

### THE INFLUENCE OF WORK CAPABILITY AND INFRASTRUCTURE FACILITIES ON WORK READINESS IN COMMUNICATION AND ELECTRONICS OPERATIONS ISWAHJUDI AIR FORCE BASE

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#### Info Artikel

##### Sejarah artikel:

Diterima 28 Januari 2023  
Disetujui 11 Februari 2023  
Diterbitkan 30 Maret 2023

#### Keywords:

Ability, Personnel, Facilities and infrastructure, Operation readiness.

#### ABSTRACT

*This research was conducted to analyze the influence of personnel capabilities, facilities and infrastructure partially and simultaneously on the readiness of Iswahjudi Air Force communication and electronics operations. In order to achieve these objectives, this study used a quantitative method with a cross-sectional survey research design using a questionnaire with a Likert scale. The sampling technique used proportionate stratified random sampling, obtained 88 samples. Data analysis technique by doing descriptive statistics and inferential statistics, using simple regression and multiple regression, with a significance of 5% (0.05). The results of the study found that the ability of personnel had a significant, positive effect on the readiness of Iswahjudi Lanud's communications and electronics operations. The facilities and infrastructure have a significant, positive effect on the readiness of communications and electronics operations at Iswahjudi Air Force Base, and together the capabilities of personnel, facilities and infrastructure have a significant and positive effect on the readiness of communications and electronics operations at Iswahjudi Air Force Base.*



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#### INTRODUCTION

One of the units under the ranks of Koopsau II is the Iswahjudi Air Base (Lanud) which has the task of preparing and carrying out the training and operation of all units within its ranks, fostering aerospace potential (Binpotdirga) and providing operational support for other units (Per Kasau No 111/XII/ 2009). Iswahjudi Air Force Base, in order to carry out its duties, requires the support of all components in it in order to carry out their duties optimally, the manning and operation of communication equipment and navigational aids is absolutely necessary. One of the Air Force service staff in charge of carrying out communication operations and maintenance of communication and electronic equipment is the Communications Center.

The communication center is the auxiliary staff of the Danlanud leader/staff who is in charge of carrying out communication operations in the Air Force environment, carrying out level I maintenance of Komlek equipment in the Lanud environment, as well as submitting considerations and suggestions to the Danlanud especially regarding matters related to his field of work (Per Kasau 111/XII/2009). In carrying out his duties

Senkom is responsible to the Air Force Commander. If you look at the duties and responsibilities that are quite heavy, the Communications Center needs support from the readiness of all component elements. The success rate of using core capabilities and air power multiplier capabilities is determined directly or indirectly by several capabilities, one of which is personnel, where the weight of technology contained in air power has an impact on the need for personnel who have a high level of knowledge and ability in its operations. (Kep. Panglima TNI No Kep/545/V/2019). Talking about the performance of the functions that have been shown, Senkom Iswahjudi Air Force Base has carried out all the assigned tasks as well as possible. However, when examined in more depth there are still things that need to be improved.

Mulyasa (2008) explains readiness means an ability to carry out certain tasks in accordance with the demands of the situation at hand. In this case, if it is related to the Indonesian Air Force, it means that readiness is a capability possessed by Senkom Iswahjudi Air Force Base to carry out communications and electronics operations. The capabilities possessed by Senkom greatly influence the readiness and response that will be given. This is the same as what was revealed by Slameto (2010) Readiness is the overall condition that makes it ready to respond or answer in a certain way to a situation. Adjusting to conditions at one time will affect the tendency to respond (Utari et al., 2020). When associated with Senkom's readiness to carry out communications and electronics operations, it can be concluded that Senkom's readiness is a state in which it is ready to carry out communication and electronics operations tasks according to its capabilities, so that the tasks carried out can be carried out properly.

In general, it can be assessed that the performance of the Senkom function in carrying out communication operations at Iswahjudi Air Base is still not effective. This is due to the limited ability of personnel, this can be seen from the limited number of personnel, and the decreased ability to master tactics and procedures. As well as the ability of facilities and infrastructure, namely the condition of buildings and offices that are inadequate due to the large number of tasks and communication equipment that are increasingly complex and increasing in number, making these buildings and offices change functions and become increasingly unfit for use. If this condition is ignored, it can lead to a decrease in the readiness of communications and electronics operations at Iswahjudi Air Base as a whole.

Ability is an ability or readiness to do an activity. Someone is said to have the ability if that person can do something he has to do (Prasetyo et al., 2021). Ability can also be interpreted with the term competence, which has the meaning of competitiveness, having skills and knowledge that is qualified in doing something or work (Pandom Media Team, 2014). According to Davis quoted by Mangkunegara (2014), the factors that influence ability are Knowledge and Skills. Knowledge is information that has been processed and organized to gain accumulated understanding, learning, and experience so that it can be applied to the work itself (Utari et al., 2021). Skills are the ability to complete work effectively and efficiently with certain work execution techniques related to individual tasks in an organization (syakur et al., 2021).

Moenir (2008) states that facilities are all types of equipment, work equipment and facilities that function as the main tool or assistant in carrying out work, and also in the context of interests that are related to work organization. Facilities for an organization have functions according to their respective uses, to achieve the expected

results in accordance with the plan. The means and infrastructure of the communication center in question are office buildings, maintenance workshops and technical equipment. In this study, the theory of facilities and infrastructure is used to discuss the influence of the capability of the Central Communications facilities and infrastructure in supporting the readiness of Iswahjudi Air Force Communications and Electronics operations.

If examined carefully, there are several main issues that need to be addressed in order to improve the ability of personnel, facilities and infrastructure of the Iswahjudi Air Force Communication Center. Several efforts can be taken to achieve this goal, namely fostering and organizing education and training for personnel as well as increasing the quality and quantity of communication equipment infrastructure and navigation aids. Thus, if this is implemented comprehensively, it is expected that the ability of personnel, facilities and infrastructure of the Iswahjudi Air Force Communication Center in supporting the readiness of electronic communication operations can be realized.

### RESEARCH METHODS

Research methods in scientific writing are absolutely necessary so that the flow of writing is truly systematic, not confusing so that the flow of problems and problem solving can be written smoothly and perfectly (Indrawati et al., 2021). The research method according to Moelong is a set of ways in a systematic process needed in planning and also in conducting research (Moleong, 2007) Quantitative research is research that is based on the philosophy of positivism, used to research on certain populations or samples, sampling techniques are generally carried out random, data collection using research instruments, data analysis is statistical quantitative with the aim of testing the established hypothesis (Sugiyono 2010).

The population that will be used as the object of this research are Mako personnel at Iswahjudi Air Force Base and Senkom Iswahjudi Airbase, totaling 113 people consisting of officers, non-commissioned officers and privates. In carrying out the number of research samples based on Umar's theory (1998) which explains Slovin's opinion with the assumption that the population is normally distributed using the Slovin formula. Based on the Slovin formula above with a population of 113 personnel with a precision level ( $e = 5\%$ ), a sample of 88 respondents was obtained.

In this study using data collection techniques with questionnaires to obtain primary data. Questionnaires are a number of written questions that are used to obtain information from respondents in the sense of personal reports or things that they know (Arikunto, 2013).

The research method that will be used in this study is multiple linear regression. Multiple linear regression is used to determine the effect of one or more independent variables (Rusdiyanto et al., 2020). The difference in the application of this method lies in the number of independent variables used. The form of the multiple linear regression equation used in this study is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon_2$$

Information:

$Y$  = Readiness for communications and electronics operations

$\alpha$  = Constant



$\beta_1, \beta_2$  = Regression coefficient  
 X1 = the ability of Senkom personnel  
 X2 = the capability of Senkom facilities and infrastructure  
 $\epsilon$  = residual

### RESULTS AND DISCUSSION

Testing the sample in the questionnaire as many as 88 respondents with a significance value of 5% ( $\alpha = 0.05$ ), the value of F table and t table can be determined as follows:

$df_1 = 4$   
 $df_2 = n - 4$   
 $df_2 = 88 - 4$   
 $= 84$

So that the value of  $F_{table} = 2.71$  and the value of  $t_{table} = 1.988$

#### The effect of the ability of the Central Communications personnel on the readiness of Iswahjudi Lanud's communications and electronics operations

Partially the variable ability of the Central Communications personnel can influence the readiness of Iswahjudi Lanud's communications and electronics operations, can be seen from the table below:

Table 1. Regression Coefficient of the Effect of Variable X1 on Y

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12,329	3,040		4,056	,000
	X1	,838	,069	,794	12,096	,000

a. Dependent Variable: Y

From the SPSS processing results above, the tcount value is 12.096 while the ttable is 1.988. So it can be concluded that the variable ability of Central Communications personnel has a positive and significant effect on the readiness of communications and electronics operations at Iswahjudi Air Force Base.

#### The effect of the ability of central communication facilities and infrastructure on the readiness of communications and electronics operations at Iswahjudi Air Base

Partially, the variable capability of Central Communications facilities and infrastructure can influence the readiness of Iswahjudi Lanud's communications and electronics operations, which can be seen from the table below:

Table 2. Regression Coefficient of the Effect of Variable X2 on Y

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11,898	4,207		2,828	,006
	X2	1,030	,117	,690	8,833	,000

a. Dependent Variable: Y

From the SPSS processing results above, the tcount value is 8.833 while the ttable is 1.988. So it can be concluded that the variable capability of Central Communications facilities and infrastructure has a positive and significant effect on the readiness of communication and electronics operations readiness at Iswahjudi Air Force Base.

### The influence of the ability of personnel, facilities and infrastructure of the Communications Center on the readiness of Iswahjudi Lanud's communications and electronics operations

Based on the results of SPSS version 25 data processing, it shows that the significance value of the ANOVA test for independent variables in the linear regression equation shows a significance value of  $0.000 < 0.05$ , thus indicating that simultaneously the independent variables have a simultaneous effect and have a linear fluctuating impact on the variable dependent. This can be seen in the table below:

Table 3. Anova

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1523,532	3	507,844	131,294	,000b
	Residual	324,912	84	3,868		
	Total	1848,443	87			

a. Dependent Variable: Y  
b. Predictors: (Constant)

From the calculation above, the value of  $F_{table} = 2.71$ . So that the F value based on the ANOVA table is 131.294. When compared with  $F_{count} > F_{table} = 131.294 > 2.71$ .

### Correlation Test and Coefficient of Determination

From the results of multiple linear regression calculations, the results are shown in the table below:

Table 4. Correlation and Coefficient of Determination

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,908 <sup>a</sup>	,824	,818	1,967	,824	131,294	3	84	,000

a. Predictors: (Constant), X2, X1

Based on the data above, the value of the correlation coefficient (R) of 0.908 indicates that the variable ability of personnel, facilities and infrastructure of the Central Communications simultaneously has a very strong relationship to the variable of readiness for communications and electronics operations at Iswahjudi Air Force Base. In addition, by looking at the coefficient of determination (R Square) of 0.824 it can be explained that the ability of personnel, facilities and infrastructure of the Central Communications simultaneously has a strong relationship to the readiness of communications and electronics operations at Iswahjudi Air Base with an influence of 82.4%.

### Discussion

Partially, the variable ability of the Central Communications personnel can affect the readiness of the communications and electronics operations of Iswahjudi Air Force Base. From the results of the SPSS processing above, the tcount is 12.096 while the ttable is 1.988. So it can be concluded that the variable ability of Central Communications personnel has a positive and significant effect on the readiness of communications and electronics operations at Iswahjudi Air Force Base. SPSS data processing above is in accordance with the ability theory by Davis which explains factors in supporting a task in order to get maximum results influenced by knowledge factors and skill factors, namely someone who has knowledge that can be applied to work and has skills in complete organizational tasks effectively and efficiently. From the theory of ability it can be concluded that the ability of personnel has a very positive and significant influence on the readiness of communications and electronics operations at Iswahjudi Air Force Base. Research conducted by Research Suherman, M. Kemalsyah, Deni Dadang A.R (2020) with the results of research on soldier professionalism and maintenance facilities partially or simultaneously influencing the readiness of combat aircraft missiles at Sathar 65 Depohar 60 Madiun in line with this research that personnel capabilities are important variable on operational readiness.

Variable capability of communication center facilities and infrastructure partially whether it can affect the readiness of communications and electronics operations at Iswahjudi Lanud Air Base, obtained tcount is 8.833 while ttable is 1.988. So it can be concluded that the variable capability of Central Communications facilities and infrastructure has a positive and significant effect on the readiness of communication and electronics operations readiness at Iswahjudi Air Base. The results of SPSS data processing above are in line with the theory of facilities and infrastructure which are all types of equipment, work equipment and facilities that function as the main tool or assistant in carrying out work, and also in the framework of interests that are currently



related to the organization with the aim of speeding up the work process. increase productivity, make work of higher quality, the stability of the composition of workers is more guaranteed, and cause comfort and cause a sense of satisfaction. In this study the means and infrastructure of the Central Communications referred to are office buildings, maintenance workshops and technical equipment. From the theory of facilities, it can be concluded that the capability of Central Communications facilities and infrastructure in the form of improvement and construction of offices, maintenance workshops and good technical tools has a positive effect on the readiness of communications and electronics operations at Iswahjudi Air Base because it is very helpful in carrying out work, speeding up work processes and making work better quality Variable ability of Central communication facilities and infrastructure partially whether it can influence the readiness of communications and electronics operations at Iswahjudi Lanud Air Base, obtained tcount is 8.833 while ttable is 1.988. So it can be concluded that the variable capability of Central Communications facilities and infrastructure has a positive and significant effect on the readiness of communication and electronics operations readiness at Iswahjudi Air Base. The results of SPSS data processing above are in line with the theory of facilities and infrastructure which are all types of equipment, work equipment and facilities that function as the main tool or assistant in carrying out work, and also in the framework of interests that are currently related to the organization with the aim of speeding up the work process. increase productivity, make work of higher quality, the stability of the composition of workers is more guaranteed, and cause comfort and cause a sense of satisfaction. In this study the means and infrastructure of the Central Communications referred to are office buildings, maintenance workshops and technical equipment. From the theory of facilities, it can be concluded that the capability of Central Communications facilities and infrastructure in the form of improvement and construction of offices, maintenance workshops and good technical tools has a positive effect on the readiness of communications and electronics operations at Iswahjudi Air Base because it is very helpful in carrying out work, speeding up work processes and making work better quality.

There is a simultaneous influence between personnel capabilities, communication center facilities and infrastructure on the readiness of Iswahjudi Air Force communications and electronics operations. From the results of multiple linear regression calculations, a correlation coefficient (R) of 0.908 was obtained, indicating that the variable ability of personnel, facilities and infrastructure of the Central Communications Center simultaneously had a very strong relationship to the variable of readiness for communications and electronics operations at Iswahjudi Air Force Base. In addition, by looking at the coefficient of determination (R Square) of 0.824 it can be explained that the ability of personnel, facilities and infrastructure<sup>75</sup> The communication center simultaneously has a strong relationship to the readiness of communications and electronics operations at Iswahjudi Air Base with an influence of 82.4%. In accordance with the theory of readiness when it is associated with Senkom's readiness to carry out communications and electronics operations, it can be concluded that Senkom's readiness is a state in which it is ready to carry out communication and electronics operations tasks according to its capabilities, so that the tasks carried out can be carried out properly. Research conducted by Dian Shintani Nayar, Hipidizah, Anton Iman (2020) found that personnel capabilities had a significant, positive effect on

Satharlan Disfaskonau readiness. The completeness of work tools had a significant, positive effect on Satharlan Disfaskonau readiness and together personnel capabilities and work completeness has a significant and positive effect on the readiness of Satharlan Disfaskonau, in line with this research that by maintaining the ability of personnel, facilities and infrastructure for the communication center, Iswahjudi Air Force Base will always be ready to carry out communication and electronics operations in support of the air defense strategy, which in its implementation is regulated in the rafter's decision on Instructions Technical Concerning the Fixed Procedures (SOP) for Communications and Electronics for the Indonesian Air Force, the communication SOP functions as command communication, control communication and coordination communication. Whereas in electronic warfare (Pernika) it is carried out by all elements of the Indonesian Air Force's electronic communication in order to secure its own communication and electronics system (Siskomlek) and thwart the enemy's Siskomlek.

## CONCLUSIONS AND SUGGESTIONS

### Conclusions

Based on the results of the analysis and discussion, the following conclusions are obtained:

1. There is a positive and significant influence between the ability of the Communications Center personnel on the readiness of Iswahjudi Lanud's communications and electronics operations.
2. There is a positive and significant influence between the facilities and infrastructure of the Communications Center on the readiness of Iswahjudi Lanud's communications and electronics operations.
3. Simultaneously the ability of personnel, facilities and infrastructure of the Communications Center has a positive effect and has a strong and significant relationship to the readiness of communications and electronics operations at Iswahjudi Lanud

### Suggestions

Based on the analysis and discussion that has been carried out as well as the conclusions stated above, the researcher will provide recommendations related to research so that it can be used as input to be followed up as follows:

1. Theoretical Suggestions
  - a. To perfect the research that has been carried out, further researchers can add other variables that affect the readiness of the communication and electronics operations of Iswahjudi Air Base, including organizational structure, policies and procedures and training readiness for each field of work.
2. Practical Suggestions
  - a. Given the greater contribution of facilities and infrastructure, in order to improve the readiness of communications and electronics operations at Iswahjudi Air Force Base, we request the leadership of the Indonesian Air Force, in this case the Chief of Staff of the Indonesian Air Force, to increase the capability of facilities and infrastructure in addition to the capabilities of personnel at Iswahjudi Air Force Base.
  - b. We ask Asrena Kasau to plan to improve the condition of the completeness of



facilities and infrastructure at Senkom Iswahjudi air base in terms of quality, function, quality and quantity by carrying out the construction and improvement of buildings, workshops and the addition of work tools according to priority scale and budget efficiency.

- c. It is requested that Aspers Kasau, Danlanud Iswahjudi and Kasenkom Iswahjudi Air Force Base carry out an increase in the knowledge, skills, work ethic, and experience of personnel to support the implementation of tasks through formal and non-formal education, mental training and training related to implementing communication and electronics operations readiness Iswahjudi Air Force Base.

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