

# The Effect of Work Motivation and Work Environment on Employee Performance at PT PLN (Persero) Pusat Pemeliharaan Ketenagalistrikan Unit Pelaksana Produksi dan Workshop IV

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## ABSTRACT

This study aims to determine the effect of work motivation and work environment on employee performance. The sampling technique in this research is saturated sampling technique and census sampling method. The data collection was conducted by conducting direct interviews, distributing questionnaires, and doing observations. Respondents taken were 42 employees which were the total number of employee of PT PLN (Persero) Pusharlis UP2W IV. Based on the research results, work environment variables and work motivation have a significant simultaneous effect on employee performance at PT PLN (Persero) Pusharlis UP2W IV. Some of them show that work motivation has a positive and significant effect, while the work environment has a positive but insignificant effect on employee performance at PT PLN (Persero) Pusharlis UP2W IV.

## Keywords

Work motivation, work environment, employee performance

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## Introduction

Company strategy is the important components in a company. Way to achieve the company's strategy is human resources. The success of the company is an important task that must be performed by employee. The most important asset in the company is employee. One of the company's objectives is to have qualified employee and have high motivation to achieve a goal that has a good impact for the company.

Motivation is an impulse that exists in a person, then can be developed by external influences based on rewards either in the form of compensation or other things, which can affect performance results either positive or negative effect (Winardi, 2016).

Motivation is the most important thing that an organization need to achieve success for maintaining work within the organization and ways to survive in competition. To inspiring work, the company can provide motivation for its employee such as precisely the provision of guidance, rewards and resources Pamela & Oloko (2015). PT PLN (Persero) Pusharlis UP2W IV wants employee can bring out their ideas and

creativity to support the performance to be even better. But in reality the management of PT PLN (Persero) Pusharlis UP2W IV has not supported and provided a place to channel ideas and creativity for employee so that cause employee to lose motivation.

Based on the rapid development of technology and science in the current era of globalization greatly effect business progress. Competition for producing products or services that are acceptable and needed for public or private companies and governments. Currently State-Owned Enterprises (SOEs) not only focus on public services but also in the guidance to be able to compete with private companies. Producing productive human resources so as to achieve goals and improve performance is the task of the company's leaders.

PT PLN (Persero) Pusharlis UP2W IV is a state-owned enterprise engaged in manufacture and repair of electrical equipment in supporting the reliability of electricity equipment owned by PT PLN (Persero) experienced obstacles during the current globalization period.

Namely the age of use of machinery in the workshop that has needed to be done

improvement because there are many disruptions / errors and recalibration because the level of precision has been reduced as a result employee need to work 2 times by bringing the production goods to the 3rd party or vendors for a more precise measurement process that results in the company's performance due to the timeliness of completion of existing assignments can also affect the level of customer satisfaction with the products they ordered.

Main products of PT PLN Pusharlis UP2W IV is a Reverse Engineering (RE) component of the power plant through the process of 3D Scanning, 3D Modelling, Analysis and Simulation, and Manufacture. design, reverse engineering, manufacture, and repair are integrated through good quality control, so to produce products with high quality and competitiveness, the Company pays special attention to its human resources by making improvements and supervision to improve employee performance, by paying attention to the existing work environment increase employee

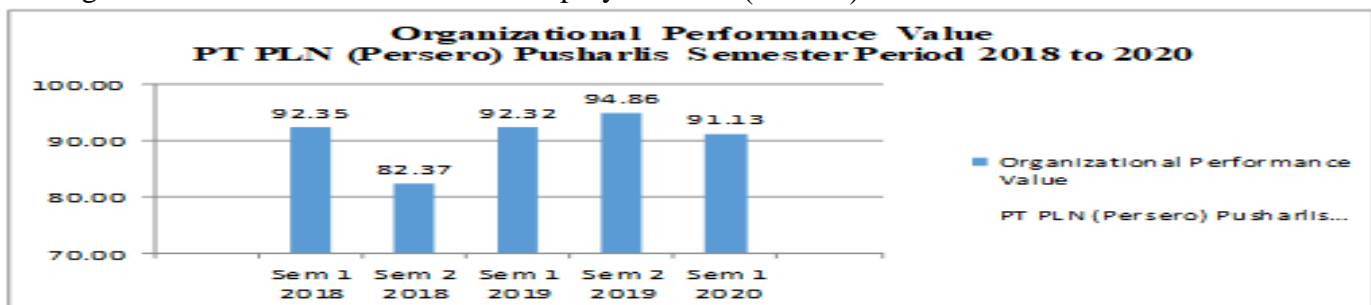
work motivation so that employee performance becomes high.

Based on the background description that has been presented, the effect of work environment and work motivation affects corporate employee performance, researchers are interested to take the research title "The effect of work motivation and work environment on the employee performance of PT PLN (Persero) Pusharlis UP2W IV" is indicated by the results of organizational performance value (NKO) which is volatile.

**Table 1.** Organization performance result of PT PLN (Persero) Pusharlis UP2W IV

No.	Period	Value (Percent)
1	Semester 1 2018	92,35
2	Semester 2 2018	82,37
3	Semester 1 2019	92,32
4	Semester 2 2019	94,86
5	Semester 1 2020	91,13

Source: Production Planning Division of PT PLN (Persero) Pusharlis UP2W IV



**Graph 1.** Organization performance results of PT PLN (Persero) Pusharlis UP2W IV per semester period 2018 to 2020

### The Effect of Work Motivation on Employee Performance

An effort will not be progressing without work motivation, working spirit and will positively impact the organization or the company, otherwise low job motivation will harm the organization such as high attendance rate, employee displacement, and low productivity Prabayanti & Wihyani (2018).

This research is conducted by Muchamad Ressa Farizki and Aniek Wahyuati (2017), Heri Supriyanto and M. Djudi Mukzam (2018), Bayu Dwilaksono Hanafi and Corry Yohana (2017) say the significant effect of work motivation on

employee performance. Based on the theory, the hypotheses are:

H1: a significant effect of Work motivation on employee performance of PLN (Persero) Pusharlis UP2W IV.

### The Effect of Work Environment on Employee Performance

The work environment means of working infrastructure around employee can affect the worker itself Syadam (2014). The research is conducted by Muchamad Ressa Farizki and Aniek Wahyuati (2017), Heri Supriyanto and M. Djudi Mukzam (2018), Bayu Dwilaksono Hanafi and Corry Yohana (2017) say there are significant effect of work environment for employee

performance. Based from theory, the hypotheses in this study are:

H2: Work Environment has a significant impact on the employee performance of PT PLN (Persero) UP2W IV.

### The Effect of Work Motivation and Work Environment on Employee Performance

Motivation is an effort to benefit others (Grant, 2008) showing the degree to which employee's behavior succeeds in contributing to organizational goals (Motowidlo, 2003). Researchers use to belief the theory and job design that employee will have more confidence in communication and trustworthy managers' actions.

In other word, work environment is important for achieving employee performance. Where the work environment affects employee for finishing their work. With a proper work environment will certainly make employee feel at work, so that there will be a spirit of work and passion for employee' work in employee performance in employee performance will increase. While the inadequate work environment can increase the concentration of employee in carrying out their work so as to cause errors in work and employee performance will decrease.

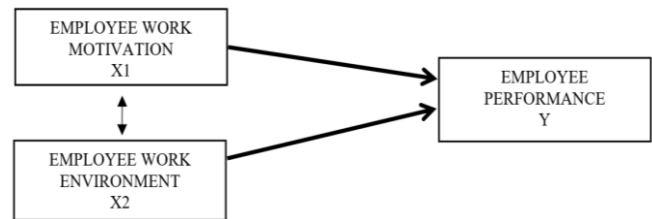
H3: A significant Effect of Work Motivation and Work Environment on employee performance of PT PLN (Persero) Pusharlis UP2W IV

### Literature Review

This study is based on previous research that explains the correlation between these variables. Also referring to previous research conducted by Muchamad Ressa Farizki and Aniek Wahyuati (2017), Heri Supriyanto and M. Djudi Mukzam (2018), Bayu Dwilaksono Hanafi and Corry Yohana (2017) explained the phenomenon of work motivation and work environment on has an effect on employee performance of PT PLN (Persero) Pusharli UP2W IV

The research model used are three variables, namely Work Motivation (X1), Work Environment (X2) as independent variable and Employee Performance (Y) as dependent variable.

The theoretical skeletal models in this study can be described as follows:



**Figure 1.** Theoretical framework

Description:

Independent Variable: X1: Work Motivation, X2: Work Environment

Dependent Variables: Y: Employee Performance

### Methodology

All employees at PT PLN (Persero) Pusharlis UP2W IV which 42 people are the population. Sampling techniques in this study are saturated sampling methods (census). saturated sampling method (census) is a data collection technique conducted by researchers by conducting interviews, questionnaires, questionnaires, observations on respondents. The sample in this study was just as many as the population of 42 employees at PT PLN (Persero) Pusharlis UP2W IV Sugiyono (2017).

### Results and Discussion

#### Validity Test

Validity shows the accuracy between the data that collected by researchers (Sugiyono, 2017). To find validity, the researchers correlated the respondent's value with the sum of the respondents' total values. If the coefficient between the respondent's value and the total value of the respondent is  $>0.3$  then the data is declared valid. In looking for correlation values researchers used Pearson Bivariate correlation. If  $r$  calculates  $\geq r$  table (2-sided test with sig. 0.05) then the question correlates significantly to the total score (valid).

#### Reliability Test Results

The technique used to test reliability is Cronbach's Alpha coefficient. Cronbach's Alpha coefficient approaching 1 indicates high consistency

reliability. Generally, Cronbach's Alpha reliability coefficient of less than 0.6 indicates poor reliability. Reliability can be reliable when Cronbach's Alpha value is  $> 0.6$ . From the test

results of variable reliability using SPSS help obtained Cronbach's Alpha value each variable is as follows:

**Table 2.** Reliability test results

Variable	Cronbach's Alpha	Critical Value	Description
Work Motivation (X1)	0.735	0.60	Reliable
Work Environment (X2)	0.784	0.60	Reliable
Employee Performance (Y)	0.802	0.60	Reliable

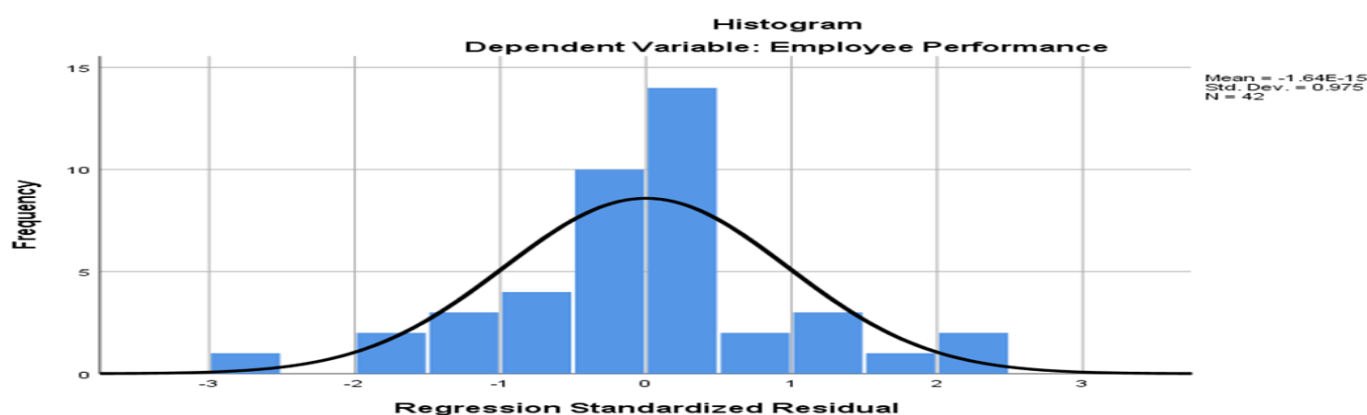
The reliability test results show that all variables have a Value of Cronbach's Alpha  $> 0.6$ , so that all statements in independent and dependent variables are declared reliable.

### Classic Assumption Test

Before the hypothesis test, classical assumption test in the form of multicollinearity test, heteroscedasticity test, and normality test. The full classic assumption test results are as follows:

### Normality Test

Done to ascertain whether the distributed residual value is normal or not, a statistic test is carried out using histogram Graphics. The following histogram Graphic shape indicates that the data is distributed normally because the Graphic shape does not go right or left.



**Figure 2.** Histogram graphic

### Multicollinearity Test

Multicollinearity tests are used for multiple regression analysis consisting of two or more free variables. This test aims to check the

multicollinearity between variables, can be seen from the magnitude of Variance Inflation Factor (VIF). If the VIF is  $< 10$  and the tolerance  $> 0.10$  then the data is free of multicollinearity and test result is showed by the following table:

**Table 3.** Multicollinearity test results

Coefficients <sup>a</sup>							
Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
(Constant)	1.457	.659		2.210	.033		
1 X1	.559	.156	.529	3.593	.001	.823	1.214
X2	.046	.150	.046	.309	.759	.823	1.214

a. Dependent Variable: Y

The results show that all variables have a VIF value less than 10 and tolerance value is  $>0.10$ , so the conclusion is there are no multicollinearity between independent variables.

### Heteroscedasticity Test

Heteroscedasticity test is done using scatterplot test. The scatterplot Graphic of this study appears to spread randomly both above and below 0 on the Y axis, this indicates that the data does not occur Heteroscedasticity in the regression model, so that the regression model can be used to predict employee performance based on its independent variable input.

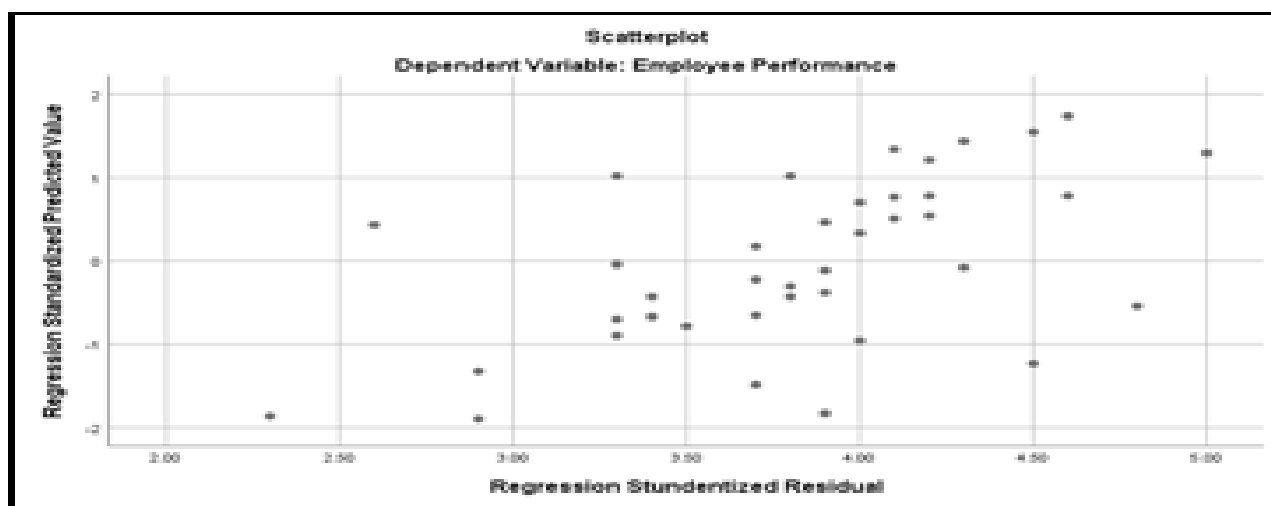


Figure 4. Heteroscedasticity test result

### Multiple Linear Regression Analysis

performance at PT PLN (Persero) Pusharlis UP2W IV.

This analysis determines the effect of work motivation and work environment on employee

Table 4. Multiple linear regression test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.457	.659		2.210	.033		
1 X1	.559	.156	.529	3.593	.001	.823	1.214
X2	.046	.150	.046	.309	.759	.823	1.214

a. Dependent Variable: Y

Based on Multiple Linear Regression Test obtained regression line equation as follows:

$$Y = a + b_1 X_1 + b_2 X_2$$

$$Y = 1,457 + 0,559 X_1 + 0,046 X_2$$

Description:

Y: Performance variable

a: constant

b1: Coefficient Value of Work Motivation variable

X1: Work Motivation Variables

b2: Work environment variable coefficient value

X2: Work Environment Variables

The interpretation of the regression equation is:

a: 1,457 means Work Motivation (X1), Work Environment (X2) equal to 0 then employee performance (Y) at PT PLN (Persero) is positive value.

B1: 0.559 means the impact of Work Motivation (X1) on employee performance at PT PLN

(Persero) Pusharlis UP2W IV (Y) positive, if the work motivation is good then employee performance at PT PLN (Persero) (Y) also increases, assuming X2 is constant.

B2: 0.046 means the effect of Work Environment (X2) on employee performance of PT PLN

(Persero) (Y) is positive, meaning that if the Work Environment of PT PLN (Persero) is good, then employee performance of PT PLN (Persero) (Y) will increase. Assuming X1 is constant.

### Determination Coefficient Test

**Table 5.** Simultaneous coefficient of determination

Model Summary <sup>b</sup>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.800 <sup>a</sup>	.640	.617	.27292

a. Predictors: (Constant), X1, X2

b. Dependent Variable: Y

Coefficient Determination (R<sup>2</sup>) result test above shows the amount of Adjusted R<sup>2</sup> is 0.640, that indicates 64% of variables Work Motivation and Work Environment affect Employee Performance at PT PLN (Persero) Pusharlis UP2W IV, which 36% is caused by other variables outside the research model.

As for seeing the effect of each independent variable on dependent variables, calculations are performed using the Formula Beta x Zero order. Beta is a standardized regression coefficient, while Zero order is the correlation of each variable independent of dependent variables, based on the results of the study obtained the following results:

**Table 6.** Partial coefficient of determination

Coefficients <sup>a</sup>								
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations		
	B	Std. Error				Zero-order	Partial	Part
(Constant)	1.457	.659		2.210	.033			
1 X1	.559	.156	.529	3.593	.001	.549	.499	.480
X2	.046	.150	.046	.309	.759	.268	.049	.041

a. Dependent Variable: Y

Based on Table 6 can be done calculation to obtain partial effect between independent variable with dependent variable with Formula Beta x Zero order as follows:

1. Work Motivation Variable  $0.529 \times 0.549 = 0.2904$  or 29.04%

2. Work Environment Variable  $0.046 \times 0.268 = 0.0123$  or 1.23%

From calculation above, it is known that the result of contributions given by 30.27% turns out to be 29.04% given work motivation and 1.23% given the work environment, so it appears that work motivation contributes the most dominant to employee performance.

### Test t

**Table 7.** Test table t result

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error			
(Constant)	1.457	.659		2.210	.033
1 Work Motivation	.559	.156	.529	3.593	.001
Work Environment	.046	.150	.046	.309	.759

a. Dependent Variable: Employee Performance



## Test F

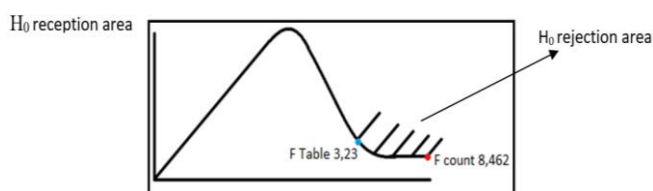
**Table 8.** F test hypothesis testing  
**Table Test F Explanation**  
**ANOVA<sup>a</sup>**

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.089	2	2.044	8.462	.001 <sup>b</sup>
	Residual	9.422	39	.242		
	Total	13.511	41			

a. Dependent Variable: Y

b. Predictors: (Constant), X1, X2

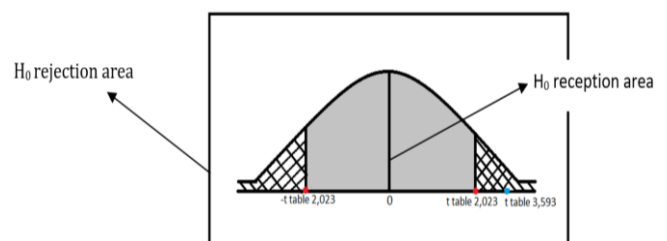
Based on F hypothesis test in Table 8 shows that the amount of F value is 8,462 while the table f is 3.23 with a sign value of 0.001 which means  $< 0.05$ , this means that the model used in the research is appropriate and can be used as a predicting analysis tool to the effect of Work Motivation (X1) and Work Environment (X2) on employee performance (Y) at PT PLN (Persero) Pusharlis UP2W IV.



**Figure 7.**  $H_0$  acceptance and rejection area (F test)

### The effect of Work Motivation on Employee Performance (H1)

On Table 7 that the Work Motivation variable has a calculated t of 3.593 greater than t table ( $\alpha/2; n-k-1$ ) =  $(0.05/2; 42-2-1) = 0.025 : 39 = 2.023$  with a significance of 0.001 which is less than 0.05. So this result explains the first hypothesis (H1) which the significant effect of work motivation on employee performance is accepted. This research is in accordance with previous research conducted by Muchamad Ressa Farizki and Aniek Wahyuati (2017), Heri Supriyanto and M. Djudi Mukzam (2018), Bayu Dwilaksono Hanafi and Corry Yohana (2017) concluded the effect of work motivation on employee performance is significant.



**Figure 5.** Partial hypothesis (t test) work motivation against employee performance

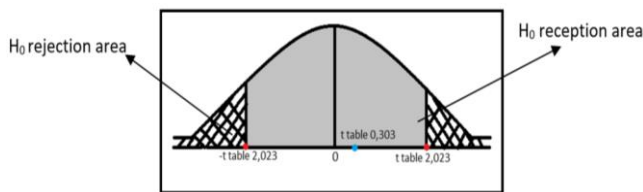
The results of multiple linear regression calculations using t test in Table 8 showed that the effect of work motivation on employee performance is significant, where the value of t calculates work motivation effect on employee performance is 3,593 and the p value (sig) is  $0.001 < 0.05$ .

The results showed that there are similarities with the research conducted by Muchamad Ressa Farizki and Aniek Wahyuati (2017), Heri Supriyanto and M. Djudi Mukzam (2018), Bayu Dwilaksono Hanafi and Corry Yohana (2017) which showed that work motivation effect on employee performance is significant. Based on the results of hypothesis 1 "Work motivation has a significant effect on employee performance of PT PLN (Persero) Electricity Maintenance Center Implementation Unit and Workshop IV", it is proven.

### The Effect of the Work Environment on Employee Performance

On Table 7 shows that Work Environment variable has a calculated t of 0.303 less than the table t ( $\alpha/2; n-k-1$ ) =  $(0.05/2; 42-2-1) = 0.025 : 39 = 2.023$  with a significance of  $0.759 > 0.05$ . So this result explains the second hypothesis (H2) that the significant effect of work environment on

employee performance is unacceptable. This is not in line with the theory put forward by Muchamad Ressa Farizki and Aniek Wahyuati (2017), Heri Supriyanto and M. Djudi Mukzam (2018), Bayu Dwilaksono Hanafi and Corry Yohana (2017) say the significant effect of work environment on employee performance.



**Figure 6.** Partial hypothesis (test t) work environment on employee performance

Multiple linear regression result calculations using t test in Table 8 showed the effect of work environment on employee performance is insignificant, the value of t calculates work environment on employee performance effect is 0.303 and the p value (sig) is  $0.759 > 0.05$ .

This results are different from research that conducted by Muchamad Ressa Farizki and Aniek Wahyuati (2017), Heri Supriyanto and M. Djudi Mukzam (2018), Bayu Dwilaksono Hanafi and Corry Yohana (2017) which showed the significant effect of work environment on employee performance. Based on hypothesis 2 result which reads "The work environment has a significant effect on employee performance of PT PLN (Persero) Pusharlis UP2W IV", it is not proven.

### The Effect of Work Motivation and Work Environment on Employee Performance

To test hypothesis 3 To test hypothesis 3 which states that the significant effect of work motivation (X1) and work environment (X2) on employee performance (Y) using F test obtained F significance value of 0.001 less than  $< 0.05$ , so the effect of work motivation and work environment is significant on employee performance, so that the third hypothesis is accepted.

The results of the analysis showed the significant effect of Work Motivation and Work Environment on Employee Performance, namely 29.04% given work motivation and 1.23% given the work

environment so that it appears that work motivation contributes most dominantly to employee performance. While the rest, 69.73% were effected by other factors that could not be explained in this study because effected by other factors outside the research.

### Conclusion

The positive and significant effect of work motivation on employee performance at PT PLN (Persero) Pusharlis UP2W IV, which means that increasing or decreasing work motivation will affect employee performance to increase or decrease either. Although, the work environment impact and employee performance insignificant effect at PT PLN (Persero) Pusharlis UP2W IV. The better work environment on employee performance will have no effect. Last, work motivation and work environment have significant effect on employee performance at PT PLN (Persero) Pusharlis UP2W IV means work motivation and work environment will improve employee performance and its quality will be better as well as vice versa, work motivation and work environment will certainly decrease the employee performance. Based on descriptions, researchers can conclude the results of their research as follows:

1. Work motivation and work environment have significant effect on the performance of employees at PT PLN (Persero) UP2W IV and the first hypothesis is acceptable. Data analysis using multiple linear analyses resulting in this value of F 8462 shows a very large percentage of value for employee performance. Data analysis using multiple linear analysis resulted in an F value of 8,462 this shows a very large percentage of value for employee performance.
2. For the t test result conducted on the second hypothesis that the effect of the work environment on employee performance at PT PLN (Persero) Pusharlis UP2W IV is insignificant. The results using spss program obtained t calculate  $<$  from t table and significant value  $> 0.05$  which means there is no positive and insignificant effect of the work environment on employee performance.
3. From the results of the f test conducted on the third hypothesis it can be concluded that work motivation and work environment have a



positive and significant effect on employee performance at PT PLN (Persero) Pusharlis UP2W IV. Processing results using the SPSS program obtained  $F_{\text{calculate}} > F_{\text{table}}$  and the value of significance is  $< 0.05$ .

Nusantara. *Jurnal Ekonomi Universitas Esa Unggul*, 5(1), 17914.

### Acknowledgement

1. Need to realize employee suggestions and inputs for improvement at the office of PT PLN (Persero) Pusharlis UP2W IV is also to help increase employee motivation in working.
2. Checking regular repairs to machines that have experienced a decrease in performance and level of precision.
3. Provide full support from management to employee for channel ideas and innovations that will improve company.

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