

The Effect of Service Quality and E-Money Payment on Customer Satisfaction at PDAM Tirtanadi

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Abstract

This research aims to prove the influence of service quality variables and E-Money payment variables on PDAM Tirtanadi customer satisfaction. This research was conducted using quantitative methods. The sample was taken as many as 80 samples who were customers of PDAM Tirtanadi Sunggal Branch as research respondents. Research data was obtained by distributing questionnaires to all samples studied. In carrying out data analysis, multiple linear regression approaches, partial tests and simultaneous tests were carried out. The results of the research concluded that service quality has a positive and significant effect on customer satisfaction at PDAM Tirtanadi. E-Money payments have a positive and insignificant effect on PDAM Tirtanadi customer satisfaction. Service quality and E-Money payments simultaneously have a positive and significant effect on PDAM Tirtanadi customer satisfaction. The contribution of the variable influence of service quality and E-Money payments is 33.3% which is categorized as having a "weak" influence on PDAM Tirtanadi customer satisfaction.

Keywords: Service Quality, E-Money Payments, Customer Satisfaction

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Introduction

In an effort to optimize sales, revenue, and profits as much as possible, the company will make various breakthroughs to achieve these goals. The most important thing is to make new breakthroughs to improve customer satisfaction. In general, customers are a source of income and profit for all business companies, so customers need to be retained to remain loyal by providing the most satisfaction.

PDAM Tirtanadi as a Regional Company of North Sumatra Province is committed to providing satisfaction to its customers by utilizing technological advances to provide convenience for its customers in making water bill payment transactions, providing information services, and complaint services through the internet-based PDAM Tirtanadi platform. The PDAM Tirtanadi platform functions as a medium for transactions and communication with its customers. Various information about PDAM Tirtanadi Company is available on the PDAM Tirtanadi Website. For the convenience of payment transactions, PDAM Tirtanadi collaborates with private and government banks such as Bank Sumut, Bank BRI, Bank BCA and so on. PDAM Tirtanadi also collaborates with merchants such as Alfamart, Alfamidi, Indomaret, and other merchants, where payments can be made with E-Wallets and Electronic Wallets such as Dana, OVO, Gopay etc.

To overcome various problems with transaction payments and drinking water use, PDAM Tirtanadi provides internet-based complaint media as a medium for customer problem solving services that can be accessed through mobile phones, computers, laptops, and other media connected to the internet. PDAM Tirtanadi also serves payments and complaints through conventional media, where customers go directly to the complaint/payment counter to meet with officers. Conventional services provided by PDAM Tirtanadi for several cases such as payment of water arrears, complaints of payment problems, water quality problems and channels, and so on. In this context, PDAM Tirtanadi does not ignore conventional services to provide customer satisfaction even though the company has adopted technological advances that provide many conveniences.

So urgent and important to maintain the quality of service to customers, several large companies provide large costs to find out the quality of service that has been provided to customers by conducting customer satisfaction level surveys. So it is not surprising that customer satisfaction is a fundamental factor for companies to maintain their existence in both local and global business environments.

The satisfaction felt by customers will have an impact on repeat purchases, positive information circulating from word of mouth or from media to media, the emergence of customer loyalty or loyalty (Billyarta, 2021). Customer satisfaction creates the intensity of purchases from the same service provider or manufacturer in the future, which is the attitude and behavior of customers in response to the satisfaction they feel.

Basically, customer satisfaction is a person's feelings that arise after comparing the performance of the product that is thought of from the expected product performance in the form of a feeling of happiness or disappointment. Customers are dissatisfied if the product performance does not meet expectations, on the contrary, customers will be

satisfied if the product performance meets expectations, and will even be very satisfied if it exceeds expectations (Kotler, 2016). Feeling happy or disappointed is an implication of a person's experience of the performance of a product, service, or service that gives a distinct impression (Safitri, 2022).

Electronic transaction payments (e-payment) through E-Money are financial transactions used for electronic payment/purchase transactions via the internet, where users only need to transact online via the internet without having to come to meet the cashier or seller (Yunitasari, 2022). The quality of the platform that supports online payment transactions is a measure for the fulfillment of customer desires and customer satisfaction levels. The better the quality of the platform used by a company, the potential to provide the best satisfaction will be achieved. This means that there is a correlation between e-payment and customer satisfaction. And this is evidenced by Yunitasari's (2022) research that e-payment has a positive and significant effect on customer satisfaction.

PDAM Titanadi's efforts to provide satisfaction for its customers are inseparable from the various problems experienced by customers and must be solved by PDAM Tirtanadi. The problems that arise are a natural one, even though in fact PDAM Tirtanadi has provided various facilities and continues to maintain the quality of its service to customers. From the results of the pre-survey conducted to 30 customers of PDAM Tirtanadi Sunggal, information was obtained about customer responses to the quality of service

PDAM Tirtanadi as follows:

Table 1. Pre-Survey on Service Quality

No	Statement	Already		No	
		Sum	%	Sum	%
1	Conventional and electronic services available	26	87%	4	13%
2	The service staff is welcoming	14	47%	16	53%
3	Good electronic service available	25	83%	5	17%
4	Customer complaints are responded to quickly	11	37%	19	63%
5	24-hour electronic service accessible	21	70%	9	30%

Sumber: PDAM Tirtanadi (2023)

Based on the table above, it was found that customers felt that the service provided by officers was not welcome (53%), and as many as 63% of customers responded that customer complaints were slow to be responded to by PDAM Tirtanadi. On the other hand, customers give positive responses to the availability of service facilities, good quality of electronic service media, and electronic services can be accessed 24 hours a day.

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Phenomena related to online payments through e-payment are obtained from customers as follows:

Table 2 Pre-Survey of E-Money Payments

No	Statement	Already		No	
		Sum	%	Sum	%
1	Payment via electricity can be made through any e-money	28	93%	2	7%
2	Transaction payment through E-payment avoids delayed payments	8	27%	22	73%
3	Arrears payment available on the electric payment system	3	10%	27	90%
4	It's easy to pay water bills with emoney	17	57%	13	43%
5	Additional fees for online transactions are not burdensome for customers	4	13%	26	87%

Based on the table above, it was found that 73% of customers felt that payments through e-payment tended to be delayed, so customers were considered to have not made a payment. Payment of due bills cannot be made online but must be done at the cash payment counter (90%) and online payment transactions are subject to charges (additional fees) which are felt by customers to be burdensome (87%).

From the description of the explanation and phenomenon, the author wants to know how the service and payment through E-Money provided by PDAM Tirtanadi affect customer satisfaction, considering that the PDAM Tirtanadi company has provided various facilities according to the needs of the times. Based on these circumstances, the author conducted a study entitled "The Influence of Service Quality and E-Money Payment on Customer Satisfaction at PDAM Tirtanadi".

Research Methods

Research Design

The type of research used in this study is quantitative, namely research whose data analysis is in the form of numbers and data analysis using statistics (Sugiyono, 2019). This type of quantitative research aims to determine the relationship and influence between independent variables and bound variables. In the context of this study, the relationship and form of influence will be determined by the service quality variable and E-Money payment as an independent variable (X) to the customer satisfaction variable as a bound variable (Y).

Object of Research

This research was conducted at the Tirtanadi Regional Drinking Water Company (PDAM) Sunggal Medan Service Unit which is located at Jl. Sunggal Pekan

Population and Sample

The population in this study is PDAM Tirtanadi Sunggal customers who have paid water bills through electronic services (online) with Electronic Money (E-Money) media. Data obtained from PDAM Tirtanadi Sunggal shows that the number of customers who have made online payments during 2022 is 385 customers. The number of customers is then used by the author as the population in this study. According to Sugiyono (2019), the sample is part of the number and characteristics that the population has. The sampling method is carried out by purposive sampling, which is sampling based on certain considerations. The number of samples was determined by the Slovin formula so that the number of samples was obtained to 80 samples/respondents.

Data Type

This study uses 2 types of data, namely primary data and secondary data Primary data is raw data that requires processing through data testing. Secondary data is data that functions as supporting data obtained through literature studies such as: literature reading materials, journals and other reading materials available on the internet.

Data Analysis Method

The data analysis method of this study was by descriptive statistical method and inferential statistical analysis with multiple linear regression using SPSS software.

Results

Results of the Classic Assumption Test

The test of research data through the Classical Assumption test, was carried out by the Normality test, the Multicollinearity test, and the Heteroscedasticity test. The results of the Classical Assumption test are as follows".

a. Normality Test Results

The results of the normality test of the research data carried out with the Kolmogorov Smirnov test are as follows:

Table 3 Kolmogorov Smirnov Test Results

N		80
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	4.94753878
Most Extreme Differences	Absolute	.050
	Positive	.045
	Negative	-.050
Test Statistic		.050

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Asymp. Sig. (2-tailed) ^c					.200 ^d
Monte Carlo Sig. (2-tailed) ^e	Mr.				.897
	99% Confidence Interval	Lower Bound			.889
		Upper Bound			.905

Source: Data Processing Results (2024)

The table above shows the Asymp.Sig values. (2-tailed) of 0.200, where the value is greater (>) than 0.050. This means that the research data has met the elements of normality, so that the research data is suitable for use in

this study.

b. Multicollinearity Test Results

Table 4 Multicollinearity Test Results

Variable	Collinearity Statistic				Information
	Tolerance	Standard Tolerance	BRIGHT	VIF Standard	
Quality of Service (X1)	0,522	> 0,1	1,915	< 10	Pass the test
E-Money Payment (x2)) 0,522	> 0.1	1,915	< 10	Pass the test

Source: Data Processing Results (2024)

The data above explains the results of the multicollinearity test of each independent variable studied, where all independent variables produce a tolerance value of 0.522 greater (>) than 0.1 and a VIF value of 1.915 smaller (<) than 10. This shows that the data studied is free from the problem of multicollinearity, so the data is feasible to use.

c. Heteroscedasticity Test Results

The Heteroscedasticity Test was carried out with the Glejser Test model with the following results:

Table 5 Glacier Test Results

Variable	Significance	Significant Standards	Information
Quality of service (X1)	0,194	0,05	Pass the test
E-Money Payment (x2)	0,392	0,05	Pass the test

Dependent variable: abs_res

Source: Data Processing Results (2024)

The table above explains the results of the Glisser test, where all independent variables produce a significance of 0.194 (X1) and 0.391 (X2) greater than 0.05 as a significant standard. This means that the independent variables of the study are avoided from the symptoms of heteroscedasticity, so that the data is suitable for use

4.1.3.3 Hypothesis Test Results

The results of the hypothesis test were carried out by Partial Test (t-test) and Simultaneous Test (Test F) with the following results:

a. Partial Test Results (t-test)

The results of the partial test between the independent variable and the bound variable were carried out by comparing the results of the t-count with the available t-table with n-k

(80-2= 78) is 1,990 with 5%.

Table 6 Partial Test Results (t-test)

Variable	B	t-count	t-sig
Quality of service (X1)	0,391	3,365	0,001
E-Money <i>Payment</i> (x2)	0,228	1,443	0,153

Source: Data Processing Results (2024)

The interpretation of the partial test results above is as follows:

1. The service quality variable was positively correlated with 0.391 to customer satisfaction with a t-count of 3.365 > from a t-table of 1.990 and a t-sig of 0.001 < 0.05. Therefore, it is stated that the service quality variable has a positive and significant effect on customer satisfaction, so the hypothesis is accepted.
2. The E-Money *payment variable* was positively correlated with 0.228 to customer satisfaction with a t-count of 1.443 < from a t-table of 1.990 and a t-sig of 0.153 > 0.05. Thus, it is stated that the *E-Money payment variable* has a positive and insignificant effect on customer satisfaction, so the hypothesis is rejected.

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b. Simultaneous Test Results (F-test)

The results of the simultaneous test of the independent variable on the bound variable were carried out by comparing the results of F-count with F-table with the provision $n-k-1$ ($80-2-1=77$) of 3.115 and 5%.

Table 4.9 Simultaneous Test Results (F-test)

Model	Sum of Squares	df	F	Mr
Regression	967,427	2	19,261	0,001
Residual	1933,773	77		
Total	2901,200	79		

Source: Data Processing Results (2024)

The results of the simultaneous test above show that the F-count result is $19.261 >$ out of 3.115 and the sig-F is $0.001 < 0.05$. Thus, it is stated simultaneously (together) that the independent variables of service quality and *EMoney* payment have a positive and significant effect on customer satisfaction. Thus the hypothesis is accepted.

4.1.3.4 Determination Coefficient Test Results (R²)

The results of the determination coefficient (R²) test are as follows:

Table 7 Determination Coefficient Test Results

Model	R	R-Square	Adjusted R Sqaure
1	0,577	0,333	0,316

Source: Data Processing Results (2024)

The results of the determination test above explain that R-Square, which represents the determination coefficient (R²), shows a value of 0.333 or 33.3%, meaning that the independent variable of service quality and *E-Money* payment contributes 33.3% to customer satisfaction. This means that these two independent variables have a "weak" contribution and influence on customer satisfaction according to the description of table

3.4. While the remaining 66.7% was influenced by other variables that were not studied in this study

Conclusion

Some conclusions that can be drawn from the explanation and discussion in the previous section are as follows:

1. Service quality has a positive and significant effect on PDAM Tirtanadi's customer satisfaction.
2. E-Money *payments* have a negative effect on PDAM Tirtanadi's customer satisfaction.
3. The quality of service and *E-Money* payments simultaneously has a positive and significant effect on PDAM Tirtanadi's customer satisfaction.

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