

# Analysis of the Effect of Archive Arrangement, Infrastructure and Competency of Archive Officers on Work Effectiveness at the Office of Highways and Construction Development of North Sumatra Province

Suyanto<sup>1</sup>, Rudi Salam Sinaga<sup>2</sup>, Maksum Syahri Lubis<sup>3</sup>

<sup>1,2,3</sup>Universitas Medan Area, Indonesia

[bowo.ardi1978@gmail.com](mailto:bowo.ardi1978@gmail.com), [rudisalam@staff.uma.ac.id](mailto:rudisalam@staff.uma.ac.id)

## Abstract

*This study aims to analyze the Effect of Archive Arrangement, Infrastructure and Competency of Archive Officers on Work Effectiveness at the Office of Highways and Construction Development of North Sumatra Province. This study uses a quantitative approach. Based on the F test, it is known that the calculated F value is 3.342 and the F table value at 5% alpha is 2.86. Thus, the Fcount value (3.342) > F table (2.86) with a significance level of  $0.030 < 0.05$ , meaning that together or simultaneously the variables of Archive Arrangement (X1), Infrastructure (X2) and Archives Officer Competence (X3) have a positive and significant effect on Work Effectiveness. The relationship between the arrangement of archives, infrastructure and the competence of archiving officers on the effectiveness of work in the Department of Highways and Construction of North Sumatra Province that the R Square value obtained is 0.218 or 21.8%. This shows the ability of the Archives Arrangement variable (X1), Infrastructure (X2) and Archive Officer Competence (X3) simultaneously or together to affect Work Effectiveness by 21.8%.*

## Keywords

effect of archive arrangement; infrastructure; work effectiveness



## I. Introduction

Every employee of an agency or organization is required to be able to work effectively and efficiently in supporting the goals of the agency, so that employees can work effectively and efficiently, the quality and quantity must be as needed. Incompetent, incompetent and unskilled employees can result in the work not being completed on time. So that this does not happen, the work to be completed must be carried out as effectively as possible.

The effectiveness of employee work is one of the factors that play an important role in the activities of the agency or organization that needs to be fostered and developed so that the goals of the agency or organization can be achieved effectively. Basically the effectiveness of work can not be separated from the effectiveness of groups or individual effectiveness. Employees are one of the important factors for the effectiveness of the work of the agency or organization, because their behavior will facilitate or hinder the achievement of the goals of the agency or organization. In this study, the organization or office that is the subject of research is the work effectiveness of the employees of the Department of Highways and Construction of the Province of North Sumatra, which is a government agency that acts as one component of information in the Province of North Sumatra.

The achievement of high effectiveness is influenced by several factors, as well as the achievement of work effectiveness in the archives of the Department of Highways and Construction of the Province of North Sumatra, which is one of the organizational units that also carries out administrative-related affairs and requires information at any time, either in letters or documents. In the context of making decisions and supporting work effectiveness, a letter or document is arranged, arranged and stored in an orderly and orderly manner based on a system. Thus the work of employees will be smoother so that the work flow is smoother and ultimately can achieve work effectiveness.

Basically work effectiveness is intended to measure the results of work achieved according to plan, in accordance with wisdom, or in other words achieving goals, then it is said to be effective. The value of effectiveness is basically determined by the achievement of organizational goals and the suitability factor in carrying out their duties and work. So the effectiveness of the work of each organization will vary from one organization to another, depending on the type and nature of the organization concerned. Work effectiveness is very important as a way to complete tasks and responsibilities at work.

The explanation above can mean that the archive is a process starting from the creation, receipt, collection, arrangement, control, maintenance and care and storage of documents according to a certain system which when needed can be found quickly and precisely found.

Listening to archives plays an important role for the smooth running of the organization, namely as a source of information and as a memory center. Archives are an important component in life, from past lives we see a series of history contained in archives. Likewise with modern life today archives remain an important component considering that life cannot be separated from the presence of archives. The importance of archives, among others, is authentic evidence concerning the status, rights, ownership and role of an institution. The various important meanings of the archives mentioned above, the authors are interested in studying more deeply about the arrangement of archives, infrastructure and the competence of archiving officers on the effectiveness of the work carried out, especially Administration (General Subdivision / Administration) which has the authority to handle mail archives,

It's just that handling archives is often not given much attention and becomes an unattractive job in the office. In fact, the function is very important for the smooth running of activities, among others, can be used as a reference source if certain information is needed, or can be used as evidence in accordance with legal provisions. In addition, archives can also provide data or information needed by leaders as material in carrying out their leadership functions, namely in terms of planning, organizing, moving, and supervising.

An organization in treating archives has different ways according to the needs of the organization but in accordance with the times, the handling of archives is also developed according to the needs of the organization or agency. The implementation of archive handling is inseparable from the HR factor. This is because the human factor is the subject or driving factor that plays an important role in determining the success or failure of the implementation of archive handling. Although supported by facilities and infrastructure as well as a fairly good system, if human resources do not have the ability or do not know the field of archives, the implementation of archive handling will not run smoothly.

**Table 1.** Data on the education level of employees who handle archives in sub Administration/Secretariat Section

NO	WORK UNIT	EMPLOYEE	EDUCATION		
			High school/high school	D3	S1
1	General and Staff	18	-	1	-
2	Finance Sub Division	24	1	-	-
3	Program Sub-Section	9	1	-	-
	AMOUNT	51	2	1	-

*Source: Department of Highways and Construction of North Sumatra Province*

## II. Review of Literature

### 2.1. Definition of Archives According to Law No. 43 Year 2009

In Law Number 43 of 2009 concerning archives it is stated that "Archives are recordings of activities or events in various forms and media in accordance with the development of information and communication technology made and accepted by State institutions, regional government institutions, educational institutions, companies, political organizations, community organizations, and individuals in the implementation of social, national and state life.

In the Regulation of the Head of the National Archives of the Republic of Indonesia Number 7 of 2017 concerning the National Movement for Awareness of the Order of Archives. Archives are recordings of activities or events in various forms or media according to the development of information and communication technology made and accepted by state institutions, regional government administrators, community organizations, educational institutions, companies and individuals in the implementation of social, national and state life.

Archiving is one type of office work or administrative work that is mostly carried out by government agencies, as well as private entities. Archiving involves work related to the storage of archives or letters, and other office documents. (Sugiarto and Wahyono, 2015; 2) said that: "Archives are the basis for maintaining letters: they contain the process of compiling and storing documents in such a way that letters/files can be recovered when needed. The most important properties that must be owned by an archival system are trustworthiness and accessibility, apart from other properties such as tidiness, cleanliness and others. (Wibowo, B. et al. 2021)

### 2.2. Definition of Archives According to Experts

A growing term regarding archives that has been slightly explained by experts and the archival language in general. The meaning of archives from several experts includes:

According to Nuraida (2012) archives are a collection of scripts/files that are stored systematically because they have a purpose so that whenever needed, they can be found quickly and precisely. While the notion of archives is still in the opinion (Nuraida, 2012) that is the activity of storing scripts in various ways or tools in certain safe places so that the archives stored are not damaged or lost, because archives are very important as a memory center or source. According to Abdul Jalaluddin Sayuti in Aria Mulyapradana, 2013, "Archives are written records either in the form of pictures or charts that contain information about a subject matter or event that is still useful or needed at any time in the future".

### **2.3. Archives**

In general, archiving is a process of systematically organizing and storing materials or files, so that these files can be searched quickly or where they are found whenever needed. According to Sularso Mulyono (2012; 8), archiving is the placement of paper in a good place in such a way that whenever needed can be found easily and quickly. Meanwhile, according to Donni and Agus (2013; 158), archives are activities related to archive management or archive administration activities. Archives are the basis for maintaining letters, containing the process of compiling and storing letters in such a way that they can be recovered when needed (Sugiarto 2015; 2).

### **2.4. Archive Setup**

At this time, the need for information is indispensable for the archives of an organization/institution, both public and private. Thus information becomes important, because information is needed to support work processes in the face of changing conditions that are growing rapidly day by day. Archives are one source of information that has a very important function to support the process of administrative activities. The problem that will arise later is the uncontrolled accumulation of archives from year to year.

In order for archives to function as they function, they need to be managed properly and correctly, meaning that they are systematically arranged so that if needed, they can be quickly, accurately, and completely presented. In archive management, including efforts to maintain archives both in terms of physical and damage. While maintaining in terms of information that is not leakage of information.

### **2.5. Work Effectiveness**

Effectiveness comes from the word "Effect" which means a causal relationship, effectiveness can be seen as a cause of other variables. Effectiveness means that the previously planned goals can be achieved or in other words, the goals are achieved because of the process. According to James L Gibson (Pasolong, 2013; 4) effectiveness is the achievement of the goals of a joint effort. Meanwhile, according to Ravianto (2014: 11) effectiveness is how well the work is done, the extent to which people produce output as expected. This means that if a job can be completed in accordance with the plan, both in time, cost, and quality, it can be said to be effective. Effectiveness is a measure of the success or failure of achieving the goals of an agency or organization (Mardiasmo, 2017;134). Meanwhile, according to DwiYanti, Agus (2012; 50) Performance effectiveness is a measure of the agency or organization to achieve a more maximal work process in completing its main tasks. According to the Big Indonesian Dictionary (KBBI) Effectiveness is usability, activity, and the existence of conformity in an activity between someone who carries out a task with the goal to be achieved.

## **III. Research Methods**

The type of research used in this study is a causal relationship research with a quantitative approach. The quantitative approach is a systematic scientific study of the parts and phenomena and their relationships. Quantitative research is the measurement of quantitative data and objective statistics through scientific calculations derived from samples of people or residents who are asked to answer a number of questions about surveys to determine the frequency and percentage of their responses (Sugiono, 2017;2). The reason for this study using causality with a quantitative approach is because it wants to analyze more deeply about the Effect of Archive Arrangement, Infrastructure and Competency of Archive

Officers on Work Effectiveness at the Office of Highways and Construction Development of North Sumatra Province.

This research was conducted at the Office of the Highways and Construction Office of North Sumatra Province, which is located at Jl. Sakti Lubis No.7 R, Sitirejo II Kec. Sandpaper Medan, Medan City, North Sumatra 2021. According to Sugiono 2018;80, the population is a generation area consisting of objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions are drawn.

$$\% = \frac{n}{N} \times 100 \%$$

Information:

Mn : Total score obtained

N : Total ideal score (number of respondents x number of statements x highest score)

% : Success rate achieved

The stages of multiple regression analysis are as follows:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3$$

Information :

Y : Work Effectiveness

a : Regression Coefficient (constant)

b1: Regression coefficient for archive structuring

b2: Regression coefficient for infrastructure

b3: Regression coefficient for archivist competence

x1: Archive setup

x2: Infrastructure

x3: Archival officer competence

The t test is used to test the regression coefficient partially or separately from other independent variables.

- a. If the significance value  $t < (0.05)$  or the significant t coefficient at the level  $< 5\%$ , then  $H_0$  is rejected and  $H_a$  is accepted, which means that the arrangement of archives, infrastructure and officer competencies affects the effectiveness of employees' work.
- b. If the significance value of  $t > (0.05)$  or the significance t coefficient at the level of  $> 5\%$ , then  $H_0$  is accepted and  $H_a$  is rejected, which means that the arrangement of archives, infrastructure and officer competencies does not affect the effectiveness of the employee's work.

Simultaneous test is used to determine the effect of the independent variable (independent) on the dependent variable (dependent).

The decision to determine whether the independent variable has a significant effect on the dependent variable is as follows:

- a. If F is significant at  $<5\%$  level, then  $H_0$  is rejected and  $H_a$  is accepted, meaning that simultaneously the arrangement of archives, infrastructure and officer competencies affects the effectiveness of employee work.
- b. If the calculated F is significant at the level  $> 5\%$ , then  $H_0$  is accepted and  $H_a$  is rejected, meaning that the arrangement of archives, infrastructure and competence of officers does not affect the effectiveness of employees' work.

The coefficient of simultaneous determination ( $R^2$ ) was used to determine the magnitude of the influence of archive arrangement and archive officer competence on service quality from the research results. If the  $R^2$  obtained is close to 1, it can be said that the stronger the model in explaining the variation of the independent variable to the dependent variable, on the other hand, if  $R^2$  is close to zero, the weaker the variation of the independent variable explains the dependent variable.

## IV. Results and Discussion

The results of the validity test of the Archive Arrangement variable can be seen in table 2 below:

**Table 2.** Results of Testing the Validity of Archives Arrangement Variables

Variable	Question Items	r-count	r-table	Sig	Criteria
Archive Setup	1	0.414	0.361	0.008	Valid
	2	0.648	0.361	0.000	Valid
	3	0.493	0.361	0.001	Valid
	4	0.820	0.361	0.000	Valid
	5	0.683	0.361	0.000	Valid
	6	0.806	0.361	0.000	Valid
	7	0.574	0.361	0.000	Valid
	8	0.477	0.361	0.002	Valid
	9	0.384	0.361	0.014	Valid
	10	0.429	0.361	0.006	Valid

*Source: Research Results 2021 (Processed with SPSS 25)*

The results of the calculations in table 2 show that the question instrument of the Archive Arrangement variable has an r-count value greater than 0.361, an instrument is said to be valid if  $r\text{-count} > r\text{-table}$ . Thus, it can be concluded that all question instruments from the Archive Arrangement variable used are valid and can be used in research. This conclusion is reinforced by the significance value (2-tailed) for all instruments which is smaller than the value of 5% or equal to 0.05. The results of the validity test of the Infrastructure variable can be seen in table 4.2 below:

**Table 3.** Test Results for the Validity of Infrastructure Variables

Variable	Question Items	r-count	r-table	Sig	Criteria
Infrastructure	1	0.582	0.361	0.000	Valid
	2	0.379	0.361	0.016	Valid
	3	0.473	0.361	0.002	Valid
	4	0.629	0.361	0.000	Valid
	5	0.469	0.361	0.002	Valid
	6	0.765	0.361	0.000	Valid
	7	0.605	0.361	0.000	Valid
	8	0.456	0.361	0.003	Valid
	9	0.537	0.361	0.000	Valid
	10	0.435	0.361	0.005	Valid

*Source: Research Results 2021 (Processed with SPSS 25)*

The results of the calculations in table 3 show that the question instrument of the Sarana Prasarana variable has an r-count value greater than 0.361, an instrument is said to be valid if  $r\text{-count} > r\text{-table}$ . Thus, it can be concluded that all the question instruments from the Infrastructure variables used are valid and can be used in research. This conclusion is reinforced by the significance value (2-tailed) for all instruments which is smaller than the value of 5% or equal to 0.05.

**Table 4.** Results of Testing the Validity of Archives Officer Competency Variables

Variable	Question Items	r-count	r-table	Sig	Criteria
Archival Officer Competence	1	0.439	0.361	0.005	Valid
	2	0.655	0.361	0.000	Valid
	3	0.666	0.361	0.000	Valid
	4	0.586	0.361	0.000	Valid
	5	0.627	0.361	0.000	Valid
	6	0.480	0.361	0.002	Valid
	7	0.459	0.361	0.003	Valid
	8	0.446	0.361	0.004	Valid
	9	0.414	0.361	0.008	Valid
	10	0.419	0.361	0.007	Valid

*Source: Research Results 2021 (Processed with SPSS 25)*

The calculation results in table 4 show that the question instrument of the Archives Officer Competency variable has an r-count value greater than 0.361, an instrument is said to be valid if  $r\text{-count} > r\text{-table}$ . Thus, it can be concluded that all the question instruments of the Archives Officer Competency variable used are valid and can be used in research. This conclusion is reinforced by the significance value (2-tailed) for all instruments which is smaller than the value of 5% or equal to 0.05. The results of the validity test of the Work Effectiveness variable can be seen in table 5 below:

**Table 5.** Results of Testing the Validity of Work Effectiveness Variables

Variable	Question Items	r-count	r-table	Sig	Criteria
Work Effectiveness	1	0.616	0.361	0.000	Valid
	2	0.678	0.361	0.000	Valid
	3	0.456	0.361	0.003	Valid
	4	0.472	0.361	0.002	Valid
	5	0.434	0.361	0.005	Valid
	6	0.367	0.361	0.020	Valid
	7	0.613	0.361	0.000	Valid
	8	0.600	0.361	0.000	Valid
	9	0.806	0.361	0.000	Valid
	10	0.538	0.361	0.000	Valid

*Source: Research Results 2021 (Processed with SPSS 25)*

The results of the calculations in table 5 show that the question instrument of the Work Effectiveness variable has an r-count value greater than 0.361, an instrument is said to be valid if  $r\text{-count} > r\text{-table}$ . Thus, it can be concluded that all question instruments from the Work Effectiveness variable used are valid and can be used in research. This conclusion is reinforced by the significance value (2-tailed) for all instruments which is smaller than the value of 5% or equal to 0.05.

**Table 6.** Reliability Test Results

Variable	Cronbach's Alpha	r-table	Information
Archive Setup	0.789	0.60	Reliable
Infrastructure	0.728	0.60	Reliable
Archival Officer Competence	0.687	0.60	Reliable
Work Effectiveness	0.730	0.60	Reliable

*Source: Research Results 2021 (Processed with SPSS 25)*

From table 6 above, it can be seen that the value of  $r_{\alpha} > r_{\text{table}}$  (0.60), thus all statement items are declared reliable.

**Table 7.** Respondents' Answers Per Question Item Archive Setup Variables

NO	Question	Respondent's Answer Scale										SCORE
		5	%	4	%	3	%	2	%	1	%	
1	Q1	1	2.5	28	70	11	27.5	0	0	0	0	<b>75.0%</b>
2	Q2	3	7.5	25	62.5	11	27.5	1	2.5	0	0	<b>75.0%</b>
3	Q3	1	2.5	36	90	3	7.5	0	0	0	0	<b>79.0%</b>
4	Q4	1	2.5	16	40	18	45	5	12.5	0	0	<b>66.5%</b>
5	Q5	1	2.5	20	50	16	40	3	7.5	0	0	<b>69.5%</b>
6	Q6	2	5	16	40	17	42.5	5	12.5	0	0	<b>67.5%</b>
7	Q7	5	12.5	29	72.5	6	15	0	0	0	0	<b>79.5%</b>
8	Q8	1	2.5	26	65	13	32.5	0	0	0	0	<b>74.0%</b>
9	Q9	6	15	31	77.5	3	7.5	0	0	0	0	<b>81.5%</b>
10	Q10	3	7.5	31	77.5	6	15	0	0	0	0	<b>78.5%</b>

Below is the presentation of the recapitulation of the overall variable frequency data for Archive Arrangement in table 8 as follows:

**Tables 8.** Overall Frequency Recapitulation of Answer Items in Archive Arrangement Variables

SCORE	INFO	Frequency (F)	SXF
5	Strongly agree	25	120
4	Agree	258	1032
3	Disagree	104	312
2	Disagree	14	28
1	Strongly Disagree	0	0
TOTAL		400	1492

In table 8 we can see the total score of the Archive Arrangement variable is 1492 and the categorization is based on the ideal range of values:

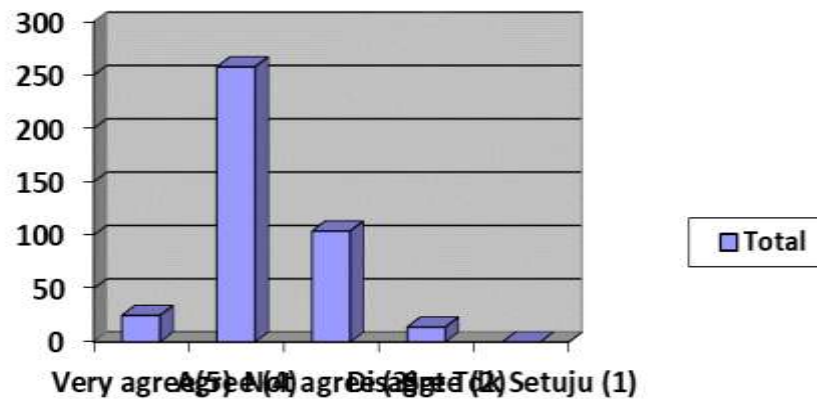
- Total Maximum Score: Highest Score times Number of Questions times Number of Respondents,  $5 \times 10 \times 40 = 2000$
- Total Minimum Score: Lowest Score times Number of Questions times Number of Respondents,  $1 \times 10 \times 40 = 400$
- Score Range: (Maximum Score – Minimum Score) : 5,  $(2000 - 400) : 5 = 320$

From the results of research conducted on 40 respondents, obtained a score of 1492 if the percentage:

$$\% = \frac{1492}{2000} \times 100 = 74.6\% = 0.746$$

Then obtained 0.746, if interpreted to be in the category interval 0.60 - 0.799, which means that the respondent states that a good and organized archive arrangement can facilitate filing and archiving with a "High" level of relationship.





**Figure 1.** Archive Setup Variables

The percentage result is the result of:

$$\frac{\sum SXF}{\sum Skor Mak} \times 100\%$$

So it can be seen that with the highest score of 5 where people who strongly agree as much as 6%, score 4 where people who agree as much as 51.6%, score 3 where people who express less agree as much as 15.6%, score 2 where people who disagree as much as 1.4%, a score of 1 where people who state strongly disagree as much as 0%. And from the results of the calculations above, it can be seen that 51.6% of respondents answered "Agree" that a good archive arrangement can provide convenience in archiving and filing office administration.

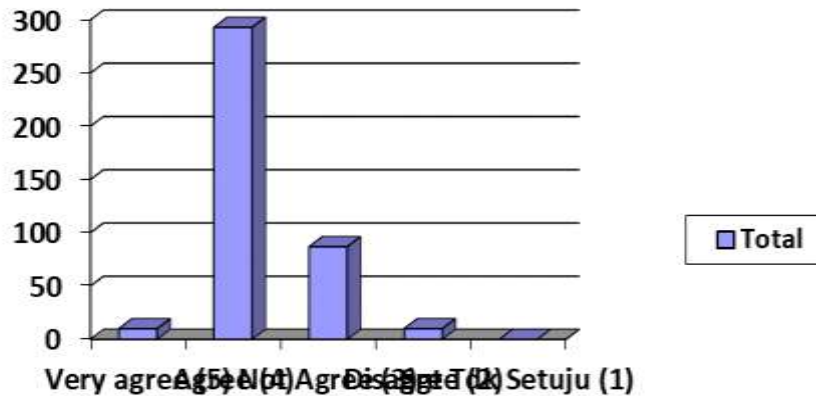
The conclusion from the above calculation: the results of the questionnaire about the Archive Arrangement variable, namely 0.746 are in the interval 0.60 - 0.799 with a "High" level of relationship. Which means that a good archive arrangement can provide convenience in filing and filing service administration with a "High" level of relationship.

**Table 9.** Respondents' Answers Per Question Item Variable Facilities

NO	Question	Respondent's Answer Scale										SCOR E
		5	%	4	%	3	%	2	%	1	%	
1	Q11	0	0	24	60	13	32.5	3	7.5	0	0	<b>70.5%</b>
2	Q12	0	0	33	82.5	7	17.5	0	0	0	0	<b>76.5%</b>
3	Q13	0	0	35	87.5	3	7.5	2	5	0	0	<b>76.5%</b>
4	Q14	1	2.5	26	65	11	27.5	2	5	0	0	<b>73.0%</b>
5	Q15	1	2.5	26	65	12	30	1	2.5	0	0	<b>73.5%</b>
6	Q16	1	2.5	24	60	13	32.5	2	5	0	0	<b>72.0%</b>
7	Q17	5	12.5	26	65	9	22.5	0	0	0	0	<b>78.0%</b>
8	Q18	0	0	31	77.5	9	22.5	0	0	0	0	<b>75.5%</b>
9	Q19	1	2.5	33	82.5	6	15	0	0	0	0	<b>77.5%</b>
10	Q20	1	2.5	35	87.5	4	10	0	0	0	0	<b>78.5%</b>

**Tables 10.** Overall Recapitulation of Frequency on Answer Items for Infrastructure Variables

SCORE	INFO	Frequency (F)	SXF
5	Strongly agree	10	50
4	agree	293	1172
3	Disagree	87	261
2	Disagree	10	20
1	Strongly Disagree	0	0
TOTAL		400	1503



*Figure 2. Infrastructure Variables*

The percentage result is the result of:

$$\frac{\sum S X F}{\sum Skor Mak} \times 100\%$$

So it can be seen that the highest score is 5 where people who state strongly agree as much as 2.5%, score 4 where people who agree are 58.6%, score 3 where people who express less agree are 13.05%, score 2 where people who disagreed as much as 1%, a score of 1 where people who stated strongly disagreed as much as 0%. From the calculation results, it can be seen that 58.6% of respondents answered "Agree" that the available infrastructure will help in the process of work efficiency.

The conclusion from the above calculation: the results of the questionnaire about the Sarana Prasarana variable that is equal to 0.752 are in the interval 0.60 - 0.799 with a "High" relationship level. Which means that the available infrastructure will help in the process of work efficiency with a "High" level of relationship.

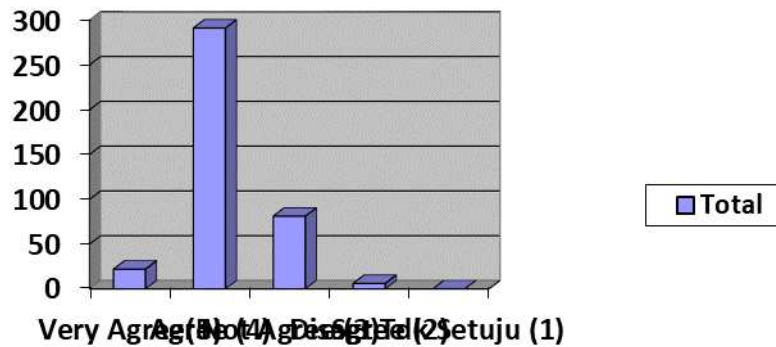
**Table 11.** Respondents' Answers Per Item Variable Competency of Archives

NO	Question	Respondent's Answer Scale										SCORE
		5	%	4	%	3	%	2	%	1	%	
1	Q21	2	5	29	72.5	9	22.5	0	0	0	0	<b>76.5%</b>
2	Q22	0	0	28	70	12	30	0	0	0	0	<b>74.0%</b>
3	Q23	0	0	33	82.5	7	17.5	0	0	0	0	<b>76.5%</b>
4	Q24	6	15	24	60	8	20	2	5	0	0	<b>77.0%</b>
5	Q25	5	12.5	24	60	9	22.5	2	5	0	0	<b>76.0%</b>

6	Q26	3	7.5	30	75	6	15	1	2.5	0	0	<b>77.5%</b>
7	Q27	3	7.5	28	70	9	22.5	0	0	0	0	<b>77.0%</b>
8	Q28	1	2.5	29	72.5	10	25	0	0	0	0	<b>75.5%</b>
9	Q29	1	2.5	34	85	5	12.5	0	0	0	0	<b>78.0%</b>
10	Q30	1	2.5	32	80	6	15	1	2.5	0	0	<b>76.5%</b>

**Tables 12.** Overall Recapitulation of Frequency on Answer Items of Archive Officer Competency Variables

SCORE	INFO	Frequency (F)	SXF
5	Strongly agree	22	110
4	agree	291	1164
3	Disagree	81	243
2	Disagree	6	12
1	Strongly Disagree	0	0
TOTAL		400	1529



**Figure 3.** Archive Officer Competency Variables

The percentage result is the result of:

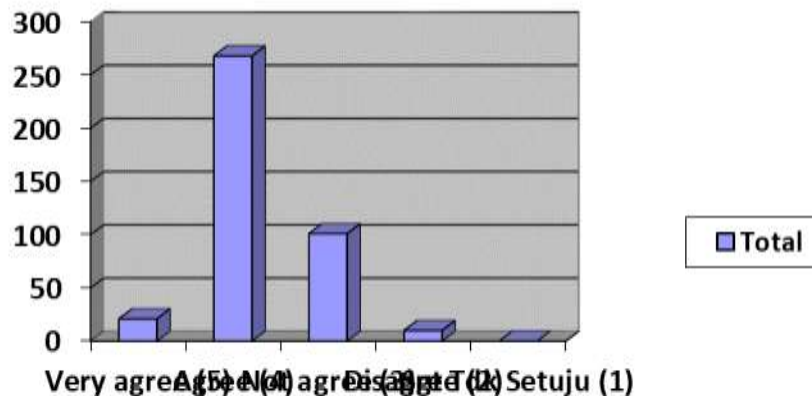
$$\frac{\sum SXF}{\sum Skor Mak} \times 100\%$$

**Table 13.** Respondents' Answers Per Question Item Work Effectiveness Variable

NO	Question	Respondent's Answer Scale										SCORE
		5	%	4	%	3	%	2	%	1	%	
1	Q31	2	5	17	42.5	19	47.5	2	5	0	0	<b>69.5%</b>
2	Q32	0	0	33	82.5	7	17.5	0	0	0	0	<b>76.5%</b>
3	Q33	0	0	29	72.5	9	22.5	2	5	0	0	<b>73.5%</b>
4	Q34	3	7.5	23	57.5	13	32.5	1	2.5	0	0	<b>74.0%</b>
5	Q35	3	7.5	17	42.5	18	45	2	5	0	0	<b>70.5%</b>
6	Q36	5	12.5	29	72.5	6	15	0	0	0	0	<b>79.5%</b>
7	Q37	4	10	25	62.5	10	25	1	2.5	0	0	<b>76.0%</b>
8	Q38	2	5	30	75	8	20	0	0	0	0	<b>77.0%</b>
9	Q39	1	2.5	33	82.5	5	12.5	1	2.5	0	0	<b>77.0%</b>
10	Q40	1	2.5	32	80	6	15	1	2.5	0	0	<b>76.5%</b>

**Table 14.** Overall Frequency Recapitulation of Answer Items for Work Effectiveness Variables

SCORE	INFO	Frequency (F)	SXF
5	Strongly agree	21	105
4	Agree	268	1072
3	Disagree	101	303
2	Do not agree	10	20
1	Strongly Disagree	0	0
TOTAL		400	1500



*Figure 4. Work Effectiveness Variable*

The percentage result is the result of:

$$\frac{\sum SXF}{\sum Skor Maks} \times 100\%$$

So it can be seen that with the highest score of 5 where people who strongly agree as much as 5.25%, a score of 4 where people who agree as much as 53.6%, a score of 3 where people who express less agree as much as 15.15%, a score of 2 where people who disagree as much as 1%, a score of 1 where people who state strongly disagree as much as 0%. And from the results of the calculation above, it can be seen that 53.6% of respondents answered "Agree" that Work Effectiveness can be created if there is a good archive arrangement, the availability of infrastructure and competence of competent archive officers

Normality test is used to determine whether the data distribution follows or approaches the normal distribution.



Source: SPSS 25 (2021) Management  
*Figure 5. Normality Graph Approach*

**Table 15. Multicollinearity Test**

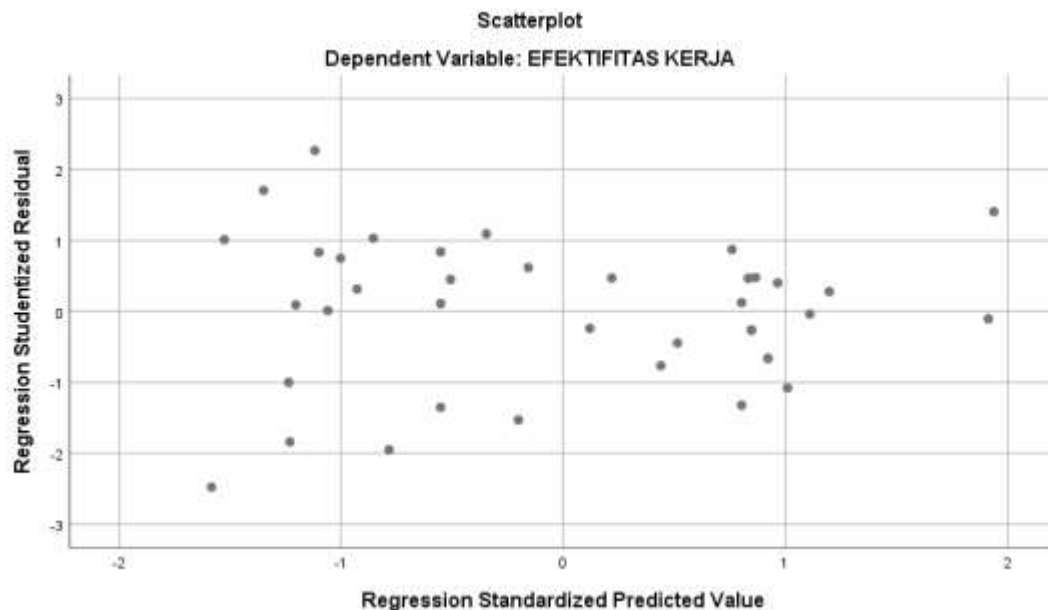
Coefficients <sup>a</sup>		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
Model		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	15.131	7,870		1,923	.062		
	ARCHIVES SETUP	.127	.182	.139	.697	.490	.545	1,835
	INFRASTRUCTUR E	.063	.196	.057	.321	.750	.681	1.469
	COMPETENCY OF ARCHIVES	.399	.191	.356	2,089	.044	.749	1.335

a. Dependent Variable: WORK EFFECTIVENESS

Source: SPSS 25 Processing (2021)

In Table 15 it is concluded that the regression model used does not show any symptoms of multicollinearity between the independent variables. It can be seen from this Tolerance and VIF values, the calculation results show that the Tolerance Variable X1 is 0.545 with a VIF value of 1.835, the Tolerance Variable X2 is 0.681 with a VIF value of 1.469, the Tolerance Variable X3 is 0.749 with a value VIF is 1.335 so that the value is in accordance with the decision making criteria where the Tolerance value is > 0.1 and the VIF value is < 10.

Heteroscedasticity test is used to see how big the role of the independent variable is to the related variable. To see whether there is heteroscedasticity in the model used, the Heteroscedasticity Test (Scatter Plot) is carried out. The following are the results of the Scatter Plot Heteroscedasticity Test.



Source: SPSS 25 (2021) Management

**Figure 6. Scatter Plot Heteroscedasticity Test**

Based on the Heteroscedasticity Test above, it is known that the distribution points on Scatter Plot does not show a certain pattern and the distribution is above and below zero, so the regression model used does not experience heteroscedasticity.

In this study, multiple linear regression analysis was used to determine the relationship and influence of Archive Arrangement Variables (X1), Infrastructure Variables (X2) and Archives Officer Competence Variables (X3) on Work Effectiveness Variables (Y) of the

Highways and Construction Services Office of North Sumatra Province. . The results of multiple linear regression calculations can be seen in table 4.15 below:

**Table 16.** Multiple Linear Regression Analysis Results

Coefficients <sup>a</sup>		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
Model		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	15.131	7,870		1,923	.062		
	ARCHIVES SETUP	.127	.182	.139	.697	.490	.545	1,835
	INFRASTRUCTURE	.063	.196	.057	.321	.750	.681	1.469
	COMPETENCY OF ARCHIVES	.399	.191	.356	2,089	.044	.749	1.335

a. Dependent Variable: WORK EFFECTIVENESS  
Source: SPSS 25 Processing (2021)

The results of multiple linear regression analysis table 16 obtained the following equation:

$$Y = 15.131 + 0.127 X_1 + 0.063 X_2 + 0.399 X_3$$

The results of the partial test (t test) can be seen in the following table 4.16:

**Table 17.** Partial Test Results (t Test)

Coefficients <sup>a</sup>		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
Model		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	15.131	7,870		1,923	.062		
	ARCHIVES SETUP	.127	.182	.139	.697	.490	.545	1,835
	INFRASTRUCTURE	.063	.196	.057	.321	.750	.681	1.469
	COMPETENCY OF ARCHIVES	.399	.191	.356	2,089	.044	.749	1.335

a. Dependent Variable: WORK EFFECTIVENESS  
Source: SPSS 25 Processing (2021)

Simultaneous Test Results (Test F) can be seen in Table 18 below:

**Table 18.** Simultaneous Test Results (Test F)

ANOVA <sup>a</sup>		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	81.478	3	27,159	3.342	.030 <sup>b</sup>
	Residual	292.522	36	8.126		
	Total	374,000	39			

a. Dependent Variable: WORK EFFECTIVENESS  
b. Predictors: (Constant), ARCHIVES OFFICERS COMPETENCE, INFRASTRUCTURE, ARCHIVES SETUP  
Source: SPSS 25 Processing (2021)

Based on Table 18 above, it can be seen that the calculated F value is 3.342 and the F table value at 5% alpha is 2.86. Thus, the Fcount (3.342) > F table (2.86) with a significance level of 0.030 < 0.05, it means that together or simultaneously the variables of Archive Arrangement (X<sub>1</sub>), Infrastructure (X<sub>2</sub>) and Archives Officer Competence (X<sub>3</sub>) have a positive

and significant effect on Work Effectiveness. So, based on the criteria for testing the hypothesis, Ha is accepted and H0 is rejected.

**Table 19.** Simultaneous Coefficient of Determination Test Results ( $R_2$ )

<b>Model Summaryb</b>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.467a	.218	.153	2.85055	.961

a. Predictors: (Constant), ARCHIVES OFFICERS COMPETENCE, INFRASTRUCTURE, ARCHIVES SETUP

b. Dependent Variable: WORK EFFECTIVENESS

Source: SPSS 25 Processing (2021)

## V. Conclusion

The effectiveness of work at the Office of Highways and Construction of North Sumatra Province can be influenced by the multiple regression equation  $Y = 15.131 + 0.127 X_1 + 0.063 X_2 + 0.399 X_3$ , meaning that the regression coefficient value is  $b_1 = 0.127$ ,  $b_2 = 0.063$  and  $b_3 = 0.399$  indicates that the archival arrangement ( $X_1$ ), infrastructure ( $X_2$ ) and officer competence ( $X_3$ ) archives are good or increase in one unit, the work effectiveness ( $Y$ ) will be good or increase as well.

Based on the F test, it is known that the calculated F value is 3.342 and the F table value at 5% alpha is 2.86. Thus, the Fcount value (3.342) > F table (2.86) with a significance level of  $0.030 < 0.05$ , meaning that together or simultaneously the variables of Archive Arrangement ( $X_1$ ), Infrastructure ( $X_2$ ) and Archives Officer Competence ( $X_3$ ) have a positive and significant effect on Work Effectiveness.

The relationship between the arrangement of archives, infrastructure and the competence of archiving officers on the effectiveness of work in the Department of Highways and Construction of North Sumatra Province that the R Square value obtained is 0.218 or 21.8%. This shows the ability of the Archives Arrangement variable ( $X_1$ ), Infrastructure ( $X_2$ ) and Archive Officer Competence ( $X_3$ ) simultaneously or together to affect Work Effectiveness by 21.8%.

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