

Analysis of the Effect of Education and Training on Employee Performance at PT PLN NP UPDK Pandan

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Abstract

This study aims to examine the effect of education and training on employee performance at PT PLN NP UPDK Pandan. The method used in this study is simultaneous hypothesis testing (F test) and partially (t test). The results of simultaneous regression model testing show that education and training variables together have a significant influence on employee performance, with an F value of 310.206 and a significance of 0.000. This suggests that hypotheses suggesting a significant influence between education and training on employee performance are acceptable. However, the test results partially showed that the education variable (X1) had no effect and was not significant on employee performance, with a significance value of 0.158. This means that the hypothesis that education influences employee performance is unacceptable. Meanwhile, the training variable (X2) was shown to have a positive and significant effect on employee performance, with a significance value of 0.000. The hypothesis that there is an effect between training and employee performance is acceptable. The results of the analysis showed that education did not have a significant effect on employee performance. However, training is proven to have a positive and significant influence on employee performance over other employees. This research provides a better understanding of the effect of education and training on employee performance at PT PLN NP UPDK Pandan. The results of this research can be used as a reference in the development of more effective education and training programs to improve employee performance in the company.

Keywords:

Education, Training, Employee Performance

INTRODUCTION

In the midst of the progress and development of the current era, competition between companies in the era of globalization is getting sharper. Of course, every company must have a superior strategy to survive and compete. In achieving this, the company will use all its assets (resources) to be able to continuously adapt and accelerate in meeting the needs of the times. As we know that the resources owned by a company are all existing components, both tangible (Sutrisno, 2022) *assets* and *intangible assets*. Both of these assets must be maximized as part of how to achieve the company's vision and mission. However, in relation to the old paradigm, this tangible capital seems to be the main reference in assessing company performance, which in *paradigma* human capital (human capital) is the main component of intangible assets which are important in the achievement of company performance. (Submitted by Rusdian, 2020)

The paradigm shift related to the authorized capital of a company has undergone many changes following the development of the global industry. Human capital is currently considered to have a very important and major role in the success of an organization. With the ability of reason, thoughts, desires, hopes and feelings, humans with proper development will have an impact on increasing extraordinary *value*. Similarly, what happens to the company PT PLN (Persero) today in viewing each of its employees as intangible assets that must increase every day in value to become the main component in achieving the vision, mission and goals of the company. Seeing this, employee education and training is important to be carried out as an increase in competence and knowledge which is part of the human capital management strategy to achieve the company's vision to become the leading power company in Southeast Asia and the #1 customer choice for energy solutions.

With the development of human capital, the potentials that exist in each employee will increase and be activated towards the company's vision and goals. In terms of education and training, the government through the Decree of the Minister of Manpower KEP. 229 / MEN / 2003 explains that job training is the entire activity to give, obtain, improve, and develop work competencies, productivity, discipline, attitudes and work ethic at certain levels of skills and expertise in accordance with the level and qualifications of the position or job.

In the 2022 Sustainability Report of PT PLN (Persero), related to Education and Training, it is stated that education and training is the company's effort to continue to improve employee competence. The company strives to improve these competencies starting from prospective employees, during their time as



employees, even before retirement with various education and training programs. In the same report, it is stated that during 2022, PLN held various education and training programs to improve employee competence and understanding to support PLN's sustainable business. In 2022, the training costs incurred for PLN Group amounted to IDR 529.26 billion.

Looking at the data above, education and training are an important part for the company in increasing the value of PLN's assets to develop worker competencies in order to achieve superior performance and sustainable company goals.

LITERATURE REVIEW

Basic Concepts of Education and Training

Education and training are two concepts that are interrelated and have an important role in the development of individuals and society. In this context, education refers to the formal learning process carried out in educational institutions such as schools, universities, or other institutions. Meanwhile, training refers to a learning process that focuses more on developing practical skills and knowledge for a specific purpose, such as job training or professional training. (Nugraha, 2020)

Education and training is one of the efforts in developing human resources, especially to develop one's intellectual and personality. Therefore, to get maximum results in employee development, education and training programs are needed in accordance with the position analysis so that employees can know the purpose of education and training they run.

Training has some basic concepts that are important to understand. Here are some basic training concepts:

1. Job Training: Is training that aims to develop practical skills and knowledge needed to work in a particular field or profession. Job training can be carried out in specialized training institutions or in a hands-on work environment.
2. Professional Training: Is training provided to individuals who are already working to develop skills and knowledge relevant to their work. Professional training can be courses, seminars, or workshops organized by educational institutions or professional organizations.
3. Health Training: Is a training that focuses on developing skills and knowledge in the health sector. Health training may include nurse training, physician training, or training in public health.



4. Engineering Training: This is training that focuses on developing technical skills in fields such as electronic engineering, mechanical engineering, or civil engineering. Engineering training aims to produce a skilled and competent workforce in the field of engineering.(Hafid, 2018) .

Education and training have a close relationship with employee performance. Education provides the knowledge base necessary to carry out job tasks, while training provides practical skills that can be obtained in real work situations. (Hasyim et al., 2020) In the context of education, formal education in educational institutions such as schools or colleges can provide employees with extensive theoretical knowledge. They can learn the concepts and principles underlying their field of work. For example, civic education can help employees understand democratic values and human rights. Meanwhile, on-the-job training provides opportunities for employees to develop practical skills relevant to their jobs. Training can take the form of technical skills training, leadership training, or training in the use of specialized software or equipment. For example, leadership training can help employees develop the leadership skills needed to manage teams on the job.

Both, education and training, complement each other and contribute to the improvement of employee performance. Education provides the knowledge base necessary to understand the concepts and principles underlying work, while training provides practical skills that can be applied in real work situations.

Definition of Employee Performance

Employee performance is one of the important factors in the success of an organization or company. Employee performance reflects the extent to which an individual or group is able to achieve a predetermined goal. In this context, employee performance can be measured based on target achievement, productivity, efficiency, work quality, and contribution to the organization. (Antaka, 2018)

Employee performance has a very important role in achieving organizational success. Good employee performance can increase productivity, efficiency, and work quality, and contribute significantly to the achievement of organizational goals. Conversely, poor employee performance can hinder the growth and development of the organization, and negatively affect the company's image and reputation. (Barsah & Ridwan, 2020). There are several factors that can affect employee performance. These factors can be internal or external, and can vary from



individual to individual. Here are some factors that can affect employee performance:

1. Motivation

Motivation is an important factor that can affect employee performance. Motivated employees tend to be more passionate, dedicated, and committed in carrying out their duties and responsibilities. Motivation can come from a variety of sources, such as recognition, rewards, career development opportunities, and a conducive work environment.

2. Skills and Competencies

The skills and competencies possessed by employees can also affect their performance. Employees who have skills and competencies that are in accordance with their duties and responsibilities tend to be more effective and efficient in carrying out their work. In addition, the development of skills and competencies can also improve overall employee performance.

3. Working Conditions

Good working conditions can also contribute to employee performance. Factors such as a comfortable work environment, adequate facilities, support from superiors and colleagues, and clarity of duties and responsibilities can improve employee performance. Conversely, poor working conditions can hamper employee performance.

4. Leadership

Effective leadership can also affect employee performance. A leader who is able to inspire, motivate, and provide clear direction to his employees tends to improve their performance. In addition, leaders who are able to create a positive and supportive work culture can also contribute to employee performance.

5. Work-Life Balance

Work-life balance can also affect employee performance. Employees who are able to maintain a balance between work and personal life tend to be more productive, creative, and happy. Imbalance between personal life and work will create stress in employees which can have an impact on decreasing employee work productivity (Badrianto & Ekhsan, 2021).

Previous Research

First, the research conducted is "The Effect of Communication Training on Employee Performance in Information Technology Companies". The purpose of this study is to identify whether communication training has a positive influence on employee performance in information technology companies. This study used



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observation and experimental methods. Data was collected through surveys and interviews with employees who had attended communication training. Next, the data was analyzed using statistical techniques to see the relationship between communication training and employee performance. The results showed that communication training has a significant positive influence on employee performance in information technology companies. Employees who attend communication training tend to have a higher level of performance compared to those who do not attend the training.(Adha, 2022)

Second, research conducted by Walen and Walangitan (2019) on "The Effect of Higher Education on Employee Performance in the Financial Sector". The purpose of this study is to evaluate whether higher education has a positive influence on employee performance in the financial sector. This study used regression analysis method. Data was collected through surveys conducted on employees in various companies in the financial sector. Education data and employee performance were analyzed to see the relationship between the two. The results showed that higher education has a significant positive influence on employee performance in the financial sector. Employees with higher education tend to perform better than those with only secondary education.

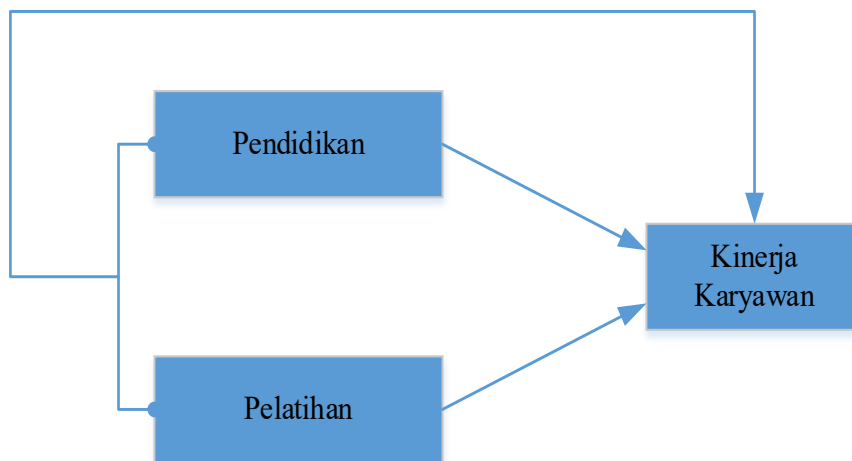
Third, research conducted by Pranata et al on "The Effect of Management Training on Employee Performance in the Manufacturing Industry". The purpose of this study was to observe whether management training has a positive influence on employee performance in the manufacturing industry. This study used survey methods and statistical analysis. Data was collected through questionnaires given to employees in various manufacturing companies. Employee performance data is analyzed to see the effect of management training. The results showed that management training has a significant positive influence on employee performance in the manufacturing industry. Employees who attend management training tend to perform better than those who do not attend the training. (Muhtadin & Surabaya, n.d.).

Fourth, research conducted by Dr. Anna Garcia on "The Effect of Career Development on Employee Performance in the Health Service Sector". The purpose of this study is to evaluate whether career development has a positive influence on employee performance in the health services sector. This study used statistical analysis and interview methods. Data was collected through questionnaires given to employees in various hospitals and clinics. Career development and employee performance data were analyzed to see the relationship between the two. The results showed that career development has a significant positive influence on employee

performance in the health service sector. Employees who have good career development tend to have higher performance compared to those who do not have enough career development.

Fifth, research conducted by Siregar on "The Effect of Technical Skills Training on Employee Performance in the Construction Sector". The purpose of this study was to identify whether technical skills training has a positive influence on employee performance in the construction sector. This study used observation and interview methods. Data was collected through surveys conducted on employees at various construction companies. Technical skill data and employee performance are analyzed to see the relationship between the two. The results showed that technical skills training has a significant positive influence on employee performance in the construction sector. Employees who have good technical skills tend to perform better compared to those who do not have adequate technical skills.

Frame of Thought



Hipotesis

Research hypothesis, as follows:

- H.1 : Employee education and training is suspected to affect employee performance at PT. PLN NP UPDK Pandan
- H.2 : Employee education allegedly affects Employee Performance at PT PLN NP UPDK Pandan

H.3 : Employee training allegedly affects Employee Performance at PT PLN NP
UPDK Pandan

Research Methods

This type of research uses an associative method, namely to analyze the effect of education and training on employee performance in the office of PT. PLN NP UPDK Pandan using quantitative analysis.

Population and Sample

Population is a generalized area consisting of: objects / subjects that have certain qualities and characteristics that are determined by researchers to be studied and then drawn conclusions. The population in this study was (Sugiyono, 2019)X employees. The sample is part of the number of characteristics possessed by said population . The sample processed was 40 employees.(Sugiyono, 2019)

Data Collection Methods

1. Library research *method is* research through books, literature and journals of human resource management and other literature related to this research.
2. Field *research method is* data collection by conducting research directly to the institution that is the object of research by:
 - a. Observation
 - b. Questionnaire

Data and Data Sources

The data sources used in this study are primary data and secondary data. Primary data was obtained through a research questionnaire distributed to employees of PT PLN NP UPDK Pandan. Secondary data is obtained through records from HR, Planning and online news media.

Variable Measurement

1. Education (X), the education referred to by PLN NP UPDK Pandan is as a shaper and enhancer of employee knowledge to do things faster and more precisely in order to achieve good performance. Cited in Mamahit (2009), the indicators of education (X₁), are:
 - a. Academic Experience
 - b. Insight
 - c. Attitude development



2. Training (X_2), the training referred to by PLN NP UPDK Pandan is a planned effort to facilitate learning about work related to knowledge, expertise and behavior by employees. According to Mathis and Jackson (2003:301), training indicators (X), are:
 - a. Skills
 - b. Knowledge
 - c. Ability
 - d. Increased target volume of work
3. Employee Performance (Y), employee performance referred to as PLN NP UPDK Pandan is an action that affects performance, namely individuals (work ability), work effort (desire to work), and organizational support (opportunity to work) which are completed within a certain period of time so that the performance of the individual can be measured. According to Mangkunegara (2004: 67), employee performance indicators (Y), are:
 - a. Quality of work
 - b. Working quantity
 - c. Cooperation
 - d. Responsibility
 - e. Initiative

Analysis Methods

Validity Test

The validity test is used to measure whether or not a questionnaire is valid. The analysis begins by testing if the count is positive, and the calculation is $> r_{table}$, then it is valid, while if the calculation is negative, as well as r , then it is invalid.

Reliability Test

Reliability tests are used to determine the consistency of the results of an answer to a correspondent, a variable is said to be reliable if the value of Cronbach Alfa > 0.5 .

Classical Assumption Test

The classical assumption test is used to determine whether the results of the analysis used are free from deviations from classical assumptions which include:

- a. Multicollinearity Test
- b. Heteroscedasticity Test
- c. The Automobile



d. Normality Test.

Double Regression Analysis

Multiple regression analysis was used to see the effect of education, training and employee performance levels. The equation used, is: $Y = a + b_1 X_1 + b_2 X_2 + e$ where:

Y: Performance

a : Constant

b_1, b_2 : Regression coefficient of each independent variable

X_1 : Education

X_2 : Training

e : Other factors are hypothesis testing

Test F

This test is intended to determine the significance of the influence of the independent variable on the dependent variable together or simultaneously.

Test t

This test is intended to determine the significance of the influence of the independent variable on the dependent variable individually.

Results and Discussion

Test validity

Table 1. Validity Test Results

Variable	Statement	Calculate	Tableable	Information
Education (X_1)	X1.1	.958**	0.264	Valid
	X1.2	.969**	0.264	Valid
	X1.3	.976**	0.264	Valid
	X1.4	.983**	0.264	Valid
	X1.5	.971**	0.264	Valid
Training (X_2)	X2.1	.985**	0.264	Valid
	X2.2	.991**	0.264	Valid
	X2.3	.987**	0.264	Valid
	X2.4	.988**	0.264	Valid
	X2.5	.986**	0.264	Valid
Performance (Y)	Y.1	.982**	0.264	Valid
	Y.2	.974**	0.264	Valid
	Y.3	.989**	0.264	Valid
	Y.4	.936**	0.264	Valid



	Y.5	.964**	0.264	Valid
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The results of Table 1 show that the three variables, namely education (X₁), training (X) and performance (Y) are declared valid because they have a greater calculated r value compared to r which is 0.250 (Priyatno, 2011: 59).

Reliability Test

Table 2. Reliability Test Results

Variable	Nilai Cronbach Alpha	Cut of value	Information
Education (X ₁)	0.984	0.7	Reliable
Training (X ₂)	0.994	0.7	Reliable
Performance (Y)	0.984	0.7	Reliable

The results of table 2 show reliability testing performed using cronbach alpha. Cronbach alpha coefficient greater than 0.5 indicates the reliability of the instrument (Suliyanto, 2005: 51).

Classical Assumption Test Results

Multicollinearity Test

Table 3. Multicollinearity Test Results

		Model	Training	education
1	Correlations	Training	1.000	-.954
		education	-.954	1.000
	Covariances	Training	.017	-.016
		education	-.016	.017

The results of table 3 show the *covariance* of both independent variables (education, training) $\neq 0$. Thus the research data did not occur multicollinearity (*singular*). So it can be concluded that this research data can be used as an estimate. Statistical results, the covariance of each independent variable is as follows:

Training 0.017

Education 0.017

Heteroskedasticity Test

Table 4. Heteroskedasticity Test Results

Coefficientsⁱⁿ



Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.863	.593		3.144	.003
	education	.160	.098	.826	1.632	.111
	Training	-.212	.098	-1.097	-2.166	.037

a. Dependent Variable: abs_res

From table 4 above, it can be seen that the significance value of the independent variable is more than 0.05. namely X1 0.111 and X2 0.037 > 0.05 Thus, it can be concluded that there is no heteroscedasticity problem in the regression model.

Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		40
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	1.64708843
Most Extreme Differences	Absolute	.271
	Positive	.271
	Negative	-.206
Test Statistic		.271
Asymp. Sig. (2-tailed)		.000 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

From tabel 4 above it can be seen that the significance value is $0.000 < 0.05$ which indicates that the data is not normally distributed.

Multiple Linear Regression Test Results

Table 5. Multiple Linear Regression Test Results

Variable	Koefisine regresi (B)	Std. Error	Beta	T count	Sig.	Information
Konstanta	.866	.784		1.105	.276	
education	.187	.130	.188	1.440	.158	Insignificant



Training	.782	.129	.790	6.047	.000	Significant
R (Multiple R)	= 0.971					
R Square	= 0.944					
R Square	= 0.941					
(Adjusted)	= 310,206					
F Count	= 3.25					
F table	= 0.000					
α						

The test results of table 5 can be written in the form of regression equations of the form of Standardized Coefficients obtained equations as follows:

$$Y = 0.866 + 0.187 X_1 + 0.782 X_2$$

The regression equation can be explained as follows:

1. A constant value of 0.866 means that if the independent variable consisting of Education X and Training X increases by 1 scale, then Employee Performance will increase by 0.866.
2. Educational regression coefficient of 0.187 That is, if Education is increased by 1 scale in respondents' answers it will increase Employee Performance by 0.187.
3. The Training regression coefficient of 0.782 means, if the Training is increased by 1 scale in the respondents' answers it will increase Employee Performance by 0.782.

Hypothesis Testing

Simultaneous hypothesis testing (F test)

The results of testing the regression model for the whole variable showed a value of $F = 310,206$ with a significance of 0.000. Using a significance limit of 0.05, that significance value is less than 0.05. With the direction of the positive coefficient, it is thus obtained that the hypothesis states that the variables of education and training together have a significant influence on employee performance.

Partial Hypothesis Testing (t Test)

The result of the calculation is obtained:

- a) The Education variable (X_1) has no effect and is not significant on the performance of employees with a sig value. 0.158 is greater than the value of 0.05 thus the hypothesis can be rejected.
- b) The Training variable (X_2) has a positive and significant effect on employee performance with a sig value. 0.000 is smaller than the value of 0.05 thus the hypothesis can be accepted.



Discussion

Education Affects Employee Performance

The results of the analysis of the Education variable do not have a strong relationship with the Employee Performance variable. That means that the Education variable has no significant effect on the Employee Performance variable. The results of this study are the same as previous studies, research conducted by (Putri & Ratnasari, 2019) which showed that education had no effect on the performance of employees of PT Asuransi Takaful Batam.

Training on the Impact of Employee Performance

The results of the analysis of the Training variable have a strong relationship with the Employee Performance variable, it means that the Training variable has a significant effect on the Employee Performance variable. The results of this study are the same as previous studies, research conducted (Marjaya & Pasaribu, 2019) that showed job training variables had a positive and significant effect on employee performance.

Cover

This study aims to analyze the effect of education and training on employee performance at PT PLN NP UPDK Pandan. The results showed that education and training have a positive influence on employee performance in this company. With good education and training, employees can improve their competence and knowledge, which in turn will have a positive impact on their performance. At PT PLN, education and training are an important part of the human resource development strategy. The company is committed to providing quality education and training to their employees to improve performance and productivity. In this study, it was found that employees who participated in education and training programs provided by the company had better performance compared to those who did not participate in the program. Education and training provide opportunities for employees to develop skills and knowledge relevant to their jobs. In this study, it was found that employees who have higher education and training tend to have better performance. This shows the importance of investment in education and training as an effort to improve the quality of the workforce. But the study also shows that education and training are not the only factors that affect employee performance. There are other factors such as motivation, work environment, and organizational support that also play a role in improving employee performance.



Therefore, companies need to pay attention to these factors holistically in an effort to improve employee performance.

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