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The Effect of Physical Work Environment and Work Discipline on Employee Performance at the Polyurethane Department of PT Pratama Abadi Industri in Serpong

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Abstract

This study aims to determine the Effect of Physical Work Environment and Work Discipline on Employee Performance at the Polyurethane Department of PT Pratama Abadi Industri in Serpong either partially or simultaneously. This type of research uses descriptive quantitative methods. The sampling technique uses a saturated sample of 54 respondents. Data analysis techniques using, data instrument test, classic assumption test, simple linear regression, multiple linear regression, correlation coefficient, and coefficient of determination. Test the hypothesis using the t-test and F-test. The results of the analysis show: Physical Work Environment partially affects employee performance with a simple linear regression equation Y = 8.609 + 1.014X1. The correlation coefficient value is 0.807 meaning that it has a strong relationship level and a determination coefficient of 0.651 means that performance is influenced by the Physical Work Environment by 65.1%. This is evidenced by the t-test obtained t count > t table (9.857 > 2.00758) and reinforced by a significant value <0.05 (0.000 <0.05). Work Discipline partially has a positive effect on employee performance, shown by the simple linear regression equation Y = 0.786 + 0.977X2. The correlation coefficient value is 0.926, meaning that it has a strong relationship, and a determination coefficient of 0.860 means that competence influences performance by 86%. This is evidenced by the t-test obtained t count > t table (17.838 > 2.00758) and reinforced by a significance value <0.05 (0.000 <0.05). The results of the study of the Physical Work Environment and Work Discipline simultaneously on employee performance are shown by the multiple linear regression equation Y = 1.003 + 0.194 X1 + 0.844 X2, the correlation coefficient value is 0.931 meaning that it has a strong relationship level and the determination coefficient is 0.867%, meaning that performance is influenced by Work Environment and Work Discipline of 86.7%. This is evidenced by the results of the F-test hypothesis test obtained by F count > F table (166.392 > 3.18) and reinforced by a significance value <0.05 (0.000 <0.05). Thus it is proven that Ho is rejected and Ha is accepted.

Keywords: *Physical Work Environment, Work Discipline, Employee Performance*

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INTRODUCTION

The company is an entity that has goals to be achieved (Gultom, 2015). In achieving its goals, companies need good human resource management in order to work effectively and efficiently so that companies can compete well. Human resources are one of the factors that are directly involved in carrying out company activities and play an important role in improving company performance in

achieving the goals set (Setiawan, 2016). Therefore, human resources are expected to be able to overcome obstacles and be able to take advantage of opportunities in order to meet company demands.

In the business world, especially in the manufacturing industry, the government issued Presidential Regulation no. 37/2014. The regulation contains many indicators that must be achieved in order to increase the country's competitiveness and face world trade which began in 2015. In addition, through Presidential Regulation No. 6 of 2014 concerning Strengthening Competitiveness Towards the ASEAN Economic Community, the Indonesian government is preparing to develop the industrial sector to compete in the ASEAN free market.

PT Pratama Abadi Industri in Serpong is a foreign investment company (Korea) engaged in the manufacture of sports shoes with the Nike brand in Indonesia. These companies continue to strengthen their market share, this is one way to face global competition and contribute to strengthening the growth of the domestic industry.

Performance is an important component to measure the level of success achieved. In its activities the company must be able to improve performance from time to time. Good performance is able to show an increasing number of achievements and meet good quality work, able to take actions that are able to support work optimally, have good self-confidence in completing work, fully responsible for their duties and obligations.

Besides that, employees also have the ability to overcome problems at work so as to increase the company's competitiveness as well. This is in line with the theory that "the work results in quality and quantity achieved by an employee in carrying out their duties are in accordance with the responsibilities given to them" (Christiani, 2020).

A factor that can cause decreased employee performance is a lack of employee discipline (Suwanto et al., 2022). Employees who lack discipline will hinder the achievement of company goals. Undisciplined behavior affects the company's business growth. Company rules are made so that employees can comply with both working hours, compliance with all existing rules in the company, compliance with behavior in carrying out their duties and obligations, compliance with legal norms and other regulations.

In addition, the company must disseminate all company regulations so that employees can carry them out in their daily work activities, so that there are no obstacles that can hinder the achievement of company goals.

Departing from the problems above, the authors are interested in conducting further research with the title "The Influence of the Physical Work Environment and Work Discipline on Employee Performance in the Polyurethane Department of PT Pratama Abadi Industri in Serpong".

RESEARCH METHODS

This type of research is quantitative research based on the philosophy of positivism. This research was conducted with the aim of examining the effect of the work environment and work discipline on employee performance, using data collection methods with research instruments and data analysis that is quantitative or statistical, with the aim of testing the hypotheses that have been set (Sugiyono,

2019: 8). This research was conducted at PT Pratama Abadi Industri in Serpong, which is located on Jl. Raya Serpong Km. 7 Pakualam, Kec. North Serpong, South Tangerang City. The research location was chosen as a scientific target to obtain objective data with specific goals and uses regarding the topic under study (Sugiyono, 2019: 13).

The time of the research was carried out for 10 months, starting from June 2022 to April 2023. The research was carried out in stages according to the needs of the authors, starting from writing research title proposals, proposal seminars, perfecting proposal materials, making research instruments, collecting primary and secondary data, processing data, to the preparation of thesis report. Thus, this research is an empirical study that aims to determine the effect of work environment and work discipline on employee performance at PT Pratama Abadi Industri in Serpong.

RESEARCH RESULTS AND DISCUSSION

1. Classic assumption test

Table 1. Results of the Normality Test with the Kolmogorov Smirnov Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		54
Normal Parameters[a,b]	Mean	0,0000000
	Std. Deviation	283,851,707
Most Extreme Differences	Absolute	0,112
	Positive	0,112
	Negative	-0,096
Test Statistic		0,112
Asymp. Sig. (2-tailed)		.090[c]
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		

Based on the table above, it can be concluded that the normality test using the Kolmogorov Smirnov method obtained a significance value of 0.090 > 0.05. Thus, the assumption of the distribution of equations in this test is normally distributed.

2. Multicollinearity Test

The multicollinearity test was carried out to prove that the independent variables do not have multicollinearity or do not have a correlation relationship between the independent variables. A good regression model should not have a correlation between the independent variables. This test can be done by looking at the Tolerance Value and Variance Inflation Factor (VIF) values.

Table 2. Multicollinearity Test Results with Collinearity Statistics

Coefficients[a]							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Say.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	IF

1	(Constant)	-1,033	2,088		-0,495	0,623		
	Physical Work Environment	0,194	0,111	0,154	1,742	0,087	0,335	,986
	Work Discipline	0,844	0,093	0,800	9,029	0,000	0,335	,986

a. Dependent Variable: Employee Performance

Based on the table above the results of the multicollinearity test obtained the tolerance value for the physical work environment variable of 0.335 and the work discipline variable of 0.335 where both values were > 0.10 and the Variance Inflation Factor (VIF) value for the physical work environment variable was 2.986 and the Work Discipline variable was 2.986 where the value is < 10, thus this regression model does not show symptoms of multicollinearity.

3. Heteroscedasticity Test

Table 3. Results of the Heteroscedasticity Test with the Glejser Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Say.
		B	Std. Error	Beta		
1	(Constant)	0,909	1,385		0,656	0,515
	Physical Work Environment	-0,139	0,074	-0,437	-1,883	0,065
	Work Discipline	0,130	0,062	0,485	2,090	0,042

a. Dependent Variable: RES2

Based on Table 3. the results of the heteroscedasticity test using the Glejser Test on the physical work environment variable (X1) obtained a significance probability value (Sig.) of 0.065 and the work discipline variable (X2) obtained a significance probability value (Sig.) of 0.042 where both significance (Sig .) > 0.05. Thus the regression model on this data has no heteroscedasticity disturbances, so this regression model is suitable for use as research data.

Table 4. Autocorrelation Test Results with Durbin Watson

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.931[a]	0,866	0,861	2,894	2,433

a. Predictors: (Constant), Work Discipline, Work Environment

b. Dependent Variable: Employee Performance

Based on table 4. the results of testing this regression model have no autocorrelation, this is evidenced by the Durbin - Watson value of 2.433 which is between the intervals 1.550 - 2.460. Then it is compared with the table value using

a significance value of 5%, the number of samples (n) = 54 respondents, and the number of variables (k) = 2. Then the DL value = 1.4851 and the DU value = 1.6384 so that the value 4 is obtained - DU = 4 – 1.6384 = 2.3616. This is in accordance with the decision making requirement that there is no autocorrelation where the value of DU < DW < 4 – DU is 1.6384 < 2.433 < 2.3616 therefore there is no autocorrelation

4. Simple Linear Regression Test

Table 5. Simple Linear Regression Test Results Variable (X1) to (Y)

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Say.
	B	Std. Error	Beta		
(Constant)	8,609	2,864		3,006	0,004
Work environment	1,014	0,103	0,807	9,857	0,000

a. Dependent Variable: Employee Performance

Based on the results of the regression calculation in Table 4.17, it can be obtained the regression equation Y = 8.609 + 1.014 X1. If the value X = 0 will be obtained Y = 8.609. This means that the value (a) or a constant of 8.609 this value indicates that when the physical work environment (X1) is worth 0, the employee's performance (Y) will still be worth 8.609. The value regression coefficient (b) is 1.014 (positive) which shows a unidirectional effect, which means that if work discipline is increased by one unit, it will increase employee performance by 1.014 units.

Table 6. Simple Linear Regression Test Results Variable (X2) to (Y)

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Say.
	B	Std. Error	Beta		
(Constant)	-0,786	2,123		-0,370	0,713
Work Discipline	0,977	0,055	0,926	17,714	0,000

a. Dependent Variable: Employee Performance

Based on the results of the regression calculation in table 4.19, the regression equation Y = -0.786 + 0.977 X2 can be obtained. If the value X = 0 will be obtained Y = 0.786. This means that the value (a) or a constant is 0.786. This value indicates that when work discipline (X2) is worth 0, then employee performance (Y) will still be worth 0.786, the regression coefficient (b) is 0.977 (positive) which shows a unidirectional influence, meaning that if work discipline is increased by one unit it will increase employees by 0.786 units.

5. Multiple Linear Regression Test

Table 7. Multiple Linear Test Results Variables (X1) and (X2) to (Y)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Say.
		B	Std. Error	Beta		
1	(Constant)	-1,033	2,088		-0,495	0,623
	Physical Work Environment	0,194	0,111	0,154	1,742	0,087
	Work Discipline	0,844	0,093	0,800	9,029	0,000

a. Dependent Variable: Employee Performance

Based on the results of multiple linear regression calculations in Table 4.20, the regression equation Y = -1.003 + 0.194 X1 + 0.844 X2 is obtained. From the equation above, it can be concluded as follows:

a. A constant value of -1.003 means that if the physical work environment variable (X1) and work discipline (X2) have a value of 0, then employee performance (Y) will still be worth -1.003.
b. The beta coefficient value on the physical work environment variable (X1) is 0.194 which means that every one unit change in the physical work environment variable will result in a change in employee performance (Y) of 0.194. Conversely, a one-unit decrease in the physical work environment variable will reduce employee performance by 0.194.
c. The beta coefficient value on the Work Discipline variable (X2) is 0.844 which means that every one unit change in the Work Discipline variable (X2) will result in a change in employee performance (Y) of 0.844. Conversely, a one-unit decrease in the work discipline variable will reduce employee performance by 0.844.

Table 8. Hypothesis Test Results (t test) Variable (X1) Against (Y)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Say.
		B	Std. Error	Beta		
	(Constant)	8,609	2,864		3,006	0,004
	Environment_Work_Physical	1,014	0,103	0,807	9,857	0,000

a. Dependent Variable: Employee_Performance

Based on the test results in Table 4.27, the value of t count > t table or (9.857 > 2.00758) is obtained. This is reinforced by the value of Sig. < 0.05 or (0.000 < 0.05). Thus, Ho1 is rejected and Ha1 is accepted, this indicates that partially the Physical Work Environment variable has a significant influence on Employee Performance at the Polyurethane Department of PT Pratama Abadi Industri in Serpong.

Table 9. Hypothesis test results (t test) Work Discipline Variable (X2) on Employee Performance (Y)

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-0,680	2,103		-0,323	0,748
Discipline_Work	0,975	0,055	0,927	17,838	0,000

a. Dependent Variable: Employee_Performance

Based on the test results in Table 4.28, the value of t count > t table or (17.838 > 2.00758) is obtained. This is also reinforced by the value of Sig. < 0.05 or (0.000 < 0.05). Thus, Ho2 is rejected and Ha2 is accepted, this shows that partially the Work Discipline variable has a significant influence on Employee Performance on Employee Performance at the Polyurethane Department of PT Pratama Abadi Industri in Serpong.

Table 10. Simultaneous Hypothesis Test Results (F Test) Between (X1) and (X2) Against (Y)

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2,759,860	2	1,379,930	166,392	.000[b]
Residual	422,955	51	8,293		
Total	3,182,815	53			

a. Dependent Variable: Employee_Performance

b. Predictors: (Constant), Work_Discipline, Work_Environment

Based on the test in Table 4.30, the calculated F value > F table or (166.392 > 3.18) is obtained. This is reinforced by the value of Sig. < 0.05 or (0.000 < 0.05). Thus, Ho3 is rejected and Ha3 is accepted, this indicates that simultaneously the Physical Work Environment and Work Discipline variables have a significant influence on Employee Performance at the Polyurethane Department of PT Pratama Abadi Industri in Serpong.

Effect of Physical Work Environment (X1) on Employee Performance (Y)

Based on the results of the analysis, the value of the regression equation Y = 8.609 + 1.014 X1 is obtained. The correlation coefficient value shows the level of a strong relationship between the Physical Work Environment variable and

Employee Performance, which is equal to 0.807. In addition, the determination value shows that the contribution of the effect of the Physical Work Environment on Employee Performance is 65.1%, while the remaining 34.9% is influenced by other factors. The hypothesis test shows the t count > t table and the Sig value. <0.05, which indicates a significant effect. Therefore, partially the Physical Work Environment variable has a significant influence on Employee Performance at the Polyurethane Department of PT Pratama Abadi Industri in Serpong.

Effect of Work Discipline (X2) on Employee Performance (Y)

Based on the results of the analysis, the value of the regression equation Y = -0.786 + 0.977 X2 is obtained. The value of the correlation coefficient shows the level of a strong relationship between the variables of Work Discipline and Employee Performance, which is equal to 0.926. In addition, the determination value shows that the contribution of work discipline to employee performance is 86%, while the remaining 14% is influenced by other factors. The hypothesis test shows the t count > t table and the Sig value. <0.05, which indicates a significant effect. Thus, partially the Work Discipline variable has a significant influence on Employee Performance at the Polyurethane Department of PT Pratama Abadi Industri in Serpong.

Effect of Physical Work Environment (X1) and Work Discipline (X2) on Employee Performance (Y)

Based on the results of the analysis of multiple linear regression calculations, the regression equation Y = -1.003 + 0.194 X1 + 0.844 X2 is obtained. The correlation coefficient value indicates a strong relationship between the Physical Work Environment and Work Discipline variables and Employee Performance, which is equal to 0.931. In addition, the coefficient of determination indicates that the contribution of the simultaneous influence of the Physical Work Environment and Work Discipline on Employee Performance is 86.7%, while the remaining 13.3% is influenced by other factors. The hypothesis test shows that the calculated F value > F table and the Sig value. < 0.05, which indicates a significant effect simultaneously. Therefore, it can be concluded that simultaneously the Physical Work Environment and Work Discipline variables have a significant influence on Employee Performance at the Polyurethane Department of PT Pratama Abadi Industri in Serpong. With these findings, companies can pay attention to and improve these factors to improve employee performance. Physical work environment factors can be improved and adapted to the needs of employees in order to create a comfortable working atmosphere and support productivity. In addition, it is also important to strengthen employee work discipline by implementing clear rules and policies and providing proper supervision and direction. By paying attention to these two factors, it is expected to improve the overall performance of employees and contribute to the success of the company.

CONCLUSION

The conclusion that can be drawn is that the physical work environment has a positive influence on employee performance partially, and work discipline also has a positive effect on employee performance partially. Simultaneously, the physical work environment and work discipline have a positive effect on employee performance. However, there are some limitations in this study, such as the limited

number of respondents and the possibility of differences of opinion in filling out the questionnaire. Therefore, further research can expand the number of respondents and consider other factors that can affect employee performance. In addition, it is also necessary to pay attention to obtaining appropriate literature with the time available.

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