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## The Impact of Competence and Service Placement to Regulatory Work Motivation Air Traffic of Indonesian Air Force

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**Abstract.** Air traffic controllers, also known as PLLUs, are members of the Indonesian Air Force who are responsible for aviation safety. Personnel of the TNI AU PLLU must be willing to be sent to various TNI AU bases across the area of the Unitary State of the Republic of Indonesia (NKRI). In order to achieve optimal performance, TNI AU PLLU workers must possess high levels of competence and work motivation due to their considerable obligations and responsibilities. In order to achieve optimal performance, TNI AU PLLU workers must possess high levels of competence and work motivation due to their considerable obligations and responsibilities. A total of 63 respondents were sampled. Using a *Likert scale*, members of the Indonesian Air Force who work as air traffic controllers were asked a series of questions (*questionnaires*) as part of an observation technique for collecting data. Analysis of data using the *smartPLS 3.0* application yielded the following results: *foremost*, competency has a strong and favorable impact on work motivation; *Second*, service placement has a favorable and statistically significant effect on work motivation; *Third*, competence and office placement have a positive and statistically significant combined effect on work motivation.

**Keyword.** Competence; Service Placement; Motivation

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### INTRODUCTION

Air Traffic Control (PLLU) personnel of the Indonesian Air Force have a crucial role in both civil and military aviation, as the tasks they perform necessitate high levels of precision, speed, and accuracy in monitoring aircraft traffic in the air, as well as aircraft that are taking off or landing. PLLU TNI AU is responsible for providing traffic guidance or airplane navigation services at several TNI AU bases (Lanud) in Indonesia. PLLU TNI AU personnel are responsible for preventing collisions between aircraft in the air; avoid collisions between airplanes in the flight path and other obstructions; preserve the regularity and smooth flow of air traffic; provide important tips and information for flight safety and efficiency; notify the agency in charge of the aircraft that it requires the aid of a SAR (*Search and Rescue*) unit and, if necessary, assist the agency.

Because human resources are the major component of the TNI AU's strength, the success of carrying out the duties of the TNI AU PLLU staff cannot be divorced from their work motivation. Without the help of appropriate human resource capabilities, it will be impossible for PLLU TNI AU staff to perform missions or air traffic operations due to the sophistication of technology and aircraft possessed. Wibowo defines competence as "the ability to carry out or accomplish a job and task based on skills and knowledge and backed by the work attitude demanded by the job" (2016). Gordon's competency indicators are "*knowledge, understanding, beliefs, skills, attitudes, and interests*" (Sutrisno, 2014).

The multiplicity of air bases distributed throughout Indonesia has an impact on the location of TNI AU PLLU troops, as each airbase has different conditions and duty demands. The stress of everyday duties and the socioeconomic conditions prevalent at the official location are among the

disparities in these conditions. The multiplicity of air bases distributed throughout Indonesia influences the placement of TNI AU PLLU troops, as each airbase has different conditions and duty demands. The load of everyday duties and the socioeconomic conditions prevalent at the official location are examples of variances in these conditions. Bernardin and Russell (Kurniawan, 2016) define placement criteria as "knowledge, ability, and attitude."

Thus, the placement of services is equally vital for TNI AU PLLU personnel in carrying out their duties and obligations. Placement of service for PLLU TNI AU people is an order that must be carried out wherever they are placed, but the reality on the ground is that many individuals are discovered who are not truly prepared to carry out their tasks in a new location, either rotation or mutation. This can also have an impact on employee motivation at work. "Motivation is a condition or energy that pushes personnel who are directed or focused on attaining the company's organizational goals." Motivation is produced by employees' attitudes toward work settings in the organization (situation)". Mangkunegara (2013).

The relevance of work motivation in carrying out duties and obligations for PLLU TNI AU people is inextricably linked to various elements, the most important of which are organizational aspects such as salary, security, coworkers, supervision, praise, and the work itself. Second, other factors that encourage employees to perform better include motivators, work environment, family and culture, self-concept, gender, recognition and achievement, goals and aspirations, learning abilities, working conditions, dynamic elements in the workplace, and leadership efforts to motivate employees (Priansa, 2018).

## METHOD

A descriptive technique is used by researchers to categorize the types of quantitative research. "The research technique is one of the components of information that explains the procedures and approaches used in research, which contains information, research time, unit of analysis, ways of collecting information, variables, and measurements," according to the dictionary. Supomo and Indriyanto (2016). Because there are variables to be researched in relation to it, the research method used in this research is a quantitative method with a descriptive approach, and the goal is to present an overview of the relationship between these variables. "Research methods based on the concept of positivism used to examine a specific population or sample, collecting information using research equipment, evaluating quantitative/statistical data, with the objective of verifying established hypotheses," according to the definition of qualitative research (Sugiyono, 2018). According to Sugiono (2018), "descriptive methods can be described as approaches used to convey viewpoints or describe material that has already been studied in order to produce a conclusion."

The data was gathered via delivering questionnaires to 75 persons. The number of samples is obtained by the slovin formula, with an error rate of 5%, therefore the number of samples is determined to be 63 TNI AU PLLU personnel, including NCO and enlisted officers, who are still on duty in the PLLU tower.

Descriptive analysis is used to analyze research data. Data analysis, according to Arikunto (2013), is a continuation of data processing. Based on this explanation, data analysis can be defined as a continuation of data processing, which is the process of systematically searching and compiling data that has been processed from the results of observations and documentation that has been carried out by organizing it into categories to conclude so that you and others can understand yourself and others other. Variable data analysis began with the findings of the questionnaire responses and continued with the *SmartPLS* Version 3.0 program to examine the measurement model (*Outer Model*) and the structural model (*Inner Model*). The Hypothesis Test is carried out by bootstrapping method, with the following conditions: (1) If the t-statistical value >

the t-table, the value of p value <0.05 then Ha is accepted and Ho is rejected. (2) If the t-statistical value <the t-table, p value> 0.05 then Ho is accepted and Ha is rejected. For hypothesis testing using statistical values, for alpha 5% the t value of the table used is 1.96 (Muniarti et al., 2013).

## RESULTS AND DISCUSSION

Descriptive statistics are used to summarize the results of the recapitulation on the demographic features of the respondents. The majority of responders are male TNI members over the age of 30, with a high school diploma and more than 11 years of service. Table 1 displays the descriptive analysis results for each construct.

Table 1. Descriptive Statistics

Descriptive Statistics							
Indikator	N	Range	Min	Max	Sum	Mean	Std. Deviation
X1.1	63	3	2	5	259	4	0,675
X1.2	63	2	3	5	255	4	0,682
X1.3	63	2	3	5	264	4	0,644
X1.4	63	3	2	5	260	4	0,660
X1.5	63	3	2	5	260	4	0,635
X2.1	63	2	3	5	264	4	0,644
X2.2	63	2	3	5	265	4	0,572
X2.3	63	3	2	5	267	4	0,615
X2.4	63	2	3	5	264	4	0,592
X2.5	63	2	3	5	262	4	0,601
Y1	63	3	2	5	258	4	0,615
Y2	63	2	3	5	265	4	0,572
Y3	63	2	3	5	261	4	0,564
Y4	63	2	3	5	261	4	0,592
Y5	63	2	3	5	264	4	0,644
Valid N (listwise)	63						

Based on these results, it is clear that the constructs of competence, service placement, and job motivation have a low standard deviation value. The standard deviation is the best measure of spread since it describes the magnitude of the dispersion of each unit of observation (Ghozali and Latan, 2015). The lower the *standard deviation*, the more comparable the values on the item or the more accurate the *mean*.

### 1. Measurement Model Testing (*Outer Model*)

#### a. *Convergent Validity*

The association between item/indicator scores and concept scores indicates the outer model's *convergent validity*. A valid indicator is one with a correlation value greater than > 0.7. The following table displays the output results of the correlation between indicators and their constructs:

Table 2. Value *Outer Loadings*

Items	Competency	Placement	Motivation
X1.1	0,936		

X1.2	0,705	
X1.3	0,855	
X1.4	0,912	
X1.5	0,930	
X2.1		0,839
X2.2		0,763
X2.3		0,821
X2.4		0,872
X2.5		0,864
Y1		0,900
Y2		0,788
Y3		0,814
Y4		0,942
Y5		0,800

Source: Data Processing (2020)

Based on the outer loading results, it is known that there is a high connection between the indicator value and its construct. Of the three constructs mentioned above, namely competence (X1), placement (X2), and motivation (Y), with as many as five indicators from each construct, resulting in a loading factor value more than 0.70, all indicators can be pronounced legitimate. Based on the loading factor data, it can be determined that the construct has strong convergent validity.

#### b. Discriminant Validity

Discriminant validity testing is used to determine whether an indicator in a construct has a *loading factor* spread across the construct it forms rather than a loading factor with other constructs. The correlation value of the indicator to the concept indicates that the test findings on the value of cross loading suggest good discriminating validity. The model construct in the research is considered valid if the *cross loading* value is more than 0.70; from all of the indications above, it can be seen that the *cross loading* has met the validity test standards, as indicated by the cross loading table:

Table 3. Value *Cross Loading*

Item	Competence	Motivation	Placement
X1.1	<b>0.936</b>	0.917	0.828
X1.2	<b>0.705</b>	0.592	0.584
X1.3	<b>0.855</b>	0.800	0.839
X1.4	<b>0.912</b>	0.822	0.865
X1.5	<b>0.930</b>	0.928	0.848
X2.1	0.855	<b>0.800</b>	0.839
X2.2	0.643	<b>0.788</b>	0.763
X2.3	0.756	<b>0.732</b>	0.821
X2.4	0.788	<b>0.780</b>	0.872
X2.5	0.765	<b>0.726</b>	0.864
Y1	0.871	0.900	<b>0.761</b>

Item	Competence	Motivation	Placement
Y2	0.643	0.788	<b>0.763</b>
Y3	0.674	0.814	<b>0.673</b>
Y4	0.914	0.942	<b>0.857</b>
Y5	0.855	0.800	<b>0.839</b>

Source: Data Processing (2020)

2 While the dependability value of a construct and the *Average Variance Extracted (AVE)* value of each construct may also be used to determine the validity and reliability requirements. If the value is > 0.70 and the AVE is > 0.50, the construct is stated to have a high *reliability* value. The *composite reliability* and AVE scores in the discriminating validity test also meet the recommended parameters, as shown in the table below:

Table 4. Value *Composite Reliability* and AVE

Variabel	<i>Composite Reliability</i>	AVE
Competence	0,940	0,760
Motivation	0,919	0,694
Placement	0,929	0,724

Source: Data processing (2020)

## 2. Structural Model Testing (*Inner Model*)

6 Following the successful testing of the *outer model*, the inside model is tested (*structural model*). The *r-square (reliability indicator)* for the endogenous construct and the *t-statistical value of the path coefficient test* can be used to evaluate the *inner model*. As indicated in the table below, the greater the *r-square* value, the better the prediction model of the suggested research model:

2 Table 5. Value *R-Square*

Variable	<i>R-Square</i>
<b>Motivation</b>	0,906
<b>Placement</b>	0,842

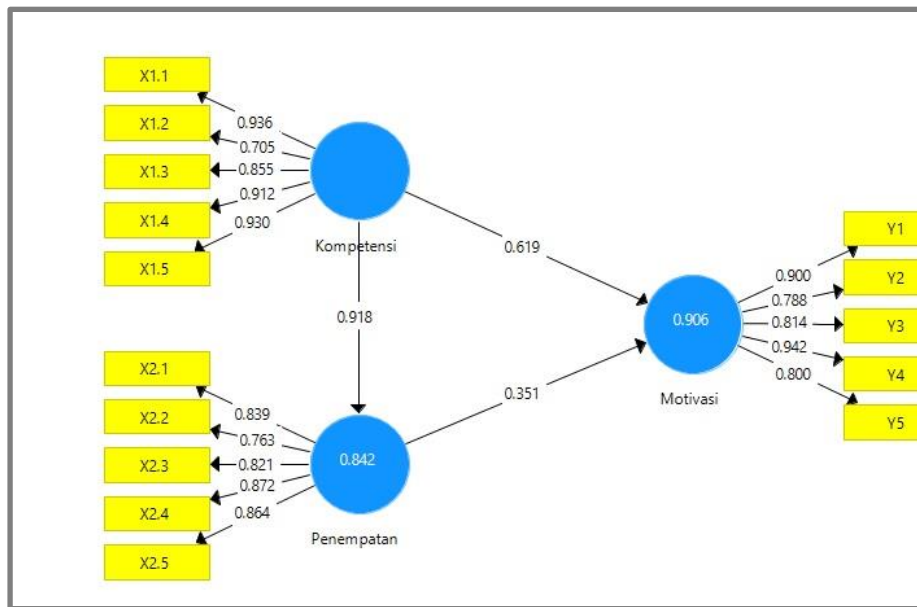
Source: Data Processing (2020)

11 The *R-Square* value for the variable is 0.906 and for the placement variable is 0.842. Thus, competence and placement influence 90.6% of motivating variables, whereas the remaining 9.4% is influenced by additional variables not described in the research. Meanwhile, competency influences 84.2% of the placement variables, while the remaining 15.8% are influenced by other variables not described in the research.

## 3. Hypothesis Testing

This researcher's hypothesis testing was conducted out using the *SmartPLS (Partial Least Square)* 3.0 software. Hypothesis testing employs statistical values, so the statistical t value for alpha 5% is 1.96. (Muniarti et al., 2013). The following figure depicts the outcomes of hypothesis testing using the *bootstrapping* method:

Figure 1. Test Results *Bootstrapping*



Source: Data Processing (2020)

According to the results of the *bootstrapping* test in the picture above, the biggest *path coefficient* value is suggested by the influence of competence on placement of 0.918. Competence has the second greatest influence on motivation, with a value of 0.619, while placement has a smaller effect, with a value of 0.351. The preceding description also demonstrates that all variables have a positive *path coefficient* value, and it can be interpreted that the greater the *path coefficient* value of an exogenous variable to an endogenous variable, the greater the influence of exogenous variables on the endogenous variable. Here is the *SmartPLS 3.0 output path coefficient* value:

Table 6. *Path Coefficient*

Variable	Original Sample	Sample Mean	Standard Deviation	T-Statistics	P-Values
Competence -> Motivation	0,619	0,628	0,156	3,979	0,000
Competence -> Placement	0,918	0,922	0,018	49,645	0,000
Placement -> Motivation	0,351	0,343	0,160	2,202	0,028

Source: Data Processing (2020)

#### 1. Hypothesis 1: Competence affects work motivation

In table 4.7 above, it can be seen that the original sample was 0.619 with a *T-Statistic* value of 3.979 > a *T-Table* of 1.96 (significance level of 5%) and a *P-Value* value of 0.000 < 0.05. A positive *original sample* value indicates that competence has a positive effect on motivation. The first hypothesis (H1) is accepted as a consequence of the regression analysis, which leads to this conclusion. The Effect of Placement and Competence on Work Motivation and Its Impact on Work Performance of Employees of the Regional III Pontianak Forest Area Stabilization Center, which

discusses the impact of competence on work motivation, is a previous study by Yulia T. Herdingingtyas (2017) that provides additional support for the findings of the research. Abdul Rahim et al. (2017) did another research at the Tanjung Jabung Timur District Education Office titled The Effect of Work Environment and Competence on Work Motivation and Their Impact on Employee Performance. The research's findings show that the direct influence of competence on motivation is positive at 13.10, indicating that competence directly has a positive effect on motivation and explains why employees will always be motivated if they have good competence in carrying out their main tasks and functions. They have a heavy task in carrying out their duties.

## 2. Hypothesis 2: The effect of competence on service placement

The third test was carried out to determine whether competence had a favorable impact on placement. The test results can be seen in table 4.7 above, the placement has an *original sample* value of 0.918 with a *T-Statistics* value of 49.645 > 1.96 and a *P-value* of 0.000 < 0.05, so that it can be interpreted that competence has a positive effect on placement. Based on the test results, it is possible to conclude that the second hypothesis (H2) is correct. This is also consistent with Bernardin and Russell's (Kurniawan, 2016) hypothesis, which claims that job placement criteria include knowledge, talents, and attitudes. According to the findings of a study conducted by Birda Al Maida and Wahid Jumland (2021), titled The Effect of Competence on the Placement of Employees of PT Gapura Angkasa at Soekarno-Hatta Airport, intellectual competence has an effect on employee placement. To counterbalance the rise in business volume and improve personnel composition, the company recruits or employs new employees. In order to meet the necessary job qualifications and prepare for the regeneration of Gapura Angkasa's future leadership.

## 3. Hypothesis 3: The effect of service placement on work motivation

The third hypothesis is tested to discover what effect service placement has on motivation. Based on the test results, the *original sample* value was 0.351 and the *T-Statistic* value was 2.202 > 1.96 and the *P-value* was 0.028 < 0.05, the third hypothesis (H3) is accepted based on the results of the hypothesis regression. The research's findings are also supported by previous research conducted by Ahmad Solihin Azhari (2013), titled The Effect of Employee Placement on Employee Work Motivation in the Secondary and Higher Education Sector of the West Java Provincial Education Office, where the test results show that there is a positive and significant influence between employee placement and employee work motivation in the Secondary and Higher Education Sector of the West Java Provincial Education Office. Another research, The Effect of Placement and Workload on Employee Work Motivation at the Aceh Provincial Water Service Office, conducted by Saiful Amri (2020), also found that partial placement and workload have a significant effect on employee work motivation at the Aceh Provincial Water Service Office, with  $t_{count} > t_{table}$  (4,756 and 2,109 > 2,017).

## CONCLUSION

The inference that can be made demonstrates that motivation is impacted by competence. Good competence supported by members of the organization's knowledge, understanding, beliefs, talents, attitudes, and relevant interests can boost or support these individuals' motivation for their work. Additionally, competence also has an impact on where a member's service is placed. This is because, in addition to taking into account factors like education and age, knowledge, skills, and a solid work history are also required when placing services, so it is important that members possess adequate competence. Both internal and extrinsic motivation at work are impacted by service placement in the individuals on duty.



It is hoped that further research will be conducted in all PLLU units throughout Indonesia, making the research results more thorough. In testing with the research model, so that it can be further developed, so that the research results can provide a clearer Image.

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