The Effect of Training and Industrial Relations on Work Productivity That Impact on Employee Achievement at PT Barawaja Steel in Makasar

Hasrat Putera Damai Daeli
Universitas Bung Karno, Jakarta, Indonesia
Email : hpddaeli@yahoo.com

ABSTRACT

This study aims to determine the effect of training and industrial relations on work productivity which has an impact on employee performance at PT Barawaja Steel in Makassar. The method used is explanatory research with a sample of 94 respondents. The analysis technique uses statistical analysis with regression testing, correlation, determination and hypothesis testing. The results of this study showed that training had a significant effect on work productivity of 36.6%, hypothesis testing obtained a significance of 0.000 <0.05. Industrial relations have a significant effect on work productivity of 45.8%, the hypothesis test obtained a significance of 0.000 < 0.05. Training and industrial relations simultaneously have a significant effect on work productivity by 52.4%, hypothesis testing obtained a significance of 0.000 <0.05.

Keywords: Training, Industrial Relations, Work Productivity, Employee Achievement

INTRODUCTION

Work productivity is not solely aimed at getting as much work as possible, but the quality of work is also important to note. Individual productivity can be assessed and what the individual does in his work. In other words, individual productivity is how a person carries out his work or performance.

PT Barawaja Steel, in an effort to increase work productivity, is implementing a training program for its employees. Training is two dimensions of human resource optimization efforts that have different goal orientations. Education tends to be more formal in nature, involving anticipation of individual abilities and skills that must be prepared for the interests of future positions. The target of the education program concerns a broader aspect, namely the ability of employees to anticipate increasingly complex changes.

PT Barawaja Steel is a manufacturing company engaged in the steel sector which in its production process produces two types of zinc, namely plate zinc (slick zinc) and metallic zinc which are adapted to the needs of the community and sizes adjusted to the Indonesian National Standard. To obtain zinc plate the stages of the production process are Shearing Line and Galvanizing Line, while to produce corrugated zinc the production process stages are Shearing Line, Galvanizing Line and Corrugation Line.

In managing human resources, companies must always pay attention to the need for employees to be given job training so that they have sufficient abilities to support their work, especially since their product output must also meet specified standards. Besides that, companies also need to maintain the importance of industrial relations that are implemented within the company, with the hope of achieving harmonious and harmonious cooperation between fellow employees and between company management and employees. The policy implemented by the management of PT Barawaja Steel in an effort to create harmonious and harmonious industrial relations is to take actions that are beneficial to employees, especially employees who excel, such as seeking to improve employee welfare so that employees can fulfill their obligations in accordance with their job duties.

Every employee is considered a permanent employee and has the right to receive wages plus several benefits, if the employee has worked for 6 (six) months as a trial period. If there is attention and problems encountered related to training and industrial relations in an effort to increase work productivity, it is very appropriate for this research to examine further the influence of training and industrial relations on work productivity at PT Barawaja Steel.

There is a phenomenon related to employee work productivity achievements from several aspects that still need to be improved, this is shown from the ability to produce quality work results to aspects of responsibility for work which on average still need to be improved. Organizations actually only expect the best performance or results from their members. However, the results

of the work will not be fully optimal and emerge from the members and be beneficial to the organization. However, without reports on employee work performance conditions, the organization or company is also not able to make clear decisions regarding which employees should be rewarded or which employees should receive punishment in line with their high or low work performance.

In order to meet the interests of the majority of other employees as well as the wider organization, the work performance appraisal policy must still be implemented by ignoring the narrow interests of a few individual employees who have such problems. For this reason, work performance assessment is very important to evaluate the extent to which the employee has carried out his duties well. Work assessment is feedback for the employees themselves. According to Hasibuan (2015), the purpose of assessing employee work performance is as follows: As a basis for making decisions used for promotion, demotion, dismissal and determining the amount of remuneration. To measure employee achievement, namely the extent to which employees can be successful in their work

Based on the background above, the authors created the title "The Influence of Training and Industrial Relations on Work Productivity which Impacts Employee Performance at PT Barawaja Steel in Makassar".

METHODS

This study uses a variety of structured research methods. The population of this study consisted of 94 respondents who were employees of PT Barawaja Steel in Makassar, while the research sample used a saturated sample technique, in which all members of the population were used as samples. The type of research used is associative research, with the aim of finding the relationship between the variables studied.

In the data analysis process, this research involves instrument testing, which includes validity testing to measure data accuracy and reliability testing to assess the consistency of measuring instruments. Classic assumption tests are also carried out to check the accuracy of the data, such as normality tests, multicollinearity tests, autocorrelation tests, and heteroscedasticity tests. Next, data analysis involves multiple linear regression to develop the regression equation, as well as the use of the coefficient of determination to measure the influence of the independent variable on the dependent variable. Finally, hypothesis testing is used to determine whether the research hypothesis is accepted or rejected, involving the t test (partial) and F test (simultaneous).

All of these methods are used to produce accurate and valid findings in this study.

RESULT
1. Instrument Test Results

From the test results, all training variable questionnaire items obtained a 2-tailed significance value of $0.000 < 0.05$, thus the instrument was valid. From the test results, all industrial

relations variable questionnaire items obtained a 2-tailed significance value of 0.000 < 0.05, thus the instrument was valid. From the test results, all work productivity variable questionnaire items obtained a 2-tailed significance value of 0.000 < 0.05, thus the instrument was valid. From the results of reliability testing, the following results were obtained:

Table 1. Reliability Test Results

Variable	*Cronbach's Alpha*	Alpha Critical Standards	Information
Training (X1)	0.646	0.600	Reliable
Industrial Relations (X2)	0.655	0.600	Reliable
Work Productivity (Y)	0.663	0.600	Reliable
Employee Performance (Z)	0.629	0.600	Reliable

Based on the test results above, the overall variables of training (X1), industrial relations (X2), work productivity (Y) and employee achievement (Z) obtained a Cronbach alpha value greater than 0.600. Thus it is declared reliable.

2. Classical Assumption Test Results

a. Normality test

The results of the normality test using the Kolmogorov-Smirnov Test are as follows:

Table 2. Kolmogorov-Smirnov Normality Test Result

Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Work Productivity (Y)	0.08	94	0.169	0.973	94	0.05

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Based on the test results in the table above, a significance value of 0.200 is obtained, where this value is greater than the value $\alpha = 0.050$ or $(0.169 > 0.050)$. Thus, the assumption of the distribution of equations in this test is normal.

b. Multicollinearity Test

The multicollinearity test was carried out by looking at the Tolerance Value and Variance Inflation Factor (VIF). The test results are as follows:

Table 3. Multicollinearity Test Results with Collinearity Statistics

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics	
		B	Std. Error	Betas	Tolerance	VIF
1	(Constant)	9.89	2,926			
	Training (X1)	0.28	0.08	0.317	0.656	1.53
	Industrial relations (X2)	0.49	0.088	0.491	0.656	1.53

a. Dependent Variable: Work Productivity (Y)

Based on the test results in the table above, the tolerance

value for each independent variable is 0.656 < 1.0 and the Variance Inflation Factor (VIF) value is 1.525 < 10, thus this regression model does not occur multicollinearity.

Table 4. Heteroscedasticity Test Results with the Glejser Test Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Betas		
1	(Constant)	2,983	1,684		1,771	0.08
	Training (X1)	-0.11	0.046	-0.311	-2,484	0.08
	Industrial relations (X2)	0.084	0.051	0.208	1,659	0.1

a. Dependent Variable: RES2

The test results using the Glejser test for all dependent variables obtained a Sig value. > 0.050. Thus, the regression model does not contain heteroscedasticity interference.

c. Heteroscedasticity Test

Testing was carried out with the Glejser Test Model test tool. The test results are as follows:

3. Descriptive Analysis

This test is used to determine the minimum and maximum scores, the highest scores, rating scores and standard deviation of each variable. The results are as follows:

Table 5. Results of Descriptive Statistics Analysis

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Training (X1)	94	30	46	37.9	3.84
Industrial relations (X2)	94	31	46	38.1	3,461
Work Productivity (Y)	94	32	46	39.1	3,419
Employee Performance (Z)	94	31	50	39.3	3,656
Valid N (listwise)	94				

The training obtained a minimum variance of 30 and a maximum variance of 46 with a rating score of 3.791 with a standard deviation of 3.840. Industrial relations obtained a minimum variance of 31 and a maximum variance of 46 with a rating score of 3.612 with a standard deviation of 3.461. Work productivity obtained a minimum variance of 32 and a maximum variance of 46 with a rating score of 3.909 with a standard deviation of 3.419. Employee performance obtained a minimum variance of

31 and a maximum variance of 50 with a rating score of 3.933 with a standard deviation of 3.656.

4. Quantitative Analysis

In this analysis it is intended to determine the effect of the independent variables on the dependent variable. The test results are as follows:

a. Regression Analysis

This regression test is intended to determine changes in the dependent variable if the independent variable experiences changes. The test

results are as follows:

Table 6. Results of Training Simple Linear Regression Testing (X1)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Betas		
1	(Constant)	18.66	2,817		6.63	0
	Training (X1)	0.539	0.074	0.605	7.29	0

a. Dependent Variable: Work Productivity (Y)

Based on the test results in the table above, the regression equation Y = 18.662 + 0.539X1 is obtained. This equation is explained as follows:

1) A constant of 18.662 means that if there is no training, there is a work productivity value of 18.662 points.

2) The training regression coefficient is 0.539, this figure is positive, meaning that every time there is an increase in training by 0.539 points, work productivity will also increase by 0.539 points.

Table 7. Simple Linear Regression Test Results for Industrial Relations (X2)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Betas		
1	(Constant)	13.59	2,901		4,682	0
	Industrial relations (X2)	0.669	0.076	0.677	8,824	0

a. Dependent Variable: Work Productivity (Y)

Based on the test results in the table above, the regression equation Y = 13.585 + 0.669X2 is obtained. This equation is explained as follows:

1) A constant of 13.585 means that if industrial relations do not exist, then there is a work productivity value of 13.585 points.

2) The industrial relations regression coefficient is 0.669, this figure is positive, meaning that every time there is an increase in industrial relations by 0.669 points, work productivity will also increase by 0.669 points.

Table 8. Results of Multiple Linear Regression Testing

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Betas		
1	(Constant)	9,889	2,926		3.38	0.001
	Training (X1)	0.282	0.08	0.317	3,548	0.001
	Industrial relations (X2)	0.485	0.088	0.491	5,502	0

a. Dependent Variable: Work Productivity (Y)

Based on the test results in the table above, the regression equation Y = 9.889 + 0.282X1 + 0.485X2 is obtained. This equation is explained as follows:

1) A constant of 9.889 means that if training and industrial relations do not exist, then there is a work productivity value of 9.889 points.
2) The training regression coefficient is 0.282, this figure is positive, meaning that every time there is an increase in training by 0.282 points, work productivity will also increase by 0.282 points.
3) The industrial relations regression coefficient is 0.485, this figure is positive, meaning that every time there is an increase in industrial relations by 0.485 points, work productivity will also increase by 0.485 points.

Table 9. Simple Linear Regression Test Results Work Productivity (Y) on Employee Performance (Z)

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Betas		
1	(Constant)	16.35	3,652		4,476	0
	Work Productivity (Y)	0.588	0.093	0.55	6,317	0

a. Dependent Variable: Employee Performance (Z)

Based on the test results in the table above, the regression equation Z = 16.347 + 0.588Y is obtained. This equation is explained as follows:

1) A constant of 16.347 means that if there is no work productivity, then there is an employee achievement value of 16.347 points.
2) The regression coefficient for work productivity is 0.669, this figure is positive, meaning that every time there is an increase in work productivity of 0.588 points, employee performance will also increase by 0.588 points.

b. Analysis of the Coefficient of Determination

Analysis of the coefficient of determination is intended to determine the percentage of influence of the independent variable on the dependent variable. The test results are as follows:

Table 10. Results of Testing the Coefficient of Determination of Training on Work Productivity

Summary models

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.605a	0.366	0.359	2,737

a. Predictors: (Constant), Training (X1)

Based on the test results, a determination value of 0.366 was obtained, meaning that training had an influence

contribution of 36.6% on work productivity.

Table 11. Test Results for the Coefficient of Determination of Industrial Relations on Work Productivity

		Summary models		
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.677a	0.458	0.453	2.53

a. Predictors: (Constant), Industrial relations (X2)

Based on the test results, a determination value of 0.458 was obtained, meaning that industrial relations had an influence contribution of 45.8% on work productivity.

Table 12. Simultaneous Test Results for the Coefficient of Determination of Training and Industrial Relations on Work Productivity

		Summary models		
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.724a	0.524	0.514	2,384

a. Predictors: (Constant), Industrial relations (X2), Training (X1)

Based on the test results, a determination value of 0.524 was obtained, meaning that training and industrial relations simultaneously contributed 52.4% to work productivity, while the remaining 47.6% was influenced by other factors.

Table 13. Results of Testing the Coefficient of Determination of Work Productivity on Employee Achievement

		Summary models		
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.550a	0.303	0.295	3.07

a. Predictors: (Constant), Work Productivity (Y)

Based on the test results, a determination value of 0.303 was obtained, meaning that work productivity had an influence contribution of 30.3% on employee performance.

5. Partial hypothesis test (t test)

Hypothesis testing with the t test is used to find out which partial hypothesis is accepted. The test results are as follows:

Table 14. Results of Training Hypothesis Testing on Work Productivity

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Betas		
1	(Constant)	18.66	2,817		6,625	0
	Training (X1)	0.539	0.074	0.605	7,287	0

a. Dependent Variable: Work Productivity (Y)

Based on the test results in the table above, the calculated t value > t table or (7.287 > 1.986) is obtained, thus the hypothesis proposed that there is a significant influence between training and work productivity is accepted.

Table 15. Hypothesis Test Results for Industrial Relations on Work Productivity

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Betas		
1	(Constant)	13.59	2,901		4,682	0
	Industrial relations (X2)	0.669	0.076	0.677	8,824	0

a. Dependent Variable: Work Productivity (Y)

Based on the test results in the table above, the calculated t value > t table or (8.824 > 1.986) is obtained, thus the hypothesis proposed that there is a significant influence between industrial relations on work productivity is accepted.

Table 16. Results of the Work Productivity Hypothesis Test on Employee Achievement

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Betas		
1	(Constant)	16.35	3,652		4,476	0
	Work Productivity (Y)	0.588	0.093	0.55	6,317	0

a. Dependent Variable: Employee Performance (Z)

Based on the test results in the table above, the value of t count > t table or (6.317 > 1.986) is obtained, thus the hypothesis proposed that there is a significant influence between work productivity on employee performance is accepted.

6. Simultaneous Hypothesis Test (Test F)

Hypothesis testing with the F test is used to find out which simultaneous hypotheses are accepted. Third hypothesis: There is a significant influence between training, industrial relations and motivation on work productivity.

Table 17. Simultaneous Results of Training and Industrial Relations Hypothesis Tests on Work Productivity

ANOVAa

Model		Sum of Squares	df	MeanSquare	F	Sig.
1	Regression	570,003	2	285,002	50.13	,000b
	Residual	517,316	91	5,685		
	Total	1087.319	93			

a. Dependent Variable: Work Productivity (Y)

b. Predictors: (Constant), Industrial relations (X2), Training (X1)

Based on the test results in the table above, the calculated F value > F table or (50.134 > 2.700), thus the fourth hypothesis proposed that there is a significant influence between training and industrial relations simultaneously on work productivity is accepted.

DISCUSSION

1. The Effect of Training on Work Productivity

Training has a significant effect on work productivity with a

determination coefficient of 36.6%. Hypothesis testing obtained t count > t table or (7.287 > 1.986). Thus the hypothesis proposed that there is a significant effect between training on work productivity is accepted.

2. **The Effect of Industrial Relations on Work Productivity**

Industrial relations has a significant effect on work productivity with a coefficient of determination of 45.8%. Hypothesis testing obtained t count > t table or (8.824 > 1.986). Thus the hypothesis put forward that there is a significant effect between industrial relations on work productivity is accepted.

3. **The Effect of Training and Industrial Relations on Work Productivity**

Training and industrial relations have a significant effect on work productivity with the regression equation Y = 9.889 + 0.282X1 + 0.485X2, with a coefficient of determination of 52.4% while the remaining 47.6% is influenced by other factors. Hypothesis testing obtained a calculated F value > F table or (50.134 > 2.700). Thus, the hypothesis proposed that there is a significant influence between training and industrial relations on work productivity is accepted.

4. **The Influence of Work Productivity on Employee Achievement**

Work productivity has a significant effect on employee achievement with a coefficient of determination value of 30.3%. Hypothesis testing obtained a calculated t value > t table or (6.317 > 1.986). Thus, the hypothesis proposed that there is a significant influence between work productivity and employee performance is accepted.

CONCLUSION

In the results of this study, several important conclusions can be drawn. First, training has a significant impact on work productivity, with a contribution of 36.6%. This is supported by the results of hypothesis testing which shows that the calculated t value exceeds the t table value. Second, industrial relations also plays an important role in increasing work productivity, with an influence contribution of 45.8%, which is also proven to be statistically significant. Third, in the overall context, training and industrial relations together have a significant effect on work productivity, with an influence contribution of 52.4%, while around 47.6% of the variation in work productivity is influenced by other factors not examined in the research This. Final, Work productivity also has a positive and significant impact on employee performance, with a contribution of up to 30.3%. The results of the hypothesis test confirm that this relationship has statistical validity. Thus, this research provides a deeper understanding of the relationship between training, industrial relations, work productivity, and employee performance, which can become an important foundation in the formulation of human resource management policies and strategies in the work environment.

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