ANALYSIS OF SERVICE QUALITY ON CUSTOMER LOYALTY MEDIATED BY CUSTOMER SATISFACTION AT THE X CLINIC LABORATORY IN PEMATANG SIANTAR

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Keywords	ABSTRACT
Service quality, customer loyalty, customer satisfaction, clinic, laboratory	The health industry in Indonesia faces a variety of complex and multidimensional challenges. In the face of fierce competition from hospitals that offer self-contained laboratory services and the development of infrastructure that facilitates access to more well-equipped healthcare facilities, it is important to understand how service quality affects customer satisfaction and loyalty. This study aims to explore the influence of Service Quality on Customer Satisfaction and Customer Loyalty at the X Clinical Laboratory in Pematang Siantar City, as well as to examine the role of customer satisfaction as a mediator. The results show that Service Quality has a significant positive influence on customer satisfaction (coefficient: 0.8825), indicating that an improvement in Service Quality will increase customer satisfaction. Based on these findings, the management of Clinical Laboratory X is advised to implement several strategies to improve service quality, customer satisfaction, and loyalty to remain the top choice.

INTRODUCTION

Health is a fundamental aspect for all levels of society because health is the main capital that allows a person to carry out daily activities optimally (Pakpahan, 2022). According to Pakpahan et al., the demand for health services continues to increase in line with the increase in people's income and living standards. This increase shows that the public is increasingly aware of the importance of access to quality health services. Therefore, the existence of public health services is expected to constantly improve the quality of their services in order to meet the expectations and needs of the growing community (Dian Candra Fatiha & Risma Suminar Sari, 2022).

The health industry in Indonesia faces a variety of complex and multidimensional challenges. One of the main challenges is the strict regulations imposed by the government. These regulations include operational standards, accreditation of healthcare facilities, and strict requirements for medical personnel. Health laboratories, for example, must meet the standards set by the Ministry of Health and obtain accreditation from the National Accreditation Committee (KAN) as well as meet the requirements

of ISO 15189 for medical laboratories. While the purpose of these regulations is to ensure that the healthcare services provided are safe, quality, and trustworthy, meeting these standards often requires significant investments in time, resources, and costs, which can be a burden for some healthcare facilities, especially small and medium-sized ones.

In addition, the increasingly fierce competition among various healthcare providers adds to the challenges faced. The increasing number of healthcare facilities such as clinics, hospitals, and laboratories creates intense competition in attracting and retaining customers. Each service provider must offer unique competitive advantages, such as innovation in service, more competitive prices, and superior service quality to remain competitive in this highly dynamic market. In this context, the ability to continue to innovate and improve the quality of services is the main key to survival and growth.

The X Clinic Laboratory in Pematang Siantar focuses on providing high-quality health services in the field of laboratory examinations, serving the majority of independent customers or independent insurance users outside of BPJS participants. In the face of competition from hospitals that offer self-contained laboratory services and the development of infrastructure that facilitates access to more well-equipped healthcare facilities, it is important to understand how service quality affects customer satisfaction and loyalty. The data shows a significant decline in customer number and retention targets in recent years, with target achievement in 2022 only reaching 70% and retention of 18.6%, and although target achievement increased to 84% in 2023, customer retention decreased to 13.6%. The CSI value decreased from 96% in 2022 to 90% in 2023, while the NPS decreased from 64% to 62% in the same period, indicating significant problems in service quality. To attract market segments looking for high-quality and fast healthcare services, Clinical Laboratory X needs to understand how service quality affects customer loyalty and how customer satisfaction can be a mediator in this relationship. This study is important to evaluate how Clinical Laboratory X can improve service quality and customer satisfaction to remain the top choice in the midst of fierce competition and changes in the accessibility of healthcare facilities.

Survey data in 2024 shows a nearly double increase in the number of patients traveling abroad for medical treatment compared to 2022, indicating a perception that medical services abroad are of higher quality or have more advanced technology. This research will help Clinic X understand customer perception of service quality in the country and increase customer satisfaction to reduce the trend of overseas treatment. In Pematang Siantar there are 10 hospitals and 3 similar laboratories. Although Clinical Laboratory X excels in the number and types of tests and the development of digital services, the competition remains fierce. This research will help identify the aspects of service quality that most affect customer satisfaction and loyalty. With excellence in more comprehensive inspection tests and digital services that make it easier for customers to access, this study is important to evaluate the extent to which these advantages contribute to customer satisfaction and loyalty.

Fast, accurate, and professional service quality is the main attraction for customers, with these dimensions influencing customer satisfaction and loyalty. The research will analyze how competitive service pricing and good reputation influence customer decisions, as well as provide recommendations for pricing strategies and reputation improvement. The use of digital technology for booking, test results, and consultation can improve convenience and efficiency, and this study will evaluate the impact of service digitalization on customer satisfaction and loyalty. Customer satisfaction is often used as a mediating variable in the relationship between service quality and customer loyalty. For example, research at Ananda Hospital Bekasi showed that although the quality of services, facilities, and access to convenience did not directly affect loyalty, patient satisfaction had a significant positive effect on loyalty, with satisfaction mediating the relationship.

Furthermore, research by Daniawati, Muhardi, and Harahap (2023) found that the health service marketing mix has a significant positive influence on patient trust and loyalty at the Tanjungsiang Health Center. In addition, patient trust also has a significant positive effect on patient loyalty, and the healthcare marketing mix shows a significant positive influence on patient loyalty through trust. These findings highlight the importance of marketing mix strategies in improving customer satisfaction and loyalty, which is the basis for this study to better understand the relationship between service quality, satisfaction, and customer loyalty in a broader context.

Research by Nurzali and Sidharta (2021) also emphasized that service quality has a significant positive effect on customer satisfaction and trust in home care health services, RawatDiRumah.com, with satisfaction as a mediating variable. The results emphasize the importance of service quality in building customer satisfaction and trust. It is recommended to equip modern equipment, create uniforms, set work schedules and operating hours, and speed up patient response. The attitude of health workers who prioritize the interests of patients, maintain politeness, and prioritize patient safety procedures also needs to be maintained.

Recent market trends in the healthcare sector show that there is an increase in customer expectations for service quality. Today's customers expect not only accurate and fast inspection results, but also personalized and technology-based service. Laboratories that are able to offer technology-based services, such as online access to examination results and remote consultations, tend to be preferred by customers (Health Market Trends Report, 2023). In addition, there is an increased focus on preventive approaches in health services. Customers increasingly expect laboratories to not only provide diagnostic services, but also provide education and information about disease prevention. Laboratories that can meet these expectations with comprehensive, technology-based services will have a significant competitive advantage in the market (Global Health Market Article, 2023).

This study aims to test and analyze the factors that affect the quality of service at the X Clinical Laboratory in Pematang Siantar City, as well as their influence on customer satisfaction and loyalty, including the role of customer satisfaction mediation. The expected benefits of this study include the identification of factors that reduce customer satisfaction and improvement strategies in Laboratory Clinic X, improved service quality that creates loyalty and improves the reputation of the clinic, as well as a better understanding of customer needs. For the healthcare industry, this research contributes to a general understanding of the relationship between service quality and customer loyalty, and provides practical implications for service improvement in the sector. In addition, this research is also expected to be a reference for similar research in the future.

The hypotheses used in this study are:
1) H1: Service quality has a positive effect on customer satisfaction at Clinical Laboratory X
2) H2: Customer satisfaction has a positive effect on customer loyalty at Clinical Laboratory X
3) H3: Service quality has a positive effect on customer loyalty at Clinical Laboratory X
4) H4: Customer satisfaction mediates the influence of service quality on customer loyalty in Clinical Laboratory X

METHODS

This study focuses on the role of customer satisfaction as a mediating variable in the influence of service quality on customer loyalty at Health Laboratory X in Pematang Siantar City. In this context, health laboratories are an important sector that provides optimal diagnostic and health services to the community. The quality of service in health laboratories includes the reliability of test results, the timeliness of service, the competence of medical personnel, and the convenience of facilities. Customer

satisfaction is measured based on their perception of the quality of service received, such as friendly service, process efficiency, and accuracy of test results, which then affects customer loyalty.

This study uses a quantitative method with data collected in the form of numbers, analyzed using statistics. The research population is all customers of Clinical Laboratory X who have used the service at least twice in the past year. The sample was determined using the Slovin formula with an error rate of 5%, resulting in 97 respondents from a population of 128 customers aged 35-45 years. Data was collected through structured questionnaires that measured the variables of service quality, customer satisfaction, and customer loyalty, with primary and secondary data collection techniques.

The operational definition of variables includes service quality as measured by the five dimensions of SERVQUAL (Tangibles, Reliability, Responsiveness, Assurance, Empathy), customer satisfaction based on emotional evaluation of service experience, and customer loyalty measured by repeat purchases, recommendations to others, and resilience to competitors. Data analysis was performed using reliability tests, descriptive analysis, multiple linear regression, and path analysis to evaluate the direct and indirect influence between these variables, as well as to ensure that the measurement instruments were consistent and reliable.

RESULTS
Autocorrelation Test

The autocorrelation test was carried out using the Durbin-Watson test. The Durbin-Watson values for all three models are as follows:

- Service Quality -> Customer Satisfaction: 1.69
- Customer Satisfaction -> Customer Loyalty: 1.67
- Quality of Service -> Customer Loyalty: 1.40

Durbin-Watson values close to 2 indicate the absence of autocorrelation in the residuals, so the assumption of no autocorrelation is met.

Managerial Implications:

- Prediction Validity: Without autocorrelation, predictions from regression models are reliable and valid, allowing management to make more informed decisions.
- Financial Planning: Financial estimates and resource allocation can be done with the confidence that historical data does not influence future predictions excessively.
- Decision Stability: Decisions made based on this model tend to be more stable and not affected by autocorrelation patterns, thereby minimizing the risk of biased data-driven decisions.

Multicollinearity Test

Multicollinearity test by calculating Variance Inflation Factor (VIF).The Variance Inflation Factor (VIF) values for each predictor are as follows:

- Service_Quality: 6.77
- Customer_Satisfaction: 6.77

A VIF value below 10 indicates that there are no serious multicollinearity issues among the predictor variables.

Managerial Implications:

- Model Reliability: In the absence of serious multicollinearity, management can ensure that the estimation of regression coefficients is reliable and not distorted by correlations between predictors.
- Decision Making: Decisions made based on this model are more accurate because each independent variable makes a unique contribution to the dependent variable.
- Resource Optimization: Strategies implemented based on this analysis will be more efficient because the influence of each factor can be identified and measured appropriately.

Path Analysis

Path Analysis is performed to calculate the direct and indirect effects between variables to understand how each variable affects other variables in the model.

Direct Effects

A direct effect is the direct influence of one independent variable on a dependent variable without going through the mediator variable.

1. Service Quality (X) -> Customer Satisfaction (Z):
   - Koefisin: 0.8825*
   - Interpretation: Each improvement of one unit in Quality of Service will increase Customer Satisfaction by 0.8825 units, with a very high level of significance.
2. Customer Satisfaction (Z) -> Customer Loyalty (Y):
   - - Koeficin: 0.3289*
   - Interpretation: Each increase of one unit in Customer Satisfaction will increase Customer Loyalty by 0.3289 units, with a very high level of significance.
3. Quality of Service (X) -> Customer Loyalty (Y):
   - Koefisin: 0.9373*
   - Interpretation: Each one unit increase in Quality of Service will increase Customer Loyalty by 0.9373 units, with a very high level of significance.

Indirect Effects

An indirect effect is the influence of one independent variable on a dependent variable mediated by another variable.

Indirect Effect =

(Service Quality Coefficient -> Customer Satisfaction) × (Customer Satisfaction Coefficient -> Customer Loyalty)

Indirect Effect = 0.8825 × 0.3289 = 0.2902

Total Effect

Total effect is the sum of the direct effects and the indirect effects of one independent variable on the dependent variable.
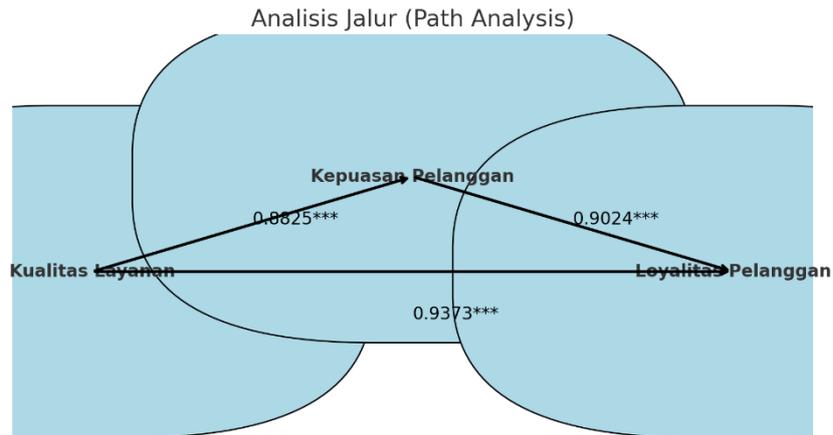
Total Effect = (Direct Effect) + (Indirect Effect)

Total Effect = 0.9373 + 0.2902 = 1.2275

Path Diagram

With the above results, a path diagram can be created as shown in the following image:

- Quality of Service (X) -> Customer Satisfaction (Z): 0.8825***
- Customer Satisfaction (Z) -> Customer Loyalty (Y): 0.9024***
- Quality of Service (X) -> Customer Loyalty (Y): 0.9373***

Analisis Jalur (Path Analysis)

Managerial Implications of Path Analysis

Strengthening Service Quality

Implication: Quality of Service has a major influence on Customer Satisfaction and Loyalty. Management must focus on improving the quality of service to ensure satisfied and loyal customers. This can include employee training, service process improvements, and investments in technology that can improve the customer experience.

Increase Customer Satisfaction

Implication: Customer Satisfaction mediates the effect of Quality of Service on Customer Loyalty. Programs to improve customer satisfaction will have a significant positive impact on customer loyalty. Management can implement regular customer satisfaction surveys, respond to customer feedback, and create reward programs for satisfied customers.

Customer Retention Strategies

Implications: A customer retention strategy should include improving service quality and customer satisfaction programs to ensure customers remain loyal and increase their loyalty. Knowing that Quality of Service has a direct and significant influence on Customer Loyalty, management must ensure that every aspect of customer service is well maintained and continuously improved.

The analysis of this path shows that Service Quality significantly affects Customer Satisfaction and Loyalty, and that Customer Satisfaction also has an important role as a mediator in this relationship. By understanding and implementing these findings, management can take appropriate steps to improve service quality and customer satisfaction, which in turn will increase customer loyalty and benefit the business as a whole.

CONCLUSION

This study aims to explore the influence of Service Quality on Customer Satisfaction and Customer Loyalty in Clinical Laboratory X in Pematang Siantar, as well as to examine the role of Customer Satisfaction as a mediator. The results show that Service Quality has a significant positive influence on Customer Satisfaction (coefficient: 0.8825), indicating that an improvement in Service Quality will increase Customer Satisfaction. Customer Satisfaction also has a significant positive influence on Customer Loyalty (coefficient: 0.3289), indicating that satisfied customers are more likely to become loyal. In addition, Quality of Service also has a significant positive influence on Customer Loyalty (coefficient: 0.9373), signaling an improvement in Quality of Service directly increasing loyalty.

Customer Satisfaction mediates the effect of Quality of Service on Customer Loyalty (indirect effect: 0.2902, total effect: 1.2275), showing that part of the influence of Quality of Service on Loyalty is explained through Customer Satisfaction.

Based on these findings, the management of Clinical Laboratory X is advised to implement several strategies to improve service quality, customer satisfaction, and loyalty. These recommendations include regular employee training to improve service capabilities, investments in advanced medical technology and equipment to improve service efficiency, and the implementation of a customer feedback system to identify areas for improvement. In addition, the development of loyalty programs, service personalization, customer data analysis, proactive communication, and periodic evaluation and monitoring of service performance are also important to increase customer satisfaction and loyalty. By implementing these recommendations, Clinical Laboratory X can improve the quality of services and ensure long-term business sustainability and profitability.

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