

# THE INFLUENCE OF COMPETENCE AND KNOWLEDGE MANAGEMENT ON PERFORMANCE

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**Abstract:** This study aims to examine and analyze the effect of competence and knowledge management on performance (a case study of BAPETEN employees). Respondents in this study were BAPETEN employees, totaling 490 respondents. Data were analyzed using Structural Equation Modeling (SEM) Amos with Amos software version 24. The results of this study found that competence and knowledge management affect positively and significantly on performance. And also gender as a moderating variable does not have a significant effect on employee performance or competence, due to the absence of a distinction between male and female genders. So it is expected that further researchers can expand the variables in improving performance in the company.

**Keywords:** Competence, Knowledge Management, Performance, SEM, BAPETEN

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Globalization presents several challenges related to human resource management. Every organization is demanded to have high quality human resources and high competitiveness so that it can become energy for the organization to compete with its competitors in increasingly dynamic changes (Priansah, 2014). Specifically, employees as individuals and groups within an organization have unique differences from an individual, so the success of human resource manage-

ment must be supported by the mastery of skills and knowledge. In this case, the organization needs to carry out the right strategy, namely by paying attention internally to managing existing human resources (Fauzan, 2015).

Employee performance is defined as the ability of employees to carry out certain skills. Employee performance is very broad and key performance indicators that can be accepted and recognized from organizational success are taken to imply performance towards achieving organizational goals and objectives (Masa'deh et al. 2017). No matter how good the facilities and infrastructure used, if it is not balanced with quality human resources, then it is certain that the organization cannot progress and develop as expected (Ardiansyah and Suliyowati 2018). Employee performance can improve when

employees already understand how to do the work (Citraningtiyas and Djastuti 2017).

Knowledge is another factor in achieving an organization's performance. Knowledge is the development of human capabilities in decision making and analyzing data for the achievement of organizational performance (Pauleen and Wang 2017). According to Wee and Chua (2013), organizational success depends on knowledge, experience, and skills, not on physical and financial capital. Knowledge has been considered by organizations as a strategic resource in improving individual and organizational performance (Caroline et al. 2015). Employees who voluntarily carry out their duties and share knowledge are individuals who have a strong motivation to work. Thus employees are the main source for the competitive advantage of a knowledge-based organization (Castro 2015).

BAPETEN is committed to implementing knowledge management to improve employee performance through active participation, knowledge sharing, ensuring the outputs and innovation products of BAPETEN are based on knowledge and ensuring that management activities are carried out by all BAPETEN work units (BAPETEN 2015).

An employee who has competence in a job will have an impact on performance (Suparno 2014). According to (Uzouhe and Yaya 2016) Competence is human behavior (skills) that leads to successful performance in organizations. The higher the competency of an employee, the better the performance will be. Vice versa the lower the competency of an employee the lower the performance will be. Therefore, competency improvement must be continued so that every employee can work in accordance with their duties and responsibilities.

There is 3 knowledge management in BAPETEN namely process, human resources, and technology (BAPETEN 2015). Until now, the Knowledge Management culture process has been carried out, but it has not yet reached the technology or the achievement of maximum results. One of the realizations of knowledge management is making two books during the year, but until 2018 there are only two books that have existed from the 2015-2018 time span. Seeing this, it means that

knowledge management at BAPETEN is still lacking so that the company's performance can also decline. According to Mardani et al. (2018) that knowledge management can improve and influence performance.

Based on the data it appears that the average value of participants from 2015 to 2018 is good and has increased. But also the performance of employees is still very necessary and requires full support for the implementation of maximum service. The employee's performance problems if not immediately resolved will result in a decline in the value of performance. Like in 2017 which experienced a setback in value compared to 2016.

The company's objectives will be better able to be achieved if all employees could be placed in positions that are in accordance with their competencies. It can be seen that there are some employees whose educational background is not in line with their competency in working. This shows that the basic competency of an employee when first applying for a job is not necessarily in line with the tasks given by the company. Therefore, usually, companies will often conduct training for their employees.

The objectives of this study are to Analyze the effect of competence on performance, analyze the effect of knowledge management on performance, and identifying the dominant factors of gender (gender) in conducting competence, knowledge management, and performance.

The results of the study are expected to provide benefits for implementing organizations, research is expected to be used as input so that employee performance can be maintained or improved. For researchers, this research is expected to provide a lesson in applying theories that have been accepted in the field of human resource management. And For academics, this research will add knowledge related to the empirical results of the influence of competence and knowledge management on employee performance at BAPETEN as study material or reference for further research.

The problems that occur at BAPETEN are problems faced by the company management, therefore management needs to know explicit knowledge

to be able to make company management increase in accordance with company expectations.

**METHOD**

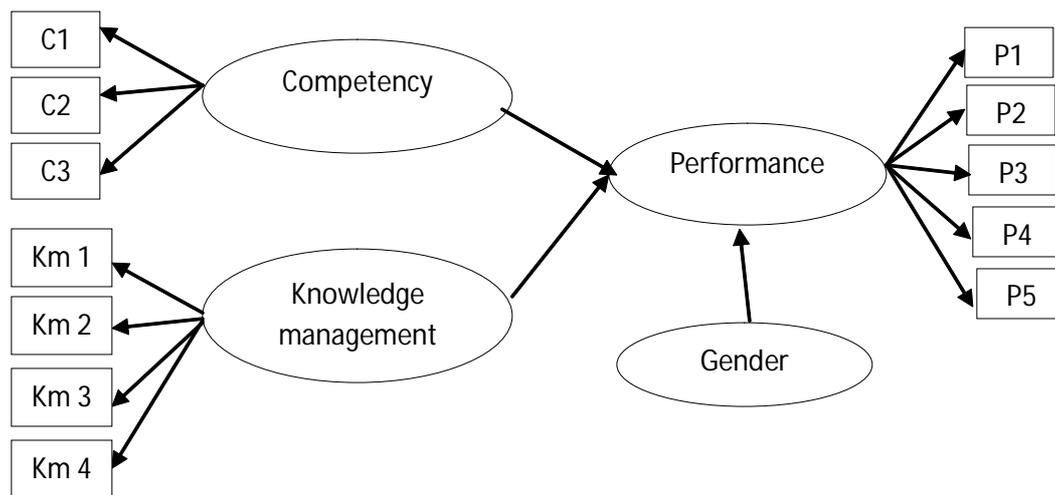
In this study, the data processing and analysis method used is the Structural Equation Modeling (SEM) method with the AMOS approach. SEM is a multivariate statistical analysis technique, which allows researchers to examine the direct and indirect effects between complex variables, both direct (recursive) and non-direct (non-recursive) to obtain an overall picture of a model. Sugiyono (2012) explains that this SEM, the author can perform three activities simultaneously, namely checking the validity and reliability of the instrument (equivalent to confirmatory analysis factors), testing the model of the relationship between latent variables (equivalent to Path Analysis) and getting a useful model for forecasting or forecasting (equivalent to Structural Model or Regression Analysis).

The ultimate goal of SEM is to get a structural model that has a match between theory and empirical data.

According to Santoso (2011)) explains that there are several stages carried out in the use of SEM in a study, namely: (a) Create SEM model (Model Specification) At this stage the model is arranged based on theory, diagrams, and then the data

is entered to form the measurement model and structural model. (b) Prepare research designs. After the model is made, then before the model is tested, it will test the assumptions that should be fulfilled in SEM, the treatment of missing data (if there are and enough), disclose the data, and so on. (c) Model Identification After a model has been made and the design has been determined, identification is tested in the model so that the model can be further analyzed. Calculation of the degree of freedom is important in this stage. (d) Model Testing and Estimation Test the measurement model and then test the structural model. From testing the measurement model will get the closeness of the relationship between the indicator and its changes. If the measurement model is considered valid, the text continues on the structural model to obtain several correlations that show the relationship between variables, including the possibility of doing respecification on SEM model.

According to Ghazali (2017), SEM AMOS will produce several solutions to the equation system that connects the observed variance and covariance of variables (manifest / indicator) to the parameters of the model. AMOS software can estimate coefficients built from structural linear equations, accommodate models that involve latent variables, accom-



Source: Data Processed, 2019

Figure 1 Conceptual Framework

moderate measurements on the dependent and independent variables, and accommodate reciprocal, simultaneous and interdependent (Ferdinand, 2000). The AMOS SEM research model can be seen in Figure 1

In figure 1, The independent variable is the independent variable or stimulates the target variable. The independent variables in this study are competence (X1) and knowledge management (X2). While the dependent variable (dependent variable) is a variable that arises due to the effects of research (Sagiyono 2012). The dependent variable in this study is performance (Y). Moderating variables are variables that can affect the dependent variable that can appear as reinforcement or weakener (Ferdinand 2011). The moderating variable in this study is gender.

**RESULTS**

**Descriptions of Respondents**

From the data, it can be concluded that respondents in this study were more dominant in the 30-39 years age group. Then followed by the age group 49-50 years, as well as the age group 20-29 years, and finally at the age of more than 50 years.

For gender is more dominant in males as many as 57, 3%, and then as many as 42.7% women. The more dominant educational background description has a bachelor’s education background of 54.3%, followed by bachelor education at 20%, D3 education at 13.7% then high school education at 10.4%, and the remaining 1.6% is a respondent with a doctorate background.

**Instrument Testing**

In this study, the validity test was performed by calculating the Pearson Product Moment correlations. If the correlation value or r-count > r-table (df = 28 and maximum alpha value a = 0.05), the questionnaire is said to be valid. The results of the validity test on the questionnaire of this study showed that all questions on the questionnaire were valid, which is r count > r table (0.361).

The reliability test is done by comparing the results of the calculation of grain conditions (r alpha) with the results of calculations (r table) of 490

research samples with Cronbach’s Alpha correlation techniques. If (r alpha) > (r table), i.e. > 0.60 the instrument items are valid. Cronbach’s Alpha (r alpha) values for each variable based on the reliability test in this study were all > 0.60, so the questionnaire in this study was reliable. The results of the validity and reliability of the questionnaire for each variable are presented in the appendix.

**Hypothesis Testing**

The structural equation of performance explains the causal relationship between changes in performance in the event of changes in independent variables, competence, and knowledge management. While competence also explains the causal relationship between independent variables, namely knowledge management

**Table 1 Direct Effect Testing Results**

		Estimate
Kompetensi	← Knowledge management	0.688
Kinerja	← Knowledge management	0.205
Kinerja	← Kompetensi	1.119

Source: data processed, 2019

**Tabel 2 Squared Multiple Correlation dan Variance**

	R <sup>2</sup>
Kompetensi	.952
Kinerja	.810

The structural equation I is the direct influence between knowledge management on competence.

$$\begin{aligned} \text{Competency} &= \alpha + X2 \text{ knowledge management} + e \\ \text{Competency} &= 0.035 + 0.688 X2 + e \\ \text{SE} &= 0.035 \\ \text{R}2 &= 0.952 \end{aligned}$$

Based on equation I above can be explained as follows Increase one unit of knowledge management, then competence will increase by 0.688 units and the coefficient of determination (r-square / R2) of 0.952, which means that the influence of knowl-

edge management variables on competence is 95.2% while the remaining 4.8% is presented by other variables that are not present in the study.

Structural Equation II is the direct influence of knowledge management on competence.

$$Y = \alpha + X1 \text{ Competency} + X2 \text{ knowledge management} + e$$

$$Y = 2.79 + 1.119 X1 + 0.205 X2 + e$$

$$SE = 2.79$$

$$R2 = 0.810$$

Based on equation I above can be explained as follows Increase one unit of knowledge management, then competence will increase by 1,119 units, Increase one unit of knowledge management, then competence will increase by 0.205 units and the coefficient of determination (r-square / R2) of 0.810 which means the influence of knowledge manage-

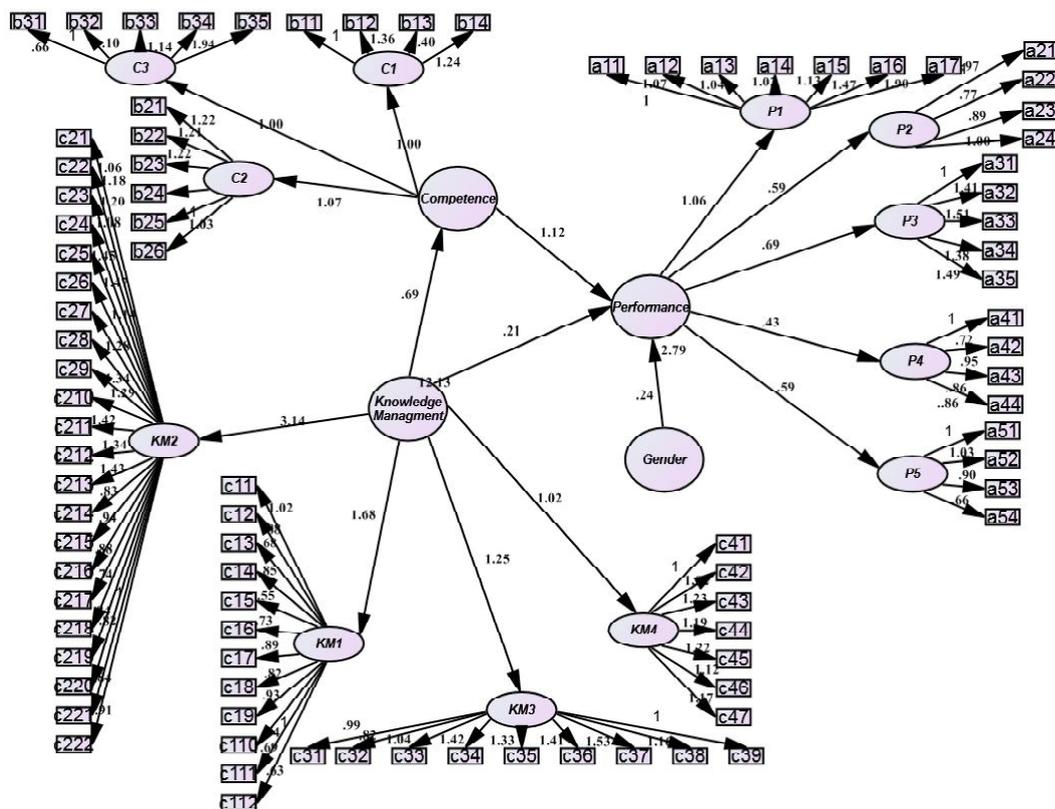
ment variables on competence is 81% while the remaining 19% is presented by other variables that are not present in the study.

## DISCUSSION

### The Effect of Competence Directly on The Performance of BAPETEN Employees

Based on respondents' opinions about the effect of competency variables on performance is  $11.758 > 1.96$  (critical Z value for 95% confidence level) with probabilities (p) value of  $0.009 < 0.05$  and directly impacted regression coefficient of 0.717 (positive), so it can be concluded directly that the higher the competency for performance will be stronger and vice versa. Then it can be concluded that competency directly has a positive and real effect on performance.

According to Malthis and Jackson (2006), competence is a basic characteristic that can be linked



Source: data processed, 2019

Figure 2 Path of the Structural Model

to the improving performance of individuals or teams. According to Yulianto (2017) with the vertical and horizontal communication model competence is very influential both directly and indirectly on employee performance. Masa'deh et al (2017), with knowledge management, can improve performance in the organization. Meanwhile according to Caroline et al (2015) states that knowledge management in organizations is considered strategic in improving employee performance by storing knowledge to be documented then stored and can be accessed again for future employees.

From the results of this study, it can be concluded that knowledge management can help employees to do their jobs. One of the existing knowledge management is knowledge acquisition, knowledge creation, knowledge sharing, knowledge storage, and application of knowledge to assist employees in carrying out their work. Therefore the improvement of knowledge management that is closely related to efforts to meet the expectations of individuals in the organization is a factor that must get the attention of BAPETEN leaders.

### **The Influence of Knowledge Management Directly on BAPETEN Competence**

Based on the opinion of respondents about the influence of knowledge management variables on competence is  $19,580 > 1.96$  (critical Z value for 95% degree of confidence) with a probability value (p) of  $0,000 < 0.05$  and a direct influence regression coefficient of 0.976 (positive), so it can be concluded directly that the higher the knowledge management

Every person doing work is always encouraged by the competency capabilities they have. Existing competence can make someone get better at the work that is produced. The better the competency a person has, the higher the performance the person produces, both in the quality of performance and the quantity of performance.

### **The Influence of Knowledge Management Directly on BAPETEN Performance**

Based on the opinion of respondents about the influence of knowledge management variables on competence is  $11.461 > 1.96$  (critical Z value for 95%

degree of confidence) with a probability value (p) of  $0.004 < 0.05$  and the coefficient of direct influence regression is 0.187 (positive), so it can be concluded directly that the higher the knowledge management of competencies will be stronger and vice versa. So it can be concluded that knowledge management directly has a positive and real effect on performance.

Naim and Lenka (2017) state that the impact of knowledge management on performance. The influence of knowledge management on employee performance is knowledge sharing that can make employee performance higher. According to competencies will be stronger and vice versa. So it can be concluded that knowledge management directly has a positive and real effect on competence.

Hypothesis test results are in accordance with the research of Odhiambo et al (2018) and Jeong Kim (2018). The organization has knowledge management in facilitating the dissemination of new knowledge among members of the organization. One of them is sharing knowledge, sharing knowledge in social interaction and dialogue among members of the organization generates new knowledge and increases individual competence.

Employees who are inexperienced and lack organizational exposure can work together with other employees to gain valuable insights, knowledge, and organizational experience. Therefore personal competence, professional competence, and social competence can be continuously improved.

### **Moderating Gender Variables Has a Positive Effect on Competence and Knowledge Management**

Based on the results of the path coefficient with the CR test between sexes to competence and knowledge management obtained a value of 0.133  $< 1.96$ , which means that gender does not affect the competence and knowledge. This is because there are no differences in opportunities to obtain higher performance for men and women.

So hypothesis 4 is rejected, that gender does not moderate the influence of competence and knowledge management of BAPETEN employees. The influence of gender on employee performance

has different effects on the competence and knowledge management of BAPETEN employees. In BEPATEN gender does not affect the performance of competence and knowledge management either because of the lack of distinction between the sexes of men and women. They are given the same opportunity to get even better performance achievements.

The results of research conducted by Ruiz and Fuentes (2015) innovation can be done with the ability of management to innovate processes and production positively and also gender can affect performance positively through competence and knowledge provided by the company.

### **Moderating Gender Variables Has a Positive Effect on Competence and Performance**

The results of the path coefficient with the CR test between the sexes with competence and performance obtained a value of  $0.007 < 1.96$ , which means that gender does not affect the competence and performance of employees. This is because there are no differences in opportunities to obtain higher performance for men and women. They are given the same opportunity to get even better performance achievements.

So hypothesis 5 is rejected, meaning that gender does not moderate the effect of competence on employee performance. The results show that there is no difference between male and female employees. Odhiambo et al 2018, stated that the relationship between gender diversity and employee performance has a positive relationship with women not only as leaders but determinants of policy alternatives. Meanwhile, according to Nakagawa (2015), with a positive relationship between gender diversity and performance, so that it can provide increased performance in the company and immediately make it happen. While Jeong and Kim (2018), stated that with a positive relationship between gender diversity and company performance it is possible to benefit.

### **Moderating Gender Variables Has a Positive Effect on Knowledge Management and Performance**

Based on the results of the path coefficient with the CR test between the sexes with knowledge management and performance obtained a value of  $0.071 < 1.96$ , which means that gender does not affect knowledge management and employee performance. This is because there are no differences in opportunities to obtain higher performance for men and women. They are given the same opportunity to get even better performance achievements. So hypothesis 6 is rejected, meaning that gender does not moderate the effect of knowledge management on BAPETEN employee performance.

Similarly, according to Carter et al in Ararat et al (2010) said that sex differences can add value to a company and improve the system in the company. A Female is a person who can control the presence of employees at the company while men can be more active in checking actions. (Adams and Ferreira, 2008).

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusion**

Based on the results of data analysis several factors affect the performance of BAPETEN employees, it can be concluded that BAPETEN knowledge management has a positive and significant effect on the performance of BAPETEN employees directly or through competence. Competence in BAPETEN has a positive and significant effect on the performance of BAPETEN employees. Gender does not affect the performance of BAPETEN employees, because there are no differences in opportunities to obtain higher performance for men and women. Competency and Knowledge management together positively and significantly affect the performance of BAPETEN employees.

## Recommendation

Suggestions provided for further similar research are expanding the scope of research, which is not limited to one company in BAPETEN but could expand the scope of several other employees. This is to be able to explain and get more comprehensive results related to factors that affect employee performance. The variables used in this study include competence, knowledge management, and performance. To further, it could add several other variables that can affect employee performance. Given the R-square value in this study amounted to 81.0 or 81%. So there are still 19% of other variables that could affect performance, for example, the work environment, incentives, training, and compensation.

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