# The Impact of Service Quality and Accessibility on Customer Loyalty: The Mediating role of Customer Satisfaction

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**Abstract:** This study aims to examine the influence of service quality and service accessibility on customer loyalty, with customer satisfaction as a mediating variable. The research was conducted at RSUD dr. Chasbullah Abdulmadjid, Bekasi City, focusing on outpatients using clinical laboratory services with general or private payment schemes. Data were collected through structured questionnaires from 210 respondents selected using purposive sampling, based on criteria such as being at least 18 years old and having used the laboratory service at least once in the past year. The analytical method employed is Structural Equation Modeling with Partial Least Squares (SEM-PLS) to assess both direct and indirect effects among variables. The results show that service quality significantly affects both customer satisfaction and loyalty, and customer satisfaction is confirmed to mediate the relationship between service quality and loyalty. Meanwhile, service accessibility has a significant direct effect on customer loyalty but does not significantly influence customer satisfaction, nor is it mediated through satisfaction. These findings highlight the dominant role of service quality in driving satisfaction and loyalty, while accessibility contributes to loyalty more directly. Hospitals and service providers are encouraged to prioritize service quality while maintaining adequate accessibility, adopting a comprehensive strategy to enhance the overall patient experience and foster sustainable customer loyalty.

**Keyword:** Service Quality, Service Accessibility, Customer Satisfaction, Customer Loyalty

## INTRODUCTION

Health is a fundamental human need defined as a state of complete physical, mental, spiritual, and social well-being that enables individuals to live productively both socially and economically (Law No. 36, 2009). Health plays an essential role in supporting various aspects of human life, especially in achieving an optimal quality of life. Individuals actively seek to improve their health status through investing in and consuming health products and services. Achieving optimal health status also depends heavily on the quality of services provided by healthcare providers, including clinical laboratories (Listyowati et al., 2021; Diana & Sudirman, 2023). Customer satisfaction, a subjective assessment of the service received, is a crucial factor in determining whether customers will reuse the service in the future. Satisfaction encompasses not only the outcome of the service but also the entire customer experience—

from ease of administrative access and payment, interactions with healthcare personnel including their attitude and communication, to the comfort of facilities such as waiting rooms. Satisfied customers tend to show loyalty, including repeat purchases and recommending services to others, which benefits the long-term success of service providers. Conversely, dissatisfied customers may switch to other providers (Widyaningsih & Maryani, 2020; Alrubaiee & Alkaa'ida, 2011; Achmad, 2022; Sari, Kholid, & Lutfi, 2023).

Service accessibility is a critical dimension in shaping customer satisfaction and loyalty. Accessibility refers to an individual's ability to seek and obtain the needed services and includes five main dimensions: availability, geographic accessibility, affordability, acceptability, and accommodation (Laksono, 2016; Pechansky & Thomas, 1981). Clinical laboratory services face challenges in accessibility such as distant locations, insufficient information about available services, limited operating hours, and perceived high costs. Customer loyalty is a vital element for the sustainability and success of businesses in the long term, including in healthcare. Loyalty reflects not only the customer's commitment to products or services but also their tendency for repeated purchases and recommending those products or services to others. Kotler and Keller (2016) identify four key indicators for measuring customer loyalty: repeat purchase, retention despite negative influences, positive referrals or word of mouth, and advocacy or encouraging others to purchase. Achieving customer loyalty helps providers gain sustainable competitive advantages that are hard for competitors to replicate (Simanjuntak, Kennedy, & Tobing, 2016). However, achieving loyalty in healthcare remains challenging, as customers often switch providers if they find alternatives offering better prices, more accessible locations, or faster and more accurate services. Providers with high-quality services and good accessibility have better opportunities to satisfy and retain loyal customers since customer satisfaction strongly influences loyalty (Gonsalves, Sirait, & Sinaga, 2024; Bagaskara & Utari, 2023).

Service quality also plays a crucial role in maintaining customer satisfaction and loyalty. Service quality is measured by five dimensions known as service quality (SERVQUAL): tangibles, reliability, responsiveness, assurance, and empathy (Widyaningsih & Maryani, 2020). High service quality contributes to increased customer satisfaction and loyalty, whereas unresolved service quality issues can lead to dissatisfaction and reduced loyalty. Clinical laboratories are healthcare facilities that provide examinations of human specimens to obtain health information, primarily for diagnostic purposes. There are two categories: general clinical laboratories offering a wide range of tests such as hematology, clinical chemistry, parasitology, and immunology, and specialized clinical laboratories focusing on specific examination fields with particular expertise (Ministry of Health Regulation No. 411/MENKES/PER/III/2010).

The general clinical laboratory at RSUD dr. Chasbullah Abdulmadjid Kota Bekasi is an integral part of the hospital's healthcare services, focusing on laboratory examinations that support diagnosis, prevention, and treatment of diseases. Located at Jl. Pramuka No. 55, Bekasi Selatan, this facility is equipped with modern technology and staffed by competent professionals. It offers tests ranging from blood and urine analysis to microbiology and molecular pathology, aiming to provide accurate and timely results for patients and medical personnel. The laboratory supports inpatient, outpatient, and emergency services, including urgent (cito) tests. It strives to maintain consistent quality in line with national accreditation standards and improve accessibility for all patients, including BPJS users, by expediting analysis and reporting. The laboratory aims to become a referral center for healthcare facilities in Bekasi through innovation, collaboration, and patient-centered services, positioning itself as a key pillar in the local healthcare system (RSUD dr. Chasbullah Abdulmadjid Kota Bekasi, 2021).

The laboratory services at RSUD dr. Chasbullah Abdulmadjid play a crucial role in supporting diagnostic and treatment processes. Service quality and accessibility significantly

influence patient satisfaction and loyalty. However, patient complaints, especially from outpatients, indicate issues such as delayed test results, unprofessional behavior by staff, and suboptimal facility comfort. Accessibility challenges include long waiting times and limited parking availability. Data from 2022 to 2024 show fluctuating monthly outpatient visits to the laboratory. In 2022, visits declined early in the year but gradually increased mid-year. In 2023, visits peaked in May before fluctuating downward towards the year-end. Early 2024 showed a spike in July followed by a gradual decrease. These fluctuations suggest varied patient satisfaction levels with laboratory services. Increases in visits may reflect rising patient trust, while declines could indicate accessibility problems or service quality complaints that affect loyalty. If such issues remain unresolved, patients may seek alternative laboratories.

The rapid growth of Indonesia's healthcare industry has increased the number of clinical laboratories, facilitating access to laboratory services but also intensifying competition. RSUD dr. Chasbullah Abdulmadjid faces challenges in providing high-quality, fast, accurate, and affordable services, especially for BPJS patients. It competes with large private laboratories like Prodia Health Care, Kimia Farma Diagnostika, Pramita Laboratory, and others that offer comprehensive testing and home service options, attracting many patients. This competition and increasing patient expectations compel RSUD dr. Chasbullah Abdulmadjid to innovate continuously to meet customer needs without compromising quality. To achieve competitive advantage, the laboratory must create customer satisfaction that fosters loyalty (Gonsalves, Sirait, & Sinaga, 2024; Bagaskara & Utari, 2023). Previous studies by Widyaningsih and Maryani (2020), Listyowati et al. (2021), Diana and Sudirman (2023), and Sari, Kholid, and Lutfi (2023) demonstrate a significant relationship between service quality and customer satisfaction. These studies confirm that enhancing service quality significantly improves customer satisfaction. Other research by Zahara (2020) and Pradigda and Setyawan (2023) emphasize the importance of consistent service quality in building satisfaction and loyalty across various business sectors.

Nonetheless, specific studies examining the impact of service accessibility on customer loyalty in clinical laboratory services remain limited. In an increasingly competitive healthcare environment, accessibility is a key factor influencing customers' decisions to repeatedly use a service. Laboratories offering accessible, affordable, and high-quality services are better positioned to increase satisfaction and retain loyal customers long-term. Therefore, further research is essential to investigate how service quality and accessibility influence customer loyalty, with customer satisfaction as a mediating variable.

**Relationship Between Service Quality and Customer Loyalty**

Numerous studies have established that service quality positively impacts customer loyalty. According to research by Yanto Kurniawan, Hery Winoto Tj, and Fushen (2022), service quality significantly contributes to enhancing customer loyalty. This finding is supported by Gilang Pratama Hafidz and Ririn Ulfianih Muslimah (2023), who confirmed that service quality has a positive effect on customer loyalty. Further reinforcing this relationship, Indira Susetyawati et al. (2023) demonstrated a significant and positive influence of service quality on customer loyalty. These consistent results across various contexts highlight the importance of delivering superior service quality to foster customer loyalty.
H1: Service Quality positively influences Customer Loyalty.

**Relationship Between Service Accessibility and Customer Loyalty**

Accessibility to services is a critical factor affecting customer loyalty. Suryawan Andi Sulistyadi and Hening Widi Oetomo (2016) found that service accessibility has a positive influence on customer loyalty. Similarly, Juansya, Sri Rahayu, and Tobari (2022) concluded that accessibility directly affects customer loyalty in a positive manner. The ability of

customers to easily reach and utilize services not only enhances their satisfaction but also strengthens their commitment to the service provider. These findings emphasize the necessity of ensuring accessible service points and flexible options to increase loyalty. Therefore, the following hypothesis is formulated:
H2: Service Accessibility positively influences Customer Loyalty.

**Relationship Between Service Quality and Customer Satisfaction**

Service quality has long been recognized as a key determinant of customer satisfaction. Destu Satya Widyaningsih and Novi Maryani (2020) reported that service quality has a positive effect on the level of customer satisfaction. Consistent with this, Imelda Gultom and Alexander Samosir (2021) also found a positive influence of service quality on customer satisfaction. Additional evidence by Jois Fera Diana and Achmad Djoni Sudirman (2023) showed a significant positive relationship between service quality and customer satisfaction. Similarly, Cindy Puspita Sari and Ikhwan Kolid Lutfi (2023) confirmed that service quality contributes positively to customer satisfaction. These results collectively suggest that improving various dimensions of service quality—such as responsiveness, reliability, and empathy—can enhance how customers perceive the service and thus their satisfaction. Accordingly, the hypothesis is:
H3: Service Quality positively influences Customer Satisfaction.

**Relationship Between Service Accessibility and Customer Satisfaction**

The impact of service accessibility on customer satisfaction has also been documented in recent research. Juansya, Sri Rahayu, and Tobari (2022) found that accessibility positively affects customer satisfaction. This finding aligns with the results of Totok Adi Hermanto, Trisniarty Adjeng Moelyati, and Fitantina (2022), who also demonstrated that service accessibility significantly contributes to customer satisfaction. Accessibility factors such as location convenience, operating hours, and affordability play a crucial role in shaping customers' overall satisfaction with the service experience.
H4: Service Accessibility positively influences Customer Satisfaction.

**Relationship Between Customer Satisfaction and Customer Loyalty**

Customer satisfaction is widely acknowledged as a precursor to loyalty. Rina Suthia Hayu (2014) found that higher levels of customer satisfaction positively affect customer loyalty. Similarly, Yulia Larasati Putri and Hardi Utomo (2017) concluded that customer satisfaction significantly influences loyalty. Additional support comes from Indira Susetyawati et al. (2023), who identified customer satisfaction as a positive contributor to customer loyalty. Moreover, Alfia Febriatu Sholikhah and Hadita (2023) confirmed this positive relationship. The repeated findings suggest that satisfied customers are more likely to remain loyal, make repeat purchases, and recommend services to others, thereby contributing to business sustainability.
H5: Customer Satisfaction positively influences Customer Loyalty.

**Relationship Between Service Quality and Customer Loyalty Mediated by Customer Satisfaction**

The mediating role of customer satisfaction in the relationship between service quality and customer loyalty has been the subject of significant academic interest. Yulia Larasati Putri and Hardi Utomo (2017) discovered that service quality influences customer loyalty indirectly through customer satisfaction as a mediator. This view is supported by I Gede Benni Subawa and Eka Sulistyawati (2020), who emphasized that customer satisfaction positively mediates the relationship between service quality and loyalty. Similarly, Nuraini Rosyidah and Anik Lestari Andjarwati (2021) confirmed that service quality affects loyalty via the mediating effect

of satisfaction. These studies imply that while service quality is crucial, its ability to foster loyalty largely depends on how well it enhances customer satisfaction first. Therefore, the following hypothesis is proposed:

H6: Service Quality positively influences Customer Loyalty, mediated by Customer Satisfaction

**Relationship Between Service Accessibility and Customer Loyalty Mediated by Customer Satisfaction**

Service accessibility also appears to exert its influence on customer loyalty through customer satisfaction as an intermediary factor. Research by Juansya, Sri Rahayu, and Tobari (2022) demonstrated that accessibility impacts loyalty both directly and indirectly via satisfaction mediation. Aqila Kayrra and Agustina Christiani (2023) reinforced this notion, showing that service accessibility contributes positively to loyalty through the mediation of customer satisfaction. These findings suggest that increasing the ease of access not only directly enhances loyalty but also does so by first improving satisfaction, making accessibility a multifaceted driver of loyalty. Hence, the following hypothesis is formulated:

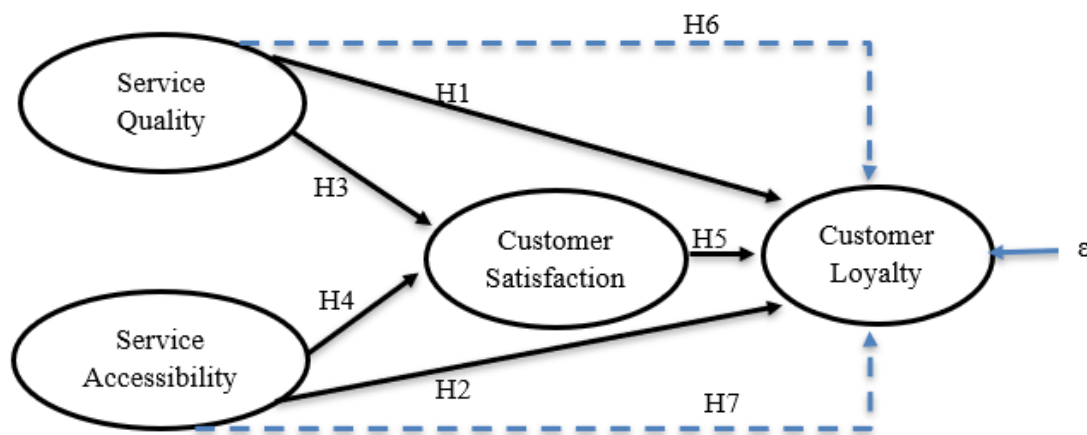H7: Service Accessibility positively influences Customer Loyalty, mediated by Customer Satisfaction.



**Figure 1. Research Framework**

## METHOD
### Research Design

This study employs a quantitative, non-experimental, causal, and non-comparative research design. It aims to investigate the causal relationships between service quality and service accessibility on customer loyalty, with customer satisfaction acting as a mediating variable. The research does not involve manipulation of variables or comparison between different groups but instead focuses on analyzing patterns and relationships among variables based on data collected from outpatients at RSUD dr. Chasbullah Abdulmadjid, Bekasi City, who utilize clinical laboratory services under general or private payment schemes.

### Variable Measurement

The operational variables in this study aim to translate conceptual definitions into measurable indicators for quantitative analysis (Sekaran & Bougie, 2016, p. 195). The study includes three main types of variables: independent variables, mediating variables, and dependent variables. The independent variables are Service Quality (X1), measured through dimensions such as tangibility, reliability, responsiveness, assurance, and empathy, and Service Accessibility (X2), assessed through availability, acceptability, affordability, accommodation,

and awareness, with a total of 32 indicators adapted from Agarwal & Singh (2016) and Hoseini-Esfidarjani et al. (2021). The mediating variable is Customer Satisfaction (Z), which includes three indicators reflecting overall satisfaction. The dependent variable is Customer Loyalty (Y), measured by reuse intentions, recommendations, and responses to dissatisfaction, with six indicators based on Chahal & Kumari (2011). All items are measured on an ordinal scale using a structured questionnaire designed to capture patients' perceptions of clinical laboratory services at RSUD dr. Chasbullah Abdulmadjid Kota Bekasi.

All questionnaire items in this study were measured using a Likert scale and have undergone a pilot test involving 30 respondents to assess their validity and reliability. The results showed that each item achieved a correlation coefficient (r-value) greater than 0.361, indicating that all items are valid. Furthermore, the reliability analysis demonstrated that the overall Cronbach's Alpha coefficient exceeded 0.7, confirming that the instrument is reliable and suitable for further data collection in the main study.

**Population and Sample**
The research was conducted at RSUD dr. Chasbullah Abdulmadjid, Bekasi City, focusing on outpatients using clinical laboratory services with general or private payment schemes. Data were collected through structured questionnaires from 210 respondents selected using purposive sampling, based on criteria such as being at least 18 years old and having used the laboratory service at least once in the past year.

## RESULT AND DISCUSSION

**Tabel 1. Characteristics of Respondents**

| Characteristic | Category | Frequency | Percentage |
|---|---|---|---|
| Gender | Male | 132 | 62.90 |
|  | Female | 78 | 37.10 |
| Age | 18 – 25 years | 18 | 8.60 |
|  | 26 – 35 years | 66 | 31.40 |
|  | 36 – 45 years | 38 | 18.10 |
|  | 46 – 55 years | 42 | 20 |
|  | 56 – 65 years | 31 | 14.80 |
|  | > 65 years | 15 | 7.10 |
| Education | Elementary School | 2 | 1 |
|  | Junior High School | 5 | 2.40 |
|  | Senior High School | 125 | 59.50 |
|  | Diploma | 34 | 16.20 |
|  | Bachelor's Degree (S-1) | 44 | 21 |
| Occupation | Student | 11 | 5.20 |
|  | Civil Servant | 14 | 6.70 |
|  | Private Employee | 60 | 28.60 |
|  | Laborer | 19 | 9 |
|  | Trader | 21 | 10 |
|  | Farmer | 3 | 1.40 |
|  | Others | 72 | 34.30 |
|  | Unemployed | 10 | 4.80 |
| Visit Frequency | 2 times | 56 | 26.70 |
|  | 3 times | 29 | 13.80 |
|  | 4 times | 53 | 25.20 |
|  | 5 times | 53 | 25.20 |
|  | > 5 times | 19 | 9 |

The majority of respondents in this study were male (62.9%), while females made up 37.1%. Most participants were between 26–35 years old (31.4%), followed by age groups 46–55 years (20%), 36–45 years (18.1%), 56–65 years (14.8%), over 65 years (7.1%), and 18–25 years (8.6%). In terms of education, the highest proportion had completed high school (59.5%), followed by bachelor's degree holders (21%), diploma graduates (16.2%), and a small percentage had only completed junior high (2.4%) or elementary school (1%). Regarding employment, the largest group fell under the "Others" category (34.3%), followed by private employees (28.6%), traders (10%), laborers (9%), civil servants (6.7%), students (5.2%), unemployed (4.8%), and farmers (1.4%). As for visit frequency, the most common responses were 2 times (26.7%), 4 times (25.2%), and 5 times (25.2%), while 3 times (13.8%) and more than 5 times (9%) were less frequent.
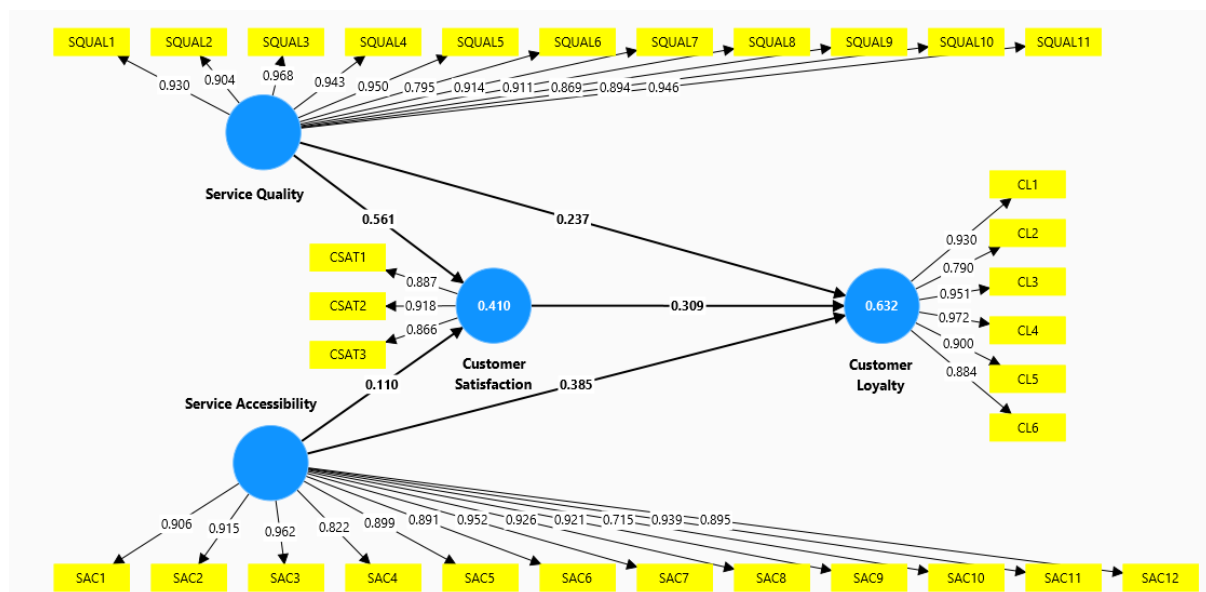


**Figure 2. Outer Model Estimation**

**Tabel 2. Validity and Reliability Construct**

| Variable | Indicators | Outer Loading | Cut-off Value | HTMT | AVE | CR | Cut-off Value | Result |
|---|---|---|---|---|---|---|---|---|
| Customer Loyalty | CL1 | 0.930 | 0.7 | 0.000 | 0.822 | 0.963 | 0.5 | Valid |
| | CL2 | 0.790 | 0.7 | | | | | Valid |
| | CL3 | 0.951 | 0.7 | | | | | Valid |
| | CL4 | 0.972 | 0.7 | | | | | Valid |
| | CL5 | 0.900 | 0.7 | | | | | Valid |
| | CL6 | 0.884 | 0.7 | | | | | Valid |
| Customer Satisfaction | CSAT1 | 0.887 | 0.7 | 0.693 | 0.793 | 0.893 | 0.5 | Valid |
| | CSAT2 | 0.918 | 0.7 | | | | | Valid |
| | CSAT3 | 0.866 | 0.7 | | | | | Valid |
| Service Accessibility | SAC1 | 0.906 | 0.7 | 0.522 | 0.806 | 0.982 | 0.5 | Valid |
| | SAC2 | 0.915 | 0.7 | | | | | Valid |
| | SAC3 | 0.962 | 0.7 | | | | | Valid |
| | SAC4 | 0.822 | 0.7 | | | | | Valid |
| | SAC5 | 0.899 | 0.7 | | | | | Valid |
| | SAC6 | 0.891 | 0.7 | | | | | Valid |
| | SAC7 | 0.952 | 0.7 | | | | | Valid |
| | SAC8 | 0.926 | 0.7 | | | | | Valid |
| | SAC9 | 0.921 | 0.7 | 0.685 | 0.832 | 0.984 | 0.5 | Valid |
| | SAC10 | 0.715 | 0.7 | | | | | Valid |
| | SAC11 | 0.939 | 0.7 | | | | | Valid |

| | | | | |
|---|---|---|---|---|
| | SAC12 | 0.895 | 0.7 | Valid |
| Service Quality | SQUAL1 | 0.930 | 0.7 | Valid |
| | SQUAL2 | 0.904 | 0.7 | Valid |
| | SQUAL3 | 0.968 | 0.7 | Valid |
| | SQUAL4 | 0.943 | 0.7 | Valid |
| | SQUAL5 | 0.950 | 0.7 | Valid |
| | SQUAL6 | 0.795 | 0.7 | Valid |
| | SQUAL7 | 0.914 | 0.7 | Valid |
| | SQUAL8 | 0.911 | 0.7 | Valid |
| | SQUAL9 | 0.869 | 0.7 | Valid |
| | SQUAL10 | 0.894 | 0.7 | Valid |
| | SQUAL11 | 0.946 | 0.7 | Valid |

Based on the results of the outer loading analysis, all indicators across the variables of Customer Loyalty, Customer Satisfaction, Service Accessibility, and Service Quality exceed the minimum threshold value of 0.7, indicating strong indicator reliability. For the **Customer Loyalty** variable, outer loadings ranged from 0.790 to 0.972, confirming that all six indicators (CL1–CL6) are valid contributors. Similarly, Customer Satisfaction indicators (CSAT1–CSAT3) recorded high loading values between 0.866 and 0.918, reinforcing their reliability. The Service Accessibility variable had 12 indicators with loadings from 0.715 to 0.962, also meeting the validity criteria. Likewise, the Service Quality variable showed strong loadings ranging from 0.795 to 0.968 across all 11 indicators (SQUAL1–SQUAL11), confirming their measurement validity.

In terms of convergent validity and construct reliability, all Average Variance Extracted (AVE) values are above the 0.5 cut-off, ranging from 0.793 to 0.832, which means that more than 50% of the variance is explained by the indicators. Composite Reliability (CR) values for all constructs are also well above the threshold of 0.7, ranging from 0.893 to 0.984, demonstrating high internal consistency. The Heterotrait-Monotrait Ratio (HTMT) values provided—0.000, 0.693, 0.522, and 0.685—are all below the maximum threshold of 0.90, confirming good discriminant validity among constructs. In conclusion, the measurement model meets all the validity and reliability criteria, making it suitable for further structural model analysis.

**Tabel 3. Goodness of fit model**

| | R-square | Q- Square | SRMR |
|---|---|---|---|
| Customer Loyalty | 0.632 | 0.512 | 0.070 |
| Customer Satisfaction | 0.410 | 0.312 | |

Table 3 presents the goodness-of-fit indices for the structural model. The R-square value for Customer Loyalty is 0.632, indicating that 63.2% of the variance in customer loyalty can be explained by the model, while Customer Satisfaction has an R-square value of 0.410, showing that 41% of its variance is accounted for. The Q-square values for customer loyalty and customer satisfaction are 0.512 and 0.312 respectively, both of which are greater than zero, signifying acceptable predictive relevance. Additionally, the SRMR (Standardized Root Mean Square Residual) value is 0.070, which falls below the recommended threshold of 0.08, indicating a good overall model fit.
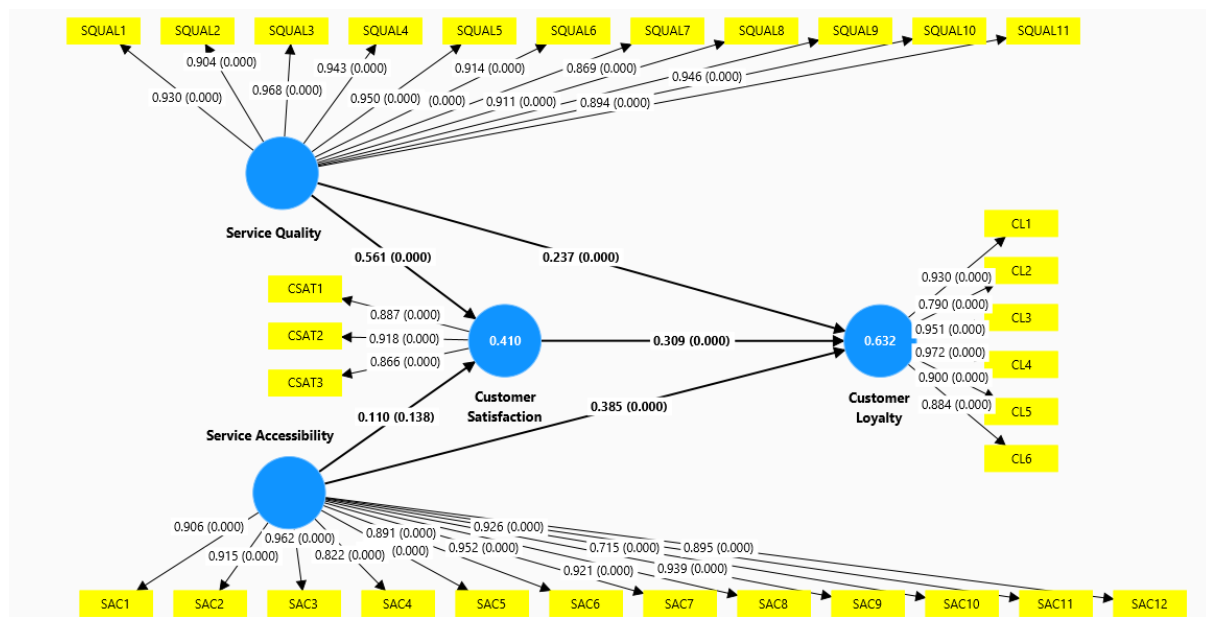
**Figure 3. Inner Model Estimation**

**Tabel 4. Causality test (Direct and Indirect Effect Test)**

| Path | Path Coeff. | T statistics | P values |
|---|---|---|---|
| CSAT -> CL | 0.309 | 5.472 | 0.000 |
| SAC -> CL | 0.385 | 5.987 | 0.000 |
| SAC -> CSAT | 0.110 | 1.482 | 0.138 |
| SQUAL -> CL | 0.237 | 3.523 | 0.000 |
| SQUAL -> CSAT | 0.561 | 9.491 | 0.000 |
| SAC -> CSAT -> CL | 0.034 | 1.603 | 0.109 |
| SQUAL -> CSAT -> CL | 0.174 | 4.288 | 0.000 |

The analysis of the structural model reveals that Customer Loyalty is significantly influenced by three main factors: Service Quality, Service Accessibility, and Customer Satisfaction. The path coefficient from Customer Satisfaction to Customer Loyalty is 0.309 with a t-statistic of 5.472 (p = 0.000), indicating a strong and significant relationship. Similarly, Service Accessibility has a significant direct effect on Customer Loyalty (O = 0.385; t = 5.987; p = 0.000), suggesting that better access to services leads to increased loyalty. Service Quality also directly contributes to Customer Loyalty with a path coefficient of 0.237 (t = 3.523; p = 0.000), underscoring its importance in shaping loyal customer behavior.

In terms of Customer Satisfaction as a dependent variable, the analysis shows that Service Quality is the most influential factor, with a coefficient of 0.561 and a high t-statistic of 9.491 (p = 0.000), meaning that customers who perceive higher service quality tend to be more satisfied. However, Service Accessibility does not show a statistically significant influence on Customer Satisfaction (O = 0.110; t = 1.482; p = 0.138), implying that access alone may not be sufficient to raise satisfaction levels unless accompanied by quality service experiences.

Regarding the mediation effect, the role of Customer Satisfaction is confirmed as a significant mediator between Service Quality and Customer Loyalty, with an indirect effect of 0.174 (t = 4.288; p = 0.000). This indicates that part of the influence of service quality on loyalty occurs through enhanced customer satisfaction. In contrast, Customer Satisfaction does not significantly mediate the relationship between Service Accessibility and Customer Loyalty (O = 0.034; t = 1.603; p = 0.109). These findings highlight the critical role of Service Quality not only in driving satisfaction and loyalty directly, but also through its indirect impact via

satisfaction, whereas Service Accessibility appears to influence loyalty more directly without relying on satisfaction.

**Tabel 5. F Test and Determination Coefficient**

| Endogenous (Y) | | Exogenous (X) | F | R-square | R-square adjusted |
|---|---|---|---|---|---|
| Customer Loyalty | 1. | Service Quality | 140.683 | 0.632 | 0.672 |
| | 2. | Service Accessibility | (2.648) | | |
| | 3. | Customer Satisfaction | | | |
| Customer Satisfaction | 1. | Service Quality | 70.450 | 0.410 | 0.403 |
| | 2. | Service Accessibility | (3.040) | | |

The results of the F-test and determination coefficients indicate that the structural model is statistically significant. For the Customer Loyalty variable, the F-value is 140.683, which is much higher than the F-table value of 2.648, suggesting that the predictors—Service Quality, Service Accessibility, and Customer Satisfaction—collectively have a significant influence on Customer Loyalty. The R-square value of 0.632 implies that 63.2% of the variation in Customer Loyalty can be explained by these three variables, with an adjusted R-square of 0.672, indicating a strong model fit. Similarly, for the Customer Satisfaction variable, the F-value of 70.450 exceeds the F-table value of 3.040, confirming the significant influence of Service Quality and Service Accessibility. The R-square of 0.410 and adjusted R-square of 0.403 show that 41% of the variation in Customer Satisfaction is accounted for by the independent variables, highlighting the important role of service-related factors in shaping customer satisfaction and loyalty.

**Tabel 6. Testing Hypothesis**

| Hypothesis | Coefficient | T-Statistic | P-Value | Decision |
|---|---|---|---|---|
| H1: The effect of Service Quality on Customer Loyalty | 0.237 | 3.523 | 0.000 | Accepted |
| H2: The effect of Service Accessibility on Customer Loyalty | 0.385 | 5.987 | 0.000 | Accepted |
| H3: The effect of Service Quality on Customer Satisfaction | 0.561 | 9.491 | 0.000 | Accepted |
| H4: The effect of Service Accessibility on Customer Satisfaction | 0.110 | 1.482 | 0.138 | Rejected |
| H5: The effect of Customer Satisfaction on Customer Loyalty | 0.309 | 5.472 | 0.000 | Accepted |

The hypothesis testing results provide meaningful insights into the relationships among service quality, service accessibility, customer satisfaction, and customer loyalty. The direct influence of Service Quality on Customer Loyalty was found to be significant ($\beta = 0.237$, $t = 3.523$, $p < 0.001$), indicating that improvements in the quality of service delivery at RSUD CAM significantly increase patients' loyalty. Furthermore, Service Quality also demonstrated a strong and significant positive effect on Customer Satisfaction ($\beta = 0.561$, $t = 9.491$, $p < 0.001$), showing that when patients perceive service quality to be high—including tangible aspects, responsiveness, assurance, empathy, and reliability—they tend to be more satisfied with the healthcare services received.

The analysis revealed that Service Quality significantly influences Customer Satisfaction ($\beta = 0.561$, $t = 9.491$, $p < 0.001$), indicating that when patients perceive high reliability, responsiveness, empathy, and assurance from laboratory services, their satisfaction levels rise accordingly. In turn, Customer Satisfaction also has a significant impact on Customer Loyalty ($\beta = 0.309$, $t = 5.472$, $p < 0.001$), supporting the role of satisfaction as a critical driver in maintaining long-term engagement with the service provider. These findings confirm that Customer Satisfaction serves as a mediating variable in the relationship between

Service Quality and Customer Loyalty, as supported by the acceptance of Hypothesis H6. This suggests that while Service Quality may directly influence loyalty, it also indirectly enhances loyalty through increased satisfaction, forming a dual-pathway impact on customer commitment.

Conversely, Service Accessibility showed no significant influence on Customer Satisfaction ($\beta = 0.110$, $t = 1.482$, $p = 0.138$), indicating that ease of access—such as proximity, availability, or convenience—does not necessarily improve patient's perceived satisfaction with laboratory services. Although Customer Satisfaction remains a strong predictor of Customer Loyalty, its role as a mediator in the link between Accessibility and Loyalty is unsupported. As such, Hypothesis H7 is rejected, reinforcing that Accessibility does not lead to loyalty through satisfaction, but may still exert influence through other unexamined pathways. These results underscore the need for service managers to focus more on enhancing perceived service quality rather than merely improving physical or logistical access, especially when aiming to increase both satisfaction and loyalty among patients.

**Discussion**
**The Effect of Service Quality on Customer Loyalty**

This study's findings align with previous research indicating that service quality significantly influences customer loyalty across various sectors such as finance, hospitality, and eldercare services, where customer expectations are notably high. Service quality, encompassing dimensions like reliability, responsiveness, assurance, empathy, and tangibles, plays a critical role in enhancing customer satisfaction, which in turn boosts loyalty (Halika & Kharisma, 2024; Liu, 2024). In this context, customer satisfaction acts as a key mediator, where improvements in service quality lead to higher satisfaction and ultimately strengthen customer commitment to the service or product used (Lasmiatun et al., 2024; Armanto & Gunarto, 2024). Moreover, service quality may also have a direct effect on loyalty without passing through satisfaction, indicating that enhancing service quality is a crucial strategy for creating and maintaining customer loyalty (Temory, 2024). Nonetheless, loyalty is not determined solely by service quality, as other factors such as perceived value, brand trust, and external market conditions also contribute. Therefore, companies should adopt a comprehensive approach to boost customer loyalty, prioritizing service quality as the foundational element.

**The Effect of Service Accessibility on Customer Loyalty**

The results of this study are consistent with various prior studies showing that service accessibility has a complex influence on customer loyalty. Accessibility, often closely linked to service quality and ease of use, is an important factor in shaping customer satisfaction that subsequently contributes to loyalty. In the digital banking sector, for example, ease of use and service quality have been proven to directly enhance customer satisfaction, leading to higher loyalty (Kadir & Roostika, 2024). Meanwhile, in the café industry, although accessibility does not directly affect loyalty, it still positively contributes to customer satisfaction which then impacts loyalty (2012). This suggests that accessibility's effect may occur indirectly through satisfaction. Additionally, ease of service use has been identified as a key factor in fostering loyalty, as demonstrated in studies showing that both ease and quality of service play roles in building loyalty through satisfaction (Alfath et al., 2024). In the airline industry context, service convenience as a form of accessibility significantly improves both satisfaction and loyalty (Mayumartiana et al., 2019). However, alternative perspectives indicate that accessibility alone does not determine customer loyalty, as other factors like employee service and overall atmosphere also influence the holistic customer experience (2012). Thus, service providers should adopt a holistic approach that emphasizes not only accessibility but also human interaction quality and supportive service environments to cultivate sustainable loyalty.

**The Effect of Service Quality on Customer Satisfaction**

This study's findings concur with earlier evidence showing that service quality has a significant impact on customer satisfaction across various industries. High service quality not only increases satisfaction but also directly affects customer loyalty, thereby creating a competitive advantage for companies. Service quality dimensions such as tangibility, reliability, responsiveness, and assurance have been identified as primary indicators shaping customers' perceptions of the service received (Halika & Kharisma, 2024). In the hospitality sector, for instance, research by Temory (2024) reveals a positive direct correlation between service quality and customer satisfaction, which further influences loyalty. Studies at Grand Aston City Hall Medan report that service quality contributes 29.4% to customer satisfaction (Andre et al., 2020), while at PT. Securindo Packatama Indonesia a strong correlation (0.787) was found with service quality explaining 62% of satisfaction variance (Jasmani, 2023). Despite strong empirical support for the influence of service quality on satisfaction, it is important to recognize that other factors such as location, personal interactions, and customer expectations also shape the overall experience and satisfaction (Ria et al., 2024). Therefore, organizations need to develop comprehensive service improvement strategies focused on customer needs to create positive and sustainable experiences.

**The Effect of Service Accessibility on Customer Satisfaction**

The results of this study align with previous research showing that service accessibility significantly impacts customer satisfaction, particularly in service-based industries. Accessibility, including ease of use and convenience, is a vital factor in creating positive customer experiences. In the banking sector, research in Nigeria found that the ease and convenience of electronic access positively influenced customer satisfaction, although system reliability had a negative effect (Abdullahi et al., 2018). In the digital app sector, PLN Mobile exemplifies how improved accessibility via technology can boost satisfaction, reflected by high download numbers and positive user ratings (Saing & Suryanto, 2024). In retail and café sectors, facility accessibility also plays a significant role in contributing to customer satisfaction alongside service quality (2021). Furthermore, Ria et al. (2024) emphasize the importance of service quality and location factors such as visibility and traffic flow as major determinants of customer satisfaction. In mobile banking, ease of use directly affects satisfaction, which then impacts loyalty (Kadir & Roostika, 2024). Thus, while accessibility is important, customer satisfaction results from a combination of factors including service quality and customer engagement. Consequently, a holistic approach integrating ease of access, service quality, and overall customer experience is necessary to achieve optimal satisfaction.

**The Effect of Customer Satisfaction on Customer Loyalty**

This study's findings support previous research highlighting customer satisfaction's vital role as a mediator between service quality and customer loyalty, especially in service industries. Customer satisfaction serves as a crucial bridge linking customers' perceptions of service quality with their decisions to continue using the service or recommend it to others. Liu's (2024) study on eldercare services in China demonstrated that improved service quality significantly raised satisfaction, which then increased customer loyalty. Similarly, research by Aini and Siswanto (2024) in the banking sector showed that satisfaction fully mediates the effect of service quality on loyalty, emphasizing that loyalty is not formed solely by good service but by the satisfaction customers feel from that service. Service quality dimensions such as tangibility and responsiveness also positively contribute to satisfaction, as explained in studies by Maria (2023) at The City Bank Limited and Bahtera & Munawaroh (2022), which show direct relationships between service quality and loyalty through satisfaction. In the

tourism sector, Triandewo and Prasastyo (2023) add that customer experiences, particularly regarding entertainment and aesthetics, also shape satisfaction that impacts loyalty. However, it is important to note that loyalty can also be influenced by other factors such as product quality, price, and market dynamics beyond the direct control of service providers. Therefore, companies should develop comprehensive and sustainable customer relationship management strategies, focusing not only on improving service quality but also holistically understanding customer experiences and expectations.

## CONCLUSION

The study confirms that service quality significantly influences both customer satisfaction and customer loyalty. High service quality enhances customer satisfaction by meeting or exceeding customer expectations, which in turn fosters stronger loyalty. Service accessibility also has a significant direct impact on customer loyalty, indicating that ease of access plays a role in shaping customer commitment. However, its influence on customer satisfaction is not statistically significant, suggesting that accessibility alone does not necessarily lead to higher satisfaction levels. Customer satisfaction serves as a crucial mediator between service quality and customer loyalty, but not between service accessibility and loyalty. While service quality can influence loyalty both directly and indirectly through satisfaction, accessibility influence loyalty through a direct path. These findings highlight the dominant role of service quality in shaping both satisfaction and loyalty, while the role of accessibility is more limited. Therefore, companies must adopt a comprehensive approach that prioritizes service quality while also maintaining adequate accessibility and overall customer experience to achieve competitive advantage. Ultimately, sustainable customer loyalty depends on consistently delivering high quality service that addresses customer needs holistically.

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