

Application of the servqual method for evaluation of PDAM service quality

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ABSTRACT

PDAM Tirta Rangga Ciasem is a regional company responsible for managing and meeting the clean water needs of the community in Ciasem District. Improving the quality of service is one of the marketing strategies that emphasizes the fulfillment of customer needs. Evaluation of customer satisfaction with the management and fulfillment of clean water must be carried out as a form of service quality assessment. Using the Service Quality (Servqual) method, an evaluation questionnaire is given to customers with evaluation criteria based on reliability, assurance, tangibility, empathy and responsiveness. Based on the results of the calculation of the population and sample requirements, 129 samples were taken from a total of 190 existing customers. From the results of collecting questionnaire data completed by 129 samples, data processing was performed, which found that the existing GAP value showed that the majority of PDAM customer communities were satisfied with the current service. With the best GAP of 0.51 which shows the service and attitude of the officer is very good while the worst GAP is 0.82 which shows deficiencies in the taste and aroma of water provided in PDAM Tirta Rangga Ciaseme service.

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1. INTRODUCTION

PDAM (Perusahaan Daerah Air Minum) is a local government-owned company engaged in the provision of clean water to improve the welfare of the community, which includes social aspects. The role of water is very important for humans, so its procurement must meet the quality and quantity standards of clean water suitable for consumption by people in an area. For developing countries such as Indonesia, it is necessary to find ways to treat or manage water that are relatively cheap (appropriate technology) so that the quality of water consumed by the community can be said to be good or meet international standards, but affordable for the community. However, wherever the origin of a parameter standard is always divided into several parts: (Efrat et al., 2019).

The Regent of Subang considers that "in order to meet the needs of the community for clean water, the exploitation of water supply and management is carried out by a regionally owned company", which is written in the Regional Regulation No. 3 of 2019 on Regional Drinking Water General Company Tirta Rangga Subang Regency. Based on these considerations, the Regional Regulation on Regional Public Company of Drinking Water Tirta Rangga of Subang Regency is decided, which regulates the provisions, policies, articles of association, organs of Perumda TRS, staffing, internal supervisory unit, planning, operations, reporting, use of profit, customer groups, fire hydrants, public taps, tariffs, tariff setting mechanisms, prohibitions, criminal provisions, transitional provisions and closing provisions (PERDA, 2019).

The requirement that a company must meet in order to be successful in competition is to try to achieve the goal of creating and retaining customers. To achieve this goal, every company must strive to produce goods and services that consumers want at a reasonable price (Sumual et al., 2021).

Improving service quality is one of the marketing strategies that emphasizes the fulfillment of customer desires. Quality encourages customers to establish strong relationship ties. Service quality is an important factor and root that can provide satisfaction to its customers, which is related to the results of word-of-mouth behavior such as complaints, recommendations and exchanges or transfers (Sulistyawati & Seminari, 2015).

Customer Satisfaction is the feeling of disappointment and pleasure of each individual when comparing the consumer's impression of the level of performance of actual products and services with the performance according to expectations (Sangadji, 2013) (Sangadji, 2013).

Indicators that are a form of customer satisfaction, namely consumers feel happy, namely the services provided make customers feel comfortable, continue to buy products or services, namely customers will regularly buy products, recommend products to others, meet consumer expectations, namely the services provided in accordance with customer expectations (Swasta, 2008).

Therefore, a scientific evaluation of customer satisfaction of PDAM Tirta Rangga Ciasem must be carried out in order to improve the quality of service.

2. RESEARCH METHOD

In this research, there are several steps of research stages carried out, namely:

Formulating the Problem

Identify and collect problems that will be discussed related to customer satisfaction assessment based on references and information that has been obtained. In this study, the problems formulated are: a) Does PDAM Tirta Rangga Ciasem perform preventive maintenance?, b) How does PDAM Tirta Rangga Ciasem perform preventive maintenance technically?

Literature Study

Search for several previous studies as theoretical study material on satisfaction surveys and the Servqual method, as well as information on PDAMs. The servqual method is a method used to measure the quality of service from the attributes of each dimension, so that a gap value is obtained, which is the difference between the respondent's perception of what will be received and the reality of the service to be received, so that a gap value is obtained, which is the difference between the respondent's perception of the service received and the reality of the service to be received (Satria, 2019) (S. Satria, 2019).

With the Servqual method, 5 GAPs were obtained: a) Gap 1, which is the gap between management's perception of consumer expectations and consumer expectations, b) Gap 2, which is the gap that occurs in service quality specifications, c) Gap 3, which is the gap that occurs in service delivery. Gap 3 is negative because service delivery cannot reach the target and there is no target measurement, d) Gap 4, which is the gap between service delivery and external communication, e) Gap 5, which is the gap between consumer expectations and consumer perceptions. This gap means that the perceived service does not match the expected service.

Developing a Hypothesis

Provide a preliminary response to Servqual's impact on PDAM customer satisfaction scores, which is still hypothesized because it has yet to be proven. Hypothesis testing is a method of testing a claim or hypothesis about a parameter in a population using data measured in a sample (Gangga et al., 2021).

Determining Criteria

Determine the criteria that will be used in the PDAM Tirta Rangga Ciasem customer satisfaction assessment survey, namely reliability, assurance, tangible, empathy and responsiveness. To determine the value of something by comparing it to criteria, evaluators can compare directly to general criteria, or they can take measurements of something being evaluated and then compare it to specific criteria (Idrus, 2019).

Questionnaire Design

The questionnaire is needed as data to determine and analyze customer satisfaction with PDAM Tirta Rangga Ciasem services. Measurement of service quality in this servqual model is based on a multi-item scale designed to measure respondents' expectations and perceptions. As well as the gap between the two on the five dimensions of service quality, namely (tangible, reliability, responsiveness, assurance and empathy), the five dimensions of quality are described in several questions for the expectation attribute and the perception variable based on a Likert scale (Satria, 2019).

Based on the quality measurement in the servqual model, a questionnaire of 10 statements was determined for 129 customers of Tirta Rangga Ciasem.

Determining Research Sample

The sample is part of the number and characteristics of the population. This sample was taken because it was not possible to study all members of the consumer population (Jasmalinda, 2021). Meanwhile, population is a generalization area consisting of objects or subjects that have certain qualities and characteristics set by researchers to study and then draw conclusions (Imron, 2019). It is known that the population of PDAM Tirta Rangga Ciasem customers is 190 customers. Using the Solvin method, the number of samples based on this population is 129 customers.

Collecting Data

In data collection, researchers distributed questionnaires to 129 customers as respondents. The questionnaire is a data collection method that is conducted by giving a set of questions or written statements to the respondents to answer (Sugiyono, 2017).

In the questionnaire distributed to the research sample, the researchers used a Likert scale as a measurement scale. The Likert scale is a measurement scale developed by Likert. The Likert scale has four or more question items that are combined to form a value score that represents individual characteristics such as knowledge, attitude, and behavior. In the process of data analysis, a composite score, usually the sum or average of all items, can be used (Nempung et al., 2015).

Data Analysis

Analyze the data and information obtained as material to determine research conclusions. In a study measuring service quality using the Servqual method, a gap analysis is performed. To examine customer satisfaction can be seen from the Gap 5 analysis, where if Gap 5 is negative then consumers are not satisfied with the service provided. The analysis results show that there are 10 service quality attributes that have a negative Gap 5 value. Each attribute that has a negative Gap 5 value is given an improvement suggestion for each service quality attribute (Yuniar et al., 2014).

Processing Data

Testing of questionnaire data using validity and reliability tests and data processing using the Servqual method. Defining the validity of the test can be started by looking etymologically, validity comes from the word validity, which means the degree of accuracy and precision of a measuring instrument in performing its measuring function (Psikologi & Diponegoro, 2006).

A test or measuring instrument can be said to have high validity when the instrument performs its measurement function or provides measurement results in accordance with the purpose of measurement.

Meanwhile, reliability leads to the accuracy and precision of a measuring instrument in a measurement procedure. The reliability coefficient indicates the stability of the score obtained by the individual, which reflects the score reproduction process (Psikologi & Diponegoro, 2006).

The score is said to be stable when the score obtained at one time and the results obtained at another time are relatively the same.

Making Conclusion

Conclusions are made based on data analysis of the data that has been collected

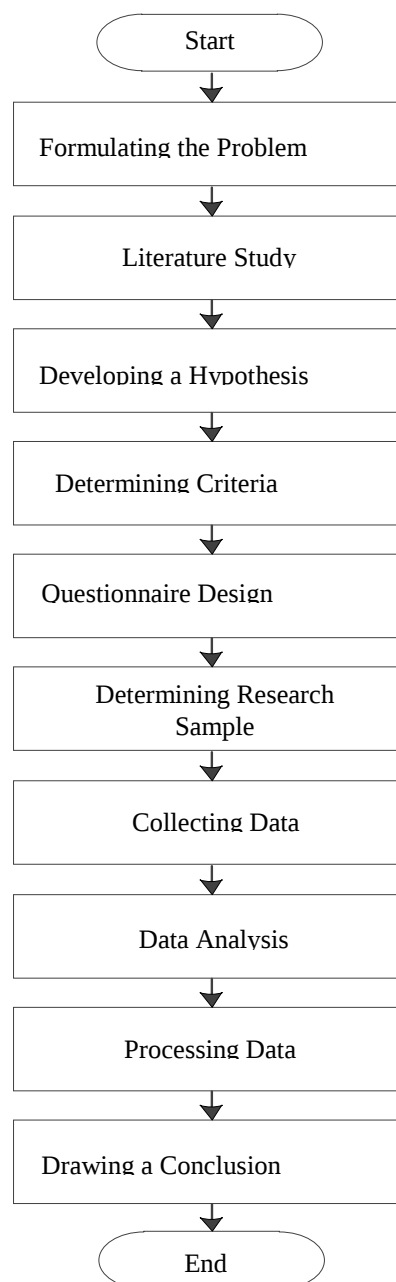


Figure 1. Research Stage Diagram

3. RESULTS AND DISCUSSIONS

Based on the results of collecting sample data from filling out the questionnaire, the following results were obtained:

Table 1. Questionnaire Results

NO	STATEMENT	SCORE				
	RELIABILITY	SP	P	CP	TP	STP
1	Produced water is clear	86	42	0	1	0
2	Produced water has no odor/taste	51	77	0	1	0
ASSURANCE						
3	Water flow during morning peak (05.00 - 08.00)	87	39	3	0	0
4	Water flow during afternoon peak (15.00 - 19.00)	76	53	0	0	0
RESPONSIVENESS						
5	Agents respond quickly to online (phone) customer complaints	86	39	2	1	1
6	Field representatives resolve problems quickly	77	50	0	2	0
EMPHATY						
7	Officers are friendly in the office and counters of PDAM Tirta Rangga Ciasem	89	40	0	0	0
8	Field officers are kind to customers in performing their duties.	75	53	0	0	1
TANGIBLE						
9	Field officers are skilled in handling technical problems	81	45	2	1	0
10	Officers are sensitive in receiving complaints and grievances	83	45	0	1	0

From Table 1 above, the gap calculation can be done by calculating the sum of the weights of the i-th variable reality statements using the formula:

$$\sum Xi = (\sum SP \times 1) + (\sum P \times 2) + (\sum CP \times 3) + (\sum TP \times 4) + (\sum STP \times 5)$$

Using the formula above will produce the following values:

Table 2. Results of Weight Calculation

NO	ATTRIBUT	FORMULA
		$\sum Xi = (\sum SP \times 1) + (\sum P \times 2) + (\sum CP \times 3) + (\sum TP \times 4) + (\sum STP \times 5)$
1	K1	174
2	K2	209
3	K3	174
4	K4	182
5	K5	179
6	K6	185
7	K7	169
8	K8	186
9	K9	181
10	K10	177

From Table 2 above, the gap calculation can be done by calculating the sum of the weights of the reality statements of the I - th variable using the formula:

$$\sum Xi = (\sum SB \times 1) + (\sum B \times 2) + (\sum CB \times 3) + (\sum TB \times 4) + (\sum STb \times 5)$$

Table 3. Proportional calculator

NO	ATTRIBUT	AVERAGE
		SCORE / N (129 RESPONDENS)
1	K1	1,35
2	K2	1,62
3	K3	1,35
4	K4	1,41
5	K5	1,39
6	K6	1,43
7	K7	1,31
8	K8	1,44

9	K9	1,40
10	K10	1,37

From Table 3, the average value of respondents' answers to the hope statement can be calculated with the equation :

$$Y_i = \frac{\sum Y_i}{n}$$

Table 4. Servqual Questionnaire Average

NO	ATTRIBUT	HIPOTESIS		REAL		GAP
		SCORE	AVERAGE	SCORE	AVERAGE	
1	K1	160	0,80	174	1,35	0,55
2	K2	160	0,80	209	1,62	0,82
3	K3	160	0,80	174	1,35	0,55
4	K4	160	0,80	182	1,41	0,61
5	K5	160	0,80	179	1,39	0,59
6	K6	160	0,80	185	1,43	0,63
7	K7	160	0,80	169	1,31	0,51
8	K8	160	0,80	186	1,44	0,64
9	K9	160	0,80	181	1,40	0,60
10	K10	160	0,80	177	1,37	0,57

From Table 4. can be calculated the average respondent's answer to the statement of reality can be calculated by the equation:

$$X_i = \frac{\sum X_i}{n}$$

Tabel 5. GAP Value Range

GAP VALUE RANGE	
<0 s/d <1.00	Very Fulfilling
<1.00 s/d <2.00	Optimized
<2.00 s/d <3.00	Improved
<4.00 s/d <5.00	Fix It
>4.00	More Improved

Information :

- < 0 s/d < 1.00 : Very satisfied (customers are very satisfied with the service they receive)
- > 1.00 s/d < 2.00 : Optimize (service is in need of improvement again)
- > 2.00 s/d < 3.00 : Improve (customers feel less, so it should be even better to serve the customers)
- > 3.00 s/d < 4.00 : Fix it (service is lacking, so many need to be fixed)
- > 4.00 : More repaired (the services are very less, so it should be more attention and repair again)

4. CONCLUSION

From the results of this study, the authors can conclude that the parameters for measuring service quality for the annual evaluation of PDAM Tirta Ranga Ciasem can refer to the results of research with the Service Quality (Servqual) method. Based on the existing GAP, the majority of PDAM Tirta Ranga Ciasem customers are satisfied with the current services. Attribute K7 has the best value with the smallest gap of 0.51, this shows that the service and good attitude of the officers at PDAM Tirta Ranga Ciasem office are very good to serve the customers who come. Attribute K2 has the lowest value with the largest gap, namely 0.82, which indicates that there is a slight deficiency in the taste and aroma of the water.

Improving service quality is a marketing strategy that emphasizes fulfilling customer desires. Quality encourages customers to form strong relationship bonds. Requirements that must be met by a company in order to be successful in competition is trying to achieve the goal of creating and retaining customers. Evaluation in general can be interpreted as a systematic process of determining the value of something (provisions, activities, decisions, performance, processes, people, objects and others) based on certain criteria through assessment. To determine the value of something by comparing it with criteria, evaluators can directly compare it with general criteria, they can also measure something being evaluated and then compare it with certain criteria.

PDAM Tirta Rangga Ciasem must always maintain the existing quality in order to maintain customers' trust and views on the quality of PDAM services currently provided. By applying the use of Servqual method as a basis for evaluation material for PDAM Tirta Rangga Ciasem employees to improve work quality and service.

The evaluation can be conducted at least once every 1 (one) year so that it can become a reference in improving and maintaining the service quality of PDAM Tirta Rangga Ciasem in the future. The importance of awareness and education for PDAM Tirta Rangga Ciasem employees to serve customers wholeheartedly in order to achieve the best service.

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