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## The influence of education and training on personnel performance through work motivation in the air force in wing education support

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### Abstract

This study aims to analyze the effect of education and training on personnel performance through the work motivation of the Indonesian Air Force in the Equipments Education Wing using Path Analysis. The research sample studied were employees at the Education Wing of Kalijati Village, Subang Regency, West Java Province, totaling 77 respondents. The research instrument used a questionnaire with a Likert scale measurement. Based on the characteristics of the respondents, the majority of respondents were dominated by men, with the age of the respondents at the age interval of 21 years to 57 years. In the latest educational characteristics, respondents are divided into six types of formal education, namely SMA, SMK, MAN, D3, S1, and S2

with the kinds of education and training that have been attended are education and training as many as 65 respondents and 11 respondents only had attended education. This research path model is divided into three models: a model with all incoming variables, a model with variables containing education and training on motivation, and a model with the variables of education and training on performance. In the primary path model, only the motivation variable is significant to performance and contributes the most between the two variables. Furthermore, in the second model, the training variable is significant to motivation. In the last model, the education and training variables have a considerable effect on performance.

**Keywords:** Education, Training, Motivation, Performance

### Introduction

Human resources (HR) has a very strategic role as the key to successful development in all aspects of life. These human resources will be increasingly significant if they are associated with an increasingly uncertain atmosphere in various fields of life, be it economic, political, social, including educational fields. Facing this situation, the education sector positions human resources as a potential asset that must always be developed sustainably. Simamora (2006)<sup>[7]</sup> argues that human resources (HR) are the most important organizational asset. Pariyati (2013)<sup>[5]</sup>. States that the development of human resources in the education sector marked by a shift in national policy from centralization to decentralization and educational autonomy has directly impacted several powers and responsibilities, particularly in the implementation and management of human resources. The transferring authority is designed to empower regions in preparing more reliable human resources, especially in the administration sector, to improve the quality of education.

Human resources in a government-owned service or agency have a very strategic role in achieving a goal. According to Gomes (2003: 14), human resources owned by an organization can provide a maximum contribution, the quality and quality of human resources need to be developed according to their fields and expertise. The dynamics of HR development in the organization can be seen through their performance.

Currently, the world has entered the era of the 4.0 generation industrial revolution marked by increased connectivity, interaction and development of digital, artificial intelligence, and virtual systems. The industrial revolution 4.0 is an era where information technology is the basis of human life (Susetyo, 2019: 1)<sup>[10]</sup>.

Lase stated (2019: 29)<sup>[1]</sup> that the more convergent boundaries between humans, machines, and other resources, information, and communication technology will undoubtedly impact various sectors of life. One of them is having an impact on the education system in Indonesia. No one can avoid changes in this era, so adequate human resources (HR) must be ready to adapt and compete on a global scale. Improving the quality of human resources through education from primary and secondary education to tertiary institutions is the key to keeping up with industrial revolution 4.0. The success of a country facing the 4.0 industrial revolution is also determined by the quality of educators who are required to master expertise and adapt to new technology and global challenges. In this situation, every educational institution must prepare a new orientation and literacy in education.

Old literacy that relies on reading, writing mathematics must be strengthened by preparing new literacy, namely literacy for data, technology, and human resources. Data literacy is the ability to read, analyze and use information from data in the digital world. Then, technological literacy is the ability to understand mechanical and technical systems in the world of work. Meanwhile, human resource literacy is the ability to interact well, is not rigid, and has character.

In the framework of human resource development, especially in the education sector, it aims to create the performance of the Indonesian Air Force organization that can provide optimal services for the organization. To achieve the target of improving the quality of education that we want in the Equipments Education Wing with a total number of personnel of 77 people divided into three units under it, namely the Mako of the Provisioning Education Wing, the 601 Education Squadron and the 602 Education Squadron located in Kalijati and Bandung, then several things need to be done, among others, is to improve the facilities and infrastructure for education and training at all levels.

To improve the quality of education, the efforts made by the Preparing Education Wing are related to the performance of Indonesian Air Force personnel, one of which is through improving and coaching personnel services to support the vision and mission of the organization in improving quality towards a better direction Robbins (1999: 187) [6] that the high and low motivation, level of education, training followed by members of the organization can be measured by the extent to which the effectiveness and efficiency to provide optimal services for the implementation of a work process. Thus, it can be said that the level of education, training that is followed and work motivation are elements that function to shape a person's performance in carrying out his job or task.

The term performance comes from job performance or actual performance (actual work performance or achievement achieved by someone). The performance obtained by employees can be improved if this personnel obtains work motivation because they have carried out their duties properly and can improve performance optimally. This is in line with Mangkunegara's opinion, which states that performance (work performance) results from work in quality and quantity achieved by an employee in carrying out his duties with the responsibilities assigned to him (Mangkunegara, 2001: 67) [4].

## Research Methods

### Time and Location of Research

The research was conducted for three months, namely from June to August 2020. The research location was in the Education Wing of Kalijati Village, Subang Regency, West Java Province.

### Research Design

The research design is a comprehensive research plan starting from making hypotheses and their operational implications to the end of the data, which are then concluded and given suggestions. Descriptive research is a method of examining the status of a group of people, an object, a set of conditions, a system of thought, or a class of events in the present. The aim is to make a systematic, factual, and accurate depiction or painting of actual events, characteristics, and relationships between the investigated phenomena. This approach is used to describe the variables in the study (Nasir 1988 in Suharto 2020) [9]. According to Arikunto (2010) in Suharto (2020) [9],

testing the correctness of research through data collection aims to determine the relationship between the variables studied.

## Population and Sample

The population in this study were all Indonesian Air Force personnel in the Equipments Education Wing, totaling 77 (seventy-seven) personnel. Sampling using the census method, namely, the population is taken as a whole so that the sample size is the same (Umar, 2005) [11]. According to Gay & Dehl (1996) [2], determining the sample size of descriptive research, at least 10% of the population is taken as a sample. Meanwhile, if the population is large, at least 20% of the population is taken as a sample. For research that is testing correlational relationships, at least 30 samples are taken. The calculation uses the Slovin formula (Kurniawan, 2020) [3].

## Data Analysis Technique

The type of research used is descriptive verification in which hypothesis testing through a causal relationship approach where the research unit looks for relationships between one variable and another, wherein this study, the independent variables are education, training, and work motivation (X1, X2 and X3). In contrast, the dependent variable (Y) is performance.

The analysis model used in this research is path analysis. Path analysis is an extension of multiple linear regression, allowing analysis of more complex models "(Streiner, 2005) [8].

## Results and Discussion

Based on the analysis results, the R2 value or the correlation coefficient value is 0.523, which means that the equation model consisting of the variables of education, training, and motivation is significant and has a reasonably intense closeness between variables.

Table 1: ANOVA

ANOVA						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1607.275	3	535.758	26.700	.000 <sup>b</sup>
	Residual	1464.822	73	20.066		
	Total	3072.097	76			
a. Dependent Variable: Performance						
b. Predictors: (Constant), Motivation, Education, Training						

In Table 1, regarding the ANOVA test, with the following hypotheses.

1. **H0:** The education, training, and motivation variables do not contribute simultaneously and are not significant to the performance variable.
2. **H1:** The education, training, and motivation variables contribute simultaneously and significantly to the performance variable.

The result is the value of  $F = 26,700$  sig 0.000, which when compared with the alpha value of 10% or 0.1, the product is  $0.000 < 0.1$ , which means that H0 is rejected. So, with a significance level of 10%, it is found that the variables of education, training, and motivation contribute simultaneously and significantly to the performance variable.

**Table 2:** Coefficients

Coefficients						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	5.566	3.334		1.669	.099
	X1	.287	.177	.285	1.621	.109
	X2	.111	.192	.112	.581	.563
	X3	.439	.155	.380	2.834	.006

a. Dependent Variable: Performance

In Table 2, coefficients, there is a partial test of each independent variable (education, training, and motivation) on the dependent variable (performance variable).

**1) Partial testing between Education and Performance variables**

- **H0:** The education variable does not contribute and is not significant to the performance variable.
- **H1:** Education variable contributes and is significant to the Performance Variable.

The value of  $t = 1,621$  sig.  $0.109 > 0.1$  (Failed to reject H0)  
 So, with a significance level of 10%, it is found that the education variable does not contribute and is not significant to the performance variable.

**2) Partial testing between training and performance variables**

- H0: The training variable does not contribute and is not significant to the performance variable.
- H1: The training variable contributes and is significant to the performance variable.

The value of  $t = 0.581$  sig.  $0.563 > 0.1$  (Failed to reject H0)  
 So, with a significance level of 10%, it is found that the training variable does not contribute and is not significant to the performance variable.

**3) Partial testing between motivation and performance variables**

- H0: The motivation variable does not contribute and is not significant to the performance variable.
- H1: The motivation variable contributes and is significant to the performance variable.

The value of  $t = 2.834$  sig.  $0.006 < 0.1$  (Reject H0)  
 So, with a significance level of 10%, it is found that the motivation variable contributes and is significant to the performance variable.

**4) Main Model Structure Path Coefficient (X1, X2, X3 on Y)**

With some information that has been obtained from some of the outputs above, the following results are obtained.

$$R^2 = 0.523$$

$$P_{41} = 0.285$$

$$P_{42} = 0.112$$

$$P_{43} = 0.380$$

$$\rho_{4e4} = \sqrt{1 - R^2} = \sqrt{1 - 0.523} = \sqrt{0.477} = 0.690651866 \approx 0.6907$$

$$Y = 0.285X_1 + 0.112X_2 + 0.380X_3 + 0.6907$$

The contribution of the educational variable (X1) which affects the performance variable (Y) is  $0.2852 = 0.081225 = 8.1225\%$

The contribution of the training variable (X2) which affects

the performance variable (Y) is  $0.1122 = 0.012544 = 1.2544\%$

The contribution of the motivation variable (X3) which affects the performance variable (Y) is  $0.3802 = 0.1444 = 14.44\%$

The contribution of the education (X1), training (X2), and motivation (X3) variables simultaneously which directly affects the performance variable (Y), is  $0.523 = 52.3\%$ .

The remaining 47.7% is influenced by other factors that cannot be explained in this study.

**Conclusion**

Based on the research results, the following conclusions can be drawn:

1. That education has a positive and significant role influence on the work motivation of personnel at the Indonesian Air Force in the Kalijati Education Wing. If education is improved, which means that the work motivation of personnel will increase, and vice versa if education decreases, the work motivation of the personnel will decrease;
2. That training has a positive and significant role in the work motivation of personnel at the Indonesian Air Force in the Kalijati Education Wing. If the training is increased, it means that the work motivation of the personnel will increase, and vice versa if the training decreases, the work motivation of the personnel will decrease;
3. That work motivation has a positive and significant role in personnel performance at the Indonesian Air Force in the Kalijati Education Wing. If the work motivation is increased, the work motivation will increase, and vice versa if the work motivation decreases, the personnel performance will decrease;
4. That education has a positive and significant role in personnel in the Air Force in the Kalijati Education Wing. If education is improved, personnel performance will increase, and vice versa if education decreases, personnel performance will decrease. Education has a role influence to improve personnel performance through the availability of needs that the organization provides to personnel.
5. That training has a positive and significant role in personnel at the Indonesian Air Force in the Kalijati Education Wing. If the training is improved, the personnel performance will increase, and vice versa if the training decreases, the personnel performance will decrease. Training has the influence of improving personnel performance through the availability of needs that the organization provides to personnel.
6. Education and training have a positive and significant role in personnel performance through work motivation at the Indonesian Air Force in the Kalijati Education Wing. If education and training and work motivation are simultaneously improved, the performance of personnel will increase, and vice versa if education and training and

work motivation decrease, then the performance of the personnel will decrease.

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