



The effect of education and work environment on employee performance mediated by work motivation

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ARTICLE INFO

Article history:

Received Jan 27, 2023
Revised Feb 16, 2023
Accepted Feb 28, 2023

Keywords:

Education
Work Environment
Employee Performance
Work Motivation

ABSTRACT

The purpose of this study was to determine the effect of Education, Work Environment, Work Motivation, Employee Performance. The population of this study were all employees of PT. Inti Sela data was collected by 65 respondents and processed with IBM AMOS version 23 software. Based on the results of the study, empirical facts were obtained in the form of: Education has a positive effect on Work Motivation, Work Environment has a positive effect on Work Motivation, Work Motivation has a positive effect on Employee Performance, Education has a positive effect on Employee Performance, Work Environment has a positive effect on Employee Performance, Education has no positive effect on Employee Performance which is mediated by Work Motivation. There is no effect of Work Motivation on Employee Performance and the effect is moderate1 ($X1*Z$) Therefore, work incentives are unlikely to act as a moderating factor (not a moderating variable). The correlation between Education and Employee Performance is not influenced by Work Motivation, Work Motivation acts as a mediating factor between the Work Environment and Employee Performance. Work Motivation Has Moderate Effect on Employee Performance ($X2*Z$) The linkage between Work Environment and Employee Performance is strengthened by Work Motivation which indicates that it is possible to act as a moderating element.

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INTRODUCTION

HR is one of the company's most valuable resources because it meets the criteria to become an asset (Widodo, 2014). It is important to remember that human capital is not only essential for success today, but is also an investment for the future for any business, but especially in the manufacturing and service sectors. Human resources are increasingly seen as the company's most valuable asset, as evidenced by the fact that they are increasingly treated as owners and investors of their human capital.

Human resource development is a tried and true method of increasing productivity. This is supported by research showing that HRD practices can have an impact on productivity (Mathis &

Jackson, 2011). Workforce effectiveness will increase along with workforce quality if the human resource development system is implemented properly. The health of a company depends on its ability to attract and retain talented employees who are committed to helping the company succeed.

Giving encouragement is a form of Work Motivation. Giving encouragement is intended as a reminder for individuals or groups of people to be enthusiastic and able to achieve achievements that are in accordance with the needs of the company. Therefore, to influence their subordinates to act in accordance with organizational goals, managers must recognize or understand the nature and characteristics of their employees, needs based on Work Motivation that have control over the behavior of managers, and actions that are limited by Work Motivation.

Education is a tool for economic development, not just economic growth. In modern education management practices, the function of education is a technical-economic function both at the individual level and at the aggregate level. Education's contribution to economic development is referred to as the economic-technical function. The level of income increases with the increase in Education. This is possible because educated individuals earn more than those with less education. Productivity is a function of a person's technical skills, acquired through school. Mastery of life skills is thus one of the objectives that must be met by education.

The work environment is a collection of facilities and infrastructure used by employees and can have an impact on how well they carry out their work. This Work Environment includes offices, equipment, cleanliness, lighting, and quiet, as well as interactions between those who work there. (Soetjipto, 2008) defines the work environment as "a set of conditions that together shape people's feelings about coming to work and how effectively they do their jobs.

This postal company has the most education at the undergraduate level with 37 people and is in second place at the high school level with 18 people and the last at the Masters level with 10 people. the number of employees is 65 people, from the graph above it can be seen that the number of employees present varies each month, due to the varying absences each month which is thought to hinder existing work. Employee performance as a whole has not met the company's expectations.

This can be seen from the percentage which is still above 50% who answered no to the statements submitted, presumably because absenteeism does not vary causing punctuality in completing work. Employee work motivation as a whole is not in accordance with what the company expects. Employees have work motivation at work, this can be seen from the above 50% of respondents who answered no to the statements submitted, it is suspected that employee motivation is reduced because the work done does not get appreciation and there is less supervision from superiors so that employees feel not enthusiastic enough doing his job.

Education for employees as a whole does not support work. This can be seen from the above 50% of respondents who answered no to the statements submitted, it is suspected that from education many employees do not feel that education is very important to support a job. Work environment that does not support work, such as lack of comfort and cleanliness at work. Therefore these findings show that employee morale increases in proportion to how motivated they work. These findings indicate that Education has a beneficial impact on Work Motivation, which can increase employee morale.

Previous studies have shown that higher levels of Education and work experience positively affect Employee Performance. Environmental Quality Physical work has a significant and positive impact on employee productivity.

RESEARCH METHOD

This research was conducted based on the research framework that has been established, namely:

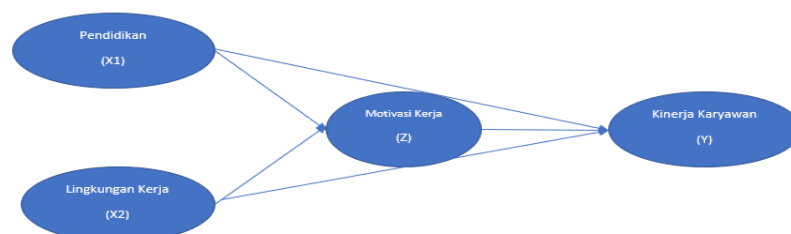


Figure 1. Research Framework

The variables - these variables can be explained as follows: (a). Education (X1), Education must be seen broadly. Education lacks principles and ideas because it is not a neutral process (O'Neil, 2002). (b). Work Environment (X2), "Work Environment" as "a set of internal organizational characteristics that influence the success of human resource management functions and activities carried out." Sofyandi (2008). (c). Work Motivation (Z), To carry out various responsible actions and maintain their commitment to achieving the goals and objectives of various organizations, members of the organization must be motivated to work to exert their abilities in the form of energy and time. (Siagian, 2014). (e). Employee Performance (Y1), Performance is a condition that must be understood and validated by certain parties. (AnyNoor, 2013)

RESULTS AND DISCUSSIONS

Validity test results

Table 1. Validity

Variable Name	AVE
Education	0,594
Work environment	0,794
Work motivation	0,644
Employee performance	0,706

Reliable test results

Table 2. Reliable

Variable Name	Cronbach's Alpha	Alpha	Information
Education	0,833	0,7	Reliable
Work environment	0,907	0,7	Reliable
Work motivation	0,872	0,7	Reliable
Employee performance	0,905	0,7	Reliable

Classic assumption test

Normality test

Table 3. Normality Test

One-Sample Kolmogorov-Smirnov Test		
Unstandardized Residual		
N		65
Normal	Mean	0

Parameters ^{a,b}	Std. Deviation	3.60838247
Most Extreme Differences Test Statistic	Absolute Positive Negative	0.067 67 -0.04
Asymp. Sig. (2-tailed)		0.067 .200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

The output results show that the data obtained is normally distributed because the test is significant at a value of $0.200 > 0.05$. Regression capital already meets the assumption of normality considering the normal data distribution.

Heteroscedasticity Test

Table 4. Heteroscedasticity Test

Model	Coefficients ^a				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	4,644	2,082		2,231	0.029
Education (X1)	-0.044	0,061	-0.104	-0.719	0.475
Work environment	-0.005	0,046	-0.016	-0.112	0.911

a. Dependent Variable: Abs_Res

The results of the Glejser test show that a significance value of 0.475 for the Education variable (X1) and 0.991 for the Work Environment variable (X2) is greater than 0.05. Therefore the data does not have heteroscedasticity and the regression modal already meets the assumption of normality.

Multicollinearity Test

Table 5 Multicollinearity Test

Model	Coefficients				t	Collinearity Statistics	
	Unstandardized Coefficients		Standardized Coefficients	Sig.		Tolerance	VIF
	B	Std. Error	Beta				
1 (Constant)	11.636	3.376		3.447	0.001		
Education (X1)	0.695	0.1	0.692	6.973	0	0.757	1.322
Work environment	0.059	0.74	0.079	0.799	0.427	0.757	1.322

a. Dependent Variable: Buying_decision

The multicollinearity test results show that the tolerance value (TOL) of each variable for school and work environment is 0.757, while the VIF value for each variable is 1.322. The regression model created does not show signs of multicollinearity because the TOL value is less than 10 and the VIF value is more than 1.

Autocorrelation Test

Table 6. Autocorrelation Test

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,734	11.636	0.539	3.666	2,074

a. Predictors: (Constant), Lingkungan Kerja (X2), Pendidikan (X1)

b. Dependent Variabel: Kinerja Karyawan (Y)

The results of the autocorrelation test showed that the Durbin-Watson value was 2.074 which was greater than the upper limit (dU) of 1.6621 and less than $(4-du) = (4-1.6621) = 2.3379$, indicating that there was no problems or indications of autocorrelation.

Multiple Linear Regression Analysis

Table 7. Multiple Linear Regression Analysis

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.636	3.376		3.447	0.001
	Education (X1)	0.695	0.1	0.692	6.973	0
	Lingkungan Kerja (X2)	0.059	0.074	0.079	0.799	0.427

a. Dependent Variable: Employee_Performance

The interpretation of the multiple linear regression equation above is as follows: A constant value of 11.636 is positive which indicates that Employee Performance is 11.636 units if the Education and Work Environment variables are taken to be zero. The positive regression coefficient value of the Education variable shows that with all other variables held constant, an increase in Education will result in an increase in Employee Performance of 0.695. The positive regression coefficient value of 0.059 for this variable indicates that assuming all other variables are constant, a one-unit increase in the Work Environment variable will cause an increase of 0.059 in the Employee Performance variable

Model Feasibility Test

F Test

Table 8. Model Feasibility Test

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	972.754	2	486.377	36.188	.000 ^b
	Residual	833.307	62	13.44		
	Total	1806.062	64			

a. Dependent Variable: Employee_Performance (Y)

b. Predictors: (Constant), Work environment (X2), Education (X1)

These results indicate that educational background and work environment have a significant effect on employee work productivity. has a significance of 0.000050 and Fcount 36.188 > Ftable 3.15. So Ha is recognized while H0 is ignored.

Test the Coefficient of Determination

Table 9. Test the Coefficient of Determination

Model Summary ^b				
Model	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.539	0.524	3.666	2.074

a. Predictors: (Constant), Work environment (X2), Education (X1)

b. Dependent Variable: Employee_Performance (Y)

These results indicate that the coefficient of determination (Adjusted R Square) is 0.539 based on the tests performed. This shows that Work Environment and Education have an impact of 53.9% on the nature of Employee Performance. While many other causes, outside the scope of this investigation, reached 46.1%.

Hypothesis test

The Effect of Education on Work Motivation

Table 10. The Effect of Education on Work Motivation

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.511	4.491		2.786	0.007
	Education (X1)	0.653	0.119	0.569	5.496	0

a. Dependent Variable: Work motivation (Z)

These results indicate that when tested against a ttable of 1.99834, the Education variable obtains a tcount of 5.496 which is significantly higher than the threshold of 0.000 0.05. The conclusion that education has an effect on work motivation is obtained if the H0 hypothesis is accepted and the Ha hypothesis is rejected.

The Effect of the Work Environment on Work Motivation

Table 11. The Effect of the Work Environment on Work Motivation

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.578	1.769		5.415	0
	Lingkungan Kerja (X2)	0.764	0.048	0.893	15.773	0

a. Dependent Variable: Work motivation (Z)

The t value of 15.773 is statistically significantly higher than the t value of 1.99834, based on the results of testing the variables in the Work Environment shown in table 4.21 above. Consequently, we accept H0 and reject Ha, concluding that the setting of the Work Environment affects the level of Intrinsic Work Motivation to work.

Effect of Work Motivation on Employee Performance

Table 12. Effect of Work Motivation on Employee Performance

Model	Coefficients ^a			t	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
1 (Constant)	24.259	3.625		6.692	0
Work motivation (Z)	0.419	0.097	0.479	4.331	0

a. Dependent Variable: Employee performance (Y)

The results of testing the Incentives for Work variable, where the t value is 4.331 (greater than the t table of 1.99834) with a significance level of 0.000 0.05. Therefore, the H₀ hypothesis is supported, while the H_a hypothesis is rejected, which states that intrinsic work motivation in work has a positive effect on productivity.

The Effect of Education on Employee Performance

Table 13. The Effect of Education on Employee Performance

Model	Coefficients ^a			t	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
1 (Constant)	12.292	3.265		3.765	0
Education (X1)	0.734	0.086	0.731	8.494	0

a. Dependent Variable: Employee performance (Y)

The results of testing the Education variable, where the tcount is 8.494, the ttable is 1.99834, and the significance level is 0.000 0.05. If the H₀ hypothesis is accepted while the H_a hypothesis is rejected, it can be concluded that education has an effect on employee performance.

The Influence of the Work Environment on Employee Performance

Table 14. The Influence of the Work Environment on Employee Performance

Model	Coefficients ^a			t	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
1 (Constant)	28.475	3.125		9.111	0
Work environment (X2)	0.315	0.086	0.42	3.678	0

a. Dependent Variable: Employee performance (Y)

The results of testing the Work Environment variable shown in table 4.24 above obtained a tcount of 3.678 greater than the ttable of 1.99834 with a significant value of 0.000 0.05. As a result, the H₀ hypothesis is confirmed and the H_a hypothesis is refuted, which shows that the work environment has an effect on employee performance.

The Effect of Education on Employee Performance Mediated by Work Motivation

Table 15. The Effect of Education on Employee Performance Mediated by Work Motivation

Model	Coefficients ^a				t	Sig.
	Unstandardized Coefficients		Standardized Coefficients	Beta		
	B	Std. Error				
1 (Constant)	-9.104	16.419			-0.554	0.581
Pendidikan (X1)	1.22	0.438	1.215		2.787	0.007
Motivasi Kerja (Z)	0.665	0.468	0.759		1.419	0.161
x1z	-0.015	0.012	-1.073		-1.269	0.209

a. Dependent Variable: Employee performance (Y)

The significance value of 0.161 for Work Motivation and 0.209 for moderate (X1*Z) is greater than 0.05, so there is no effect of Work Motivation on Employee Performance and the effect is moderate1 (X1*Z). Which means that work motivation is not feasible to be a moderating variable (not a moderating variable). Work Motivation does not strengthen or weaken the relationship between Education and Employee Performance.

The Influence of the Work Environment on Employee Performance Mediated by Work Motivation.

Table 16. The Influence of the Work Environment on Employee Performance Mediated by Work Motivation.

Model	Coefficients ^a				t	Sig.
	Unstandardized Coefficients		Standardized Coefficients	Beta		
	B	Std. Error				
1 (Constant)	19.208	17.932			-1.071	0.288
Lingkungan Kerja (X2)	1.154	0.511	1.542		2.259	0.027
Motivasi Kerja (X)	1.626	0.521	1.857		3.122	0.003
x2z	-0.031	0.013	-2.858		-2.468	0.016

a. Dependent Variable: Employee performance (Y)

The significance value of 0.003 for Work Motivation and 0.016 for moderate (X2*Z) is greater than 0.05, so there is an effect of Work Motivation on Employee Performance and a moderate effect (X2*Z). Which means Work Motivation is feasible to be a moderating variable, then Work Motivation strengthens the relationship between the Work Environment and Employee Performance.

CONCLUSION

Based on research results, Education has a positive effect on Work Motivation, Work Environment has a positive effect on Work Motivation, Work Motivation has a positive effect on Employee Performance, Education has a positive effect on Employee Performance, Work Environment has a positive effect on Employee Performance, Education has no positive effect on Employee Performance which is mediated by Work Motivation. There is no effect of Work Motivation on Employee Performance and the effect is moderate1 (X1*Z) Therefore, it is impossible for work incentives to act as a moderating factor (not a moderating variable). The correlation between

Education and Employee Performance is not influenced by Work Motivation, Work Motivation acts as a mediating factor between the Work Environment and Employee Performance. Work Motivation has a moderate effect on Employee Performance ($X^2 \cdot Z$) The link between Work Environment and Employee Performance is strengthened by Work Motivation, which indicates that it is possible to act as a moderating element.

ACKNOWLEDGEMENTS

For all the shortcomings and imperfections of this scientific work, the authors expect constructive input, criticism and suggestions, but Alhamdulillah for the author handles and finishes well. Finally, the writer hopes that this work can be useful for all parties and hopefully the good deeds that have been given to the author gets a reply from Allah SWT

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