The Empiricaleffect of Education and Training to the Performance of Employees

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Abstract: This study aims to identify and analyze the Influence of Education and Training on Employee Performance at PT. PLN Unit Development Master II in Medan. The sampling technique used census to select the sample size.The population in this study was 120 employees of PT. PLN Unit Development Master II. The methods used in this research were descriptive analysis method and multiple linear regression analysis method. Results showed that variables of education and training have a significant influence on employee performance.

Keywords: Education, Training, Employee Performance.

1. INTRODUCTION

Tight competition of business today is one of the causes of the many problems to be faced by the company. For companies whose organization is still small, all activities undertaken could still be supervised directly by the leader. In contrast to large companies, which are broad nature of the transaction in accordance with the type of business and growth coupled with a separate management of its owner, such as a limited liability company or a state-owned enterprise resource management should be selective, and competence in their work. Any company or organization certainly has the target or targets to be achieved. To fulfill that desire, the company must prepare the people who will drive the company, so they are willing to work effectively and efficiently to achieve the goals or targets. Good working conditions are affected by the treatment company to the presence of employees affected by the integrity and the attitude of their work in the company. Education and training in an organization as an effort for the development of human resources is a cycle that must occur continuously (Dalimun the*e t al.*, 2016). This occurs because the organization must evolve to anticipate changes outside the organization. Therefore, the ability of the human resources or employees of the organization must be constantly upgraded in tune with the progress and development of dynamic organizations.

High educational level of an employee would affect its ability to achieve optimal performance. Education in the organization is a process of development towards the capabilities desired by the organization concerned (Muda and Dharsuky, 2015). The higher a person's education, human resources are expected to be higher. Without the provision of education impossible people will easily learn things that are new in the way or a working system.

One way that can be done in an effort to improve the performance of employees is through employee development is to conduct education and training. Employee development is needed in an institution, because of the existence of the program can help improve the ability and skills of employees. Karyawanjuga development is designed to acquire employees who are capable of achievement and flexibly to an agency in its movement into the future. The importance of education and training is not solely for the employees concerned, but also benefit the organization. Education and training is also an effort to develop intellectual abilities and personality of employees. Therefore, any organization or agency that wants to expand, education and training of employees must gain greater attention in order to improve the employee's performance (Dalimun the *et al.*, 2015).

Education and training can also be called as an attempt to improve a person's general knowledge including a mastery of theory to decide issues concerning the activities of the achievement of organizational goals. It is customary. Many employees are motivated to continue their education a higher level with the expected sale promotion for a salary or a greater incentive. In the face of competition between organizations, technological advances, and education and training is needed as an instrument to support workforce development workforce performance itself and increase productivity. The following number of training PT. PLN (Persero) Unit Development Master II in 2014-2016 can be seen in the following table:

Table 1
Recapitulation of the realization of the training program in *PT.* PLN (Persero)
Unit Development Master II period 2014 through 2016

No.	Year	Total Training
1	2014	145
2	2015	145
3	2016	112

Source: PT. PLN Parent Development Unit II Terrain, 2017.

According to the table, the highest amount of training in 2015 was as many as 217 training, compared to 2016 the number of training were 112, and in 2014 the number of training as much as 145. There are similarities numbers of training in 2014 with the amount of training in 2015, as well as a decline in 2016 as many as 33 training because training in *PT.* PLN (Persero) Unit Development Master II is affected by the training plan prepared by *PT.* PLN (Persero) Education and Training Center (PUSDIKLAT) and the proposed training needs by *PT.* PLN (Persero) Unit Development Master II in the previous year as well as influenced by training good budget plan for *PT.* PLN (Persero) Education and Training Center (PUSDIKLAT) and*PT.* PLN (Persero) Unit Development Master II. Effect of training on performance, usually do not directly affect in the same year. The effects of such training normally can only be felt in the next year.

Performance is an overview of the level of achievement of the implementation of an activity or work program within an organization. Performance is an overview of the level of achievement of the implementation of an activity/program/policy in achieving the goals, objectives, mission and vision of the organization as stated in the strategic *planning* of an organization. The term is often used to describe the performance achievement or a success rate of individuals and groups of individuals.

2. LITERATURE REVIEW

2.1. Education

It can be defined as the process of preparing individuals to take responsibility for different or higher in the organization, usually associated with increased intellectual or emotional capabilities required to implement a better job. According Mangkunagara (2010) and Gusnardi *et al.*, (2016), the education indicators consist of education courses, Compliance Department and Competence.

2.2. Training

Trainingis one of the processes in the improvement and development of employee performance, through training of employees is expected to improve and develop its performance in completing the work. Therefore training has an important meaning for employees. Employees in order to develop a system based on career and job performance training is one aspect that needs to be dealt with proportionately and professionally continuous and sustainable (Muda and Dharsuky, 2015). The training is meant here the emphasis is more emphasis on training systems which aim to improve the behavior and attitudes, improve the quality, skills, abilities and skills of the employees in accordance with the needs of the organization. The training methods should be based on the needs of work and depends on various factors: time, cost, number of participants, the basic education level of the participants, background of the participants, and so forth.

2.3. Performance

According Mangkunagara (2010), performance is the result of the quality and quantity of work accomplished by an employee in performing their duties in accordance with the responsibilities given to him. Performance by Mathis and Jackson (2011) is what is done or not done by employees. From the opinions of experts concluded that the employee's performance is the result of work done by a person in an organization in order to achieve the goals of an organization and minimize losses. Indicators of employee performance by Mathis and Jackson (2011) are the Quantity and Quality.
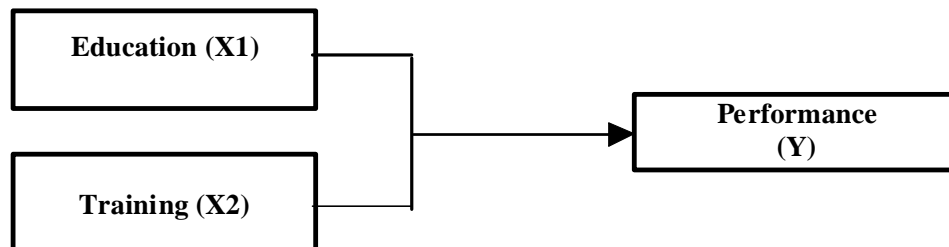
2.4. Conceptual Framework

Figure 1: Conceptual Framework

3. RESEARCH METHODS

3.1. Type of study

Type of research in this thesis is the explanation associative research, ie research that connects two or more variables.

3.2. Operational Definitions

Table 2
Operational Definitions

Variable	Definitions Variable Operational	Indicators	Scale
Education (X1)	A long-term process that uses a systematic and organized procedures, where labor is studying the conceptual and theoretical knowledge	1. Educational Study 2. Compliance Programs 3. Compensation	Likert
Training (X2)	the activities are designed to give learners the knowledge and skills required for the job	1. Training Materials 2. Training Benefits 3. Training Facility	Likert
Employee performance (Y)	do the work and results of the work, the performance is about what to do and how to do it,	1. Work Quantity 2. Work Quality 3. Time Utilization	Likert

Source: Mangkunagara (2010), Mondy (2009), and Wibowo (2012)

3.3. Population and Sample

The population is generalization region consisting of the object/subject that has certain qualities and characteristics defined by the researchers to learn and then drawn conclusions (Nurzaimah *et al*, 2016; Gunardi *et al.*, 2016 and Lubis *et al.*, 2016). One step in scientific research is to determine the population and sample. The error in determining the sample can be fatal, because the sample becomes unrepresentative, and the results will not reflect the actual situation. Therefore choosing the right sample determination becomes very important to get a representative sample. Population is a "universe", namely the generalization region consisting of subjects or objects that have a certain quantity and characteristics, set by the researchers to be studied and then drawn conclusions. The population is not just a person, but can also be something else. The population in this study was the employees of PT. Parent Unit Development II PLN Medan in 2016, amounting to 120 employees. The sample is part of the population deliberately chosen by the researcher to be observed, so the sample size is smaller than the population and serves as the representative of the population (Lutfi *et al.*, 2016; Nurzaimah *et al.*, 2016). The sampling technique used in this study was saturated sampling (census). Types and sources of data in this research is primary data.

3.4. Multiple Linear Regression Analysis Technique

Researchers used SPSS *(Statistical Package for the Social Science)*. According Sirojuzilam *et al.*, (2016), multiple regression model used is:

$$Y = a + b1\ X1 + b2\ X2 + e$$

Where: Y = the Employee Performance

A = Constant

b = Regression Coefficients

X_1 = Education

X_2 = Training

e = Standard error

A statistical calculation called statistically significant if the value of the test statistic is in the critical areas (areas where H0 is rejected). Conversely, it is called insignificant if the statistical test value is within the area where H0 is received.

4. RESULTS AND DISCUSSION

4.1. Result

4.1.1. Classical Assumption Test

4.1.1.1. Normality Test: Normality test results based statistical test nonparametricKolmogorv-Smirnov (KS).

Table 3
Kolmogorov-Smirnov Test

		unstandardized Residual
N		120
Normal Parameters[a],[b]	Mean	.0000000
	Std. Deviation	1.04432504
Most Extreme Differences	Absolute	.097
	Positive	.084
	Negative	-.097
Kolmogorov-Smirnov Z		1,065
Asymp. Sig. (2-tailed)		.206

a) Test distribution is Normal.

b) Calculated from data.

Source: Research Findings, 2017 (processed data)

Based on Table shows that the value Asymp.Sig. (2-tailed) is 0.206, it means the value is above a significant value of 5% (0:05). In other words, those variables are normal distribution.

4.3.2. Test Heteroscedasticity

Heteroscedasticity test results as follows:

Table 4
Glejser Test

Model		Unstandardized Coefficients		Coefficients Standardized		
		B	Std. Error	Beta	t	Sig.
1	.064	2,986	1,598		1,869	(Constant)
	Education	-.041	.052	-.078	-.799	.426
	Training	-.041	.052	-.077	-.788	.432

a) Dependent Variable: RES2

Source: Research Findings, 2017 (processed data).

Based on Table it can be seen that none of the independent variables are statistically significant influence dependent variables RES2. It is seen from the probability of significance above 5% confidence level (Tarmizi*et al.*, 2016 & 2017) so concluded regression model did not lead to the existence of heteroscedasticity.

4.3.3. Multicollinearity Test

Test results showed:

Table 5
Test Multicollinearity

Model		Unstandardized Coefficients		Coefficients Standardized			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	7056	2457					
	Education	.080 .227	.887		2872	.005	.232	1,128
	Training	.080 .495	6,354 .000 .887		2,918	.004	.509	1,128

a) Dependent Variable: Employee Performance

Source: Research Findings, 2017 (processed data).

Based on Table can be seen that the data (variables) are not exposed to have multi collinierity because VIF <5 and *Tolerance* values> 0.1 (Yahya *et al.*, 2017) so the regression model is worth to predict the performance of employees based on the input the variables of education, and training.

4.4. Linear Regression Analysis

Based on Table shows the results of a statistical analysis of each indicator as follows:

Table 6
Linear Regression Analysis

Model		unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	7056	2457		2872	.005
	Education	.080 .227		.232	2,918	.004
	Training	.080 .495 6,354 .000				.509

a. Dependent Variable: Employee Performance
Source: Research Findings, 2017 (processed data).

Equation of multiple linear regression analysis in this study is:

$$Y = 7.056 + 0.232X_1 + 0.509X_2$$

Based on these equations can be described as follows:

(a) Constants (a) =7.056,this shows that if the Education variables (X_1), and training (X_2) is 0, then the value dependent of 7,056 is employee performance.

(b) The coefficient X_1 (b_1)=0.232,this means that the education variable (X_1) a positive influence on employee performance, or in other words if the Education (X_1) is increased by the unit, then the Employee Performance will increase by 0.232. Coefficient is positive; meaning a positive relationship between the variables of Education with employee performance, increasing education will also increase the EmployeePerformance.

(c) The coefficient X_2 (b_2)=0.509,this means that the training variable (X_2) positive effect on employee performance, or in other words if Training (X_2) is increased by the unit, then performance will increase by 0,509 employees. Coefficient is positive, meaning a positive relationship between the variables of training with employee performance; increased training will also increase the Employee Performance.

Table 7
Significant Simultaneous Test Results (Test-F)
ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38,404 34,622 .000	2			76,809[a]
	Residual	129 783	117	1,109		
	Total	206 592	119			

(a) Predictors: (Constant), Training, Education
(b) Dependent Variable: Employee Performance
Source: Research Findings, 2017 (processed data).

Table can be seen that the result of the acquisition of $F_{calculated}$ in column F which amounted to 34.622 with a significance level = 0.000, greater than the value of F_{table} that is 3.074, with an error rate $\alpha = 5\%$, or

in other words $F_{count} > F_{table}$ (34.622> 3.074). Based on the hypothesis testing criteria if $F_{arithmetic} > F_{table}$ and the significance level (0.000 <0.05), shows that the influence of independent variables (education and training) simultaneously is significant on the dependent variable (performance of employees).

4.5.2. Significant Partial Test

t-test was conducted is a test in one direction, then the t_{table} used is $t_{0.05}$ (117) = 1.658

Table 8
Significant Test Results Partial (t-test)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	7056	2457		2872	.005
	Education	.080 .227		.232	2,918	.004
	Training	.080 .495 6,354 .000				.509

a. Dependent Variable: Employee Performance
Source: Research Findings, 2017 (processed data).

Based on the table it can be seen that:

1. Variable Education (X1)

   Value $t_{education}$ variable is 2.918 and t_{table} 1.658 then $t > t_{table}$ (2.918> 1.658) so that it can be concluded that the education variable positive and significant (0.004 <0.05) partially on the performance of employees. That is, if the education variable is increased by one unit, then the performance of employees will increase by 0.232.

2. Variable Training (X2)

   Value $t_{training}$ variable is 6.354 and t_{table} 1.658 the nt $> t_{table}$ (6.354> 1.658) so it can be concluded that the training variable positive and significant (0.000 <0.05) partially the performance of employees. That is, if the training variable is increased by one unit, then the performance of employees will increase by 0,509.

4.5.3. Testing coefficient of determination

Results

Table 9
Test results for coefficient of determination (R2)
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.610^A	.361 1.05321		.372

(a) Predictors: (Constant), Training, Education
(b) Dependent Variable: Employee Performance

Source: Research Findings, 2017 (processed data).

Based on the table it can be seen that the value *R Square* of 0.372 means that 37.2% of employees work variable (Y) can be explained by the education variable ($X_{1)}$, and training ($X_{2)}$ while the remaining 62.8% can be explained by other variables not examined in this study.

4.2. Discussion

4.2.1. Effect Against Education employee performance

Results are consistent with the views expressed According Sutrisno (2011). Education in the form of formal and non-formal education has the objective to develop the quality of human resources is directed, comprehensive and integrated through a variety of reactive and proactive efforts in forming the whole person so that man becomes conscious of itself and its environment can utilize to improve their living standards.

The results showed that the variable of education has positive and significant influence on employee performance. This is evidenced by the value of the regression coefficient is positive 0.232 and t_{value} (2.918) greater than t_{table} (1.658) with a significance level 0,004, which means if in this case education improved the performance of employees will be increased. The results are consistent with research Dharta (2011). Research results show that the education variable positive and significant effect on employee performance.

4.2.2. Effect of Training on Employee Performance

Results are consistent with the views expressed by Mondy, (2009). In the training created an environment where employees can acquire or learn the attitudes, abilities, skills, knowledge, and specific behaviors associated with the job. Training is usually focused on providing specialized skills for employees or help them fix the weaknesses of their performance (Lubis *et al.*, 2016; Muda*et al.*, 2016 & 2017). Through the training of all efforts made to improve the performance of employees at work that occupies now. The results showed that the variable of training has positive and significant influence on employee performance. This is evidenced by the value of the regression coefficient is positive 0.509 and t_{value} (6.354) greater than t_{table} (1.658) with a significance level 0,000.Artinya if in this case the training improved the performance of employee will increased. The results are consistent with research Claudia (2015). Research results show training variable positive and significant effect on employee performance.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusion

1. Education and training variables have a significant influence on employee performance.

2. In the analysis results obtained determination coefficient of *RSquare* of 37.2% variable employee performance can be explained by education, and training. While the remaining 62.8% can be explained by other variables not examined in this study.

5.2. Recommendations

1. Educationaccording to respondents is fine, then the management just needs to keep on it in order to improve employee performance and increase its credibility in the eyes of society.

2. Training is considered fine for almost all respondents, then the management just needs to keep on it in order to improve employee performance and increase its credibility in the eyes of society.

3. We hope this research can be used as a reference for other similar studies and expected to add other variables that are not included in this study as the climate variables of performance, motivation, internal communication, and others in order to obtain the results of a broader research and more accurate.

REFERENCES

Dalimunthe, D.M.J., Fadli, and Muda, I. (2016), The application of performance measurement system model using Malcolm Baldrige Model (MBM) to support Civil State Apparatus Law (ASN) number 5 of 2014 in Indonesia.*International Journal of Applied Business and Economic Research.14*(11). 7397-7407.

Dalimunthe, Doli Muhammad Ja'far; Fadli and IskandarMuda. (2015), A Study on The Impact of Government Complexity and Regional Government's Size on Human Development Index In North Sumatera, Indonesia. *European Journal of Accounting Auditing and Finance Research.*3(10).1-19.

Dartha,. I Ketut (2015*), The Effect of Education and Training (Diklat) on Performance of Civil Servants at the Regional Secretariat of Malang.* Retrieve on *http://journals.sagepub.com.* Accesses on 02 July, 2017.

Gusnardi, Riadi, R.M., and Muda, I. (2016), Competency mapping and analysis of students competency based on economics subject national examination and its alternative solutions in state high schools at Pekanbaru. *International Journal of Economic Research.3*(5). 2133-2148.

Lubis, A.,Torong, Z.B., and Muda, I. (2016), The urgency of implementing balanced scorecard system on local government in North Sumatra – Indonesia. *International Journal of Applied Business and Economic Research. 14*(11). 7575-7590.

Lubis, A.F., Lubis, T.A., and Muda, I. (2016), The role of Enterprise Resource Plan (ERP) configuration to the timeliness of the financial statement presentation. *International Journal of Applied Business and Economic Research. 14*(11). 7591-7608.

Lutfi, M., Nazwar, C., and Muda, I (2016), Effects of investment opportunity set, company size and real activity manipulation of issuers in Indonesia Stock Exchange on stock price in Indonesia.*International Journal of Economic Research. 13*(5). 2149-2161.

Maathis, Robert and Robert Jackson. (2011), *Human Resource Management.* Salemba Empat Publishers. Jakarta.

Mangkunegara, Anwar Prabu. (2010), *Human Resource Management Company.* Youth Rosdakarya, Bandung.

Mondy, Wayne, R. (2009), *Human Resource Management.* Erlangga Publishers, Jakarta.

Muda, I and Abykusno Dharsuky. (2015), Impact of Region Financial Information System (SIKD) Quality, Role Ambiguity and Training on Precision of Financial Statement of Local Government Presentation In North Sumatra. *International Journal of Applied Business and Economic Research*, *13*(6). 4283-4304.

Muda, I, DeniYuwiliaWardani, Erlina, AzharMaksum, Ade FatmaLubis and Rina Bukit. (2017), The Influence of Human Resources Competency and The Use of Information Technology on The Quality of Local Government Financial Report with Regional Accounting System as an Intervening. *Journal of Theoretical and Applied Information Technology. 95*(17). 1432-1451.

Muda, I, Dharsuky. A., Siregar, H.S., and Sadalia, I. (2017), Combined loading and Cross-dimensional loadings timeliness of presentation of financial statements of local government. *IOP Conference Series : Materials Science and Engineering. 180.* doi: 10.1088/1757-899X/180/1/012099.

Muda, I, Marlon Sihombing, Erni Jumilawati and Abikusno Dharsuky. (2016), Critical Success Factors Downstream Palm Oil Based Small and Medium Enterprises (SME) In Indonesia. *International Journal of Economic Research.1*3(8). 3531-3538.

Muda, I, Mutia Ismail and Marhayanie. (2017), Impact Allocation Capital Expenditure on The Improvement of the Local Government Assets in North Sumatra and Effect on Local Revenue Sustainability. *International Journal of Economic Perspectives.11*(2). 151-164.

Muda, I., Dharsuky, A., Sadalia, I., and Siregar, H. S. (2016), Impact of capital investments and cash dividend policy on Regional Development Bank (BPD) PT. Bank Sumut to the district own source revenue and economic growth. *International Journal of Applied Business and Economic Research. 14*(11). 7863-7880.

Muda, Iskandar, (2017), The Effect of Supervisory Board Cross-Membership and Supervisory Board Members' Expertise to The Disclosure of Supervisory Board's Report : Empirical Evidence From Indonesia. *European Research Studies Journal.XX*(3A).702-716.

Nurzaimah, Rasdianto and Muda, I. (2016), The skills and understanding of rural enterprise management of the preparation of financial statements using Financial Accounting Standards (IFRs) financial statement on the Entities without Public Accountability (ETAP) framework on the implementation of village administration law. *International Journal of Applied Business and Economic Research.14*(11). 7417-7429.

Sirojuzilam, Hakim, S., and Muda, I. (2016), Identification of factors of failure of Barisan Mountains Agropolitan area development in North Sumatera – Indonesia. *International Journal of Economic Research.13*(5). 2163-2175.

Sutrisno, Edy. (2011), *Human Resource Management*. Kencana Publishers, Jakarta.

Tarmizi, H.B., Daulay, M and Muda, I. (2016), The influence of population growth, economic growth and construction cost index on the local revenue of tax on acquisition of land and building after the implementation of law no. 28 of 2009. *International Journal of Economic Research.13*(5). 2285-2295.

Tarmizi, HB.,Daulay, M., and Muda, I. (2017), Impact of The Economic Growth and Acquisition of Land to The Construction Cost Index in North Sumatera. *IOP Conference Series : Materials Science and Engineering. 180*. doi: 10.1088/ 1757-899X/180/1/012004.

Wibowo. (2012), *Performance Management*. Rajawali Pers, Jakarta.

Yahya, I, Torong, Z.B., and Muda, I. (2017), Influence Behavior in Legislature Budget Development of Regions in the Province of Aceh and North Sumatra. *International Journal of Economic Research.14*(8). 147-159.