

The Influence of Facilities and Infrastructure on the Effectiveness of Employee Work at PDAM Tirtanadi, Sunggal Branch, Medan

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Article Info	ABSTRACT
<p>Keywords: Facilities and Infrastructure, Work Effectiveness</p>	<p>This research discusses the influence of facilities and infrastructure on the work effectiveness of PDAM Tirtanadi Sunggal Branch employees. The purpose of this research is to determine the influence of facilities and infrastructure (X) on employee work effectiveness (Y). This research uses indicators from each variable. The indicators for facilities and infrastructure (X) are Equipment, Supplies, Infrastructure. Indicators of work effectiveness (Y) are goal achievement, work quality, work quantity, punctuality, job satisfaction. This research uses quantitative methods with a population of 46 people and a sample of 46 people, while for managing research data using the SPSS version 23 program. Based on the research results, it can be seen that the facilities and infrastructure variables partially have a significant effect on the work effectiveness variable as proven by the results of the T test with a calculated t value of $10.154 > t$ table 1.680 and a significant value of $0.000 < 0.05$. The results of the simple linear regression test which has the equation $Y = 36.876 + 0.783$ show that the facilities and infrastructure variable shows a coefficient value of 0.783, which means that the facilities and infrastructure variable has a positive influence on the work effectiveness variable. The results of the coefficient of determination test show that the value (R square) obtained is 0.701 (70.1%) indicating that facilities and infrastructure have an influence on employee work effectiveness by 70.1%.</p>
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INTRODUCTION

Facilities and infrastructure are one of the factors that support the success of an agency in providing services to customers, facilities are tools that are directly used to support the implementation of work, while infrastructure is the main support for the smooth implementation of administrative and operational activities, so it is necessary to carry out adequate management of facilities and infrastructure well, this is important to support employee performance. With adequate facilities and infrastructure, employees can achieve work quickly and efficiently because facilities and infrastructure are important for the continuity of a work process. Employee work effectiveness can be interpreted as the ability

to achieve goals with aspects of quality, quantity and time in completing the work that has been determined. Effectiveness is generally related to how the system is used efficiently, therefore, it is important to ensure that all equipment in the work functions efficiently so that the work can be completed optimally and on time.

According to Pelealu et al [1] in their research entitled the influence of Facilities and Infrastructure on the work effectiveness of employees at the National Unity and Regional Politics Agency of North Sulawesi Province, the results of the research are that, the results of research analysis of partial correlation coefficient values show that Facilities and Infrastructure have a strong relationship. on the Effectiveness of Employee Work at the National Unity and Regional Political Agency of North Sulawesi Province. The results of the analysis of simple linear regression coefficient values and the t test show a significant influence on the work effectiveness of employees at the National Unity and Regional Political Agency of North Sulawesi Province. The results of the coefficient of determination show that Facilities and Infrastructure have an influence of 84.3% while the remaining 15.7% is influenced by other factors.

The difference between previous research and the author is that in terms of phenomena, the author discusses the lack of availability of computers, limited working paper, and poor printer performance, while previous researchers discuss problems regarding electricity which often crashes or goes out due to excessive use of AC. PDAM is a regionally owned business entity (BUMD) which has been involved in clean water management since 1991. PDAM is a supporting element of government which is the authority of the provincial province led by the Governor of North Sumatra. Based on the author's initial observations at PDAM Tirtanadi Sunggal Branch, it was found that there were obstacles that affected the effectiveness of employees' work, namely there were queues to complete a job, namely problems in inputting customer data due to insufficient computer availability, and there were also building infrastructure whose roofs were leaking resulting in rainwater seeping into the interior. the room causes the floor to be flooded with water and there is poor performance of the printer resulting in unsatisfactory print results so that you have to print repeatedly, and there are also limited paper because when carrying out the action of printing work results there is less availability, this can hinder the smooth effectiveness of employee work.

METHODS

Time and Place of Research

This research was carried out at PDAM Tirtanadi Sunggal Branch located on Jl. Sunggal Pekan No.1A, Sunggal, Medan Sunggal District. Medan City, North Sumatra 20135 starting from February to May 2024. The research schedule that the author has planned for this final assignment can be seen in the following table.

Table 1. Research Schedule

No	Research Activities	Month															
		February				March				April				May			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Title Submission	■															
2	Proposal Preparation		■	■	■	■											
3	Proposal Seminar						■										
4	Guidance						■	■	■								
5	Submission of Research Permit Letter										■						
6	Report Writing											■	■				
7	Results Seminar													■			
8	Improvements After Seminar Results														■	■	
9	Hearing																■

Types and Sources of Research Data

Data Type

The types of data used by the author in the research are as follows:

1. Primary data is data obtained or collected by researchers from data sources, namely from the research object in question. The primary data for this research were obtained from distributing questionnaires distributed to employees of PDAM Tirtanadi Sunggal Branch
2. Secondary data is data obtained from existing sources, so the author does not directly collect data from the object to be studied. Data obtained by this researcher through sources such as the internet, books, and so on.

Data source

Internal Data

1. Internal data is data whose source comes from within the party that will be used as the research object. Internal data obtained in this research is data collected from employees who work at PDAM Tirttanadi Sunggal Branch.
2. External data is data from outside the object being studied. To complete this research, the data obtained to help and support the author came from various sources, including the internet and books related to the research title.

Method of collecting data

The data collection techniques used in this research are:

Field Research

The author distributed a questionnaire containing statements to respondents who were employees of PDAM Tirtanadi Sunggal branch, in this way conduct a survey directly at the research location.

Questionnaire

According to Sujarweni in Trimulatsih [10] a questionnaire is a data collection instrument which is carried out by giving several written statements or questions to respondents for them to answer.

Table 2. Measurement scale

No	Question Answers	Value Weight	Measurement
1	Strongly agree	5	Likert Scale
2	Agree	4	
3	Neutral	3	
4	Don't agree	2	
5	Strongly Disagree	1	

Simple Linear Regression

A simple linear regression test is used to see the influence of one independent variable on one dependent variable, whether it has a positive or negative relationship. This simple linear regression test is carried out using the following formula:

$$Y = a + bX$$

Information

Y = Dependent variable

A = Constant (Y value when X = 0)

b = Regression coefficient

X = Independent Variable

R Square coefficient of determination value

The coefficient of determination R square value is used to determine the level of relationship between facilities and infrastructure on employee work effectiveness.

RESEARCH RESULTS AND DISCUSSION

Research result

In this research, the author obtained data from the results of a questionnaire that was distributed to employees of PDAM Tirtanadi Sunggal Branch with a total of 46 respondents.

Respondent Data Analysis Method

Respondent Characteristics

This research uses quantitative techniques by distributing questionnaires to all 46 employees of PDAM Tirtanadi Sunggal Branch. The characteristics of the respondents in this research are divided based on age, gender and employment status.

Table 3. Characteristics of Respondents Based on Age

		AGE			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-25 Years	5	10.9	10.9	10.9
	26-30 Years	2	4.3	4.3	15.2
	31-35 Years	5	10.9	10.9	26.1
	36-40 Years	5	10.9	10.9	37.0
	41-45 Years	4	8.7	8.7	45.7
	46-50 Years	15	32.6	32.6	78.3
	51-55 Years	10	21.7	21.7	100.0
	Total	46	100.0	100.0	

Based on the data from the table that the author has processed above, it shows that of the 46 respondents, the results showed that there were 5 employees aged 20-25 years (10.9%), 2 people aged 26-30 years (4.3%), 31-35 years old. totaling 5 people (10.9%), aged 36-40 years totaling 5 people (10.9%), aged 41-45 years totaling 4 people (8.7%), aged 46-50 years totaling 15 people (32.6%), aged 51-55 years old amounted to 10 people (21.7%).

Gender

Table 4. Characteristics of Respondents Based on Gender

		GENDER			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Woman	14	30.4	30.4	30.4
	Man	32	69.6	69.6	100.0
	Total	46	100.0	100.0	

Based on the table above, it shows that of the 46 respondents obtained, the results were that there were 14 female employee respondents (30.4%) and 32 male employees (69.6%). From

these results it can be concluded that the majority of respondents are men.

Descriptive Analysis (Distribution of Respondents' Assessments)

In this research there is a statement on each indicator, namely: Equipment, supplies, infrastructure on variable

Table 5. Distribution of Respondents on Facilities and Infrastructure Variables

No	Indicator	Statement	Respondent's Answer (Statement)		Respondents' Answers (Indicators)	
			Flat-Average Weight	%	Flat-Average Weight	%
1	Equipment	Office work equipment such as (computers, printers, etc.) help me complete work quickly.	4.70	51%	4.21	50%
2		Lack of maintenance of work equipment hinders work efficiency.	4.26	32%		
3		I feel that the amount of equipment in each sub-section is still inadequate	3.67	17%		
4	Equipment	Limited availability of paper makes it difficult for me to print documents as needed	3.76	20%	4.10	35%
5		Adequate work equipment makes me feel more productive in carrying out my work	4.48	50%		
6		Delays in procuring work equipment reduce the efficiency of work achievements	4.07	30%		
7	Infrastructure	I lack concentration because the open office layout makes the work space less conducive	3.39	20%	3.70	20%
8		I think the office infrastructure is good	3.83	35%		
9		I was a little bothered by a roof leak that caused water to seep into the office when it rained	3.87	50%		

Based on the results of the table above from variable and infrastructure indicators of 20% with an average respondent answer of 3.70. So it can be concluded that from the facilities and infrastructure variable, the equipment indicator is the highest answer.

Table 6. Validity Test Results of Facilities and Infrastructure (X)

No	Variable	Totalltscore	<>	R-table	Statement
		(r-Count)			Valid
1	Statement1	0.436	>	0.297	Valid
2	Statement2	0.649	>	0.297	Valid
3	Statement3	0.548	>	0.297	Valid
4	Statement4	0.605	>	0.297	Valid
5	Statement5	0.476	>	0.297	Valid
6	Statement6	0.547	>	0.297	Valid
7	Statement7	0.686	>	0.297	Valid
8	Statement8	0.397	>	0.297	Valid
9	Statement9	0.450	>	0.297	Valid

The t test is used to determine whether the independent variable has a significant partial influence on the dependent variable. From the results of the regression analysis, the t value can be seen in the table above. The significant levels used are $\alpha = 5\%$ or 0.05. Determine the t distribution table with degrees of freedom (df) using the formula:

$$t = [\alpha; (df = nk)]$$

$$t = [5\%; (df = 46 - 2)]$$

$$t = (0.05 ; 44)$$

Hypothesis testing

It is known that the significant value for the influence of X on Y is $0.000 < 0.05$ and the t value is $10.154 > t$ table 1.680, so it can be concluded that variable

Therefore, based on the results of the T test for variable employee work effectiveness at PDAM Tirtanadi single branch.

To find out the results of the validity test, by using tools, namely SPSS version 23, the results of the validity test are obtained as shown in the calculated r table. Because there are 46 people in the sample ($df = 46 - 2 = 44$), the r table is 0.297 with a significance level of 5% according to the R Product Moment person table formula. If the calculated r value is $> r$ table (0.297) and is positive then a statement can be concluded. or the indicator is declared valid. The results that the author obtained from the results of this research were carried out by distributing questionnaires to employees of PDAM Tirtanadi Sunggal Branch with 46 respondents. Research was conducted to determine the influence of facilities and infrastructure on work effectiveness. This research uses 2 variables, namely the first variable is facilities and infrastructure (X), the second variable is work effectiveness (Y). With a total of 24 statements which will later be used as a measurement tool in making the questionnaire. Based on research conducted by the author who wants to discuss the Influence of Facilities and Infrastructure on the Work Effectiveness of PDAM Tirtanadi Sunggal Branch Employees Based on the results of previous research conducted by Pelealu et al [1] the aim was to

determine the influence of facilities and infrastructure on work effectiveness at the North Sulawesi Regional National and Political Unity Agency. This research shows that there is a strong relationship between facilities and infrastructure and work effectiveness. It is known from the research results that it shows that facilities and infrastructure have a significant influence on work effectiveness so that H1 is accepted.

This research focuses on determining the influence of facilities and infrastructure on the work effectiveness of PDAM Tirtanadi Sunggal Branch employees. The results show that the facilities and infrastructure variables significantly influence the work effectiveness variable. Therefore, it can be concluded that the results of previous research and this research conducted by the author are both significant,

Facilities and Infrastructure Variables (X)

Based on partial results using the T test, the variables of facilities and infrastructure have a significant effect on work effectiveness based on the calculated t value of 10,154 > t table 1,680 and the significant value (α) is 0.000 so that the results obtained show that this research variable is significant and has an influence through the SPSS 23 test results, so H1 is accepted. The positive direction states that if there is an increase of 1% in the level of facilities and infrastructure, work effectiveness will increase by 0.783. In other words, every time there is an increase in facilities and infrastructure consisting of (equipment, equipment and infrastructure), the work effectiveness of employees will also increase.

Of the three indicators in the facilities and infrastructure variable, the equipment indicator was the highest respondent answer with a value of 50%. In this indicator there is a statement "Office work equipment such as (computers, printers, etc.) helps me to complete my work quickly. This means that if the work equipment is good in the workplace, the work effectiveness of PDAM Tirtanadi's single branch employees will increase."

In the facilities and infrastructure variable, the Infrastructure indicator was the lowest respondent answer, namely 20%. In the Infrastructure indicator there is the statement "I lack concentration because the open office layout makes the work space less conducive", which has a low value of 20%, this means that work effectiveness will decrease if the work environment is not supportive, because this can reduce focus. and employee productivity.

Facilities and Infrastructure (X) on Work Effectiveness (Y)

Based on the results of a simple linear test, the constant value is 36.876, while for facilities and infrastructure the result is 0.783, which states that for every 1% addition to facilities and infrastructure, work effectiveness will increase by 0.783. This shows that work effectiveness is positively influenced by the facilities variable. and infrastructure.

Based on the results of research using the T test, it can be seen that the facilities and infrastructure variable has an influence of 10.154 on employee work effectiveness, with a calculated t value greater than the t table ($10.154 > 1.680$), and a significant value (α) of 0.000, this shows that this variable has a significant influence. In table 4.13, the value (R Square) obtained is 0.701 (70.1%), so it can be concluded that facilities and infrastructure influence work effectiveness by 70.1% while the remaining 29.9% is influenced by other factors that are not included. careful in this research.

Based on the results of Saraswati's research [9] with the title The Influence of Conventions,

Motivation and Infrastructure on Effectiveness, it has significant results for facilities and infrastructure of 0.001 and a calculated t value of 3.361 < significance α = 5% (0.05), this shows that the facilities and Infrastructure partially has a positive effect on the effectiveness of employee work at the Banyumanik District Office. Based on the results of the Simultaneous test (F Test), the table F value > calculated F (51.333 > 2.70). With a significance value of 0.000 < significance level value of 0.05. With an R Square result of 0.625 (62.5%). According to Febriani [10] facilities and infrastructure have an influence on the work effectiveness of employees at the Base Kuras sub-district office, from the results of a simple linear regression test it is proven that there is an influence of facilities and infrastructure variables on work effectiveness, with the coefficient results showing a positive value which means the facilities and infrastructure variables has an influence on work effectiveness of 972, and the resulting constant value is 6.075. For every one percent increase in infrastructure, the work effectiveness value increases by 972. The results of the r square coefficient of determination test show that the infrastructure variable influences around 51.1%.

The results of the author's research with researchers conducted by Saraswati and Febriani have harmonious results, there is a significant influence of facilities and infrastructure on employee work effectiveness.

CONCLUSION

Based on the research and discussion regarding the influence of facilities and infrastructure on work effectiveness at PDAM Tirtanadi Sunggal branch, it can be concluded that the Facilities and Infrastructure variable partially has a significant influence on the work effectiveness of PDAM Tirtanadi Sunggal branch employees based on the calculated t value of 10,154 > t table 1,680 and the value is significant (α) of 0.000. The positive direction shows that if there is an increase in facilities and infrastructure by 1%, work effectiveness will increase by 0.783. Based on the results of the simple linear regression test, it can be seen that the constant is 36.876 and for facilities and infrastructure it is 0.783, which states that for every 1% increase in the regression level for facilities and infrastructure, work effectiveness will increase by 78.3%. This shows that the facility and infrastructure variables have an influence. positive towards work effectiveness. So the better the facilities and infrastructure provided, the more work effectiveness will increase. The value (R Square) obtained was 0.701 (70.1%), so it can be concluded that facilities and infrastructure influence employee work effectiveness by 70.1% while the remaining 29.9% is influenced by factors not examined in the research This.

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