

Analysis Of Service Quality Level Using Service Quality (Servqual) And SWOT Methods For Increasing Customer Satisfaction

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ABSTRACT

PT PLN Unit Layanan Pelanggan (ULP) Langsa is one of the implementing sub-units under the Customer Service Implementation Unit (UP3). The increase in the amount of electricity consumption is soaring high and fast, this has made the standard level of community satisfaction higher as a result of the increasing income of a modern society. A service is considered satisfactory if the service can meet the desires, expectations and needs of customers. The purpose of this study was to determine the gap between customer expectations and perceptions about the services of PT PLN ULP Langsa and the order of priority for service quality improvement that must be corrected first. One of the methods used to measure service quality is the Service Quality (Servqual) method. The results of calculating the servqual value obtained a gap value with all statement items, namely -2.23, this indicates that the services provided by PLN are currently still unable to provide optimal service to customers. Based on measurements of the 5 dimensions of Servqual, the results show that the five dimensions of service quality have values below 0 in order of priority for improvement, namely the Reliability dimension with a gap of -1.01, the Responsiveness dimension with a gap of -0.86, the Tangible dimension) with a gap of -0.62, the Assurance dimension with a gap of -0.56, and the Empathy dimension with a gap of -0.55. Based on the results of the SWOT analysis, the main improvement strategy proposed is the SO (Strength - Opportunity) strategy.

Keywords: Customer Satisfaction, Servqual, SWOT.

Introduction

The State Electricity Company (PLN) is a state-owned company that provides services to prospective customers and the public in providing services related to the sale of the only electricity in Indonesia [1-5]. The increase in electricity demand is increasing rapidly, especially for industrial needs, and is accompanied by an even higher level of public satisfaction as a result of increasing income of advanced and modern society. Service is the responsibility of the company that must be

realized in any form. PT PLN (Persero) is a service company engaged in the field of electricity sales services. The purpose of PT PLN (Persero) is to provide and serve the needs and interests of customers for electricity [6-10].

Problems that occur such as notifications of power outages are usually spread through social media and the PLN Mobile application by PLN, but there are still many people who do not know about the circular. This leaves the

community unprepared to face the power outage. As a result, community activities are disrupted, especially those that use electronic goods. It is not uncommon for electronic items to be damaged due to sudden power outages [11-15].

One of the methods used to measure service quality is the Service Quality (Servqual) method. The measurement of the servqual gap aims to determine the value of the gap between expectations and reality that occurs to the services provided through 5 dimensions: tangible, responsiveness, reliable, assurance, and empathy. Furthermore, the calculation of the average score of the level of importance (expectation) and performance (perception) of the service for each dimension of servqual is carried out, then we can analyze the gap (gap) [16-20].

As in the previous research according to [21] in her thesis entitled Analysis of Student Satisfaction with the Quality of Educational Services in the S1 Mathematics Education Study Program with the Servqual Method (Case Study: Students of the Mathematics Education Study Program UIN Raden Intan Lampung, the results of the study are known to have a level of student satisfaction with the quality of services that have been provided by the Department of Mathematics Education, namely in The category is not satisfied. This is marked by the existence of 2 educational service items that have the highest gap in LCD facilities in each lecture room and friendly service from alumni majoring in mathematics education.

A similar study was also conducted by [22] in his journal entitled Analysis of the Level of Patient Satisfaction with the Quality of Hospital Services Based on the Service Quality (Servqual) Method, the results of the study showed that the measurement of the level of patient satisfaction with the quality of hospital services in the March 2020 period as a whole patients were declared "Satisfied", but dimensionally there was still a score gap that was still negative or "Dissatisfied" in the Responsiveness dimension [23-25].

The objectives to be achieved in this study are:

1. To find out the gap between customer expectations and perceptions about the services of PT PLN ULP Langsa.
2. To find out the order of priority for improving service quality that must be improved first.
3. To describe the Strength, Weakness, Opportunity and Threat (SWOT) analysis at PT PLN ULP Langsa.

Methods

The research used is included in the type of descriptive research with a quantitative approach. The type of descriptive research quantitative approach is a quantitative research whose description is in the form of numbers or numbers. The object of research in this study lies in the quality of service of PT PLN ULP Langsa to increase customer satisfaction. . The data needed for this study are primary data, namely the results of observations and questionnaires shared and secondary data, namely literature studies, journals, PT PLN profile websites, and data from PT PLN ULP Langsa.

In the stages of data collection methods in the research, including:

1. Observation technique, which is to make direct observations of the service quality of PT PLN ULP Langsa.
2. Interview technique, namely conducting interviews with the company's management and customers of PT PLN ULP Langsa to obtain the information needed to achieve the research objectives.
3. Survey Technique, which is a technique to obtain the primary data needed by distributing questionnaires to customers of PT PLN ULP Langsa.
4. Literature techniques, namely recording and studying theories related to problem solving from various books and journals that are in accordance with the problems observed.

The data processing steps carried out are as follows:

1. Data reduction, sorting irregular data into more orderly, organizing it into categories and summarizing it into simple data patterns and arrangements.
2. Data presentation, data recapitulation from questionnaire results using Microsoft Excel.

3. Servqual analysis, to perform the analysis, the following steps are required:
 - a. Calculation of the average score of perception value and expectation value per variable item and determine the gap value per variable item
 - b. Calculation of the average score of perception value and expected value per dimension item and determine the gap value per dimension item
 - c. Calculation of the overall servqual score
 - d. The results of the calculation are then divided into 3 categories, namely dissatisfied (<100%) meaning that the performance is below expectations due to poor service, satisfied (100%) means that the performance meets expectations which indicates that the service is good and very satisfied (>100%) means that the performance exceeds expectations which indicates that the service is very good
4. SWOT analysis, to conduct the analysis, the following steps are required:
 - a. Identify internal and external factors
 - b. Determine the SWOT weight = 0.0 to 1.0
 - c. Ratings are determined starting from 1 (very bad condition), 2 (bad condition), 3 (ordinary condition), 4 (good condition), 5 (very good condition)
 - d. Then there will be 4 recommendations

Results and Discussions

The data in this study was obtained from customers and PT PLN ULP Langsa by means of observation, interviews, documentation, library studies and questionnaires. The questionnaire was distributed to 100 PLN customers in Langsa City who were selected as a research sample which aimed to see customer responses to the quality of services that have been provided. The data processing in this study was carried out with the help of the Microsoft Office Excel 2016 program.

The service quality analysis in this servqual model is based on a multi-item scale designed to measure and analyze customer expectations and perceptions as well as the gap between the two on a predetermined quality dimension. The quality dimension is described in several question items for expectation attributes and

perception variables based on the linkert scale. There are 20 service attributes that will be used in the research questionnaire, as follows:

Table 1. Questionnaire Attribute Data Based on Servqual Dimensions

Item	Tangible
1	Prepaid and postpaid gauges work well
2	Electrical limiting device works well
3	Installation/wiring works fine
4	Customer agrees to be redirected to prepaid limiters and meters
Item	Reliability
5	Suitability of problem solving based on complaints given
6	Provide clear and accurate information to customers
Item	Responsiveness
7	Ease of obtaining electricity installation from PLN
8	Ease of customers in submitting suggestions/complaints
9	Employees are responsive in responding to customer complaints
10	Employees act quickly in the process of installing new electricity
11	Employees are capable of making changes to customer data
12	Employees are responsive to complaints in the process of changing data/power that have not been realized.
Item	Assurance
13	Information about the electricity bill and tokens provided is clear
14	Customers feel safe in transactions
15	Employee knowledge about PLN products
16	Easy purchase and input of retail tokens
Item	Emphaty
17	Ease of customers in utilizing facilities from PLN
18	Employees understand the specific needs of customers
19	The clerk never asks the customer for extra money
20	The officer never threatens/intimidates customers

Value Gap Using Service Quality

The following are the steps of the calculation process using the servqual method:

a. Average Perception Value

To determine the average result of the perception value for each statement item using the formula:

$$\bar{P} = \frac{\sum_{i=1}^n P_i}{n} \tag{1}$$

Which:

$$\bar{P} = \frac{418}{100} \quad \bar{P} = \text{Perception Value}$$

$$\bar{P} = 4.18 \quad n = \text{number of respondents}$$

Table 2. Average Perceived Value

Statement Items	Dimension	Perception Value
Item 1	Tangible	4.18
Item 2		4.14
Item 3		4.10
Item 4		3.45
Item 5	Reliability	3.68
Item 6		3.87
Item 7		4.12
Item 8		3.67
Item 9	Responsiveness	3.91
Item 10		3.79
Item 11		3.80
Item 12		3.73
Item 13	Assurance	4.09
Item 14		3.97
Item 15		3.84
Item 16		4.08
Item 17	Emphaty	3.96
Item 18		3.94
Item 19		3.93
Item 20		3.88

Based on **Table 2**, it can be seen that the lowest value is in Item 4, namely the customer agrees to be switched to the limiter and prepaid meter with a value of 3.45. This shows that customers are objecting to the switch of postpaid limiters and meters to prepaid. While the highest score is in Item 1, which is prepaid and postpaid function well with a value of 4.18.

Average Expected Value

To determine the average result of the perception value for each statement item using the formula:

$$\bar{E} = \frac{\sum_{i=1}^n E_i}{n} \tag{2}$$

Which:

$$\bar{E} = \frac{479}{100} \quad \bar{E} = \text{Expected Value}$$

$$\bar{E} = 4.79 \quad n = \text{number of respondents}$$

Table 3. Expected Average Score

Statement Items	Dimension	Perception Value
Item 1	Tangible	4.79
Item 2		4.50
Item 3		4.74
Item 4		4.36
Item 5	Reliability	4.77
Item 6		4.82
Item 7		4.84
Item 8		4.63
Item 9	Responsiveness	4.79
Item 10		4.58
Item 11		4.69
Item 12		4.72
Item 13	Assurance	4.69
Item 14		4.58
Item 15		4.31
Item 16		4.62
Item 17	Emphaty	4.68
Item 18		4.42
Item 19		4.37
Item 20		4.47

Based on **Table 3**, it can be seen that the biggest expectation value is in Item 7, namely the ease of obtaining electricity installation from PLN. This shows that customers really expect to be given convenience in the electrical installation process.

Service Quality Value of Each Attribute

To determine the servqual score for each statement item use the following formula:

$$S = \bar{P} - \bar{E} \tag{3}$$

Table 4. Gap Value of Each Attribute

Statement Items	Dimension	\bar{P}	\bar{E}	Gap
Item 1	Tangible	4.18	4.79	-0.61
Item 2		4.14	4.50	-0.36
Item 3		4.10	4.74	-0.64
Item 4		3.45	4.36	-0.91
Average		3.97	4.59	-0.62
Item 5	Reliability	3.68	4.77	-1.09
Item 6		3.87	4.82	-0.95
Average		3.78	4.79	-1.01
Item 7	Responsiveness	4.12	4.84	-0.72
Item 8		3.67	4.63	-0.96
Item 9		3.91	4.79	-0.88
Item 10		3.79	4.58	-0.79
Item 11		3.80	4.69	-0.89
Item 12		3.73	4.72	-0.99
Average		3.84	4.70	-0.86
Item 13	Assurance	4.09	4.69	-0.6
Item 14		3.97	4.58	-0.61

Item 15		3.84	4.31	-0.47
Item 16		4.08	4.62	-0.54
Average		3.99	4.55	-0.56
Item 17	Emphaty	3.96	4.68	-0.72
Item 18		3.94	4.42	-0.48
Item 19		3.93	4.37	-0.44
Item 20		3.88	4.47	-0.59
Average		3.93	4.48	-0.55
Overall Total		3.91	4.62	-0.71

Based on **Table 4**, the three highest negative gap values were obtained, namely in item 5 suitability in solving problems given based on the complaints given, a gap value of -1.09, in item 12 employees responding to complaints in the process of changing data/power that has not been realized, a gap value of -0.99 was obtained, and item 8 the convenience of customers in submitting suggestions/ complaints was obtained a gap value of -0.96. This largest gap indicates that customers are dissatisfied.

that an effective strategy will maximize strengths and opportunities, minimizing weaknesses and threats.

a. IFAS (Internal Strategic Factor Analysis Summary) Table

Weighting is carried out using the paired comparison method of strength and weakness factors. The full results are as shown in the following **Table 5**:

Table 5. IFAS (Internal Strategic Factor Analysis Summary)

Internal Strategy Factors	Weight	Rating	Score
Strength			
- Have good product quality	0.1071	4	0.429
- Responsive employees	0.1071	4	0.429
- Employees are quick to help	0.1071	4	0.429
- Easy token purchase and input	0.0716	4	0.286
- Ease of customers in submitting suggestions/complaints	0.1071	4	0.429
- Has supporting facilities such as an online system-based centralized information system application	0.0716	4	0.286
Total	0.5726		2.288
Weakness			
- Limited information on service products to customers	0.0714	3	0.214
- Low employee competence	0.1071	2	0.214
- There are individuals who carry out illegal levies	0.0714	2	0.143

- Lack of socialization of service products to customers	0.0704	2	0.141
- There are still many disturbances experienced by PLN	0.1071	1	0.107
Total	0.4274		0.819
Total	1		3.107

Based on the results of the table above, the total score of internal factors for the strength factor is 2.288 and for the weakness factor is 0.819.

b. EFAS (External Strategic Factor Analysis Summary) Table
 Weighting is carried out using the paired comparison method on opportunity and threat factors. The full results are as shown in the following **Table 6**:

Table 6. EFAS (External Strategic Factor Analysis Summary)

External Strategy Factors	Weighth	Rating	Score
Opportunity			
- Low level of competition in the electric power business	0.095	4	0.38
- The number of regions that get electricity supply is increasing	0.143	4	0.572
- There is a legal basis, namely the Electricity Law	0.143	4	0.572
- The needs of the community are increasing	0.143	4	0.572
- Low level of competition in the electric power business	0.095	4	0.38
Total	0.524		2.096
Threats			
- Demand for service quality to customers	0.143	3	0.429
- Demand for quality in the electricity system	0.143	3	0.429
- Low public support for PLN	0.095	2	0.190
- Starting from many other competitors in the private sector	0.095	2	0.190
Total	0.476		1.238
Total	1		3.334

Based on the results mentioned above, the total score of external factors for the opportunity factor is 2,096 and for the threat factor is 1,238. The two matrices mentioned above, are the relative conditions faced by PLN. These conditions are what they face in running their business.

SWOT Diagram

By using a SWOT analysis diagram matrix, it can be clearly described about threats and opportunities that are adjusted to its strengths and weaknesses. From the results of the calculation of tables 5 and 6, the calculation of the strategy requires the affirmation of the position in the axis cross, namely between strengths and weaknesses, as well as opportunities and threats, all of which are depicted in positive and negative lines. This resulted in a fixed total strength score of 2,288,

a total weakness score of -0.819, while a total score of opportunities of 2,096 and a total threat score of -1,238. From the analysis, the strength factor is greater than the weakness factor and the influence of the opportunity factor is also greater than the threat factor. To find the coordinates, you can search in the following way:

1. Internal Analysis Coordinates:

$$= (\text{Total Strength Score} - \text{Total Weakness Score}) / 2 \quad (4)$$

$$= (2.288 - 0.819) / 2$$

$$= 0.7345$$
2. External Analysis Coordinates:

$$= (\text{Total Chance Score} - \text{Total Threat Score}) / 2 \quad (5)$$

$$= (2.096 - 1.238) / 2$$

$$= 0.429$$

From the results of the calculation above, a SWOT diagram is obtained as shown below.

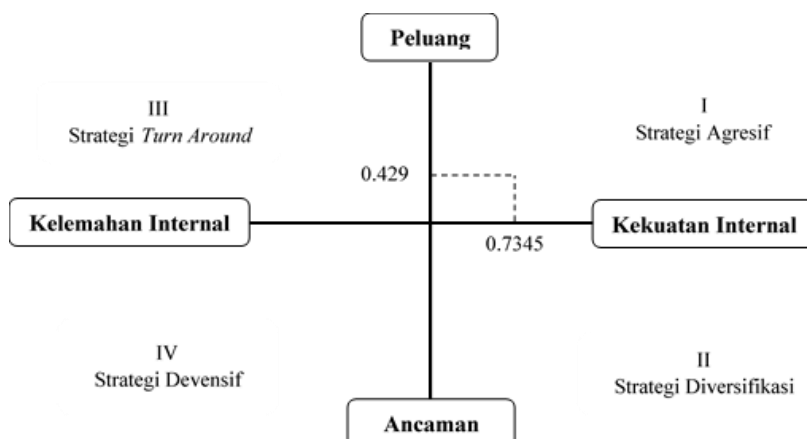


Figure 1. Diagram SWOT

To identify the strategies needed to answer the weaknesses and threats of PT PLN ULP Langsa by looking at the existing strengths and opportunities.

SWOT Matrix

The following is a table that researchers will use to analyze and determine strategic decisions using the SWOT matrix approach.

Table 7. SWOT Matrix

IFAS EFAS	Strengths (S) - Have good product quality - Responsive employees - Employees are quick to help - Easy token purchase and input - Ease of customers in submitting suggestions/complaints - Has supporting facilities such as an <i>online</i> system-based centralized information system application	Weakness (W) - Limited information on service products to customers - Low employee competence - There are individuals who carry out illegal levies - Lack of socialization of service products to customers - Limited information on service products to customers
	Opportunities (O) - Low level of competition in the electric power business - The number of regions that get electricity supply is increasing - There is a legal basis, namely the Electricity Law - The needs of the community are increasing	Strategy SO - Maintaining HR with good performance - Utilizing regional development developments to increase the number of customers - Improving the quality of service to customers
Threats (T)	Strategy ST	Strategy WT

<ul style="list-style-type: none"> - Demand for service quality to customers - Demand for quality in the electricity system - Low public support for PLN - Starting with many other competitors from the private sector 	<ul style="list-style-type: none"> - The application of <i>online system-based</i> applications must be maintained and improved to face the demands of fast and targeted customer service quality - Increase customer trust in winning complaints 	<ul style="list-style-type: none"> - Improve customer service business processes to be able to meet customer satisfaction demands - Improve employee quality selection to increase competition - Establish good relationships with customers
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Based on the SWOT analysis carried out using the Internal Factor Evaluation (IFE Matrix) and External Factor Evaluation (EFE Matrix) methods above, the researcher can analyze that the implementation of SWOT analysis in PLN on the company's external factors, namely the Opportunity position is greater when compared to the Threats position and the internal factor in the Strengths position has a greater score value if Compared to the Weaknesses position, in the internal factor, the weight of the Strengths value was obtained as (2,288) and the weight of the Weaknesses value was (0.819), while the external factor had a weighting of the Opportunities value of (2,096) while in the Threats position had a value weight of (1,238).

Based on the weight of the values mentioned above, as explained in the theoretical foundation chapter, SWOT analysis based on internal and external factors states that a good company is if the Opportunities are greater than the Threats and if the Strengths are greater than the Weaknesses and vice versa. So, based on the weight of the SWOT analysis value mentioned above, PLN ULP Langsa is a good company, because the company's internal factors the position of Strengths has a greater value weight when compared to Weaknesses and in external factors the weight of the Opportunities value is also greater when compared to the weight of the Threats value, so that in this case PLN ULP Langsa has implementing a SWOT analysis, but not completely, so in this case the company must re-optimize the implementation of the SWOT analysis so that it can be more comprehensive in knowing the state of the business being run.

Conclusions

Based on the research conducted by the author on PT PLN (Persero) ULP Langsa, the author can draw the conclusion that:

1. From the results of the calculation of the servqual value, a gap value is obtained with the entire statement item which is -0.71, this indicates that the services provided by PLN are currently still not able to provide maximum service to customers. So it is necessary to make improvements in several service attributes to be in accordance with customer expectations.
2. Based on the measurement of the 5 dimensions of Servqual, it was obtained that the five dimensions of service quality attributes have a value below 0 with the order of the largest gap, namely the Reliability dimension with a gap of -1.01, the Reliability dimension with a gap of -1.01, the Responsivness dimension with a gap of -0.86, the Tangible dimension with a gap of -0.62, the Assurance dimension with a gap of -0.56, and the Emphaty dimension with a gap of -0.55. This means that the order of service quality dimensions must be a concern and a priority to be evaluated and improved by PLN.
3. Based on the SWOT analysis that has been carried out, it is found that the main strategy used is the SO (Strength-Opportunity) strategy, namely:
 - a. Maintaining HR with good performance
 - b. Utilizing regional development developments to increase the number of customers
 - c. Improve the quality of service to customers

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Conflicts Of Interest

The authors declare no conflict of interest.

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