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The effect of working atmosphere and discipline toward employee work productivity in pt. Duta marga lestarindo medan

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Abstrak. To achieve the goals that have been determined, organizations must be able to use the resources needed to get the waste of time, energy and thoughts can be minimized. This is where the role of the managers of human resources is needed to create a work atmosphere and environment that makes the workers work calmly and comfortably in their work and the implementation of good discipline work to influence more optimally in creating work productivity. After conducting research on the Environmental Effect of Working and Discipline on Employee Productivity at PT. Duta Marga Lestarindo Medan, it can be concluded: t score of 2.777 means the correlation between work environment variables (X_1) and discipline (X_2) on employee work productivity variables (Y) of 2.777. F test value of 7.598 means that the variable has a strong correlation level. R Square value of 0.798. R value of 0.586 means the correlation between the variable Work Environment (X_1) and Discipline (X_2) on employee work productivity (Y) of 0.586. It means that variables have a strong correlation level. Based on the hypothesis testing if $F_{observe} > F_{table}$, H_0 is rejected and H_a is accepted. Associated with a positive and significant effect consisting of work environment variables (X_1), and discipline (X_2) together a positive and significant effect on employee work productivity at PT. Duta Marga Lestarindo Medan. The calculated score of the variable Work environment is 3.471 with a significant level of 0.002. The table score at $\alpha = 5\%$, with degrees of freedom (df) = (32-3) is 2.576 or by looking at the sig score 0.249 < 0.05. Suggestions given to the leaders of PT. Duta Marga Lestarindo Medan to implement a good work environment and atmosphere and establish good discipline and regulation to increase work productivity

Keywords: Work Atmosphere, Discipline, and Work productivity.

Introduction

The work atmosphere is something that exists in the environment surrounding of workers who can effect the employee in carrying out their work such as temperature, humidity, ventilation, lighting, noise, cleanliness of the workplace and there are at least tools – such a complete facility of work. The work atmosphere in a company is very important to be given with a deep concern for the company management. Although the work environment is not important in carrying out the production process in a company, the work environment has a direct effect on the employees who carry out the production process.

Discipline is a mental attitude that is reflected in the behavior of individuals, groups or communities in the form of compliance or obedience with regulations, provisions, ethics, norms

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and applicable rules. Work discipline is the duty of a person or group of people who always want to follow or obey all the rules that have been determined. Discipline can be implemented in training or practicing to establish it. The implementation can be implemented by beginning of respecting time and cost which will have a positive effect on employee work productivity.

Every company strives for employees to excel in the form of providing maximum work productivity. Employee work productivity for a company is very important as a measure of success in running a business. Because the higher of work productivity of employees in the company, it means that the the more company's profits and productivity will increase.

PT. Duta MargaLestindo Medan is a private-owned business entity engaged in the Industry. The company hopes that every individual or employee can feel comfortable in their work and can also create high discipline for the progress of the company and the achievement of effective and efficient corporate goals.

Research Methodology

This research is placed at PT. Duta Marga Lestarindo Medan which located in JL. Defense No 52 Desa Patumbak Kampung, Kec. Patumbak, Deli Serdang Regency, Sumatera Utara Province. This research was done from February 2017 until August 2017. As for the population in this study were 32 employees of PT. Duta Marga Lestarindo Medan. The number of samples used in this study are all employees in the office of PT. Duta Marga Lestarindo Medan as many as 32 people in the Human Resources section.

A. Operational Definition and Variable Measurement

Research on the main problem under study is based on two things, namely the work atmosphere and discipline (X_1), (X_2) as independent variables (variables that influence) on work productivity (Y) as dependent variables that result in a positive influence from the work environment (X_1), and X_2 discipline) (on work productivity (Y)). The five assessments are weighted as listed in the table below.

Table 1. The measurement of Likert Scale

No	Statement	Score
1	Very agree	5
2	Agree	4
3	Less agree	3
4	Do not agree	2
5	Avery do not agree	1

Source: the writers (2017)

B. Kinds and Data Source of Research

1. Kinds of Research Data

The types of data used in this study are as follows:

1. Primary Data is data obtained or collected by researchers directly from respondents (research objects). Primary data can be obtained through: questionnaires, observations, interviews, and others.
2. Secondary data is data that is obtained or collected by researchers indirectly or from various sources which have already existed. Secondary data can be obtained through: books, notes, reports, existing journals.

2. Source Data

While the data source used in this study is primary data, where primary data were obtained from several respondents through the distribution of questionnaires to employees at PT. Duta Marga Lestarindo Medan

3. The Method of Collecting data

Research is an activity of collecting, managing, analyzing data carried out by scientific methods efficiently and systematically. Because data has a dominant role where this data will provide accuracy for the research conducted.

There are two types of methods that are usually carried out to conduct this research activity, namely: (1) Library Research; (2) Field research

C. Data Analysis Methods and Hypothesis Tests

1. Validity Test

Validity is a measure that shows the levels of validity or validity of an instrument [1]. An instrument can be categorized as valid if it is able to measure what a research discussed to capture data needed to find from the variables studied precisely. In this study, an internal validity test technique was used to test whether there was a match between the parts of the instrument as a whole. A valid question was categorized as valid was seen from the comparison between arithmetic and r tables, if $r_{\text{observe}} > r_{\text{table}}$, then the question items were declared valid.

2. Test of Reliability

Reliability test is used to show that an instrument is reliable enough to be used as a data collection tool because the instrument is already good [1]. Reliability indicates the level of reliability (trustworthiness) of an indicator used in research. A questionnaire is said reliable or reliable if someone's answer to the question is consistent or stable from time to authority [2]. A construct or variable is categorized as reliable if it gives a Cronbach Alpha value > 0.60 [2].

3. Analysis of Multiple Linear Regression

Multiple linear regression analysis was used to determine the significant influence of work atmosphere or environment and discipline variables on employee work productivity. There is also the equation model used is as follows: $Y = a + b_1x_1 + b_2x_2 + e$

Y = criteria or respondent variables (dependent)

a = a constant

b_1 = regression coefficient of work environment

b_2 = disciplinary regression coefficient

x_1 = work environment

x_2 = discipline

e = error

4. Hipotesis Test

a) Partial Test (t Test)

Partial test (t test) is used to test whether each independent variable, namely environment (X_1) discipline (X_2) has a positive and significant effect on the dependent variable, namely employee productivity (Y) partially. The rules of decision making in the t test using SPSS are:

- If the significant value > 0.05 , then H_0 is accepted and H_a is rejected, or the variable cannot explain the dependent variable or there is no influence between the variables tested.
- If the significant value < 0.05 , then H_0 is rejected and H_a is accepted, or free variable can explain the dependent variable or there is an influence between the tested variables.

b) Simultaneous Test (F test)

Simultaneous test (F test) is used to see whether the independent variable, namely the work atmosphere (environment) x_1 and discipline x_2 have a positive and significant effect on the

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dependent variable, namely employee productivity (Y). Criteria for taking a decision in the F test using SPSS is:

- If the significance value > 0.05 , then H_0 is accepted and H_a is rejected, or the independent variable of the linear regression model is unable to explain the dependent variable
- If the significance value < 0.05 , then H_0 is rejected and H_a is accepted or the independent variable of the linear regression model is able to explain the dependent variable.
- The coefficient of determination (R^2)

The coefficient of determination (R^2) essentially measures how far the model's ability to explain the dependent variable. The value of the coefficient of determination (R^2) close to one means that the independent variable explains almost all the information needed to predict the dependent variable.

The coefficient of determination is between zero and one. The number $R = 0$ means that the independent variable and the dependent variable have nothing to do, while the number $R = 1$ means that the independent variable with the dependent variable has a strong correlation.

The closer to zero the magnitude of the coefficient of determination (r^2) of a regression equation, the smaller the effect of all independent variables on the value of the dependent variable. Conversely, the closer the one coefficient of determination (r^2) to a regression equation, the greater the effect of all independent variables on the value of the dependent variable.

Research Result And Discussion

A. Descriptive Analysis Method

In the descriptive analysis will be described and explained about the various characteristics of respondents as a whole based on gender, age, and level of education.

Table 2. Classification of Respondents by Age

No	Age (Year)	Number (People)	Percentage (%)
1	20 - 29	6	18,75
2	30 - 39	14	43,75
3	40 - 49	10	31,25
4	50	2	6,25
Jumlah		32	100

Source: Research Result 2017

Based on the results of Table 4.1 it can be seen that the number of respondents aged 20-29 years were 6 people or 18.75% aged 30-39 years as many as 14 people or 43.75% aged 40-49 years were 10 people or 31.25 % of those aged > 50 years were 2 people or 6.25%. The data shows that the employees of the Human Resources section of PT. Duta Marga Lestarindo Medan is dominated by the age of 30-39 years who have quite good conditions.

Table 3. Classification of Respondent based on Gender.

No	Gender	Number (people)	Percentage (%)
1	Laki-laki	22	68,75
2	Perempuan	10	31,25
Total		32	100

Source : Research Result 2017

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Based on table 4.2 it can be seen that the number of respondents who are male is 22 people or 68.75% and those who are female are 10 people or 31.25%. This shows that the employees of the Human Resources division of PT. Duta Marga Lestarindo Medan are dominated by male employees:

Table4. Respondent Classification based on Educational level

No	Education	Number (People)	Percent (%)
1	SMU	4	12,5
2	D3	1	3,13
3	S1	25	78,12
4	S2	2	6,25
Total		32	100

Source: Research finding 2017

Based on the results of table 4.3 it can be seen that respondents in high school education level are 4 people or 12.5%, respondents in D3 education level are 1 person or 3.13%, respondents in education level S1 (Strata 1/ bachelor) are as many as 25 people or 78, 12%, and respondents of S2 (Strata 2/ magister) education level were 2 people or 6.25%. Total statements were given by respondent are:

B. Validity and Reability Test

1. Validity Test

Calculations by using the SPSS program produce a validity test that is tested on several variables used namely X_1 (Work Atmosphere), X_2 (Discipline) and Y (Productivity) that if the correlation has a significance below 0.05 indicates that the variable is valid.

At a significant level of 5% of the total sample of 32 people, from the table r will be obtained by the table correlation coefficient of r table with $N / df = N - 2$ is $32 - 2 = 29$. Thus if an item statement has an item total correlation or the coefficient of validity $> r_{table} = 0.367$ can be declared valid, and if a statement item has a total item correlation or the coefficient of validity $< r_{table}$ can be concluded as invalid.

1. Test of Variable Validity X_1

Table5. Validity Test of Work Environment

State ment	Corrected item total Correlation	R_{Table}	Status
1	0,499	0,367	Valid
2	0,739	0,367	Valid
3	0,803	0,367	Valid
4	0,719	0,367	Valid
5	0,646	0,367	Valid

Source: Data Output of SPSS

Based on table 4.7 above it can be seen that each statement item is declared valid, because it has fulfilled the requirements of $r_{count} > r_{table}$ so that it can be stated that each statement item in the work environment variable (X_1) is feasible to be used in research.

1. Test Validity of X_2

Table6. Validity Test of Discipline

Stat eme	Corrected item-total	R_{Table}	Status
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Item	Correlation		
1	0,511	0,367	Valid
2	0,450	0,367	Valid
3	0,613	0,367	Valid
4	0,465	0,367	Valid
5	0,790	0,367	Valid

Source : Data Output SPSS

Based on table 4.8 above it can be seen that each statement item is declared valid, because it has fulfilled the requirements of $r_{\text{observe}} > r_{\text{table}}$ so that it can be stated that each statement item in the work environment variable (X_2) is feasible to be used in research.

2. Test of Validity of Variabel Y

Table 7. Test of Validity of Productivity Variable

Statement	Corrected item-total Correlation	R_{Table}	Status
1	0,560	0,367	Valid
2	0,791	0,367	Valid
3	0,544	0,367	Valid
4	0,725	0,367	Valid
5	0,649	0,367	Valid

Source : Data Output SPSS

Based on table 4.9 above, it can be seen that each statement item is declared valid, because it has fulfilled the requirements of $r_{\text{observe}} > r_{\text{table}}$ so that it can be stated that each statement item in the work environment variable (Y) is feasible to be used in research.

2. Reliability Test

Reliability is actually a measurement tool for measuring a questionnaire which is an indicator of variables. In this study reliability measurements were carried out with the use of SPSS using the Cronbach Alpha method, where the questionnaire was categorized as reliable if the Cronbach Alpha value

Table 8. Test of Reliability

No.	Variable	Cronbach's Alpha
1.	Work environment (X_1)	0,714
2.	Discipline (X_2)	0,418
3.	Productivity (Y)	0,672

After testing, it can be seen the reliability value for the variables X_1 , X_2 , and $Y > 0.5$ then all the variables are reliable.

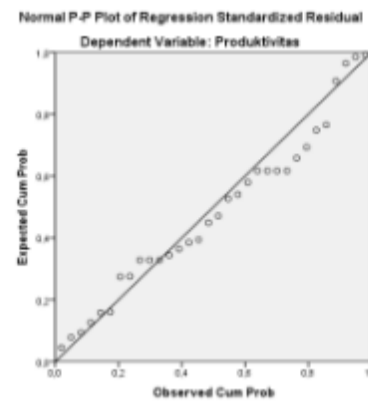
C. Test of Classical Assumption

1. Normality Test

Normality test is to find out whether the distribution of a data follows or approaches the normal distribution, that is data distribution in the form of a bell. Good data is data that has a pattern like a normal distribution, i.e. the distribution of the data either not left or not right.

Analisi Grafik

Data normality can be seen through the spread of points on the P-Plot diagonal axis or by looking at the histogram of the residuals. Basic decision making as follows :



Source : Data Output SPSS

2. Multicollinearity Test

This test aims to test whether in the linear regression model found a high correlation between independent variables.

Table9.Multicollinearity Test

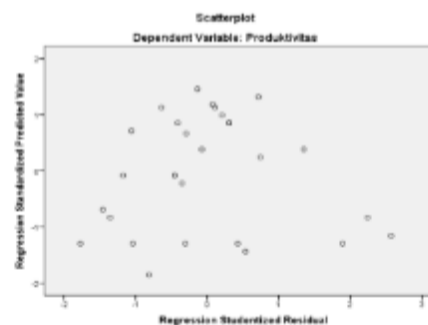
Colliniaryti Statistics	
Tolerance	VIF
,164	6,104
,164	6,104

Source : Data Output SPSS

Table 4.20 shows that the VIF value is $6.104 > 5$. Then there is a multicollinearity and tolerance problem of $0.164 > 0.1$, indicating the presence of multicollinearity. This means that the independent variable, the work environment and discipline, there is no perfect or definite linear correlation between these variables so that the regression model is feasible to use.

3. Heteroscedasticity Test

This test aims to test whether in the regression model there is an inequality of variance from a residual observation. Symptoms of heteroscedasticity can be seen using scatterplot charts. If the data is formed points forming a pattern or spread, then the regression model is not affected by heteroscedasticity.



Source : Data Output SPSS

D. Multiple Linear Regression Analysis

The results of multiple linear regression analysis are in the form of coefficients for each independent variable. This coefficient is obtained by predicting the value of the dependent variable with an equation.

$$Y = 9,241 + 3,287X_1 + 2,566X_2$$

- Y = Work Productivity
- a = Constant
- X₁ = Work environment

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X_2 = Discipline

Based on the results of the regression equation it can be explained the effect of each independent variable on the dependent variable as follows:

- The constant value is 9,241, it states that if the work environment and discipline factors with placement are ignored, the employee's work productivity is 9,241.
- Regression coefficient for the work environment of 3,287 shows that for every 1% increase in work environment factors the Employee Productivity has increased by 328.7%.
- Regression coefficient for discipline is 2,566, it shows that for every 1% increase in discipline, Employee Productivity will increase by 256,6%.

From this equation, it can be seen that all independent variables (Work Environment and Discipline) have a positive effect on Employee Work Productivity. The influence of Work Environment and Discipline variables positively will increase Employee Productivity at PT. Duta Marga Lestarindo Medan.

1. Koefisien Determinasi (R^2)

The coefficient of determination measures how far the model's ability to explain the variation of the dependent variable.

- $R = 0.586$ means the correlation between work environment and discipline on employee work productivity is strong.
- Adjusted R square of 0.562 means that the percentage of influence of work environment and discipline variables on employee productivity is 56.2% while the remaining 43.8% is influenced by other factors not explained in this study.

E. Uji Hipotesis

1. Partial Test (t Test)

T test is intended to see partially whether there is a significant influence of the independent variable (X) on the dependent variable (Y). Form of testing viz :

H_0 = The independent variable (work environment and discipline) partially did not have a positive and significant effect on the dependent variable (productivity).

H_1 = The independent variable (work environment and discipline) partially has positive and significant effect on the dependent variable (productivity). Nilia $t_{observe}$ score will be compared to t_{table} score, the decision criteria are:

H_0 accepted if $t_{observe} < t_{table}$ to $\alpha = 5\%$

H_1 accepted if $t_{observe} > t_{table}$ to $\alpha = 5\%$

2 F Test (Uji Serentak)

F Test (Concurrent Test) isto see whether the independent variables together (simultaneously) have a positive and significant effect on the dependent variable. Through the statistical test with the following steps:

$H_0 : b_1 = b_2 = 0$ This means that together (simultaneously) there is no positive and significant influence of the independent variables (work environment and discipline) and the dependent variable (productivity). The $F_{observe}$ value will be compared with the F_{table} value of decision making criteria ie :

H_0 = accepted if $F_{observe} \leq F_{table}$ to $\alpha = 5\%$

H_1 = accepted if $F_{observe} \geq F_{table}$ to $\alpha = 5\%$

The result of $F_{observe}$ Test can be seen in table 4.22

F. Research finding and discussion

Quality employee work productivity can be achieved if the work environment supports the process of achieving employee work productivity. The physical work environment and non-physical work environment can affect the productivity produced by employees, especially the role of superiors in providing guidance and direction to implementing employees for the work performed. From the results of research on tabel 4.17 on the coefficient of determination test (R²) shows the value of R = 0.586 means the correlation (relation) between the Work Environment and Discipline of Employee Productivity by 58.6% which means it has a very close correlation.

Adjusted R square of 0.798 means 79.8% of the factors of employee productivity can be explained by the work environment and discipline while the remaining 20.2% can be explained by other factors not examined by other studies.

Then from the results of research on a simultaneous test (F test) it can be seen that the value of $F_{\text{observe}} (7,598) > F_{\text{table}} (2.93)$. This showed that the independent variable consisting of the independent variable Work Environment and Discipline have a positive and significant effect on the dependent variable, namely Employee Productivity at PT. Duta Marga Lestarindo Medan.

From the test results t_{observe} the Work Environment variable (X_1). And the calculated value of this variable is 3.471 with a significant level of 0.029. The value of t_{table} at $\alpha = 5\%$, with degrees of freedom (df) = 32 (32-3) is 2.756 or by looking at the sig value of 0.029 < 0.05. Based on the hypothesis test criteria, namely $t_{\text{observe}} < t_{\text{table}}$ or sig value > α , H_0 is accepted. Then it can be stated that the internal work environment has a positive and not significant effect on employee work productivity.

Disciplinary Variable (X_2) value of T_{observe} from this variable is 3.981 with a significant level of 0.004. The value of t_{table} at $\alpha = 5\%$ with degrees of freedom (df) = 32 (32-3) is 2.756 or by looking at the sig value of 0.004 > 0.05. Based on the hypothesis test criteria, namely $t_{\text{observe}} > t_{\text{table}}$ or sig < α value, H_0 is accepted. Then it can be stated that the external work environment has a positive and not significant effect on employee work productivity.

In other words, the results of the partial influence test indicate that the work environment variable has a positive and significant effect on the variable of employee work productivity at PT. Duta Marga Lestarindo Medan, and disciplinary variables as the dominant variable affecting employee work productivity at PT. Duta Marga Lestarindo Medan. It can be seen from Reni Anggraini's thesis that shows the results of his research that discipline has a positive effect on employee work productivity.

G. Research Result and Discussion

Quality employee work productivity can be achieved if the work environment supports the process of achieving employee work productivity. The physical work environment and non-physical work environment can affect the productivity produced by employees, especially the role of superiors in providing guidance and direction to implementing employees for the work performed. From the results of research on tabel 4.17 in the coefficient of determination test (R²) shows the value of R = 0.586 means the correlation (relation) between the Work Environment and Discipline of Employee Productivity by 58.6% which means it has a very close correlation.

Adjusted R square of 0.798 means 79.8% of the factors of employee productivity can be explained by the work environment and discipline while the remaining 20.2% can be explained by other factors not examined by other studies.

Then from the results of research on a simultaneous test (F test) it can be seen that the value of $F_{\text{observe}} (7,598) > F_{\text{table}} (2.93)$. This showed that the independent variable consisting of the independent variable Work Environment and Discipline have a positive and significant effect on the dependent variable, namely Employee Productivity at PT. Duta Marga Lestarindo Medan.

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From the test results to count the Work Environment variable (X_1). And the T_{observe} value of this variable is 3.471 with a significant level of 0.029. The value of t_{table} at $\alpha = 5\%$, with degrees of freedom (df) = 32 (32-3) is 2.756 or by looking at the sig value of 0.029 < 0.05. Based on the hypothesis test criteria, namely $t_{\text{observe}} < t_{\text{table}}$ or sig > α , H_0 is accepted. Then it can be stated that the internal work environment has a positive and not significant effect on employee work productivity. Disciplinary Variable (X_2) T_{observe} value of this variable is 3.981 with a significant level of 0.004. The value of t_{table} at $\alpha = 5\%$ with degrees of freedom (df) = 32 (32-3) is 2.756 or by looking at the sig value of 0.004 > 0.05. Based on the hypothesis test criteria, namely $t_{\text{count}} > t_{\text{table}}$ or sig < α value, H_0 is accepted. Then it can be stated that the external work environment has a positive and not significant effect on employee work productivity.

In other words, the results of the partial influence test indicate that the work environment variable has a positive and significant effect on the variable of employee work productivity at PT. Duta Marga Lestarindo Medan, and disciplinary variables as the dominant variable affecting employee work productivity at PT. Duta Marga Lestarindo Medan. It can be seen from Reni Anggraini's thesis that shows the results of his research that discipline has a positive effect on employee work productivity.

Conclusion

After conducting research on the effect of the Work Environment and Discipline on Employee Productivity at PT. Duta Marga Lestarindo Medan can be concluded.

1. T value of 2.777 means the correlation between the work environment variable (X_1) and discipline (X_2) to the variable employee productivity (Y) of 2.777. F_{test} value of 7.598 means that the variable has a strong correlation level. R Square value of 0.798. R value of 0.586 means the correlation between the variable Work Environment (X_1) and Discipline (X_2) on employee work productivity (Y) of 0.586. This means that the variable has a strong correlation level. From the results of the F test it can be seen that the F_{observe} value is 7,598 at the error rate $\alpha = 5\%$, the F_{observe} value is significant. Significant value of 0.002 < 0.05 at the degree of freedom (df) = (32-3), the value of $F_{\text{table}} = 2.93$. Based on the hypothesis test criteria if $F_{\text{observe}} > F_{\text{table}}$ then H_0 is rejected and H_a is accepted. This means that a positive and significant effect consisting of work environment variables (X_1), and discipline discipline (X_2) together have a positive and significant effect on employee work productivity at PT. Duta Marga Lestarindo Medan. The t_{observe} value of the work environment variable is 3.471 with a significant level of 0.029.
2. The t_{table} value at $\alpha = 5\%$, with degrees of freedom (df) = (32-3) is 2.576 or by looking at the sig value 0.249 < 0.05. Based on the hypothesis test criteria, namely $t_{\text{observe}} < t_{\text{table}}$ or sig value > α , then H_0 is accepted. Then it can be stated that the environment has a positive and not significant effect on employee work productivity. The t_{observe} value of the disciplinary variable is 3.981 with a significant level of 0.004. The t_{table} value at $\alpha = 5\%$, with degrees of freedom (df) = 32-3 is 2.576 or by looking at the sig value of 0.004 < 0.05. Based on the hypothesis test criteria that is $t_{\text{observe}} < t_{\text{table}}$ or sig value > α then H_0 is accepted it can be stated that discipline has a positive and significant effect on employee work productivity.

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