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DESCRIPTIVE OF QUANTITATIVE DATA | SUPPLEMENTARY

The Effect of Service Quality on Customer Satisfaction: Case Study from PT. PLN (Persero) Baras District, North Mamuju Regency

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Abstract: This study uses questionnaires, interviews, observations, and document reviews to align the respondents' answers with the actual situation to ensure the accuracy of the data obtained. The results will be presented in percentage figures and frequency distribution tables. The analysis reveals that all dimensions of service quality—physical evidence, reliability, responsiveness, assurance, and empathy—are significantly related to customer satisfaction at Perusahaan Listrik Negara (PLN) in Baras District, North Mamuju Regency. Specifically, each dimension, including tangible evidence, empathy, reliability, responsiveness, and assurance, contributes to customer satisfaction. Among these, reliability stands out as the most influential factor, as indicated by its highest Chi-Square (χ^2) value, contingency coefficient, and Cramér's V, though physical evidence, responsiveness, assurance, and empathy also play important roles in enhancing overall customer satisfaction.

Keywords: Service Quality, Customer Satisfaction.

1. INTRODUCTION

The implementation of regional autonomy by PT. PLN (Persero) Baras North Mamuju, besides its primary mission to provide the best electricity service to the people of North Mamuju Regency, is also expected to support urban development and service delivery, and to achieve professional management in electricity provision to enhance customer satisfaction. PT. PLN (Persero) Baras North Mamuju is required to continually provide satisfactory service to its consumers. This aligns with the concept of promoting excellent service, hence the expectation for improvements in both technical and administrative service systems to achieve excellent service delivery.

Electricity is a vital necessity for various needs, including lighting, operating industrial machinery, and other life requirements (Dharma, 1998). It is evident that electricity is inseparable from human life, particularly for urban communities. Electricity is crucial for activities including sports, industry, sanitation, fisheries, agriculture, mining, and more. PT. PLN (Persero) Baras North Mamuju, as the body responsible for providing equitable electricity access, is also expected to continuously improve its electricity services to the community in terms of quality, quantity, and continuity. To achieve these objectives, the electricity provider must enhance its performance by fostering good cooperation between interconnected functions. This is due to the urgent need for electricity among the population. According to Law No. 1 of 1974 and its implementing regulations, Government Regulation No. 22 of 1982 Article 13 Paragraph (1) stipulates that: "Electricity for other purposes" (Dharma, 1998). In efforts to improve electricity services, PT. PLN (Persero) Baras North Mamuju often faces difficulties in maintaining production, which disrupts service continuity due to instability in the electricity supply. Seasonal changes can also affect the stability of electricity production, leading to reduced capacity for customers. To support the government program towards "Decade of Electricity and Environmental Health in Settlements" (Dharma, 1998), PT. PLN (Persero) Baras North Mamuju, established to develop regional electricity infrastructure, aims to meet the needs and welfare of the people and employment in the company, in line with Pancasila and the 1945 Constitution.

PT. PLN (Persero) Baras North Mamuju's efforts, particularly in North Mamuju Regency, include network installation and electricity services through cable networks for areas not yet covered by distribution networks. This demonstrates PT. PLN (Persero) Baras North Mamuju's commitment. However, despite these efforts, various issues need attention and improvement. In addition to management challenges, improvements are needed in electricity quality, quantity, continuity, maintenance services, accurate meter reading, and other complaints, which need to be addressed to deliver the optimal solutions for customers. Considering the unstable economic situation, electricity service to the public has declined, particularly noticeable in mid-1997. PT. PLN (Persero) Baras North Mamuju faced increased operational costs due to high import costs, a weak rupiah exchange rate, and rising inflation at the end of 1998, leading to significant increases in raw materials and other supplies. Meanwhile, electricity tariff increases could not be implemented due to reduced customer payment ability.

These challenges have hindered achieving satisfactory levels of electricity service. However, with the current improvement in the economy, PT. PLN (Persero) Baras North Mamuju's management is working to meet customer expectations by providing excellent service to enhance customer satisfaction, particularly in North Mamuju Regency. The improvement depends on the evolving service management to attract and retain customers. As Kotler suggests in Hermawan (1995), companies must recognize the importance of retaining existing customers by providing high satisfaction. However, Chatib from ITB (1997) notes that providing electricity services involves various challenges, including a lack of awareness and experience, inadequate technical methods, and limited materials and equipment. Currently, applying service management in both goods and services industries has become essential for competing in both domestic and global markets. Indonesian consumer demand for service quality has increased, as shown by customer satisfaction research using a scale from 1 to 7, where 1 is the lowest and 7 is the highest for service quality. The average consumer demand for service quality ranges from scores of 6.41 to 6.66. This research highlights customer concern for satisfaction and indicates that customer satisfaction in Indonesia has not yet reached 100%, challenging industry management to develop service management systems to improve customer satisfaction. Based on the above discussion, to understand the service capability of PT. PLN (Persero) Baras North Mamuju, the researcher is interested in investigating " How does service quality impact customer satisfaction at PT. PLN (Persero) in Baras, North Mamuju Regency?"

2. RESEARCH DESIGN AND METHOD

This research emerged from a series of studies conducted at PT. PLN (Persero) Baras District, North Mamuju Regency. According to Sugiono (1994), the population refers to the broader area made up of objects or subjects with specific attributes and quantities defined by the researcher for analysis and conclusion. In this study, the population includes one urban village and two rural villages. In this study, the author uses methods including questionnaires, interviews, observations, and document reviews to align respondents' answers with the actual situation to ensure the accuracy of the data obtained. The results will be presented in percentages and frequency distribution tables with the following calculation formula:

$$P = \frac{F}{N} \times 100 \%$$

Description:

- P = Percentage
- F = Frequency
- N = Number of Respondents

To address the research question regarding strategies for enhancing customer satisfaction, SWOT analysis is used to develop strategic steps.

3. RESULT AND DISCUSSION

3.1. Examination of the Impact of Service Quality Dimensions on Customer Satisfaction at PT. PLN (Persero) in Baras District, Pasangkayu Regency

Physical Evidence and Impact on Customer Satisfaction

Physical evidence, as a component of service quality, plays a crucial role in influencing customer satisfaction. This dimension encompasses the tangible aspects of the service that customers can directly observe and experience. It provides concrete proof of the service provided and contributes to how customers perceive the quality of the service. The relationship between physical evidence and customer satisfaction is illustrated more clearly in the table below:

Table 1. Physical Evidence and The Impact on Customer Satisfaction

Physical Evidence (X1)	Not Satisfied	Less Satisfied	Quite Satisfied	Satisfied	Very Satisfied	Total
Not Available	1	0	0	1	6	8
Less Available	0	1	0	2	11	14
Simply Available	5	4	5	14	63	91
Available	0	0	0	1	5	6
Very Available	0	0	0	0	6	6
Total	6	5	5	18	91	125
Chi-Square (χ^2): 32.371 Coefficient Contingency: 0.413 Asymp. Sig: 0.028 Cmaks: 0.89 IKH: 0.46 (Currently) df: 16						

Table 1 illustrates the cross-tabulation results regarding the impact of physical evidence on customer satisfaction. It shows that the physical evidence dimension of service quality provides a moderate level of satisfaction to PLN customers, as indicated by the cross-tabulation result with a value of 63 for the statement “Fairly Available – Very Satisfied.” Based on these cross-tabulation results, the Chi-Square (χ^2) value is 32.371 with 16 degrees of freedom (df), compared to a critical Chi-Square value of 16.9190. Therefore, $\chi^2_{\text{calculated}} > \chi^2_{\text{table}}$ or $32.371 > 16.9190$. Additionally, the Contingency Coefficient is 0.413 and the significance level (Sig.) is 0.031, reflecting a Cramér’s V value of 0.46, which is considered moderate. This suggests that the physical evidence dimension of service quality has a moderate relationship with customer satisfaction at PLN.

Reliability and Impact on Customer Satisfaction

Reliability within the service quality dimensions is linked to customer satisfaction. It pertains to the aspect of service quality that guarantees PT. PLN (Persero) delivers accurate and trustworthy service to meet customer expectations. This relationship is more clearly illustrated in Table 2 below:

Table 2. Reliability and Customer Satisfaction

Reliability (X2)	Not Satisfied	Less Satisfied	Quite Satisfied	Satisfied	Very Satisfied	Total
Not Available	0	0	1	1	3	5
Less Available	0	0	0	1	4	5
Simply Available	0	1	0	1	4	6
Available	4	4	4	13	73	98
Very Available	2	0	0	2	7	11
Total	6	5	5	18	91	125
Chi-Square (χ^2): 69.861 Coefficient Contingency: 0.661 Asymp. Sig: 0,015						

Cmaks: 0.89 IKH: 0.74 (Strong) df: 16

Table 2 illustrates the cross-tabulation results, showing that the reliability dimension of service quality has positively contributed to customer satisfaction at PLN. This is evident from the cross-tabulation results, which reveal a value of 73 for the statement “Accurate – Very Satisfied.” Based on the cross-tabulation results, the Chi-Square (χ^2) value is 69.861 with 16 degrees of freedom (df), compared to a critical Chi-Square value of 16.9190. Thus, $\chi^2_{\text{calculated}} > \chi^2_{\text{table}}$ or $69.861 > 16.9190$. The Contingency Coefficient is 0.661 and the significance level (Sig.) is 0.015, indicating a Cramér’s V value of 0.74, which is categorized as strong. This means that the reliability dimension of service quality has a strong relationship with customer satisfaction at PLN.

Responsiveness and Impact on Customer Satisfaction

Responsiveness, as a dimension of service quality, has a relationship with customer satisfaction. Responsiveness refers to the service quality dimension that involves how effectively and promptly PT. PLN (Persero) addresses and resolves any issues or discrepancies related to the service provided to ensure customer satisfaction. This relationship is more clearly illustrated in Table 3 below:

Table 3. Responsiveness and Impact on Customer Satisfaction

Responsiveness (X3)	Not Satisfied	Less Satisfied	Quite Satisfied	Satisfied	Very Satisfied	Total
Not Available	1	0	1	0	3	5
Less Available	0	2	0	0	7	9
Simply Available	0	0	1	0	4	5
Available	5	2	3	16	68	94
Very Available	0	1	0	2	9	12
Total	6	5	5	18	91	125
Chi-Square (χ^2): 49.261 Coefficient Contingency: 0.590 Asymp. Sig: 0,021 Cmaks: 0.89 IKH: 0.66 (Strong) df: 16						

Table 3 shows the cross-tabulation results, indicating that the responsiveness dimension of service quality has positively contributed to customer satisfaction at PLN. This is evidenced by the cross-tabulation result with a value of 68 for the statement "Response – Very Satisfied." Based on these results, the Chi-Square (χ^2) value is 49.261 with 16 degrees of freedom (df), compared to a critical Chi-Square value of 16.9190. Thus, $\chi^2_{\text{calculated}} > \chi^2_{\text{table}}$ or $49.261 > 16.9190$. The Contingency Coefficient is 0.590 and the significance level (Sig.) is 0.021, indicating a Cramér’s V value of 0.66, which is categorized as strong. This implies that the responsiveness dimension of service quality has a strong relationship with customer satisfaction at PLN.

Assurance and Impact on Customer Satisfaction

Assurance, as a component of service quality, is connected to customer satisfaction. Assurance refers to the dimension of service quality that involves providing customers with confidence and trust in the services provided by PT. PLN (Persero) to achieve customer satisfaction. This relationship is more clearly illustrated in Table 4 below:

Table 4. Assurance and Impact on Customer Satisfaction

Guarantee (X4)	Not Satisfied	Less Satisfied	Quite Satisfied	Satisfied	Very Satisfied	Total
Not Available	0	0	0	2	4	6
Less Available	0	0	1	2	3	6
Simply Available	0	0	1	0	7	8
Available	6	3	3	11	70	93

Guarantee (X4)	Not Satisfied	Less Satisfied	Quite Satisfied	Satisfied	Very Satisfied	Total
Very Available	0	2	0	3	7	12
Total	6	5	5	18	91	125

Chi-Square (χ^2): 44.289
 Coefficient Contingency: 0.574
 Asymp. Sig: 0,036
 Cmaks: 0.89
 IKH: 0.64 (Strong)
 df: 16

Table 4 shows the cross-tabulation results, indicating that the assurance dimension of service quality has positively contributed to customer satisfaction at PLN. This is reflected in the cross-tabulation results with a value of 70 for the statement "Assured – Very Satisfied." Based on these results, the Chi-Square (χ^2) value is 44.289 with 16 degrees of freedom (df), compared to a critical Chi-Square value of 16.9190. Thus, $\chi^2_{\text{calculated}} > \chi^2_{\text{table}}$ or $44.289 > 16.9190$. The Contingency Coefficient is 0.574 and the significance level (Sig.) is 0.036, indicating a Cramér's V value of 0.64, which is categorized as strong. This implies that the assurance dimension of service quality has a strong relationship with customer satisfaction at PLN.

Empathy and Impact on Customer Satisfaction

Empathy, as a dimension of service quality, is related to customer satisfaction. Empathy is a dimension of service quality that involves providing genuine attention to customers by trying to understand their needs at PT. PLN (Persero). This relationship is more clearly illustrated in Table 5 below:

Table 5. Empathy and Impact on Customer Satisfaction

Empathy (X5)	Not Satisfied	Less Satisfied	Quite Satisfied	Satisfied	Very Satisfied	Total
Not Available	1	0	0	1	3	5
Less Available	1	1	1	2	3	8
Simply Available	3	4	3	5	71	86
Available	1	0	1	7	12	21
Very Available	0	0	0	3	2	5
Total	6	5	5	18	91	125

Chi-Square (χ^2): 27.919
 Coefficient Contingency: 0.388
 Asymp. Sig: 0.046
 Cmaks: 0.89
 IKH: 0.44 (Currently)
 df: 16

Table 5 shows the cross-tabulation results, indicating that the empathy dimension of service quality has provided a moderate level of satisfaction to PLN customers. This is reflected in the cross-tabulation results with a value of 71 for the statement "Sufficient Attention – Very Satisfied." Based on these results, the Chi-Square (χ^2) value is 27.919 with 16 degrees of freedom (df), compared to a critical Chi-Square value of 16.9190. Thus, $\chi^2_{\text{calculated}} > \chi^2_{\text{table}}$ or $27.919 > 16.9190$. The Contingency Coefficient is 0.388 and the significance level (Sig.) is 0.046, indicating a Cramér's V value of 0.44, which is categorized as moderate. This implies that the empathy dimension of service quality has a moderate relationship with customer satisfaction at PLN.

4. CONCLUSION

Based on the research and analysis conducted, the following conclusions can be drawn: First, all service quality dimensions—physical evidence, reliability, responsiveness, assurance, and empathy—are significantly related to customer satisfaction at the State Electricity Company (PLN) in Baras District, North Mamuju Regency. Second, specific dimensions such as tangible evidence, empathy, reliability, responsiveness, and assurance individually contribute to customer satisfaction at the PLN

in Baras District, North Mamuju Regency. Third, reliability is particularly noteworthy as it shows the strongest relationship with customer satisfaction, indicated by its highest Chi-Square value (χ^2), contingency coefficient, and Cramér's V, although other service quality dimensions like physical evidence, responsiveness, assurance, and empathy also play supportive roles.

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