



## The Effect Of Service Quality On Customer Satisfaction At PT Pdam Tirta Manna, South Bengkulu District

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**Abstract.** This type of research uses quantitative research. The analysis method in this study uses Validity Test, Reliability Test, Multiple Linear Regression Analysis, Determination Coefficient and hypothesis testing using t-test. The number of samples studied was 35 customers who came with complaints and new installations during the last 1 month at PDAM Tirta Manna, South Bengkulu Regency. The results of the multiple linear regression analysis are the equation:  $Y = 6.450 + 0.052 X_1 + 0.084 X_2 + 0.227 X_3 + 0.288 X_4 + 0.234 X_5 + e$ , this describes a positive regression direction, meaning that the variables Physical evidence (X1), Reliability (X2), Assurance (X3), responsiveness (X4), and empathy (X5) have a positive influence on consumer satisfaction (Y) at PDAM Tirta Manna, South Bengkulu Regency. The value of the coefficient of determination from the calculation results using SPSS can be seen from the coefficient of determination value of R square of 0.991. This means that the value of Physical evidence (X1), reliability value (X2), assurance (X3), responsiveness (X4) and empathy (X5) has an effect on consumer satisfaction (Y) of 99.1% while the remaining 0.9% is influenced by other variables not examined in the study.

**Keywords:** *Service, Quality, Customer Satisfaction.*

### INTRODUCTION

Clean water is essential for the survival of humans and animals. Without air, there would be no life on Earth. The human body is 65% air. Given its importance, it is natural that the clean water sector receives top priority, as it impacts the lives of many people. Provision of clean water can be achieved through various methods, tailored to existing facilities and infrastructure. To fulfill the state's obligation to provide clean water, the government has issued Government Regulation (PP) No. 122 of 2015 concerning the Drinking Water Supply System (SPAM).

The Regional Drinking Water Company (PDAM) in South Bengkulu is a drinking water company managed by the local government and plays a role in the industrial and economic sectors of South Bengkulu. High population growth and increasing community activities will impact rapid economic and industrial growth, resulting in a growing public demand for clean water. In providing clean water services to the community, the state delegates authority and responsibility to district/city governments. These authorities and responsibilities are outlined in Article 40 of Government Regulation Number 122 of 2015, which, among other things, states that district/city governments are authorized to establish clean water supply business entities in the form of Regionally-Owned Enterprises (BUMD) for drinking water, more popularly known as Regional Drinking Water Companies (PDAM).

In general, the tendency for consumer satisfaction with the Medan City PDAM piped water service system, particularly at the Tuasan branch, remains relatively low. This is due to several

complaints from consumers. This can be seen from the conditions directly experienced by customers, such as inadequate service. This is evident in customer complaints such as frequent low or even no water flow, uneven air distribution to customers, and poor PDAM service.

Within this dimension are the speed and timeliness of the service process and the handling of various customer complaints. Guarantees, which focus on service capabilities related to matters related to the security of PDAM services, are included in this dimension, demonstrated by an accurate customer meter reading system using a coded system. Tangible, focused on the appearance of goods or services that constitute the service product. This includes the facilities and equipment used in service delivery, the appearance of employees during service delivery, and the communication tools used during service delivery. Empathy is the ability of service providers to understand the conditions of service users by establishing good communication.

According to Indrasari (2019:61), "service quality is the effort to meet customer needs and desires and to fulfill them in order to meet customer expectations and satisfaction. Service quality is said to meet customer needs and desires and ensure that all aspects meet customer expectations."

Meanwhile, according to Zaid (2021:108), "service quality is the customer's perception of the service components of a product." Pertiwi (2021:68) argues, "service quality is a dynamic state closely related to products, services, and human resources." According to Sampara in Rachman (2021:68), "service quality is the service provided to customers in accordance with service standards that have been implemented in providing services as a means of developing good service." According to Anggoman (2020:65), service quality is the expected level of excellence and the control over that level of excellence to meet consumer desires. In other words, service is an effort to meet customer expectations in terms of speed of complaint handling and compassion for customers.

According to Lestari's 2018 research journal, to facilitate the assessment and measurement of service quality, a service quality measurement tool called SERQUAL (service quality) was developed. SERQUAL is a multi-item scale that can be used to measure customer perceptions of service quality, encompassing five dimensions: tangibles, reliability, responsiveness, assurance, and empathy.

## **LITERATURE REVIEW**

### **Marketing Management**

According to Manullang and Hutabarat (2016), marketing management is the process of analyzing, planning, implementing, and controlling marketing activities, including ideas, goods, and services, based on exchanges, with the goal of achieving customer satisfaction and producer accountability. According to Swastha D. (2014), marketing management is the total planning, implementation, and control of marketing, including the formulation of objectives, marketing policies, marketing programs, and marketing strategies, with the goal of creating exchanges and meeting the needs and desires of both individual and organizational customers. Based on the above definition, it can be concluded that marketing management is the process of planning, analyzing, organizing, and controlling a pre-agreed plan. This process significantly influences the success of a marketing program. Therefore, it aims to meet the needs and desires of both individual and organizational customers, ensuring customer satisfaction.

### **Service Quality**

According to Cesariana (2022), service quality is a company's ability to meet customer expectations. Furthermore, if the service received or experienced meets expectations, the quality is perceived as good and can satisfy customers.

Another opinion expressed by (Sualang, 2020) states that service quality is a dynamic condition related to products, services, people, processes, and the environment, where quality assessment is determined at the time the public service is provided. If service quality is oriented towards customer service users, then the service must be positively valued by service users/customers. To achieve quality service or earn positive reviews from service users, internal parties in the company/provider must be able to carry out their respective tasks in accordance with their main duties and functions. This is a journey towards assessing service quality as perceived by service users. (Sualang, 2020) states that the main factors influencing service quality are customer expectations and perceptions of service. Service quality must begin with customer needs and end with customer satisfaction and a positive perception of service quality. As the party purchasing and consuming the product/service, the customer (and not the producer or service provider) assesses the level of service quality of a company. When the service meets customer expectations, the service is considered quality.

### **Customer Satisfaction**

According to (Nugraha & Sumadi, 2020), customer satisfaction stems from a psychological state when emotions associated with consumer expectations do not align with the feelings arising from the actual use of a product or service. They clarify that a customer's emotional reaction to the experience involving the goods or services they purchase is known as customer satisfaction. Customer satisfaction can be defined as the perceived fulfillment of customer expectations (Efendi and Lili, 2016). If a company's service does not meet customer expectations, it will lead to disappointment; conversely, if the service provided is satisfactory, the customer will be happy.

According to Sangadji and Sopiah (2013: 183), customer satisfaction and dissatisfaction are the impact of comparing customer expectations before purchase with actual product performance. From these definitions, it can be concluded that customer satisfaction, viewed from the customer's perspective, concerns how customers perceive the service provided compared to their expectations.

According to Rangkuti (2003:40) customer satisfaction with a service is determined by the level of customer interest before using the service compared to the results of customer perceptions of the service after the customer experiences the performance of the service.

## **METHODS**

### **Validity Test**

Validity testing is a valid research result if there is a similarity between the collected data and the data that actually occurs in the object being researched (Sugiyono, 2014:76).

The validity test uses the SPSS ( *Statistical Product and Service Solutions* ) program. Validity testing can be conducted by examining the correlation between the scores of each item in the questionnaire and the total score to be measured, using *the Pearson Correlation Coefficient*.

### **Reliability Test**

Instrument reliability testing can be conducted externally or internally. External testing can be done using *test-retest* , *equivalent* , or a combination of both. Internally, instrument reliability can be tested by analyzing the consistency of the items in the instrument using certain techniques (Sugiyono, 2014:87). To test the reliability of the questionnaire used, a reliability analysis is conducted based on the coefficient of reliability. *Cronbach's Alpha*. *The Cronbach's Alpha* coefficient interprets the correlation between the created scale and all existing indicator scales, with confidence in the level of constraints. An indicator is considered reliable if the alpha coefficient is above 0.60, and if it is below 0.60, it is considered unreliable (Ghozali, 2015:66).

## Multiple Linear Regression

Multiple linear regression analysis to determine the accuracy of predictions whether there is a strong relationship between the independent variables ( $X_1, X_2, X_3, X_4,$  and  $X_5$ ) with the dependent variable ( $Y$ ). The general form of the multiple regression equation is as follows:

$$Y = + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + e$$

$\alpha$   
(Sugiyono, 2014:192)

## Coefficient of Determination ( $R^2$ )

The coefficient of determination ( $R^2$ ) essentially measures the model's ability to explain variation in the dependent variable. The coefficient of determination ranges from zero to one ( $0 < R^2 < 1$ ). A small  $R^2$  value indicates that the independent variables are very good at explaining variation in the dependent variable. limited. A value close to one means that the independent variables provide almost all the information needed to predict the variation in the dependent variable.

## RESULTS

### Validity Test

Validity testing indicates the extent to which a measuring instrument measures what it is intended to measure. A questionnaire is said to be valid if the questions in the questionnaire are able to reveal something that can be measured. In the Statistical Product and Service Solution (SPSS) program, the testing technique used is Corrected Item-Total Correlation. Testing in this study to determine the validity of a variable was carried out using the Validity Analysis technique with a correlation value above 0.3. (Sugiyono, 2018:115). The results of the validity test of the research indicators are as shown in the following table:

**Table 1 Validity Test of Research Indicators**

No	Question Items	R- Table	R- count	Description
<b>Physical Evidence ( X1)</b>				
1	Physical evidence1	0.333	0.696	Valid
2	Physical evidence2	0.333	0.573	Valid
3	Physical evidence3	0.333	0.787	Valid
4	Physical evidence4	0.333	0.617	Valid
5	Physical evidence5	0.333	0.543	Valid
6	Physical evidence6	0.333	0.684	Valid
7	Physical evidence7	0.333	0.504	Valid
8	Physical evidence8	0.333	0.693	Valid
9	Physical evidence9	0.333	0.701	Valid
10	Physical evidence10	0.333	0.587	Valid
<b>Reliability (X2)</b>				
1	Reliability1	0.333	0.630	Valid
2	Reliability2	0.333	0.537	Valid
3	Reliability3	0.333	0.718	Valid
4	Reliability4	0.333	0.630	Valid
5	Reliability5	0.333	0.517	Valid
6	Reliability6	0.333	0.463	Valid
7	Reliability7	0.333	0.445	Valid
8	Reliability8	0.333	0.632	Valid

9	Reliability9	0.333	0.638	Valid
10	Reliability10	0.333	0.627	Valid
<b>Guarantee (X3)</b>				
1	Guarantee1	0.333	0.576	Valid
2	Guarantees2	0.333	0.582	Valid
3	Guarantee3	0.333	0.708	Valid
4	Guarantee4	0.333	0.562	Valid
5	Guarantee5	0.333	0.562	Valid
6	Guarantee6	0.333	0.410	Valid
7	Guarantee7	0.333	0.466	Valid
8	Guarantee8	0.333	0.369	Valid
9	Guarantee9	0.333	0.488	Valid
10	Guarantee10	0.333	0.438	Valid
<b>Responsiveness (X4)</b>				
1	Responsiveness1	0.333	0.657	Valid
2	Responsiveness2	0.333	0.640	Valid
3	Responsiveness3	0.333	0.606	Valid
4	Responsiveness4	0.333	0.670	Valid
5	Responsiveness5	0.333	0.621	Valid
6	Responsiveness6	0.333	0.479	Valid
7	Responsiveness7	0.333	0.612	Valid
8	Responsiveness8	0.333	0.608	Valid
9	Responsiveness9	0.333	0.649	Valid
10	Responsiveness10	0.333	0.619	Valid
<b>Empathy (X5)</b>				
1	Empathy1	0.333	0.714	Valid
2	Empathy2	0.333	0.626	Valid
3	Empathy3	0.333	0.752	Valid
4	Empathy4	0.333	0.642	Valid
5	Empathy5	0.333	0.600	Valid
6	Empathy6	0.333	0.555	Valid
7	Empathy7	0.333	0.613	Valid
8	Empathy8	0.333	0.647	Valid
9	Empathy9	0.333	0.732	Valid
10	Empathy10	0.333	0.617	Valid
<b>Satisfaction (Y)</b>				
1	Satisfaction1	0.333	0.724	Valid
2	Satisfaction2	0.333	0.655	Valid
3	Satisfaction3	0.333	0.547	Valid
4	Satisfaction4	0.333	0.619	Valid
5	Satisfaction5	0.333	0.628	Valid
6	Satisfaction6	0.333	0.622	Valid
7	Satisfaction7	0.333	0.407	Valid
8	Satisfaction8	0.333	0.622	Valid
9	Satisfaction9	0.333	0.365	Valid
10	Satisfaction10	0.333	0.372	Valid

Source: SPSS output version 25.0, 2025

Based on table 6 above, all 60 statement items submitted to respondents are valid, so the questions have the level of validity expected in this study, namely all indicators have a calculated  $r$  value  $>$   $r$  table, namely calculated  $r > 0.333$ . Therefore, all indicators used in this study are valid and can be used as research tools.

### Reliability Test

Reliability testing indicates that an instrument is sufficiently reliable to be used as a data collection tool because the instrument is good (Arikunto; 2010). A reliable instrument will produce reliable data. A research instrument is indicated to have an adequate level of reliability if the Cronbach's Alpha coefficient is greater than or equal to 0.60 (Ghozali, 2016: 90). The results of the reliability test for the research variables can be seen in Table 2 below.

**Table 2 results of the Reliability Test of the Research Instrument**

No	Variables	Validity level	Cronbach's Alpha Value	Information
1	Physical evidence	0.60	0.840	Rally a bell
2	Reliability	0.60	0.786	Rally a bell
3	Guarantee	0.60	0.697	Reliable
4	Responsiveness	0.60	0.818	Reliable
5	Empathy	0.60	0.849	Reliable
6	Satisfaction	0.60	0.752	Rally a bell

Source: SPSS output version 25.00, 2025

### Multiple Linear Regression Analysis Method

To simplify the regression calculations from a large amount of data, this research was completed with the help of the SPSS 25 computer software program. The results of testing the multiple regression model on the variables Physical evidence (X1), reliability (X2), Assurance (X3), Responsiveness (X4) and Empathy (X5) which influence consumer satisfaction are shown in the following table 3 :

**Table 3 Multiple Regression Test Results**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,450	,780		8,267	,000
	Physical evidence1	,052	,012	,082	4,163	,000
	reliability1	,084	,037	,111	2,274	,031
	guarantee1	,227	,019	,273	11,690	,000
	responsiveness1	,288	,020	,417	14,744	,000
	empathy1	,234	,030	,382	7,700	,000

a. Dependent Variable: satisfaction1

### Results of Determination Test ( $R^2$ )

The coefficient of determination ( $R^2$ ) essentially measures the model's ability to explain the dependent variable. The coefficient of determination ranges from zero to one. A low  $R^2$  value indicates that the independent variables' ability to explain the dependent variable is very limited. A value close to one indicates that the independent variables provide nearly all the information needed to predict the variation in the dependent variable. The  $R^2$  test results can be seen in Table 4.

**Table 4 Results of Determination Test ( $R^2$ )**

Model Summary				
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	,996 <sup>a</sup>	,991	,990	,46838

a. Predictors: (Constant), empathy1, Physical evidence1, assurance1, responsiveness1, reliability1

Based on table 9 for the determination coefficient value using the R Square model. From the calculation results using SPSS, the determination coefficient value of R square is 0.991. This means that the value of physical evidence (X1) and the value of reliability (X2), assurance (X3), responsiveness (X4) and empathy (X5) have an effect on consumer satisfaction (Y) of 99.1% while the remaining 0.9% is influenced by other variables not examined in the study.

### F-Test Results (simultaneous)

According to Pardede and Manurung (2014; 28), the F test can be used to test the simultaneous influence of independent variables on the dependent variable (Y) if the independent variable has a simultaneous effect with the dependent variable. This can be seen in the following table 5:

**Table 5 Results of the F test (simultaneous)**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	726,679	5	145,336	662,495	,000 <sup>b</sup>
	Residual	6,362	29	,219		
	Total	733,041	34			

a. Dependent Variable: satisfaction1  
 b. Predictors: (Constant), empathy1, Physical evidence1, assurance1, responsiveness1, reliability1

From the table above, the significance value is  $0.000 < 0.05$ . Because the significance level is below 0.05, it shows that simultaneously, physical evidence (X1), reliability (X2), assurance (X3), responsiveness (X4), and empathy (X5) have a significant effect on consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency.

Based on the results of the simultaneous t-test,  $H_0$  is rejected and  $H_a$  is accepted, or in other words, physical evidence (X1), reliability (X2), assurance (X3), responsiveness (X4), and empathy (X5) have a simultaneous effect on consumer satisfaction (Y). The calculated F value  $> F$  table is  $662.495 > 2,372$ . (F table attached).

### Partial Hypothesis Testing (t-Test)

The results of the t-test hypothesis testing using SPSS 25.0 can be seen in table 6:

**Table 6. Partial (t) test results**

Model		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,450	,780		8,267	,000
	Physical evidence1	,052	,012	,082	4,163	,000
	reliability1	,084	,037	,111	2,274	,031
	guarantee1	,227	,019	,273	11,690	,000
	responsiveness1	,288	,020	,417	14,744	,000
	empathy1	,234	,030	,382	7,700	,000

a. Dependent Variable: satisfaction1

### DISCUSSION

Based on the research results, it can be seen that physical evidence, reliability, assurance, responsiveness, and empathy have a very strong relationship with consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency with a value of Based on analysis using SPSS 25. The results of multiple regression analysis, determination test and hypothesis test can be concluded as follows:

**Table 7 Results of Multiple Linear Regression Analysis, Determination Test and Hypothesis Test .**

Variables	Mark Coef	Standard Error	R Square	Sig.	Information
Equation : $Y = 6.450 + 0.052 X_1 + 0.084 X_2 + 0.227$					
Physical evidence	0.052	0.012		0,000	Significant
Reliability	0.084	0.037		0.031	Significant
Guarantee	0.227	0.019		0,000	Significant
Responsiveness	0.288	0.020		0,000	Significant
Empathy	0.234	0.030		0,000	Significant
F test				0,000	Significant
Determination			0.991		99.1%

### The Influence of Physical Evidence on Consumer Satisfaction of PDAM Tirta Manna, South Bengkulu Regency

The test results in this study indicate that there is a significant influence between physical evidence on consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency, because the test results for the physical evidence variable show a significance value of 0.000 < 0.05. Because the significance value is smaller than 0.05. This means that physical evidence has a significant influence on consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency.

The coefficient value of physical evidence obtained after conducting research using SPSS 25 obtained that the coefficient value of physical evidence was 0.052. This shows that the

physical evidence variable has a significant effect on consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency. The standard error on the physical evidence variable is 0.012. The data obtained in the reliability test on the physical evidence variable is 0.840. In this case, the physical evidence in the reliability test is said to be reliable or reliable because the physical evidence variable is above 0.60. An acceptable indicator if the alpha coefficient is above 0.60, then it is said to be reliable and if it is below 0.60, it means it is not reliable. (Ghozali, 2015:66).

This shows that physical evidence significantly influences customer satisfaction at the Tirta Manna Water Company (PDAM) in South Bengkulu Regency. Therefore, the Head of the Tirta Manna Water Company (PDAM) in South Bengkulu must further improve the quality of customer satisfaction to ensure customer satisfaction and increase existing customer base.

As research conducted by Lupiyoadi (2019) states that physical evidence is the physical environment of the company where the service is created and where the service provider and consumer interact, plus any tangible elements used to communicate or support the role of the service, and any tangible commodities that facilitate the performance or communication of the service. While Physical evidence is a physical environment created by service providers for consumers to interact with and is equipped with supporting facilities as an addition and to make consumers feel comfortable and satisfied Indah Ismaya (2021).

### **The Influence of Reliability on Consumer Satisfaction of PDAM Tirta Manna, South Bengkulu Regency**

Based on the results of the research test using the t-test and F-test as well as multiple linear regression, the reliability variable has no influence on consumer satisfaction. The test results for the reliability variable in the partial test (t) show a significance value of  $0.031 < 0.05$ . Because the reliability significance value is smaller than 0.05,  $H_0$  is rejected and  $H_a$  is accepted. This means that the reliability variable has a significant influence on consumer satisfaction at PDAM Tirta Manna Bengkulu Selatan.

The standard error on the reliability variable is 0.037. The data obtained in the reliability test on the reliability variable is 0.786. In this case, the reliability of the reliability test is said to be reliable or reliable because the reliability variable is above 0.60. An acceptable indicator if the alpha coefficient is above 0.60, then it is said to be reliable and if it is below 0.60, it means it is not reliable. (Ghozali, 2015:66).

However, based on the standard error regression coefficient value in the determination test ( $R^2$ ) of 0.991, it can be understood that the reliability variable has a positive influence on consumer satisfaction. Therefore, the higher the influence of the existing reliability variable, the higher the level of consumer satisfaction. Although reliability has a positive relationship, it is known that reliability significantly affects consumer satisfaction, this is because several independent variables are variables that influence reliability to be a serious consideration for an office or work unit. In line with Afrinda Khoirista's research in 2015, the results of the study showed that based on the analysis of the coefficient of determination, the Rsquare result (coefficient of determination) was 0.583, meaning that 58.3% of the customer satisfaction variable (Y) was influenced by service quality variables consisting of tangible (X1), reliability (X2), responsiveness (X3), assurance (X4), and empathy (X5) while the rest was influenced by other variables not discussed in this study. There is a significant partial (individual) influence on the variables reliability (X2), responsiveness (X3), assurance (X4), and empathy (X5) on customer satisfaction with a significance result of  $t(0.000)\alpha=0.05$ . In line with the research conducted by Dwi Aliya Apriyani in 2017, Based on the results of the F Test in this study showed sig. F  $0.000 < 0.005$  which means that Service Quality consisting of physical evidence, reliability, responsiveness, assurance and empathy together have a significant influence on consumer satisfaction.

### **The Influence of Guarantees on Consumer Satisfaction of PDAM Tirta Manna, South Bengkulu Regency**

The test results in this study indicate that there is a significant influence between guarantees on consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency, because the test results for the guarantee variable show a significance value of  $0.000 < 0.05$ . Because the significance value is smaller than 0.05. In this case, the guarantee variable has a significant influence on consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency.

The value of the guarantee coefficient obtained after conducting research using SPSS 25 obtained that the guarantee coefficient value was 0.227. This shows that the guarantee variable has a significant effect on consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency. This is in line with research conducted by Retno Ayu DN, in 2019, Based on the results of the F Test in this study shows sig. F  $0.516 > 0.05$  which means that Service Quality together does not have a significant effect on Consumer Satisfaction. Based on the results of the t Test, the results show that the reliability variable ( $X_1$ ) does not have a significant effect on consumer satisfaction, the responsiveness variable ( $X_2$ ) does not have a significant effect on consumer satisfaction, the guarantee variable ( $X_3$ ) has a significant effect on consumer satisfaction, the empathy variable ( $X_4$ ) does not have a significant effect on consumer satisfaction, and the physical evidence variable ( $X_5$ ) does not have a significant effect on consumer satisfaction .

The standard error on the guarantee variable is 0.019. The data obtained in the reliability test on the guarantee variable is 0.697. In this case, the guarantee in the reliability test is said to be reliable because the guarantee variable is above 0.60. An acceptable indicator if the alpha coefficient is above 0.60, then it is said to be reliable and if it is below 0.60, it means it is not reliable (Ghozali, 2015:66).

### **The Influence of Responsiveness on Consumer Satisfaction of PDAM Tirta Manna, South Bengkulu Regency**

The test results in this study indicate that there is a significant influence between responsiveness and consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency, because the test results for the responsiveness variable show a significance value of  $0.000 < 0.05$ . Because the significance value is smaller than 0.05. In this case, the responsiveness variable has a significant influence on consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency.

The standard error on the responsiveness variable is 0.020. The data obtained in the reliability test on the responsiveness variable is 0.818. In this case, the responsiveness in the reliability test is said to be reliable because the responsiveness variable is above 0.60. An acceptable indicator if the alpha coefficient is above 0.60, then it is said to be reliable and if it is below 0.60, it means it is not reliable. (Ghozali, 2015:66).

The responsiveness coefficient value obtained after conducting research using SPSS 25 obtained that the responsiveness coefficient value was 0.288. This shows that the responsiveness variable has a significant effect on customer satisfaction at PDAM Tirta Manna, South Bengkulu Regency. This is in line with research conducted by Andi Alfianto in 2022, The results of this study indicate that simultaneously it is known that  $F_{count} 13.539 > F_{table} 2.38$  then  $H_0$  is rejected and  $H_a$  is accepted. This shows that the variables of reliability ( $X_1$ ), responsiveness ( $X_2$ ), assurance ( $X_3$ ), concern ( $X_4$ ), and physical products ( $X_5$ ) simultaneously influence customer satisfaction (Y). And partially there are three variables (X) that influence the variable (Y), namely ( $X_1$ ) reliability, ( $X_3$ ) assurance and ( $X_5$ ) physical products where the t count value of the three variables is greater than t table. Where the t table value shows the number 2.006 while t (count) shows the number 5.997 on the reliability variable, the number 2.966 on the guarantee variable and the number 3.438 on the physical

product variable, so that  $t(\text{count}) > t \text{ table}$  then  $H_0$  is accepted and  $H_a$  is rejected. This shows that the power variables ( $X_1$ ) reliability, ( $X_3$ ) guarantee and ( $X_5$ ) physical products partially have a significant effect on customer satisfaction ( $Y$ ).

### **The Influence of Empathy on Consumer Satisfaction of PDAM Tirta Manna, South Bengkulu Regency**

The test results in this study indicate that there is a significant influence between empathy and consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency, because the test results for the empathy variable show a significance value of  $0.000 < 0.05$ . Because the significance value is smaller than 0.05. In this case, the guarantee variable has a significant influence on consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency.

The standard error for the empathy variable is 0.030. The data obtained in the reliability test for the empathy variable is 0.849. In this case, empathy in the reliability test is said to be reliable because the empathy variable is above 0.60. An acceptable indicator if the alpha coefficient is above 0.60, then it is said to be reliable and if it is below 0.60, it means it is not reliable (Ghozali, 2015:66).

The empathy coefficient value obtained after conducting research using SPSS 25 was 0.234. This shows that the empathy variable has a significant effect on customer satisfaction at PDAM Tirta Manna, South Bengkulu Regency. This is in line with Aria Mulyapradana's 2022 research. Based on the t-test, it can be seen that the variables of physical evidence (0.099), reliability (0.841), assurance (0.258), and empathy (0.689) are  $>$  probability 0.05, which means that these variables partially do not have a significant effect on customer satisfaction. Meanwhile, the responsiveness variable (0.033) is  $<$  probability 0.05, which means that partially this variable has a significant effect on customer satisfaction.

### **Physical evidence, reliability, assurance, responsiveness and empathy towards consumer satisfaction of PDAM Tirta Manna, South Bengkulu Regency**

Based on the research, the variables of physical evidence and reliability have a significant effect on the consumer satisfaction variable. This can be seen that physical evidence is  $0.000 < 0.05$  and reliability is  $0.031 < 0.05$ , and assurance is  $0.000 < 0.05$ . Tests on the reliability of physical evidence (0.840), reliability (786), assurance (0.697), responsiveness (0.818), empathy (0.849) and satisfaction (0.752). In this case, the X and Y variables are all reliable indicators. In the multiple linear regression test, the standard error obtained is for the physical evidence variable of (0.012), the reliability variable of (0.037), the assurance variable (0.019), responsiveness (0.020) and the satisfaction variable of 0.030.

Based on the determination coefficient value using the R Square model. From the calculation results using SPSS, the determination coefficient value of R square is 0.991. This means that the value of physical evidence ( $X_1$ ), reliability value ( $X_2$ ), guarantee value ( $X_3$ ), responsiveness value ( $X_4$ ) and empathy value ( $X_5$ ) have a significant influence on consumer satisfaction ( $Y$ ) which is only 99.1% while the remaining 0.9% is influenced by other variables not examined in this study.

In line with the research conducted by Ahmad Affan Zain in 2022, Based on the results of the F test in this study showed sig. F  $0.000 < 0.05$  which means that the Service Quality variable indicators consisting of tangibility, reliability, responsiveness, assurance and empathy together have a significant effect on consumer satisfaction. Based on the results of the t test, it can be seen that the Service Quality variable indicators consisting of tangibility, reliability, responsiveness, and empathy partially have a significant effect on consumer satisfaction. The results of the t test also show that the responsiveness indicator ( $X_3$ ) has the strongest influence compared to other variable indicators, so the responsiveness variable indicator ( $X_3$ ) has a dominant influence on consumer satisfaction. Furthermore, research conducted by Deka

Veronica in 2017 , the results of the study showed that physical evidence ( tangible ) had no effect on customer satisfaction, while the variables of reliability , responsiveness , assurance , and empathy had a positive and significant effect on customer satisfaction.

## CONCLUSION

1. The results of the multiple linear regression analysis are the equation:  $Y = 6.450 + 0.052 X_1 + 0.084 X_2 + 0.227 X_3 + 0.288 X_4 + 0.234 X_5 + e$ , this describes a positive regression direction, meaning that the variables Physical evidence (X1), Reliability (X2), Assurance (X3), responsiveness (X4), and empathy (X5) have a positive influence on consumer satisfaction (Y) at PDAM Tirta Manna, South Bengkulu Regency.
2. The value of the coefficient of determination from the calculation results using SPSS can be seen from the coefficient of determination value of *R square* of 0.991. This means that the value of physical evidence (X1), reliability value (X2), assurance (X3), responsiveness (X4) and empathy (X5) has an effect on consumer satisfaction (Y) of 99.1% while the remaining 0.9% is influenced by other variables not examined in the study.
3. The results of the t-test at a significance level of 0.05 explain that partially physical evidence, reliability, assurance, responsiveness, and empathy have a significant influence on consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency.
4. The results of the f test at a significance level of 0.05 explain that physical evidence, reliability, assurance, responsiveness and empathy have a significant simultaneous influence on consumer satisfaction at PDAM Tirta Manna, South Bengkulu Regency.

## SUGGESTION

1. For PDAM Tirta Manna  
Based on the research results, it is known that the variables of physical evidence and reliability are variables that greatly influence customer satisfaction at PDAM Tirta Manna, South Bengkulu Regency. Respondents assessed that customer satisfaction is in accordance with physical evidence, reliability, assurance, responsiveness and empathy. Therefore, the author suggests maintaining variable x for the sake of the development and perfection of an office or unit in the future by further improving the factors that influence customer satisfaction.
2. Further Research  
Further researchers can develop this research by examining other factors that may influence physical evidence, reliability, assurance, responsiveness and empathy.

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