

THE EFFECT OF KNOWLEDGE MANAGEMENT ON EMPLOYEE INNOVATION

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Received: 21-05-2022

Accepted: 02-06-2022

Published: 17-06-2022

ABSTRACT

This study aims to analyze the effect of Knowledge Management on ASN Employee Innovation of the Ministry of Transportation. The number of samples in this study were 249 respondents using the slovin technique from all units in the Ministry of Transportation. Data was collected using questionnaires, observations and interviews with related parties. The data analysis technique used is the mix method with multiple linear regression analysis and indicator analysis. The results show that the Knowledge management variable partially has a positive effect on Employee Innovation at a significance level of 0.05 with a beta coefficient (β) 0.180 with the resulting regression equation is $Y = 108.581 + 0.180X$ which means that every increase in one level of Knowledge Management will result in an increase in Employee Innovation of 0.180 at a constant of 108,581. Thus, knowledge management is predicted to increase employee innovation.

Keywords: Employee Innovation, Knowledge Management and Organization.

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INTRODUCTION

Employees who have good Knowledge Management will contribute and be more enthusiastic in innovating in their organization. Knowledge Management is very much needed for employees as an employee support system for readiness and speed in working which is obtained from the knowledge management process. The process of exchanging knowledge and information, one of which can be obtained through training with target participants according to the needs of the agency, the following is a table of training as an implication of a decline in the Knowledge Management process at the Ministry of Transportation. The sample taken in this research is Eselon 3 and 4 as policy executor and people who carry out activities directly execute all program activities.

Table 1. Number of Participants in Education and Training of Human Resources for Transportation Apparatus in 2016 – 2020

(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Stub Education Degree (S2/S3)	66	75	24	4	-
2	Pre-service Training	-	103	383	1.095	160
3	Leveling Training	150	93	1.119	188	5.333

4	Upgrading Training / Short Course	6.216	-	8.455	8.232	4.543
5	Overseas Training	-	-	-	-	-
	Total number	6.432	271	9.981	9.519	10.036

Data Source: Transportation Human Resources Development Agency Satker 2020

Based on the table above, it can be concluded that the education and training carried out by employees decreased in 2017 and 2019. The Secretariat of the Transportation Human Resources Development Agency did not hold overseas training due to the absence of an overseas training budget. So that the Knowledge Management process is not good and not optimal. The realization of training participants in 2020 increased by 617 participants (5%) from 2019. The decrease in the realization of the number of training participants when compared to 2019 was from Pre-service Training, where in 2020 the Center for Human Resources Development of the Transportation Apparatus did not hold the training due to Covid-19 19.

According to (Marquardt, 2002) KM is an organizational activity (organizational members) in collecting, organizing, storing, transferring and using knowledge and experience inside and outside the organization. The main elements are; 1) Collecting: knowledge gathering, 2) Storing: documentation and storage of knowledge, 3) Transfer among members: exchange and transfer of knowledge between members of the organization, 4) Application: application of knowledge in work, 5) Distribution/Dissemination: successful distribution of knowledge applied.

According to Taylor (2017:128-146), Innovation is the creation and implementation of new processes, products, services, and delivery methods that result in significant improvements in results, efficiency, effectiveness or quality. The indicators of innovation are 1) Process innovation is a process that aims to produce something of value that can be traded, developed and exploited commercially, 2) Service innovation is a change that can be developed through the development of ideas from the organizational or public sector.

This study aims to find efforts to determine the effect of knowledge management on employee innovation at the Ministry of Transportation by identifying, analyzing and developing the strengths of the relationship/influence between these variables, as follows:

1. To find out Knowledge Management at the Ministry of Transportation.
2. To find out the innovations of employees of the Ministry of Transportation.
3. To determine the effect of knowledge management on employee innovation.

METHOD

1. Research Population

In research, data collection activities are the most important stage. Before collecting data, it is necessary to determine the population of the research object first. According to (Sugiyono, 2018) said that the population is a generalization area consisting of: objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then drawn conclusions.

Meanwhile, according to (Abdurrahmat, 2006) the population is the entire elementary unit whose parameters will be estimated through statistical analysis results conducted on the

research sample. As explained in the limitation of the problem, the population of this study was only 714 non-structural employees of the Secretariat General of the Ministry of Transportation.

Table 2. Employee Data 2020

Number of Structural Employees	Number of Non Structural Employees
169	714

Table 3. Employee Data Per Work Unit

Work unit	Number of Employees
Planning Bureau	65
Bureau of Personnel and Organization	66
Financial Bureau	63
Legal Bureau	64
General Bureau	67
BMN Procurement and Management Service Bureau	66
Bureau of Public Information and Communication	69
Center for Information and Communication Technology Communications	66
Center for Sustainable Transportation Management	64
International Partnership and Institutional Facilitation Center	65
Maritime Court	59
Total Employee Sample	714

Source: Kemenhub.go.id

2. Research Sample

According to (Sugiyono, 2018) the sample is part of the number and characteristics possessed by the population. Samples taken from the population must be truly representative (representative). The sampling technique used in this study is proportional random sampling technique , so that each research unit or elementary unit of the population has the same opportunity to be selected as a sample. Determination of the amount using the Slovin formula, namely:

$$n = \frac{N}{1 + N(e)^2}$$

Information:

n : number of samples

N : total population

e 2: Error rate (5%)

The total population of the Central Ministry of Transportation's employees is 714 people. The number of samples is as follows:

$$n = \frac{N}{1 + N(e)^2}$$
$$n = \frac{714}{1 + 714 (0,05^2)}$$

n = 248,3 **rounded up to 249 samples**

The number of samples in this study was determined by 249 employees.

3. Data analysis method

a. Descriptive Statistics

Descriptive statistical analysis is the presentation of data through tables, graphs, histograms, calculation of the median, mode, mean, calculation of the average and standard deviation.

b. Statistical Analysis Requirements Test

The second stage calculates the strength of the relationship between variables through correlation analysis, making predictions with simple and multiple regression with a significant value of = 0.05%.

Prior to the indicator analysis, the analysis requirements are first tested, namely:

1) Normality test

According to Ghozali (2016) the normality test is carried out to test whether in a regression model, an independent variable and a dependent variable or both have a normal or abnormal distribution. If a variable is not normally distributed, then the results of the statistical test will decrease. The normality test of the data can be done by using the One Sample Kolmogorov Smirnov test, with the condition that if the significance value is above 5% or 0.05 then the data has a normal distribution. Meanwhile, if the results of the Kolmogorov Smirnov One Sample test produce a significant value below 5% or 0.05 then the data does not have a normal distribution.

2) Variant Homogeneity Test

The homogeneity test is used to determine whether or not there is a deviation from the classical assumption of homogeneity, namely the existence of an inequality of variance from the residuals for all observations in the regression model. The prerequisite that must be met in the regression model is the absence of heteroscedasticity symptoms.

The Glejser test is carried out by regressing the independent variable with the absolute residual value (ABS_RES). If the significance value between the independent variable and the absolute residual is more than 0.05, then there is no heteroscedasticity problem.

3) Regression Linearity Test

Regression linearity test aims to determine the form of the relationship whether the variables of employee innovativeness (Y), the motivation variable (X1), knowledge management (X2), and the application of information and communication technology (X3) form a straight line or not, then linear regression analysis and linearity requirements are met with the value of Sig. Deviation > 0.005. This means that a simple linear regression model can be used to predict the variable level.

RESULTS AND DISCUSSION

1. Normality test

According to Ghozali (2016) the normality test is carried out to test whether in a regression model, an independent variable and a dependent variable or both have a normal or abnormal distribution. If a variable is not normally distributed, then the results of the statistical test will decrease. The normality test of the data can be done by using the One Sample Kolmogorov Smirnov test, with the condition that if the significance value is above 5% or 0.05 then the data has a normal distribution. Meanwhile, if the results of the Kolmogorov Smirnov One Sample test produce a significant value below 5% or 0.05 then the data does not have a normal distribution.

The normality test in this study has a residual significance value of x1 which is 0.457 > 0.005. significance value above 5% or 0.05 then the data has a normal distribution. then the data has a normal distribution.

2. Homogeneity Test

The homogeneity test is used to determine whether or not there is a deviation from the classical assumption of homogeneity, namely the existence of an inequality of variance from the residuals for all observations in the regression model. The prerequisite that must be met in the regression model is the absence of heteroscedasticity symptoms. The Glejser test is carried out by regressing the independent variable with the absolute residual value (ABS_RES). If the significance value between the independent variable and the absolute residual is more than 0.05, then there is no heteroscedasticity problem.

Based on the results of the study, the significance value between the independent variables x1 is 0.927 with an absolute residual of more than 0.05, so there is no heteroscedasticity problem.

3. Linearity Test

a. Test the linearity of the X1 variable against Y

The linearity test hypotheses in this study are:

Ho : Knowledge Management (X1) variable data on Employee Innovation (Y) does not have a linear pattern.

H1 : Knowledge Management (X1) variable data on Employee Innovation (Y) has a linear pattern.

In this study, the significance level used was = 5% or 0.05. Based on calculations using SPSS, the results can be seen in the table below:

Table 4. Linearity Test Results Variable X2 against Y

			ANOVA				
			Sum of Squares	df	Mean Square	F	Sig.
y	Between Groups	(Combined) Linear Term	11823.927	53	223.093	1.343	.077
		Weighted Deviation	2267.967	1	2267.967	13.657	.000
			9555.960	52	183.768	1.107	.307
	Within Groups		32383.037	195	166.067		
	Total		44206.964	248			

Thus, it can be interpreted that the regression equation model, the regression t over X1 is linear and the linearity requirement is met with the value of Sig. Deviation 0.307 > 0.005. This means that a simple linear regression model can be used to predict the level of Employee Innovation which is influenced by Knowledge Management.

Relationship between Variables	Value of Sig.deviation Linearity	Conclusion
Y – X1	0,307	The p value > 0.05 means that the regression equation between Y and X1 has a linear pattern.

4. Simple Regression Test

Table 5. Knowledge Management Regression Equation to Employee Innovation

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	108.581	7.001		15.510	.000
	x2	.180	.049	.227	3.655	.000

a. Dependent Variable: y

Based on the table above, it is known that the slope constant (a) is 108,581 with a regression coefficient (β) of 0.180 so that the regression equation formed between the Knowledge Management variable and Employee Innovation is =108.581+0.180X2.

5. t test

Knowledge Management on Employee Innovation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	108.581	7.001		15.510	.000
	x2	.180	.049	.227	3.655	.000

a. Dependent Variable: y

Given the value of Sig. The effect of X1 on Y is 0.000 < 0.05. $t_{table} = t_{(a/2 : n-k-1)} = (0.0025; 247) = 1.969$ and the t-count value is 3.655 > t-table is 1.969. So it can be concluded that H1 is accepted which means there is an effect of X1 on Y.

CONCLUSION

Based on the results of the study, it can be concluded that this research has found efforts to increase the innovation of employees of the Central Ministry of Transportation through strengthening work motivation and knowledge management. There is a positive and significant influence of Knowledge Management on Employee Innovation as indicated by the regression coefficient (β) 0.180 with the resulting regression equation is $Y = 108.581 + 0.180X_2$ which means that every increase in one level of Knowledge Management will result in an increase in Employee Innovation of 0.180 at constant 108,581. Thus, knowledge management is predicted to increase employee innovation. Based on the results of the determination test calculation, it can be seen that the effective contribution (SE) of the Knowledge Management variable (X2) to Innovativeness (Y) is 3.42%. Thus, increasing knowledge management is predicted to increase employee innovation.

Research suggestions for indicators that are already good can be maintained, while indicators that are not good for improvement are as follows:

Order of Priority Indicators for Immediate Repair	Indicators that need to be Maintained or Developed
<p>Knowledge Management ($\beta = 0,180$)</p> <ol style="list-style-type: none"> 1. Knowledge Storing 3,69 2. Knowledge distribution 3,86 	<p>Knowledge Management ($\beta = 0,180$)</p> <ol style="list-style-type: none"> 1. Knowledge Transfer 4,14 2. Knowledge Application 4,13 3. Knowledge acquisition 4,06

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