



Analysis of the Influence of Work Environment and Communication on Employee Performance of PT. Citas Otis Elevator Medan

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ABSTRACT

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This study aims to determine the effect of environment and communication on employee performance of PT. Citas Otis Elevator Medan. This type of research is explanatory research. The population in this study were all employees of PT. Citas Otis Elevator totaling 61 employees. The sampling technique is to use a saturated sample where the entire population will be used as the research sample. In the study which will be distributed with questionnaires measured by a Likert scale. The data analysis used multiple linear regression analysis and the coefficient of determination as well as simultaneous test and partial test. The results showed that environment and communication partially or simultaneously have a positive and significant effect on employee performance of PT. Citas Otis Elevator Medan. Based on the results of this study, the implications for management are to further improve environment and communication.

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1. Introduction

The development of the world economy today is increasingly dynamic and develops in various forms, both industrial, agronomy, manufacturing and other industries. In following these developments, every company is required to be able to play an active role in implementing various strategies so that the company can survive in the face of existing competition. Human resources have an important role in maintaining the survival of the company because the development or not of a company is very dependent on the performance of its employees. The relationship between employees and the company is a relationship that is mutually dependent and mutually beneficial for both parties because the company needs employees while employees need the company to fulfill their needs.

PT. Citas Otis Elevator is a company engaged in developing and marketing elevators, escalators and related equipment under the OTIS brand which was first developed in the United States. In addition, the company also provides various repair services for elevators and escalators. PT. Citas Otis Elevator itself has various branches and one of them is PT. Citas Otis Elevator Medan which is located on Jalan Timor Komplek Center Point Blok H 06, Medan. Employee performance is considered to have decreased, such as back office employees who are considered to still often make mistakes in working on their reports. Employees are considered to still lack initiative and do not have definite knowledge in carrying out their work, thus preventing them from giving their best performance to the company. This is assessed because of the influence of the work environment and communication.

The work environment for some employees is still not comfortable for them, such as insufficient lighting due to using energy-saving lamps, coloring that is still dull and not updated, or a room that is still cramped which makes employees unable to move freely in carrying out their work and hampers their work. Communication that takes place within the company is still less effective because it is felt that it is still unable to provide support to other employees. The lack of freedom in giving employee opinions makes the relationship between employees less harmonious at work.



Based on the background of the problem that the researcher has described above which makes researchers interested in researching with the title "Analysis of the Effect of the Work Environment and Communication on Employee Performance at PT. Citas Otis Elevator Medan."

2. Method

2.1 Location and Time

The research was conducted at PT. Citas Otis Elevator which is located at Jl. Timor Complex Center Point Blok H 06, Medan. Research time is planned from October 2021 to January 2022.

2.2 Population and Sample

The population in this study were all employees of PT. Citas Otis Elevator totaling 61 employees. The sampling technique is to use a saturated sample where the entire population will be used as the research sample.

2.3 Data Collection Method

Collecting data through a questionnaire is done by asking questions to parties related to the problem. To assess respondents' responses, the author uses the Likert scale which uses several question items to measure individual behavior by responding to 5 choice points on each question item.

2.4 Validity and Reliability Test

The data obtained needs to be tested for its accuracy and reliability so that the results of data processing can be more precise and accurate. Therefore, it is necessary to know how high the validity and reliability of the measuring instrument (instrument) used. Based on the research, each variable of the questionnaire item that was tested for validity, all the questionnaires had met the valid criteria and were eligible to be used as a questionnaire in further research. While in reliability test, all variable questionnaire item is reliable and can be used as research instrument.

3. Result and Analysis

3.1 Normality Test

The residual normality test is used to test whether the residual value resulting from the regression is normally distributed or not. A good regression model is to have residuals that are normally distributed. There is some method to do the normality test such as histogram graphic, normal probability plot of regression graphic and one sample Kolmogorov Smirnov statistic.

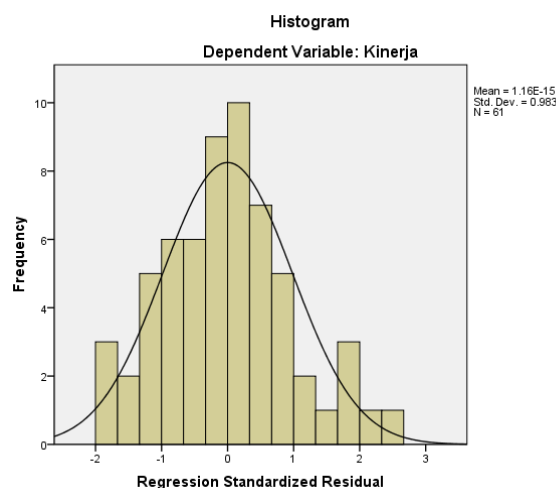


Fig 1. Histogram Graphic

Based on the picture above, it can be seen that the line forming a bell, not going left or right. This shows that the data is normally distributed and meets the assumptions of normality.



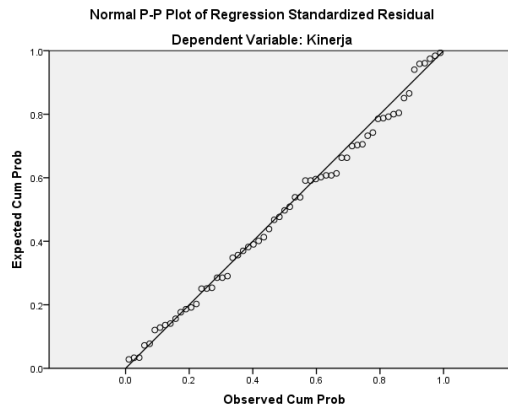


Fig 2. Normal Probability Plot of Regression Graphic

Based on the picture above, it shows that the data (dots) spreads around the diagonal line and follows the diagonal line. So from this figure it is concluded that the regression model residuals are normally distributed.

Table 1
One-Sample Kolmogorov Smirnov Test

		Unstandardized Residual
N		61
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	1.93124009
Most Extreme Differences	Absolute	.061
	Positive	.061
	Negative	-.043
Kolmogorov-Smirnov Z		.474
Asymp. Sig. (2-tailed)		.978

a. Test distribution is Normal.

b. Calculated from data.

Source: Research Result, 2021

Based on the table above, the results of the Kolmogorov-Smirnov normality test prove that the significant value is greater than 0.05, namely 0.345, it can be concluded that the data is classified as normally distributed.

3.2 Multicollinearity Test

Multicollinearity is a condition in the regression model where there is a perfect or near perfect correlation between independent variables where a good regression model should not have a perfect or nearly perfect correlation between the independent variables. The commonly used test method is to look at the Tolerance and Variance Inflation Factor (VIF) values in the regression model where the VIF value is less than 10 and has a Tolerance value of more than 0.1

Table 2
Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Environment	.975	1.025
Communication	.975	1.025

a. Dependent Variable: Work Performance

Source: Research Result, 2021

Based on the table above show that all the variables have a tolerance value more than 0.1 and VIF value less than 10 which can be concluded that there is no problem found in multicollinearity test.

3.3 Heteroscedasticity Test

Heteroscedasticity is a condition where in the regression model there is an inequality of variants from the residuals from one observation to another where a good regression model does not occur heteroscedasticity.

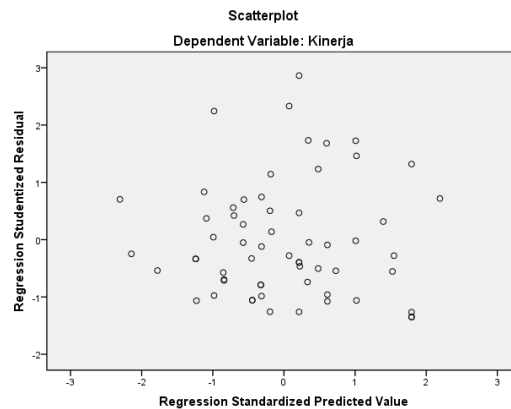


Fig 3. Scatterplot Graphic

Based on the scatterplot graph presented, it can be seen that the dots spread randomly and do not form a clear pattern and are spread either above or below zero on the Y axis. This means that there is no heteroscedasticity in the regression model, so the regression model can be used to predict performance based on the input of the independent variable.

The following is a glejser test which can be seen in the table below:

Table 3
Glejser Test
Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-1.332	1.766		-.754	.454
Environment	.032	.055	.076	.585	.561
Communication	.100	.069	.188	1.444	.154

a. Dependent Variable: Performance
Source: Research Result, 2021

Based on the table above, it can be seen that the significance value of the two variables is greater than 0.05 so that it can be stated that there is no problem with heteroscedasticity testing.

3.4 Multiple Linear Regression Analysis

Multiple regression analysis is an analysis to determine whether there is a significant influence between two or more independent variables on one independent variable.

Table 4
Multiple Linear Regression Analysis Test
Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	4.269	2.972		1.436	.156		
Environment	.493	.093	.539	5.294	.000	.975	1.025
Communication	.318	.116	.279	2.738	.008	.975	1.025

a. Dependent Variable: Work Performance
Source: Research Result, 2021

$$Work\ Performance = 4,269 + 0,493\ Environment + 0,318\ Communication + e \tag{1}$$



Based on the above equation, then: Constant (a) = 4.269. This means that if the independent variable, namely environment and communication is 0, then the work performance at PT. Citas Otis Elevator Medan is 4.269. Where if there is an improvement in environment, there will be an increase in work performance by 0.493. Likewise with communication where if there is an improvement in the communication, the work performance will decrease by 0.318.

3.5 Coefficient Determination

Analysis of determination or also called R Square symbolized by R^2 is used to determine the magnitude of the influence of the independent variable (X) together on the dependent variable (Y) where the smaller the coefficient of determination, this means the effect of the independent variable (X) on the dependent variable (Y) is getting weaker. Conversely, if the coefficient of determination is closer to number 1, then the effect of the independent variable on the dependent variable is getting stronger. Thus, if coefficient determination is 0, this indicates that there is no percentage contribution of influence given by the independent variable to the dependent variable. However, if the coefficient of determination is 1, then there is a contribution that the independent variable gives to the dependent variable is perfect.

TABLE 5
Coefficient Determination Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.644 ^a	.415	.395	1.964

a. Predictors: (Constant), Communication, Environment

b. Dependent Variable: Work Performance

Source: Research Result, 2021

Based on the table above, the value of the R Square coefficient of determination is 0.605. This shows that the variable ability of environment and communication explains the effect on work performance at PT. Citas Otis Elevator Medan by 41,5%. While the remaining 58,5% is the influence of other independent variables not examined in this study such as motivation, conflict, stress and others.

3.6 Simultaneous Hypothesis Test (F Test)

F test or regression coefficient test is used to determine whether simultaneously the independent variable has a significant effect on the dependent variable. In this case, to find out whether simultaneously the independent variable has a significant effect on the dependent variable or not. The test uses a significance level of 5%. The criteria for evaluating the hypothesis in this F test are:

H_0 Accepted if: $F_{count} < F_{table}$, H_a Accepted if: $F_{count} > F_{table}$

TABLE 6
ANOVA Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	158.579	2	79.290	20.550	.000 ^a
	Residual	223.781	58	3.858		
	Total	382.361	60			

a. Predictors: (Constant), Communication, Environment

b. Dependent Variable: Work Performance

Source: Research Result, 2021

Based on the table above, it is found that the value of F_{table} (3.16) and significant $\alpha = 5\%$ (0.05), namely F_{count} (20.550) and sig.a (0.000a). This indicates that the results of the study accept H_a and reject H_0 . Comparison between F_{count} and F_{table} can prove that simultaneously environment and communication have a significant effect on work performance at PT. Citas Otis Elevator Medan.

3.7 Partially Hypothesis Test (t Test)

The t test or partial regression coefficient test is used to determine whether partially the independent variable has a significant effect on the dependent variable or not. In this case, to find out whether partially the independent variable has a significant effect on the dependent variable or not. The test uses a significance level of 0.05 and a two-sided test. The criteria of t test are:

H_0 Accepted if: $t_{count} < t_{table}$

H_a Accepted if: $t_{count} > t_{table}$

Table 7
Coefficient Test

Model	t	Sig.
1 (Constant)	1.436	.156
Environment	5.294	.000
Communication	2.738	.008

a. Dependent Variable: Work Performance

Source: Research Result, 2021

Based on the table above, it can be concluded that environment and communication partially have a positive and significant effect on work performance at PT. Citas Otis Elevator Medan which can be seen at the t_{count} is greater than t_{table} (2.001) and the significant is less than 0,05.

4. Conclusion

The conclusions that researchers can draw from the results of this study are as follows:

- The results of the partial test calculation obtained that environment has a positive and significant influence on work performance at PT. Citas Otis Elevator Medan can be seen from the t_{count} value of $5.294 > t_{table}$ of 2.001 and a significant value of $0.000 < 0.05$.
- The results of the partial test calculation obtained that communication has a negative and significant influence on work performance at PT. Citas Otis Elevator Medan can be seen from the t_{count} value of $2.738 > t_{table}$ of 2.001 and a significant value of $0.008 < 0.05$.
- The results value of F_{table} (3.16) and significant $\alpha = 5\%$ (0.05), namely F_{count} (20.550) and sig.a (0.000a). This indicates that the results of the study accept H_a and reject H_0 . Comparison between F_{count} and F_{table} can prove that simultaneously environment and communication have a significant effect on work performance at PT. Citas Otis Elevator Medan.
- The value of the R Square coefficient of determination is 0.605. This shows that the variable ability of environment and communication explains the effect on work performance at PT. Citas Otis Elevator Medan by 41,5%. While the remaining 58,5% is the influence of other independent variables not examined in this study such as motivation, conflict, stress and others.

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