

The Effect of Administrative Service Process on Customer Satisfaction in an Electrical Service Company

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ABSTRACT

Customer satisfaction is a critical indicator of service performance, particularly for companies offering technical services that require continuous administrative interaction. This study aims to analyze the administrative service process and examine its effect on customer satisfaction in an electrical service company specializing in Uninterruptible Power Supply (UPS) maintenance. A quantitative approach using a survey method was employed. The population comprised 191 UPS service customers recorded between January and May 2026, from which 66 respondents were selected using purposive sampling based on specific inclusion criteria. Data were collected via a five-point Likert scale questionnaire and analyzed using validity and reliability tests, classical assumption tests, simple linear regression, coefficient of determination (R^2), and t-test. The results indicate that administrative services were perceived positively (mean = 4.321), and customer satisfaction achieved a high average score (mean = 4.278). The regression analysis revealed a positive regression coefficient of 0.516 ($t=15.098, p<0.05$), while the coefficient of determination ($R^2=0.781$) demonstrated that administrative service processes account for 78.1% of the variance in customer satisfaction. The findings confirm that enhancing administrative reliability, responsiveness, assurance, empathy, and tangibles is essential for driving customer satisfaction and retention.

INTRODUCTION

Service quality has become an increasingly important factor in business competition, particularly for companies whose products are closely associated with service delivery and long-term customer relationships. In service-oriented businesses, customers do not evaluate a company solely from the technical outcome of the service but also from the manner in which the service process is administered, communicated, and delivered. Therefore, companies need to ensure that administrative procedures are accurate, responsive, reliable, and capable of meeting customer expectations.

Customer satisfaction is closely related to the perceived quality of the service received. Customers generally compare their expectations before receiving a service with their perceptions after experiencing the service. When actual performance meets or exceeds expectations, customers are more likely to experience satisfaction; conversely, a gap between expectations and perceived performance may generate dissatisfaction (Kotler & Keller, 2016). Thus, customer satisfaction represents an important indicator for evaluating whether an organization's service processes are capable of creating positive customer experiences.

Service quality can be assessed through several dimensions. The SERVQUAL framework identifies reliability, responsiveness, assurance, empathy, and tangibles as important dimensions in evaluating perceived service quality (Parasuraman, Zeithaml, & Berry, 1988). These dimensions are relevant not only to conventional customer-facing services but also to administrative processes that support technical services. Reliability, for example, concerns the ability of employees to perform administrative activities accurately and consistently, whereas responsiveness reflects the speed and willingness of employees to respond to customer requests.

The importance of service quality is particularly evident in the electrical service industry. Customers who use electrical equipment maintenance services generally require timely communication, accurate administrative documentation, transparent cost information, and dependable scheduling. Administrative delays or errors may disrupt the service process and potentially influence customers' decisions to continue using the company's services.

PT SRD is an electrical service company that provides maintenance services for **Uninterruptible Power Supply (UPS)** equipment. Its services include periodic maintenance, major maintenance or overhaul, and UPS rental services. The company operates with a customer-oriented mission focused on providing solutions to UPS-related problems while maintaining concern for customer needs. Consequently, customer satisfaction represents an important consideration for the company's service sustainability.

One of the issues identified in the preliminary observation was the fluctuation in the number of UPS units covered by service contracts. The fluctuation suggests that customer retention and service continuity require continuous attention. Several factors may contribute to changes in the number of serviced units, including customers changing service providers, customers discontinuing their business activities, and perceptions concerning the

company's service process. In particular, administrative procedures may influence the customer experience because they accompany almost every stage of the service process.

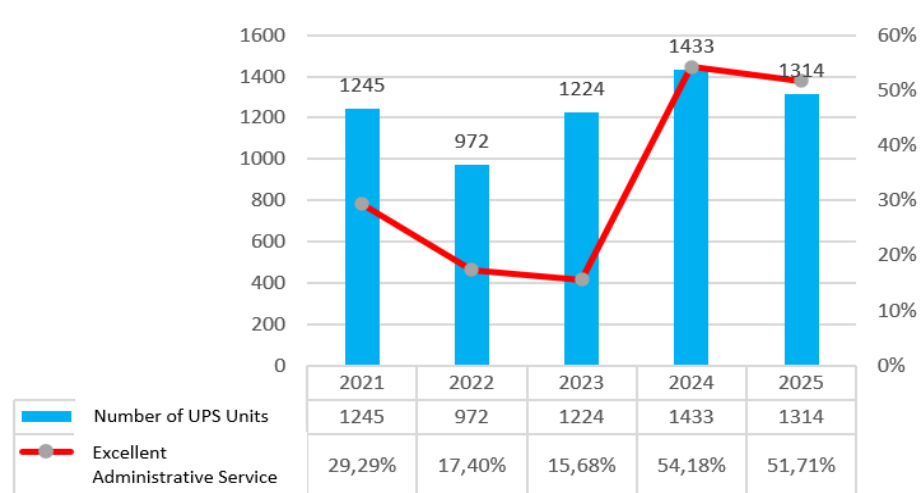


Figure 1. Trend in the Number of UPS Units Covered by Service Contracts

The fluctuation shown in the company's internal data indicates that maintaining existing customers is an important managerial concern. Although changes in the number of serviced UPS units cannot be attributed exclusively to administrative services, the administrative process represents one of the areas that directly interacts with customers. The process includes service registration, preparation of service quotations, receipt of customer purchase orders, technician scheduling, preparation of service reports and official documents, invoice submission, and payment collection.

These activities require accuracy and timely communication. Errors in customer data, delayed quotations, slow responses, inaccurate scheduling, or unclear information may negatively influence customers' perceptions of the company. Conversely, an administrative process that is reliable and responsive can facilitate technical service delivery and contribute to a more positive customer experience.

Previous studies have generally demonstrated a positive relationship between service quality and customer satisfaction. Service quality is frequently identified as one of the determinants of satisfaction because customers evaluate not only the final outcome but also the process through which the service is delivered (Parasuraman et al., 1988; Tjiptono & Chandra, 2016). However, research focusing specifically on administrative service processes within UPS maintenance and electrical service companies remains relatively limited. This creates an opportunity to examine how administrative service activities affect customer satisfaction in a specialized business-to-business service context.

Based on this background, this study aims to determine whether the administrative service process significantly affects customer satisfaction among customers of an electrical company providing UPS maintenance services. The findings are expected to provide both theoretical and managerial contributions,

particularly for improving administrative service processes, strengthening customer relationships, and supporting customer retention.

LITERATURE REVIEW

Administrative Service Process

Administrative service refers to a series of organizational activities designed to support the delivery of services to customers through systematic procedures, documentation, communication, and coordination. In a service company, administration does not merely function as an internal support activity but also forms part of the customer's service experience.

The quality of service can be evaluated through five major dimensions: **reliability, responsiveness, assurance, empathy, and tangibles** (Parasuraman et al., 1988). These dimensions can be adapted to administrative services in an electrical service company.

Reliability reflects the company's ability to provide administrative services accurately and consistently. In the context of UPS maintenance, this includes accurate quotations, customer data, purchase order processing, service scheduling, reports, and billing documents.

Responsiveness concerns employees' willingness and ability to respond promptly to customer inquiries, requests, and complaints. A responsive administrative team can minimize delays and facilitate communication between customers, administrative personnel, and technical staff.

Assurance relates to employees' knowledge, competence, credibility, and ability to provide customers with confidence and a sense of security. Clear explanations regarding procedures, costs, schedules, and service documentation can strengthen customer trust.

Empathy represents the company's ability to provide individualized attention and understand customers' specific needs. In administrative services, empathy may be demonstrated through ease of communication, willingness to listen, and appropriate responses to customer concerns.

Tangibles refer to the physical and technological elements supporting the service process, including office facilities, administrative systems, communication tools, documentation, and employee appearance (Parasuraman et al., 1988).

Thus, administrative service processes in this study are conceptualized as the customer's perception of the reliability, responsiveness, assurance, empathy, and tangibles associated with the company's administrative activities.

Customer Satisfaction

Customer satisfaction represents the customer's evaluation after comparing expected service performance with actual perceived performance. Satisfaction occurs when customers perceive that the service received meets or exceeds their expectations (Kotler & Keller, 2016).

Customer satisfaction can be reflected through several behavioral and attitudinal indicators, including the extent to which service performance meets expectations, the intention to repurchase or reuse the service, and willingness to recommend the service to others (Tjiptono & Chandra, 2016).

For UPS maintenance services, customer satisfaction is particularly important because service relationships may involve recurring maintenance contracts. A satisfied customer has a greater possibility of continuing the service relationship, renewing a contract, and recommending the company to other organizations.

Relationship Between Administrative Service Process and Customer Satisfaction

The relationship between service quality and customer satisfaction has been extensively discussed in service management literature. When a company provides reliable, responsive, informative, and customer-oriented service, customers are more likely to perceive that their expectations have been fulfilled.

Parasuraman et al. (1988) explain that customers evaluate service quality by comparing their expectations with their perceptions of actual service performance. Consequently, improvements in service quality may strengthen positive evaluations and ultimately contribute to customer satisfaction.

In the context of PT SRD, administrative service is an integral component of the overall service experience. Even when technical work is performed properly, administrative problems such as delayed quotations, inaccurate documentation, slow responses, or unclear billing information may reduce customers' overall evaluation of the company.

Therefore, the following hypothesis is proposed:

H1: Administrative service processes have a positive and significant effect on customer satisfaction in an electrical service company.

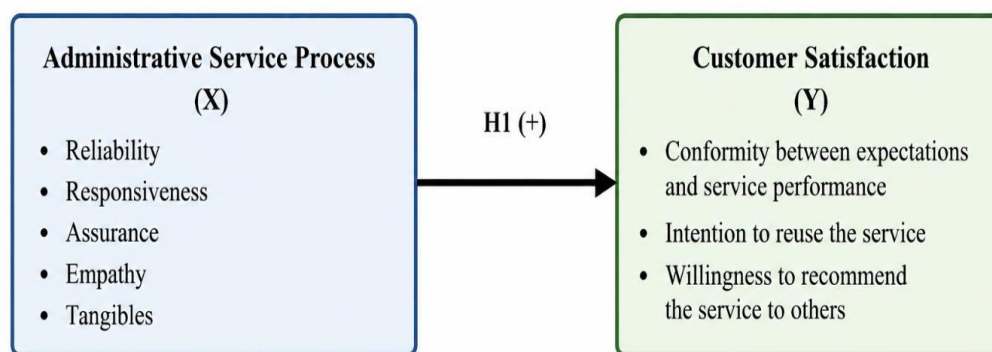


Figure 2. Conceptual Research Model

Notes :

X = Administrative service processes (Independent Variabel)

Y = Customer Satisfaction (Dependent Variabel)

→ = Positive Relationship

METHODS

Research Design

This study employed a **quantitative research approach** using a survey design. Quantitative research is appropriate when researchers seek to examine relationships between variables using numerical data and statistical analysis (Sugiyono, 2022).

The independent variable was **Administrative Service Process (X)**, while the dependent variable was **Customer Satisfaction (Y)**. The research was conducted at PT SRD, an electrical service company located in Jakarta, Indonesia. The research period extended from March to August 2026.

Population and Sample

The population of this study comprised all customers who utilized Uninterruptible Power Supply (UPS) maintenance services from PT SRD, totaling 191 customers based on active service contract records from January to May 2026. A **purposive sampling technique** was employed to select respondents who possessed direct experience and relevance to the research objectives. The inclusion criteria established for selecting the sample were:

1. Customers who utilized PT SRD's UPS maintenance services within the specified observation period (January to May 2026).
2. Representatives, administrative staff, or operational managers who directly handled interactions with PT SRD's administrative processes (including service registration, quotation review, purchase orders, scheduling, and invoicing).

Based on these specific criteria, a total of **66 customers** met the requirements and participated as respondents in this study. This sample size is deemed appropriate and sufficient for conducting simple linear regression analysis in this organizational context.

Research Instrument

Data were collected using a structured questionnaire. The questionnaire employed a five-point Likert scale ranging from 1 to 5.

Table 1. Likert Scale

Score	Response
1	Strongly Disagree / Very Dissatisfied
2	Disagree / Dissatisfied
3	Neutral / Fairly Satisfied
4	Agree / Satisfied
5	Strongly Agree / Very Satisfied

Source: Adapted from Sugiyono (2022)

The Administrative Service Process variable was measured through five dimensions adapted from SERVQUAL: reliability, responsiveness, assurance, empathy, and tangibles (Parasuraman et al., 1988).

Customer satisfaction was measured using three indicators: conformity between expectations and service performance, intention to reuse the service, and willingness to recommend the service to others.

Table 2. Operationalization of Variables

Variable	Dimension/Indicator	Measurement
Administrative Service Process (X)	Reliability	Accuracy, consistency, and timeliness of administrative services
	Responsiveness	Speed and willingness to respond to customer requests
	Assurance	Knowledge, clarity, credibility, and trustworthiness of employees
	Empathy	Individual attention and ease of communicating complaints
	Tangibles	Facilities, administrative technology, documents, and employee appearance
Customer Satisfaction (Y)	Expectation conformity	Satisfaction with the service received compared with expectations
	Reuse intention	Intention to use the service again
	Recommendation	Willingness to recommend the service to others

Source: Adapted from Parasuraman et al. (1988); Tjiptono and Chandra (2016).

Data Analysis

The collected data were analyzed using statistical procedures. The analysis consisted of instrument testing, classical assumption testing, simple linear regression, hypothesis testing, and coefficient of determination.

Validity testing was conducted to determine whether questionnaire items appropriately measured their respective constructs, while reliability testing was conducted to evaluate the internal consistency of the instrument. Cronbach's alpha was used as an indicator of reliability.

Classical assumption testing included normality, linearity, and heteroscedasticity tests. Subsequently, simple linear regression was employed to examine the effect of administrative service processes on customer satisfaction.

The regression model was expressed as:
where:

- Y = Customer Satisfaction
- X = Administrative Service Process
- a = Constant
- b = Regression coefficient
- ε = Error term

The *t*-test was used to determine whether the independent variable had a statistically significant effect on the dependent variable. The coefficient of determination (R^2) was used to determine the proportion of variation in customer satisfaction explained by the administrative service process (Ghozali, 2021).

RESULTS AND DISCUSSION

Validity and Reliability

The validity and reliability tests were conducted before hypothesis testing to ensure that the research instrument was appropriate for statistical analysis. The questionnaire items were evaluated based on their respective statistical criteria.

The results indicated that the research instrument was sufficiently valid and reliable for subsequent analysis. Therefore, the responses obtained from the 66 respondents could be used for regression analysis.

Simple Linear Regression Analysis

The simple linear regression analysis produced the following equation:

The regression coefficient of **0.516** indicates a positive relationship between the administrative service process and customer satisfaction. This means that an improvement in the administrative service process is associated with an increase in customer satisfaction.

The positive coefficient is consistent with the theoretical proposition that customers tend to develop more favorable evaluations when service processes are reliable, responsive, informative, empathetic, and supported by adequate service facilities (Parasuraman et al., 1988).

Table 3. Simple Linear Regression Results

Variable	Regression Coefficient
Constant	1.675
Administrative Service Process (X)	0.516

Source: Processed primary data, 2026.

The regression equation indicates that when the administrative service process increases by one unit, customer satisfaction is expected to increase by approximately **0.516 units**, assuming other factors remain constant.

Hypothesis Testing

The hypothesis was tested using the *t*-test. The analysis produced a calculated *t*-value of **15.098**, which was greater than the critical *t*-value of approximately **1.998** at the relevant significance level.

Table 4. Hypothesis Testing

Relationship	t-value	Decision	Conclusion
Administrative Service Process → Customer Satisfaction	15.098	H1 accepted	Positive and significant effect

Source: Processed primary data, 2026.

The result demonstrates that the administrative service process has a statistically significant positive effect on customer satisfaction. Therefore, **H1 is accepted**.

This finding indicates that administrative activities should not be considered merely as supporting activities within the company. For customers of UPS maintenance services, administrative procedures are part of the overall service experience. Customers interact with administrative personnel when requesting quotations, submitting purchase orders, arranging technician schedules, receiving service reports, processing invoices, and completing payment procedures. Consequently, the quality of these interactions can influence customers' overall assessment of the company.

Coefficient of Determination

The coefficient of determination was $R^2 = 0.781$.

Table 5. Coefficient of Determination

R^2	Interpretation
0.781	Administrative service process explains 78.1% of customer satisfaction

Source: Processed primary data, 2026.

The R^2 value of **0.781** means that the administrative service process accounts for approximately **78.1% of the variation in customer satisfaction**, while the remaining **21.9%** may be associated with other factors not included in the model. The relatively high explanatory contribution suggests that administrative service processes represent an important component of customer satisfaction in the context of UPS maintenance services. Nevertheless, customer satisfaction is multidimensional, and other variables such as technical service quality, service price, equipment performance, technician competence, response to emergency situations, and relationship management may also contribute to customer evaluations.

Discussion

The findings confirm the proposed hypothesis that administrative service processes positively and significantly affect customer satisfaction. This result supports the service quality perspective proposed by Parasuraman et al. (1988), in which customers assess service through dimensions including reliability, responsiveness, assurance, empathy, and tangibles.

The first important implication concerns **reliability**. Customers who use UPS maintenance services depend on accurate administrative information because maintenance activities are often related to operational continuity and equipment availability. Errors in quotations, purchase orders, scheduling, service reports, or billing documents can create additional burdens for customers. Therefore, administrative accuracy is an important component of customer satisfaction.

The second dimension is **responsiveness**. In an electrical service environment, customers may require rapid responses because UPS equipment is associated with the continuity of electrical systems. Delayed responses from administrative personnel may therefore influence customers' perceptions even before technical personnel begin their work. A faster response to inquiries, quotation requests, scheduling requirements, and complaints may strengthen customer confidence.

The third dimension is **assurance**. Administrative employees need to provide clear and consistent information concerning service procedures, costs, schedules, and documentation. Customers are more likely to feel confident when information is communicated professionally and transparently.

The fourth dimension is **empathy**. Customers may have different operational conditions and service requirements. Personalized attention allows the company to understand these differences and respond appropriately. This can strengthen the relationship between the company and its customers.

The fifth dimension is **tangibles**, which includes administrative facilities, documentation, communication systems, and technology. Although UPS maintenance is fundamentally a technical service, the supporting administrative system forms part of the customer's overall experience.

The finding is also consistent with the broader service management literature, which emphasizes that customer satisfaction is influenced by customers' evaluations of service performance relative to their expectations (Kotler & Keller, 2016; Tjiptono & Chandra, 2016). Thus, administrative service improvement should be considered part of the company's customer retention strategy rather than merely an internal operational matter.

The R^2 value of 78.1% provides an important managerial implication. The administrative service process has substantial explanatory power in relation to customer satisfaction in this particular research setting. PT SRD may therefore prioritize improvements in administrative response time, documentation accuracy, information transparency, customer complaint handling, and coordination between administrative and technical personnel.

However, the remaining 21.9% indicates that other factors also influence customer satisfaction. Therefore, future studies may incorporate technical service

quality, price fairness, technician competence, service reliability, customer relationship management, or perceived value into the research model.

CONCLUSION

This study examined the effect of administrative service processes on customer satisfaction among customers of an electrical company providing UPS maintenance services. Based on the empirical analysis, the administrative service process has a **positive and significant effect on customer satisfaction**.

The regression coefficient of **0.516** indicates that improvements in the administrative service process are associated with higher levels of customer satisfaction. The *t*-value of **15.098** further demonstrates that the effect is statistically significant. In addition, the coefficient of determination of **0.781** indicates that the administrative service process explains approximately **78.1% of the variation in customer satisfaction**.

These findings suggest that administrative activities—including quotation preparation, purchase order processing, technician scheduling, service documentation, invoicing, and customer communication—should be managed as an integral part of the company's service quality strategy.

From a managerial perspective, PT SRD should strengthen the accuracy and speed of administrative processes, improve communication channels, establish clear response standards, minimize documentation errors, and strengthen coordination between administrative and technical personnel. These improvements may contribute to stronger customer satisfaction and potentially support customer retention.

Future research should consider additional variables that may explain customer satisfaction, particularly technical service quality, price perception, technician competence, perceived value, and customer relationship management. Studies involving larger populations and multiple electrical service companies could also provide broader generalizability.

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