The effect of discipline and motivation on employee performance with incentives as a moderator variable (at the Class I Railway Engineering Center for the Central Java Region)

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Abstract

This research was conducted to see the effect of discipline and motivation on employee performance with incentives as a moderator variable (at the Class I Railway Engineering Center in the Central Java Region). The population in this study were 143 employees of the Class I Railway Engineering Center for the Central Java Region. The number of samples taken in this study was determined through a purposive random sampling method using the entire population of 143 employees of the Class I Railway Engineering Center, Central Java Region. The results of the research show that the discipline variable partially has a positive and significant effect on employee performance. This is evidenced by the value of the regression coefficient is 0.375 (positive) with a significance value of 0.002 <0.05, then H1 is accepted. The motivation variable partially has a positive and significant effect on employee performance. This is evidenced by the value of the regression coefficient is 0.253 (positive) with a significance value of 0.004 <0.05, then H2 is accepted. The variables of discipline and motivation simultaneously have a positive and significant effect on employee performance. This is evidenced by the calculated F value of 15.285 > F table of 4.01 and a significance value (Sig.) 0.000 <0.05, then H3 is accepted. The incentive variable moderates the relationship between discipline and employee performance. This is evidenced by the significant influence of the value of Y2 on Y1 on the first output and the interaction effect of X1*Y2 on the second output is significant, meaning that incentives as a moderating variable in the relationship between discipline and employee performance are quasi moderators, so H4 is accepted. Incentive variables moderate the relationship between motivation on employee performance. This is evidenced by the influence of the value of Y2 on Y1 in the first output which has a significant effect and the interaction effect of X2 * Y2 on the second output has a significant effect, meaning that incentives as a moderating variable in the relationship between motivation on employee performance is a quasi moderator, then H5 is accepted.

Keywords

Discipline, motivation, performance, and incentives

INTRODUCTION

The success of an organization is strongly influenced by the performance of individual employees. Every organization or company will always try to improve employee performance, with the hope that the company's goals will be achieved. Performance is the result of work that can be achieved by a person or group of people in an organization, according to their respective authorities and responsibilities in an effort to
achieve the goals of the organization concerned legally, not violating the law and in accordance with morals and ethics (Mangkunegara, 2018).

Railway transportation has many advantages compared to other road transportation, including large (mass) transport capacity, fast, safe, energy efficient and environmentally friendly, requires relatively little land, and is more efficient for long-distance transportation and for areas with dense traffic. Traffic like urban transport. These advantages make the railway transportation sector continue to strive to improve service quality both in the form of infrastructure development and in terms of regulation in the railway sector. Since the enactment of Law No. 23 of 2007 concerning Railways, the railway operating system which was previously centralized and monopolistic has changed to become multi-operator in nature, namely by increasing the role of the private sector and regional government broadly in the operation of railways. In order to find out the achievements of the implementation of the development of all the performance of the railway, of course a monitoring and evaluation is needed in order to see the results of the achievements and existing problems that will be able to improve the results of the performance and implementation of optimal railway infrastructure development.

Discipline is one of the angles that affect the implementation of work. Zesbendri and Aryanti (2019), revealed that order is the basic capital that influences the degree of representative execution. As pointed out by Ardana, et al (2018), discipline is an attitude of respect, appreciation, submission, and adherence to material guidelines, both structured and unwritten and having the choice to complete them and not avoiding sanctions. Iriani (2018), added that the order of representatives is very important so that all exercises that are being and will be completed arrive behind schedule to a predetermined system. With work discipline, representatives will not take actions that can harm the organization. The theory of motivation according to Gibson et al. (1996) divided into two categories, namely Theory of Satisfaction and Process Theory. Meanwhile, according to Luthans (2001) divides motivation theory into: 1) Content Theory, consisting of Maslow's hierarchy theory, Herzberg's two factor theory, Alderfer's ERG theory, and McClelland's need for achievement theory; 2) Process Theory, consisting of reinforcement theory, goal attainment theory, and expectation theory; 3) Contemporary Theory, namely the theory of justice. In this study, the theory of motivation according to Gibson et al. (1996) consisting of Satisfaction Theory and Process Theory.

Employee performance will not be good if discipline in an organization is not good or in accordance with the hearts of employees, then managing careers and developing them needs to be done so that employee productivity is maintained and avoids work frustration, besides that motivation is a factor needed to maintain the level of incentives obtained in employees and of course employee performance will not be good if the incentives obtained are not appropriate. According to Hasibuan (2017) suggests that incentives are additional remuneration given to certain employees whose achievements are above standard performance. This incentive is a tool used by supporters of the principle of fairness in giving compensation. In this regard, the Class I Railway Engineering Center for the Central Java region as a representative of the Central Government who is given responsibility for managing, regulating and supervising the implementation of rail transportation must provide accountability to the general public (public) as well as good quality and performance of Government Agencies, including aspects of accountability in the implementation of the Government's duties both administratively and managerially. Based on Presidential Instruction No. 29/2014 concerning the Government Agency Performance Accountability System (AKIP) which requires each government agency to account for and explain the performance and financial reporting and performance of government agencies to parties who have the right or authority to request information and accountability in realizing advanced state administration and can achieve good governance (Good Governance).

The Class I Railway Engineering Center for the Central Java region has the task of formulating and implementing policies and technical standardization in the field of Railways. In mail-carrying out the tasks mentioned above, the Class I Railway Engineering Center for the Central Java region carries out functions and authorities referring to the Regulation of the Minister of Transportation Number KM. 63 of 2014
concerning the Organization and Work Procedure of the Railway Engineering Center.

Based on theoretical and practical studies related to employee performance at the Class I Railway Engineering Center for the Central Java Region, it is influenced by many factors, but in this study the focus is on 3 (three) variables that affect employee performance, including discipline, incentives, and motivation.

METHODS

In this study, the research variables were divided into 3, namely:

a. Independent variable

The independent variable is a variable that can stand alone and does not depend on other variables. In this study, the independent variables are Discipline (X1) and Motivation (X2).

b. Dependent variable or dependent variable

The dependent variable or dependent variable is a variable that cannot stand alone and depends on other variables, where in this study the dependent variable is Employee Performance (Y).

c. Moderating Variable

Moderating variables are variables that affect the relationship between the independent and dependent variables (Sugiyono, 2017). This variable can weaken and strengthen the influence of the independent variable on the dependent variable, where in this study the Moderating variable is Incentive (Z).

d. Validity test

The validity test is a test of the homogeneity of item statements per variable to show how far the accuracy and accuracy of a measuring instrument is to perform its function. A valid instrument has high validity, whereas an instrument that is less valid means it has low validity. An instrument is said to be valid if it can reveal data from the variables studied correctly. Validity test is done by comparing the value of r count (for each item it can be seen in the column with Pearson correlation with “r” table for degree of freedom (df) = n - 2, in this case n is the number of samples. If r count > r table , then the question is said to be valid (Ghozali, 2019). A questionnaire is said to be valid or valid, if the questions on the questionnaire are able to reveal something that the questionnaire will measure.

Criteria:

- If r-count > r-table, the data is classified as valid.
- If r-count <r-table, the data is classified as invalid.

e. Reliability Test

Reliability test is a way to measure a questionnaire which is an indicator of a variable. A questionnaire is considered reliable or reliable if the answers in the questionnaire are always consistent and stable (Ghozali, 2019). In the reliability test using the internal consistency reliability method which uses the Cronbach Alpha test to identify good items in the questionnaire related to one another. A construct or variable is declared reliable if it gives a Cronbach Alpha value > 0.70 (Ghozali, 2011). If there is a question that has a Croanbach's Alpha value if item deleted is greater than Croanbach's Alpha then the question is not reliable. If Croanbach's Alpha > 0.05 then the question is reliable.

f. Data analysis

Data analysis, namely research data that are not numbers, cannot be calculated in nature in the form of information or explanations based on theoretical approaches and logical judgments. Quantitative analysis is used to provide a descriptive description of the responses given by respondents to the questionnaire questions and connected with marketing theory or approaches -approaches related to brand equity and purchasing decisions through assessment using the highest score range formula minus the lowest score divided by the number of classes (Umar, 2012). The score range formula is as follows:

\[ Rs = \frac{(m-n)}{B} \]

Information :
Rs = Score Range
m = highest score
n = lowest score
b = number of classes

Classic assumption test

The classic assumption test in this study was carried out on the regression model, namely:

g. Normality test

The normality test aims to test whether in the regression model, the dependent variable and independent variable both have a normal distribution or not. A good regression model is having a normal or close to normal data distribution (Ghozali, 2020).

h. Multicollinearity Test

The multicollinearity test aims to test whether in a regression model a correlation is found between the independent (independent) variables. A good regression model should not have a correlation between the independent variables. If the independent variables are correlated, then these variables are not orthogonal. Orthogonal variables are independent variables whose correlation value between independent variables is equal to zero (Ghozali, 2019).

i. Heteroscedasticity Test

The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from one residual observation to another. If the variance from the residual of an observation to an observation remains, then it is called homoscedasticity and if it is different it is called heteroscedasticity or what occurs is heteroscedasticity (Ghozali, 2019). Most cross section data contain heteroscedasticity situations, because this data collects data that represents various sizes (small, medium and large).

j. Multiple Linear Regression Analysis

This analysis is used to determine the relationship between the influence of discipline (X1) and motivation (X2) on employee performance (Y) with incentives as a moderator variable (Z). nden to the dependent variable. The multiple regression model uses the following formula:

**Stage I:**

\[ Y = A + \beta_1 x_1 + \beta_2 x_2 + e \]

Information:

Y : Employee Performance
A : constant
\( \beta_1 \) : Discipline regression coefficient
\( \beta_2 \) : Motivation regression coefficient
x_1 : Discipline
x_2 : Motivation
e : error

**Stage II:**

To test the effect of the relationship of the moderating variable, use an interaction test or it can be called moderated regression analysis (MRA) which is a special application of multiple linear regression in the regression equation depending on the element of interaction (multiplication of two or more independent variables) using the following equation formula:

\[ Y_{MRA} = \alpha + \beta_1 x_1 + \beta_2 x_2 + Z + e \]

Information:

Y = Employee Performance
\( \alpha \) = Constant
\( \beta_1 - \beta_2 \) = Regression Coefficient
X1 = Discipline
X2 = Motivation
Z = Incentives
X1Z, X2Z = Interaction between Discipline, Motivation, and incentives
e = error term, namely the level of error in the estimator in the study

k. Goodness of Fit Test

The accuracy of the sample regression function in estimating the actual value can be assessed by its Goodness of Fit. Statistically at least this can be measured from the value of the coefficient of determination, the value of the F statistic and the value of the t statistic. Statistical calculations are called statistically significant, if the value of the statistical test is in the critical area (area where Ho is rejected). Conversely, it is called insignificant if the statistical test value is in the area where Ho is accepted (Ghozali, 2019).

l. Individual Parameter Significant Test (t test)

To test the variables that influence the independent variables on the dependent variable individually (alone), the t test is used. The hypothesis tested with a significant level of α = 5% is:

- Ho: β1 = β2 = 0, there is no positive and significant effect of the independent variables on the dependent variable.
- Ha: β1 = β2 > 0, there is a positive and significant effect of the independent variable on the dependent variable.

The basis for decision making is:

1. If the calculated t value < t table value or the significance probability value is greater than 0.05 (confidence level α = 5%), then H0 is accepted.
2. If the calculated t value > t table value or the significance probability value is less than 0.05 (confidence level α = 5%), then H0 is rejected.

m. Coefficient of Determination (R Square)

The coefficient of determination (R Square) basically measures how far the model's ability to explain the variation of the dependent variable or the dependent variable. The value of the coefficient of determination is between zero (0) and one (1). A small R² value means the ability of the independent (free) variables in explaining the variation of the dependent variable is very limited. A value close to one means that the dependent variables provide almost all the information needed to predict the variation of the dependent variable. In general, the coefficient of determination for cross-sectional data is relatively low, because there is a large variation between each observation, while time series data usually has a high coefficient of determination (Ghozali, 2019).

For every additional one independent variable, R² must increase regardless of whether this variable has a significant effect on the dependent variable. Therefore, many researchers recommend assessing Adjusted R² (Adjusted R Square) when evaluating which is the best regression model (Ghozali, 2019).

RESULTS AND DISCUSSION

In this study, the samples taken were employees who worked at the Class I Railway Engineering Center in the Central Java region, amounting to 143 respondents. Questionnaires were distributed directly to employees at the Class I Railway Engineering Center for the Central Java region. From the results of distributing the questionnaires, the data returned to the researchers was 143 respondents. In this study the distribution was carried out directly so that this study was a population study.

In this study, information about the general condition of Ghozali (2019) states that validity is a measure that shows the level or validity of an instrument. A valid instrument has high validity, and conversely an invalid instrument has low validity. Furthermore, the results of counting were compared with table with a significance level of 5%. If the value rcount > rtable is obtained, then the instrument item can be said to be valid. By looking at the table of product moment criticality values with a significance level of 5% and N = 59, the rtable value is 0.2564.

Reliability Test

Reliability is an instrument that can be trusted enough to be used as a data collection tool because the instrument is good (Arikunto, 2019). A reliable instrument is an instrument which, when used several times to measure the same object, will produce the same data. In this study the reliability test used was the Cronbach's Alpha formula. In this study the reliability test used was the Cronbach's Alpha
formula with a standard value of 0.6. The results of the reliability calculation show that all the variables used in this study are reliable, because they have a Cronbach’s Alpha coefficient value greater than the critical value of 0.6.

**Classic assumption test**

Classical assumption testing is needed to find out whether in a regression model, the residual values have a normal distribution or not so that they meet the assumption of normality. As well as to find out whether the results of the regression estimation carried out are completely free from the presence of multicollinearity and heteroscedasticity symptoms. The classic assumption tests used in this study are the normality test, multicollinearity test and heteroscedasticity test.

**Normality test**

This test was conducted to find out whether in a regression model, the residual values have a normal distribution or not. In the linear regression method, this is indicated by the large value of the random error (e) which is normally distributed. A good regression model is one that is normally distributed or close to normal so that the data is feasible to be tested statistically. The normality test in regression can use several methods, including the probability plot method which compares the cumulative distribution of the normal distribution. It is known that the data spreads around the diagonal line and follows the direction of the diagonal line, so the residual data is normally distributed.

**Multicollinearity Test**

The multicollinearity test aims to test whether in a regression model a correlation is found between the independent (independent) variables. A good regression model should not have a correlation between the independent variables. If the independent variables are correlated with each other, then these variables are not orthogonal. Orthogonal variables are independent variables whose correlation values between independent variables are equal to zero (Ghozali, 2019). To detect whether or not multicollinearity is generally by looking at the Tolerance and VIF values in the linear regression results. The decision making method is if the Tolerance is more than 0.10 and VIF is less than 10, then multicollinearity does not occur. The calculation results in the table above show that the VIF value of all independent variables is far below 10 and the results of the calculation of the tolerance value are greater than 0.10, which means there is no correlation between the independent variables. Thus it can be concluded that there is no multicollinearity between the independent variables in the regression model.

**Heteroscedasticity Test**

The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from one residual observation to a fixed observation, then it is called homoscedasticity and if it is different it is called heteroscedasticity or heteroscedasticity occurs. A good regression model requires no heteroscedasticity problem. One way to analyze the assumption of heteroscedasticity is by using the scatterplots test. It is known that the distribution of patterns is irregular and does not form a certain pattern, so it can be concluded that there is no problem of heteroscedasticity in the processed data.

**Regression Analysis**

Regression is a method in statistics that can be used to see whether there is a relationship (causal or causal relationship) and is displayed in the form of a systematic model or equation. Regression can be used to predict or develop an embodied model. The multiple regression equation can be explained as follows: the discipline variable (X1) and motivation (X2) have a positive regression coefficient, this means that the two research variables have a positive influence on employee performance (Y1), so that if there is an increase in discipline (X1) and motivation (X2) will increase employee performance (Y1).

a. The constant (α) is = 17.984

If incentives and work discipline equal to 0 or are eliminated, then employee performance will increase by 17.984 percent.

b. Value b1 = 0.375

Discipline variable has a positive influence on improving employee performance. If there is a 1 percent increase in the incentive variable, the employee’s performance will
increase by 37.5 percent assuming the work discipline variable is constant.

c. Value $b_2 = 0.253$

Variable motivation has a positive influence on improving employee performance. If there is a 1 percent increase in the work discipline variable, the employee’s performance will increase by 25.3 percent assuming the incentive variable is constant.

d. Then the regression equation can be written as follows:

$$Y_1 = 17.984 + 0.375 X_1 + 0.253 X_2 + e$$

**Hypothesis test**

**Partial Parameter Significance Test (Statistical Test t)**

The t test is used to test the variables that affect the independent variables on the dependent variable individually (alone), so the t test is used. The t table formula = the number of respondents minus two or written by the formula: $t_{table} = \frac{N - k}{2} = 57$, found the value of t table 1.67203.

Based on the results of the regression analysis obtained:

1. **Discipline variable (X1)**

   Analysis :

   The discipline variable has a t-count value of 3.306 with a significance level of 0.002, because the t-count value is 3.306 > t-table 1.67203 and a significance value (Sig.) 0.002 <0.05 and is positive, it can be concluded that H0 is rejected and H1 is accepted, which means that discipline (X1) partially affects employee performance (Y1).

2. **Variable motivation (X2)**

   Analysis :

   The motivational variable has a t-value of 2.962 and a significance of 0.004, because the t-count is 2.962 > t-table 1.67203 and a significance value (Sig.) 0.004 <0.05. So it can be concluded that H0 is rejected and H1 is accepted, which means that motivation (X2) partially affects employee performance (Y1).

**Simultaneous Significance Test (F Test)**

Testing the effect of the independent variables together (simultaneously) on changes in the value of the dependent variable, is carried out by testing the magnitude of the change in the value of the dependent variable which can be explained by changes in the values of all independent variables. The significance level set for research with the probability value of the research results (Ghozali, 2019). To find the first F table, you need to find the value of $dF_1 (N1) = k - 1 = 2 - 1 = 1$, $dF_2 (N2) = n - k = 59 - 1 = 58$, thus the F table values of $dF_1 (2)$ and $dF_2 (58)$ = 4.01.

Discipline and motivation variables have a calculated F value of 15.285 with a significance level of 0.000, because the calculated F value is 15.285 > F table 4.01 and a significance value (Sig.) 0.000 <0.05 and is positive, it can be concluded that H0 is rejected and H1 is accepted, which means that the variables of discipline and motivation simultaneously affect employee performance.

**Coefficient of Determination (R Square)**

Analysis of $R^2$ (R Square) or the coefficient of determination is basically used to measure how far the model's ability to explain the variation of the dependent variable or the dependent variable. The coefficient of determination is between zero (0) and one (1). The small $R^2$ value means that the ability of the independent (independent) variables to explain the variation in the dependent variable is very limited. A value that is close to one means that the dependent variable provides almost all the information needed to predict the variation of the dependent variable. The results of the analysis of the coefficient of determination in multiple linear regression with an $R^2$ (Adjusted R Square) value of 0.330 which means the influence of the independent variables of discipline and motivation on employee performance 33% while the rest is influenced by other factors not examined.

**MRA test**

Moderating variables affect the direct relationship between the independent variables and the dependent variable. This influence can strengthen or weaken the direct relationship between the independent variables and the dependent variable. To test
whether Z exists as a Pure Moderator, Potential Moderator, Quasi Moderator, or Predictor Mediator, it can be observed with the following criteria:

a. Pure Moderator, if the effect of Z on Y does not have a significant effect while the X*Z Interaction has a significant effect.
b. Moderator potential if the effect of Z on Y has no significant effect, and the X*Z interaction also has no significant effect.
c. Quasi Moderator, if the effect of Z on Y has a significant effect and the effect of X*Z interaction also has a significant effect.
d. Predictor Moderator, if the effect of Z on Y has a significant effect and the effect of X*Z interaction has no significant effect.

Stage 1 Moderation Regression Test

- Regression test from variable X1 and Y2 to variable Y1
- Regression test from variables X1, Y2 and X1*Y2 to variable Y1

The beta resulting from the interaction effect of X1*Y2 on Y1 is negative (-0.072), which means that the moderation of Y2 weakens the effect of X1 on Y1. Although weakened, the effect is significant (0.016 < 0.05). The effect of Y2 on Y1 on the first output is significant and the interaction effect of X1*Y2 on the second output is significant, meaning that incentives as a moderating variable in the relationship between discipline and employee performance are quasi moderators.

Stage 2 Moderation Regression Test

- Regression test from variables X2 and Y2 to variable Y1
- Regression test from variables X2, Y2 and X2*Y2 to variable Y1

The beta resulting from the interaction effect of X2*Y2 on Y1 is negative (-0.044), which means that the moderation of Y2 weakens the effect of X2 on Y1. The effect of X2*Y2 on Y1 has a significant effect (0.046 <0.05). The effect of Y2 on Y1 on the first output has a significant effect and the interaction effect of X2*Y2 on the second output has a significant effect, meaning that incentives as a moderating variable in the relationship between motivation on employee performance are quasi moderators.

CONCLUSION

Based on the formulation of the proposed research problem, the data analysis that has been carried out and the discussion that has been put forward in the previous chapter, the following conclusions can be drawn. Discipline variables partially have a positive and significant effect on employee performance. This is evidenced by the value of the regression coefficient is 0.375 (positive) with a significance value of 0.002 <0.05, then H1 is accepted. The motivation variable partially has a positive and significant effect on employee performance. This is evidenced by the value of the regression coefficient is 0.253 (positive) with a significance value of 0.004 <0.05, then H2 is accepted. The variables of discipline and motivation simultaneously have a positive and significant effect on employee performance. This is evidenced by the calculated F value of 15.285 > F table of 4.01 and a significance value (Sig.) 0.000 <0.05, then H3 is accepted. The incentive variable moderates the relationship between discipline and employee performance. This is evidenced by the significant effect of the value of Y2 on Y1 on the first output and the effect of the X1*Y2 interaction on the second output is significant, meaning that incentives as a moderating variable in the relationship between discipline and employee performance are quasi moderators, so H4 is accepted. The incentive variable moderates the relationship between motivation on employee performance. This is evidenced by the influence of the value of Y2 on Y1 at the first output which has a significant effect and the interaction effect of X2 * Y2 on the second output has a significant effect, meaning that incentives as a moderating variable in the relationship between motivation on employee performance are quasi moderators, then H5 is accepted.

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