



Customer Satisfaction with Drinking Water at Perumda Wa'ir Pu'an Maumere Reviewed from the Aspects of Customer Expectations and Service Quality

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Abstract: The background of this research was the current state of customer satisfactions at the Religiional Public Company (PERUMDA) Air Minum Wair Pu'an Maumere in Lepo Lima Village, which has not been meeting customer expectations. This was evident from ongoing customer complaints, such as insufficient water discharge that failed to meet their needs or didn't flow at all, as well as delays in addressing customer complaints. This research aimed to; (1) describe Customer Expectations, Service Quality and customer satisfaction; and analyze the significant impact of Customer Expectations and Service Quality on customer satisfaction. The population in this research was costumer of PERUMDA Air Minum Wair Pu'an Maumere in Lepo Lima Village, totaling 384 customers. Using the Slovin formula, the sample in this research was 100 customer. Data were collected through questionnaires and analyzed using the descriptive inferential method, namely multiple linear regression. Hypothesis testing was conducted through the F-test and T-test. The descriptive analysis results indicated that the variables of customer expectations, service quality, and customer satisfaction were well categorized. The result of the t-test statistics indicated that both customer expectation and sevice quality had a significant impact on customer satisfaction. Furthermore, the F-test statistics results demonstrated that boht customer expectations and service quality had a significant impact on customer satisfaction simultaneously. The determinant analysis revealed that customer expectations and service quality contributed 57.5% of customer satisfaction at PERUMDA Air Minum Wair Pu'an Maumere in Lepo Lima Village, with the remaining 42.5% influenced by factors outside the research variables.

Keywords: Customer Expectations; Customer Satisfaction; Hypothesis testing; Slovin formula; Service Quality

1. INTRODUCTION

Water is one of the elements that make up the human body, accounting for approximately 70% of the human body, making it very important for human survival. Due to the importance of clean water for human survival, the clean water sector needs to be given priority in terms of both quantity and quality, so that it is safe for human consumption. In response to public complaints regarding the need for clean water, the Sikka Regency government took action by establishing a regional-owned company in accordance with regional autonomy law number 32 of 2024, government regulation number 16 of 2005 concerning the development of drinking water supply systems, and regional regulation (PERDA) of Sikka No. 10 of 2001 on the establishment of a regional drinking water company in Sikka Regency, the local government established PDAM with the aim of providing services, serving the public interest, and as a source of regional revenue.

Over time, based on Sikka Regency Local Regulation (PERDA) No. 2 of 2020 concerning the adjustment of the legal form of the Sikka Regency regional drinking water

company to become the Wair Pu'an Maumere Regional Public Company (PERUMDA) Air Minum. PERUMDA Air Minum Wair Pu'an Maumere, as a service industry company, is required to prioritize customer expectations and service quality. This is expected to be a source of customer satisfaction.

The issue of customer satisfaction in today's business world is very important for a company to remain successful in its business. Customers play a significant role in measuring satisfaction with the products or services provided by the company. According to Kotler in Subawa and Telagawathi (2021), customer satisfaction is defined as a feeling of pleasure or disappointment that arises after comparing one's perception or impression of a product's performance with one's expectations.

Meanwhile, according to Tjiptono in Elvi, et al (2022), customer satisfaction is defined as a conscious evaluation or cognitive assessment of whether the product's performance is relatively good or bad, or whether the product in question is suitable or unsuitable for its purpose or use. According to Kotler in Sari (2013), customer expectations are how customers form expectations of services from many sources, such as past experiences, word of mouth, and advertisements. Customers will compare what they receive with what they expect. The emergence of customer disappointment towards service failure occurs when the service provided does not meet customer expectations.

According to Zeithalm in Nurfajriani (2020), customer expectations are all the things that customers want from a product, which form customer beliefs that are used as guidelines for evaluating the results of using the product. According to Philip Kotler in Ranga and Kurniawan (2014), service quality is the overall ability to satisfy stated and implied needs. The issue of service quality and customer satisfaction The issue of service quality and customer satisfaction is now increasingly important for service companies. Companies need to establish service quality management, identify possible gaps, and their impact on consumer satisfaction and customer behavior in their services. Based on observation data and interviews with several customers using the services of PERUMDA Air Minum Wair Pu'an Maumere in Lepo Lima Village, it was found that in carrying out its activities as a clean water provider, PERUMDA Air Minum Wair Pua'n Maumere is still not fully maximized. This is due to several complaints from customers using the services of PERUMDA Air Minum Wair Pu'an Maumere, as seen from the conditions directly experienced by customers, such as water flow that does not meet their needs, sometimes even not flowing at all, and the lack of speed in handling complaints from customers.

In addition, the researchers also conducted interviews with employees of PERUMDA Air Minum Wair Pu'an Maumere UPT IKK Nelle, located on Moan Sadipun Street. These interviews were conducted orally with the aim of identifying issues that are frequently complained about by customers regarding the services of PERUMDA Air Minum Wair Pu'an Maumere in Lepo Lima Village. From the interviews conducted, problems faced by PERUMDA Air Minum Wair Pu'an Maumere in Lepo Village were identified Lima regarding its services, including: frequent pipe leaks, slow leak handling due to the use of a manual system, the pumping system still uses PLN power, so service is often disrupted when the power goes out, frequent damage to water stop valves, and water pipes that are often clogged.

Table 1. Summary of Joint Research.

Table 1. Summary of Research No.	Variable Relationships	Research Results	Researcher (Year)
1.	The influence of customer expectations on customer satisfaction	Significantly influential	K. A. Subawa ¹ , N. L. W. S. Telagawahti ² (2021). Andhi Sukma ¹ , Trisa Wening Menganti ² (2018).
No significant effect		Abdullatif (2016)	
2.	The effect of service quality on customer satisfaction	Significantly influential	K. A. Subawa ¹ , N. L. W. S. Telagawahti ² (2021). Anisa Anwar ¹ , Ike Rachmawati ² , Tuah Nur ³ (2023). Sudibyo Budi Utomo ¹ , Iwan Riswanto ² (2019)
No significant effect		Fitri Elvi ¹ , Florentina Neneng ² (2022).	

Source: Research Gab Previous research compiled by the author in 2024

2. LITERATURE REVIEW

A. Customer Satisfaction

Customer satisfaction is the customer's response to the discrepancy between their prior expectations and their actual experience after use, according to Rangkuti in Ahli (2017). According to Tjiptono in Sari (2013), customer satisfaction can also be defined as the overall attitude shown by customers towards goods or services after they have obtained and used them.

B. Customer Expectations

Customer expectations are customers' estimates or beliefs about what they will receive. According to Kotler in Sari (2013), customer expectations are how customers assess what they get based on past experiences, word of mouth, and advertisements.

According to Schiffman and Kanuk in Pratama (2009), people usually see what they expect to see, and what they expect to see is usually based on habits and past experiences. Meanwhile, according to Zeithaml in Nurfrjriani (2020), customer expectations are everything that becomes a desire for a product to be obtained so that customer confidence is formed, which is used as a guideline for evaluating the results of using the product.

C. Service quality

According to Supranto in Aslamayah (2009), service quality is something that service providers must perform well. Factors that influence service quality are expected service and perceived service.

According to Kotler and Amstrong (2006), service quality is “the ability of a product to perform its functions,” which means the ability of a product to perform according to its functions. Good quality will build consumer or customer trust and enable the company to understand their needs and desires. According to Tjiptono and Candra in Adastian, et al (2023), service quality is the delivery of services that meet consumer needs and desires, as well as the accuracy of delivery to match consumer expectations for satisfaction, confidence, and expectations before purchasing or trying a product provided by a company, which is the benchmark for assessing consumer satisfaction with a product.

3. RESEARCH HYPOTHESES

H1: Customer expectations partially have a significant effect on customer satisfaction.

H2: Service quality partially has a significant effect on customer satisfaction.

H3: Customer expectations and service quality simultaneously have a significant effect on customer satisfaction.

4. RESEARCH METHODOLOGI

The population in this study consisted of 348 customers of PERUMDA Wair Pu'an Maumere drinking water in Lepo Lima Village. In this study, the sample taken was PERUMDA water customers in Lepo Lima Village. The determination of the sample size, where the population size is unknown or unlimited, was done using the Slovin formula. Thus, the minimum number of respondents in this study was 99.9, which was rounded up to 100 customer respondents.

Data was collected through questionnaires, and to determine whether the questions in the questionnaire as a data collection tool were adequate and did not produce common

information, it was necessary to conduct an instrument test, namely a validity and reliability test. The results of the validity and reliability tests showed that all statement items were valid and reliable. The data was then analyzed using descriptive and inferential statistical methods, namely multiple linear regression. Hypothesis testing was conducted using the F-test and t-test.

5. RESULT AND DISCUSSION

A. Descriptive Analysis

The results of the descriptive analysis show that: (1) the total score percentage for the customer expectation variable (X1) is 60.95, which is categorized as fairly good; (2) the total score percentage for the service quality variable (X2) is 57.04, which is categorized as fairly good; (3) the total score percentage for the customer satisfaction variable (Y) is 58.65, which is categorized as fairly good.

B. Partial Hypothesis Testing (t-test)

Partial hypothesis testing (t-test) is used to test the significance of the effect of each independent variable, namely: customer expectation variable (X1) and service quality variable (X2) partially on the dependent variable of Customer Satisfaction (Y). The results of the t-test hypothesis analysis using the SPSS program are shown in the following table:

Based on the data analysis in Table 2, the partial hypothesis test (t-test) for each independent variable against the dependent variable is as follows:

Table 2. Partial Hypothesis Testing.

Model	Unstandardized Coefficients		Standardized Coefficients	Sign.	
	B	Std. Error	Beta		
Constant	1,494	.898		1.664	.099
Customer Expectations (X1)	.318	.072	.348	4.392	.000
Service Quality (X2)	.446	.069	.500	6.423	.000

Source: Data processing results

Based on the data analysis in Table 4.11, the partial hypothesis test (t-test) for each independent variable against the dependent variable is as follows:

1) Customer Expectation Variable (X1):

a) The statistical test results show that the t-value is 0.000. The significance value is smaller than the alpha level used, which is 5% (0.05).

b) Determining the t-table

In this study, a level of significance of $\alpha = 0.05$ was used. With a level of significance of $\alpha = 0.05$, the t-table is as follows:

$$t_{\text{tabel}} = \alpha/2; n-k$$

$$= 0.05/2; 100-2$$

$$= 0.025; 98$$

tabel is obtained as 1.98

c) Test criteria:

a. If $t_{\text{count}} < t_{\text{tabel}}$, then H_0 is accepted

b. If $t_{\text{count}} > t_{\text{table}}$, then H_0 is rejected

The research result is $t_{\text{count}} > t_{\text{table}} 4.392 > 1.98$, so the decision is to accept the alternative hypothesis (H_a) and reject the null hypothesis (H_0), that partially the Customer Expectation variable (X_1) has a significant effect on the Customer Satisfaction variable (Y).

2) Service Quality Variable (X_2)

a) Statistical test results show that the t-value is 0.000. The significance value is smaller than the alpha level used, which is 5% (0.05).

b) Determining the t-table

In this study, a significance level of $\alpha = 0.05$ was used. With a significance level of $\alpha = 0.05$, the t-table is obtained as follows:

$$Table 1 = \alpha/2; n-k$$

$$= 0.05/2; 100-2$$

$$= 0.025; 98$$

The t-table value obtained is 1.98

c) Test criteria:

a. If $t_{\text{count}} < t_{\text{table}}$, then H_0 is accepted

b. If $t_{\text{count}} > t_{\text{table}}$, then H_0 is rejected

The research result is $t_{\text{count}} > t_{\text{table}} 6.423 > 1.98$, so the decision is to accept the alternative hypothesis (H_a) and reject the null hypothesis (H_0), that partially the Service Quality variable (X_2) has a significant effect on the Customer Satisfaction variable (Y).

3) Simultaneous Hypothesis Testing (F Test)

Simultaneous hypothesis testing (F test) aims to simultaneously test the combined effect of the independent variables of customer expectations (X_1) and service quality (X_2) on the dependent variable of customer satisfaction (Y).

Table 3. F test.

Modle	Sum of Squares	Df	Mean Squaer	F	Sign.
Regression	113.763	2	56.982	65.727	000b
Residual	83.947	97	.865		
Total	197.710	99			

Source: Data processing results

The statistical test results based on the Anova calculation show a calculated F value of 65.727 with a significance value of 0.000. The way to test the F test hypothesis is :

- The significance value of 0.000 is smaller than the alpha level used, which is 5% or 0.05, so the two independent variables in this study have a positive and significant effect on Customer Satisfaction (Y), meaning that the ups and downs of Customer Satisfaction is highly determined by the fluctuations in the two independent variables in this study, namely: the Customer Expectation variable (X1) and Service Quality variable (X2). It can be concluded that together, the two independent variables, namely Customer Expectations (X1) and Service Quality (X2), have a significant effect on Customer Satisfaction (Y).

- Determine Ftable

Ftable can be seen in the statistics table, at a significance level of 0.05 with ($k ; n - k - 1$) = 2 ; 100 – 2 - 1 = 97 so Ftable = 3.09 Test criteria:

a. If Fcount < Ftable, then H0 is accepted

b. If Fcount > Ftable, then H0 is rejected

Fcount > Ftable, 65.727 > 3.09, then Ho is rejected. It can be concluded that together, the two independent variables, namely Customer Expectations (X1) and Service Quality (X2) significantly influence Customer Satisfaction (Y). Coefficient of Determination (R^2) The results of the analysis using the SPSS.23 program show an R^2 result as shown in Table 4 below:

Table 4. Coefficient of Determination.

Model	R	Square	Adjusted Square	Rstd Error of the Estimate	Durbin-Watson
1	.759	.575	.567	.930	1.714

Source: Data processing results, 2024

Based on the results of data analysis in Table 4 above, it can be seen that the relationship between the independent variable and customer satisfaction (Y) is as follows: the value of the correlation coefficient (r) is 0.759, which is between the coefficient interval of 0.60-0.799, so the level of relationship between the independent variable and customer satisfaction (Y) is interpreted as “Strong”.

C. The Influence of Customer Expectations on Customer Satisfaction

According to Kotler and Amstrong in Anwar, et al (2023), customer satisfaction is the extent to which the performance of a product or service meets the expectations of buyers. Customer expectations influence customer satisfaction because customers will use their expectations as a standard or reference in choosing a product, whether goods or services. According to Widodo in Subawa and Telagawathi (2021), customer expectations are influenced by experience, statements or information from company sources such as advertisements, media, and friends, as well as information from competitors and company promises.

Hasil uji statistik menunjukkan bahwa nilai t adalah 0.000. Nilai signifikansi lebih kecil dari tingkat alpha yang digunakan sebesar 5% (0,05), $t > t_{table} 4,392 > 1,98$, sehingga keputusan adalah menerima hipotesis alternatif (H_a) dan menolak hipotesis nol (H_o), bahwa secara parsial variabel Harapan Pelanggan (X_1) memiliki pengaruh yang signifikan terhadap variabel Kepuasan Pelanggan (Y).

The results of this study support previous research by K. A. Subawa and N. L. W. S. Telagawathi (2021) which proved that customer expectations have a positive and significant effect on customer satisfaction.

D. The Effect of Service Quality on Customer Satisfaction

According to Tiptono in Sari (2013), customer satisfaction is a feeling of pleasure or disappointment that arises from comparing one's impression of a product's performance with one's expectations. The measurement of customer satisfaction includes: fulfillment of consumer expectations, recommendations to others, service quality, and loyalty. One of the factors that influences customer satisfaction is service quality, because with good service quality, customers will feel satisfied and loyal to the company.

The statistical test results show that the t -value with a significance value of 0.000. The significance value is smaller than the alpha level used of 5% (0.05), $t\text{-value} > t\text{-table} 6.423 > -1.98$, so the decision is to accept the alternative hypothesis (H_a) and reject the null hypothesis (H_o), that partially the Service Quality variable (X_2) has a significant effect on the Customer Satisfaction variable (Y). Service quality has a positive and significant effect on customer satisfaction in a company. Previous studies by Anisa Anwar, Ike Rachmawati and Tuah Nur (2023), Indri Kartini Tampanguma, Jhony A.F. Kalangi and Olivia Walangitan (2022), Sudibyo Budi Utomo and Iwan Riswanto (2019) were able to prove that service quality has a positive and significant effect on customer satisfaction.

E. The Effect of Customer Expectations and Service Quality on Customer Satisfaction

According to Daryanto in Jasin and Sriwayuni, customer satisfaction is the level of feelings a person has after comparing perceived performance (results) with expectations. Customer expectations and service quality influence customer satisfaction because customers will use a product or service based on their expectations and the quality of the product or service. The statistical test results show that the Fcount value with a significant value of 0.000. The significance value is smaller than the alpha level used of 5% (0.05), $F_{count} > F_{table}$, $65.727 > 3.09$, therefore H_0 is rejected. It can be concluded that together the two independent variables, namely Customer Expectations (X1) and Service Quality (X2) significantly influence Customer Satisfaction (Y). Customer expectations and service quality have a positive and significant influence on customer satisfaction in a company. Previous research by K. A. Subawa and N. L. W. S. Telagawhati (2021) proved that customer expectations and service quality have a positive and significant effect on customer satisfaction.

6. CONCLUSION

Based on the results of the analysis discussed above, the conclusions of this study are as follows: The respondents' perception score for the Customer Expectations variable (X1) is 60.95, which falls into the “Fairly Good” category based on the percentage of maximum score achievement. The respondents' perception score for the Service Quality (X2) variable is 57.04, which also falls into the “Fairly Good” category. Similarly, the respondents' perception score for the Customer Satisfaction (Y) variable is 58.65, which is categorized as “Fairly Good” as well. The statistical test results show that the t-value for the Customer Expectation variable (X1) is 0.000, and since the significance value is smaller than the alpha level of 5% (0.05), and $t\text{-value} > t\text{-table}$ ($4.392 > 1.98$), the alternative hypothesis (H_a) is accepted, indicating that Customer Expectation significantly affects Customer Satisfaction. For the Service Quality variable (X2), the statistical test shows a t-value significance level of 0.000, which is also smaller than the alpha level (5% or 0.05), and $t\text{-value} > t\text{-table}$ ($6.423 > 1.98$), leading to the acceptance of H_a and the rejection of the null hypothesis (H_0), confirming that Service Quality has a significant partial effect on Customer Satisfaction. The F-test results show an Fcount value of 65.727 with a significance level of 0.000, which is smaller than the alpha level of 5% (0.05), and $F_{count} > F_{table}$ ($65.727 > 3.09$), so the null hypothesis (H_0) is rejected. This indicates that together, Customer Expectations and Service Quality significantly affect

Customer Satisfaction. The contribution of Customer Expectations and Service Quality variables to Customer Satisfaction at Perumda Air Minum Wair Pu'an Maumere in Lepo Lima Village is 57.5%, while 42.5% is influenced by factors other than the research variables.

7. RECOMMENDATIONS

With regard to the above discussion and conclusions, the author will provide several recommendations that are expected to benefit Perumda Air Minum Wair Pu'an Maumere in Lepo Lima Village in order to improve customer satisfaction. First, Perumda Air Minum Wair Pu'an Maumere in Lepo Lima Village must fulfill its implicit service promise to customers by providing excellent and tireless service, ensuring that customers feel satisfied. Second, the quality of services and facilities should be improved to ensure that consumers perceive the service they receive is in line with the value they pay for. Additional facilities, such as digital payment options, more personnel at payment counters to reduce queues, and staff in the field who are responsive to customer complaints, can significantly improve customer expectations at Perumda Air Minum Wair Pu'an Maumere in Lepo Lima Village. Finally, the results of this study can serve as a reference for future researchers, encouraging them to explore additional variables beyond those covered in this research. This can lead to more comprehensive findings that address a broader range of issues and provide valuable insights for various stakeholders.

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