has a significant effect on performance through innovation. Nevertheless, knowledge management does not seem to have a significant effect on performance through competence. The suggestion for further research is it shall be conducted in a work unit that requires special skills so that the employee competence is taken into consideration.

Keywords: Innovation, Performance, Knowledge management, Competence, SEM PLS

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Assessment of the performance achievement of a civil servant is an essential thing and is considered. The performance achievement assessment has been used as a basis for consideration of

decision-making for civil servant career development policies related to the field of work, appointment and placement, development, rewards, and discipline. The performance achievement assessment is also used to calculate the number of performance allowances received by employees every month. Because of the importance of the function

of this performance achievement assessment, it becomes interesting to examine the things that affect employee performance achievement.

According to Osman et al. (2016), employee performance has a positive relationship with innovation, with the greatest influence on technological and organizational innovation. Zaim et al. (2013) suggest that there is a positive relationship between competence and employee performance. Meanwhile, according to Saeed (2016), adequate resources to share knowledge (knowledge management) and job satisfaction can significantly improve employee performance. On the other hand, knowledge management also contributes to the innovation and competence of an employee. Ode and Ayavoo (2019) stated that knowledge management contributes to innovation as a hierarchy, with relationships through the application of knowledge having the greatest impact on company innovation. According to Momeni et al. (2013), there is a significant and positive relationship between knowledge management process capabilities and core competencies. Research on employee performance, innovation, competence, and knowledge management has never been conducted in the Finance and Equipment Bureau of the Ministry of Agriculture. As a work unit that has responsibility for the quality of the financial statements of the Ministry of Agriculture, this research is important to do with the hope that the results of this research can provide useful managerial implications for the Bureau of Finance and Equipment.

This study aims to analyze the effect of knowledge management on innovation, competence, and performance both directly and indirectly, the influence of innovation and competence on the performance of the Finance and Equipment Bureau employees.

The benefits expected from this research are: (1) For the Bureau of Finance and Equipment, the Secretariat General of the Ministry of Agriculture is expected to provide a reference in planning activities that support the improvement of innovation and competence of its employees. (2) Researchers are expected to add insight and knowledge related to strategies to increase innovation and employee

competence. (3) For other researchers, it is hoped that it can be used as a reference in research on the implementation of knowledge management.

METHOD

This research was conducted for three months, from August to October 2020, at the Finance and Equipment Bureau of the Ministry of Agriculture. The data used in this study consisted of primary and secondary data. The primary data were obtained through in-depth interviews with staff managers and officials who assess employee performance. In addition, the primary data collection was also done by using a saturated sampling method or census (complete enumeration) of 103 employees of the Finance and Equipment Bureau. The data were obtained through filling out a Likert 1-5 scale online questionnaires by Google Form regarding the variables of knowledge management, innovation, and competency. The secondary data were taken from the performance application E-Kinerja which contains the performance achievements of the employees of the Finance and Equipment Bureau, literature, books, scientific journals, previous research results, the internet, laws, and regulations, as well as other information related and relevant to research.

The collected data would then be analyzed using descriptive analysis and structural equation modeling - Partial Least Square (SEM PLS). The descriptive analysis was used to compile and present the data collected in the study and analyze the description of the characteristics of the respondents. The SEM PLS analysis method aims to examine the direct or indirect effect between the independent variable (exogenous variable) and the dependent variable (endogenous variable), as well as to examine the relationship between the indicator (manifest variable) and the variable (Ghozali and Latan, 2014).

The model of this study is presented in Figure 1. There were four variables used in this study. The Knowledge Management (KM) variable adopts the SECI model proposed by Nonaka since it is the most well-known conceptual framework for understanding the knowledge creation process (Farnese et al., 2019). Knowledge management is divided into four

dimensions, namely socialization, externalization, combination, and internalization. In its measurement,

the Knowledge Management SECI Process Questionnaire (KSMP-Q) was used.

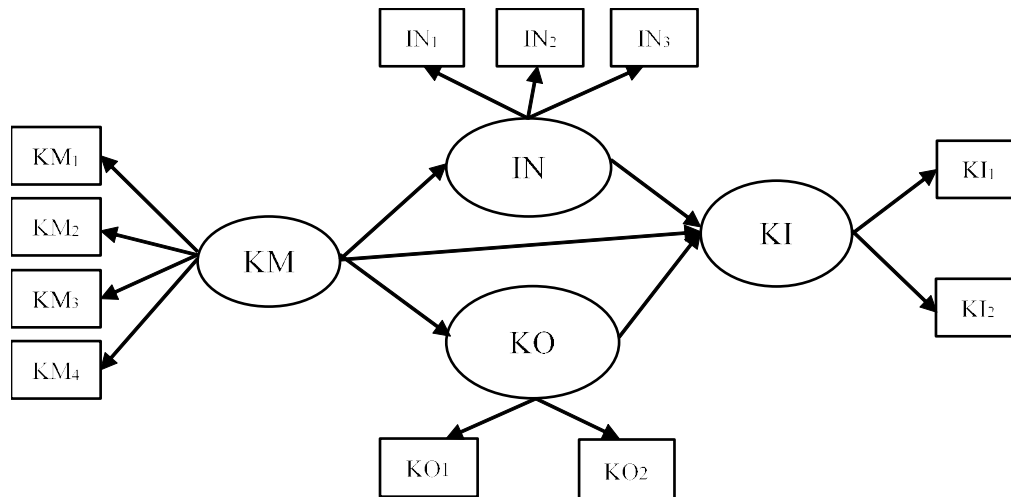


Figure 1. Research Model

Innovation (IN), according to Damanpour et al. (2009), is considered relevant to its application in government agencies. Innovation consists of three dimensions; service, technology, and administrative innovations, which are implemented in each employee's work.

Competency (KO) is divided into two dimensions; soft and hard competency. Soft competency is competency related to managing work processes, human relationships, and building interactions with other people. Nonetheless, hard competency is competency related to the functional or technical ability of a job. Performance appraisal (KI) for civil servants refers to Peraturan Menteri Pertanian Republik Indonesia number 12 the year 2019 Concerning Employee Performance Assessment Scope of the Ministry of Agriculture (Peraturan Menteri Pertanian Republik Indonesia, 2019). This performance appraisal is divided into two dimensions, namely employee work objectives (SKP) and work behavior.

RESULTS

Measurement Model Analysis

The analysis carried out by evaluating the model has been divided into two stages; the evaluation of

the outer or measurement model and the evaluation of the inner or structural model. According to Haryono (2016), the evaluation of the reflective indicator model consists of examining convergent and discriminant validities. Convergent validity includes checking individual item reliability, internal consistency or constructs reliability, and Average Variance Extracted (AVE). For exploratory research, the loading factor value between 0.6 - 0.7 is still considered acceptable (Ghozali and Latan, 2014). Construct reliability is seen by examining the Composite Reliability (CR) value, with the recommended value of more than 0.6. The recommended AVE value must be more than 0.5, which indicates that the construction explains at least 50 percent of the variance of the items (Hair et al., 2019). The discriminant validity examination used the criteria Heterotrait-Monotrait Ratio of Correlations (HTMT) according to Henseler et al. (2014). The HTMT approach is more relevant than using the Fornell-Larcker criterion approach and unreliable cross-loading evaluation to detect a lack of discriminant validity. The required HTMT value is below 0.9.

The indicators being tested with values that do not meet the evaluation requirements of the measurement model would be excluded. That is because

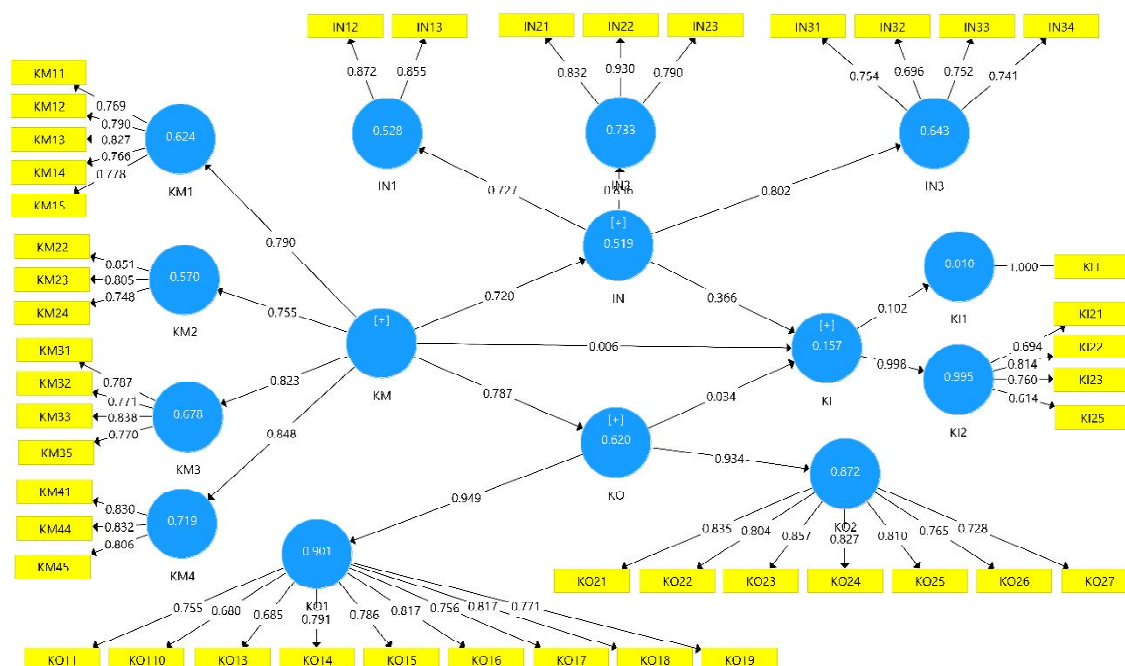


Figure 2. The Path Diagram of The Structural Model

these indicators are neither valid nor reliable. After the invalid indicators are removed from the model, re-estimation is carried out to obtain the final model, as shown in Figure 2.

Table 1. AVE dan Composite Reability (CR) values

Latent variable	AVE	CR
Innovation (IN)	0,635	0,864
Service Innovations (IN1)	0,746	0,854
Technology Innovations (IN2)	0,727	0,888
Administrative Innovations (IN3)	0,542	0,826
Performance (KI)	0,503	0,753
Employee Work Goals (KI1)	1,000	1,000
Work Behavior (KI2)	0,525	0,814
Knowledge Management (KM)	0,647	0,912
Socialization (KM1)	0,618	0,890
Externalization (KM2)	0,644	0,844
Combination (KM3)	0,627	0,870
Internalization (KM4)	0,677	0,863
Competency (KO)	0,886	0,949
Soft Competence (KO1)	0,583	0,926
Hard Competence (KO2)	0,648	0,928

All indicators with a loading factor value of more than 0.6 have a discriminant validity value below 0.9, meaning they have met the HTMT criteria. AVE and Composite Reliability (CR) values are presented in Table 1, in which all the values have met the requirements; AVE > 0.5 and CR > 0.7. After all the values in the measurement model evaluation have met the criteria, it would be followed by an evaluation of the structural model.

Structural Model Analysis

The structural model describes the relationships among latent variables. The first thing to do in evaluating the structural model is by looking at the R² value for each endogenous latent variable.

Table 2. R² value

Endogenous latent variable	R ²
Innovations (IN)	0,519
Performance (KI)	0,157
Competency (KO)	0,620

The R2 value in the innovation variable of 0.519 indicates that the knowledge management variable could explain the diversity of innovation variables by 51.9 percent. In contrast, the remaining 48.1 percent is explained by other variables that are not in this model. After that, the performance variable has a R2 value of 0.157, which means that the variable performance could be elaborated by knowledge management, innovation, and competence variables only 15.7 percent while the remaining 84.3 percent is explained by other variables not used in

this model. Meanwhile, the R2 value for the competency variable is 0.620, which signifies that the knowledge management variable can explain the diversity of competency variables by 62 percent. The remaining 38 percent is explained by other variables that are not in this research model.

The significance of the variable relationship seen from the path coefficient describes the strength of the relationship among constructs. The results of the path coefficient and t-test on the bootstrapping test are presented in Table 3.

Table 3. Path Coefficient and t-test

Path	Path Coefficient	t-test	Conclusion
Direct Effect			
Knowledge Management (KM) → Innovation (IN)	0,720	14,992	Significant
Knowledge Management (KM) → Competency (KO)	0,787	19,441	Significant
Knowledge Management (KM) → Performance (KI)	0,006	0,037	Not significant
Innovation (IN) → Performance (KI)	0,366	2,714	Significant
Competency (KO) → Performance (KI)	0,034	0,186	Not significant
Indirect Effect			
Knowledge Management (KM) → Innovation (IN) → Performance (KI)	0,264	2,554	Significant
Knowledge Management (KM) → Competency (KO) → Performance (KI)	0,027	0,184	Not significant

The significance visible in the t-test could be obtained from the bootstrapping process. The significance value used is 1.96 (level significance = 5 percent), meaning that a construct is declared to have a significant effect if it has a t-statistic value of more than 1.96.

DISCUSSION

Based on the research results, knowledge management has a significant influence on innovation. The strongest reflection of knowledge management is internalization which has the highest path coefficient value. The emergence of innovative ideas in the Finance and Equipment Bureau begins with a learning process, whether it comes from problems that require improvements or ideas that come from learning by seeing new things in other places considered better than the conditions in the Finance and

Equipment Bureau. That is in line with Ode and Ayavoo (2019) research, which suggested that knowledge management contributes to innovation as a hierarchy. The relationship through the application of knowledge has the greatest impact on corporate innovation. Akram (2011) and Siagian and Ikatrinasari (2019) recommended that knowledge management has a significant positive effect on innovation through the transformation of knowledge into intangible assets of the organization. In their research, Ferraris et al. (2019) also stated that there was a moderate positive relationship between Knowledge Management orientation and innovation performance. Knowledge Management also has substantial implications for innovation in SMEs that use technology (Alegre, 2011).

The competencies of the Finance and Equipment Bureau employees, especially those related to

the implementation of work, are obtained from the internalization or learning process, even though they are individual or small groups. At this time, the Finance and Equipment Bureau widely used computer applications to implement a job. An employee can use a computer application by studying with a more senior employee who then learns more deeply independently, not the result of mass training. That is following the research results, which states that knowledge management significantly influences competence. That is also following Kholis and Ferdian's (2019) research, which found that knowledge management simultaneously has a significant effect on employee competence. There is a significant and positive relationship between Knowledge Management Process Capabilities and Core Competencies (Momeni et al., 2011).

Activities related to knowledge management in the Finance and Equipment Bureau have not been managed properly by the organization. The transfer of knowledge is still incidental and spontaneous, so it is possible that the knowledge may not arrive in its entirety to the recipient. A knowledge database that supports the implementation of employee work is also not yet available. That causes an employee to seek and interpret the regulations that support the implementation of the work themselves. It is not uncommon for one regulation to have different interpretations depending on who is translating it. That is what makes the results of this study get that the effect of knowledge management on performance is insignificant. This result is in line with research by Saragih (2017), which suggests that there is no significant effect of knowledge-sharing behavior on employee performance. The research results from Abualoush et al. (2018) also show that there is no positive influence between knowledge management and employee performance.

Innovation has a significant effect on the performance of the Financial and Equipment Bureau employees, with the strongest reflection being technological innovation. The innovations in the Finance and Equipment Bureau can support the performance of its employees. Several new things were implemented to support the implementation of the work. The construction of several computer applications

and supporting tools helps employees complete their work more easily, accurately and takes time faster than before. That is a technological innovation in the Finance and Equipment Bureau to support service improvements to all parties with interest in the work of employees. These results are in line with research from Osman et al. (2016), which suggests that innovation has a significant positive relationship to employee performance with the greatest influence from technological and organizational innovation followed by product innovation and process innovation. As Hashi and Stojcic (2013) mentioned, company productivity or performance increases significantly with the presence of innovation.

Competence has a positive yet insignificant effect on performance. The insignificant effect of competence on performance is due to the job descriptions at the Finance and Equipment Bureau seeming to be more administrative instead of technical jobs. Consequently, employees who have special or certain skills seem to be less needed in performing their work. That is in line with the research results of Tone et al. (2015), which stated that the test results prove that competence has a positive yet insignificant effect on performance. In addition, Lopez and Alegre (2011) suggest no direct relationship between information technology competence and performance.

Knowledge management indirectly has a significant influence on performance through innovation. Following the previous results, knowledge management has a significant direct effect on innovation, and innovation itself has a significant direct effect on performance. The results obtained are in line with the research of Nicolas and Cerdan (2011), which suggested that strategic knowledge management has an impact on innovation directly and performance indirectly. With knowledge management, one has sufficient knowledge to innovate, and with this innovation, employee work could be helped, which indeed has an impact on the performance. In addition, according to Hakim and Hassan (2013), Knowledge Management Strategies (KMSs) have positive results and have a statistically significant effect on organizational performance through the partial mediating effect of innovation. With knowl-

edge management, a person has sufficient knowledge to innovate, and with this innovation, the employee's work can be helped, which has an impact on the employee's performance.

The effect of knowledge management on performance through competence does not have a significant effect. The significant influence of knowledge management on one's competence could not affect performance because competence does not directly have a significant effect on performance.

CONCLUSIONS

In conclusion, knowledge management has a significant influence on employee innovation and competence. The application of good knowledge management will bring up new ideas that become the basis for the emergence of innovation. It will also increase one's knowledge which indeed will increase one's competence. At last, knowledge management and competence do not seem to have a significant effect on performance. Nevertheless, innovation has a significant effect on the performance of the employees of the Finance and Equipment Bureau.

IMPLICATIONS

Based on the results of research that has been conducted, performance is significantly influenced by innovation. Technological innovation has the greatest influence from the innovation variable reflected by the highest path coefficient value. Hence, it is necessary to develop innovations related to technological developments. In addition, the use of hardware and software that follows the demands of the needs undoubtedly helps employees carry out their work. Nonetheless, knowledge management significantly influences innovation and competence, with the greatest influence being the internalization of the learning process. Thus, trouble-free instruments are necessary for the employees to understand everything needed in doing their work. The existence of technical instructions from regulation will ease the employees to understand the implementation of a regulation. All regulations, technical instructions, or work implementation SOPs have been collected

in one database that is facile for employees to access.

LIMITATIONS

The subjects of this study were limited to employees of the Finance and Equipment Bureau of the Ministry of Agriculture, so that generalization to various management and government organizations must be carried out with caution and needs to be studied further.

RECOMMENDATIONS

Technological innovation has contributed to improving performance. As a result, the Finance and Equipment Bureau should develop applications and instruments needed by employees to support the completion of their work.

The suggestion for further research is to research different research places, where these places have details of work tasks that require specific skills so that employees in these work units also have unique competencies.

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