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The Influence of Service Quality and Communication Moderated by Patient Trust on Patient Satisfaction

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Abstract. The growth of the healthcare industry in North Sulawesi has driven existing hospitals to continuously enhance the quality of their services. RSUP Prof. Dr. R. D. Kandou Manado, operating since 1995, now faces increasing competition from newly established hospitals and must therefore innovate its patient care services. This research intends to examine the influence of service quality and communication quality on patient satisfaction, with patient trust as the moderating variable. The study was conducted using a quantitative approach, employing Structural Equation Modeling (SEM) with a multivariate statistical analysis method through Smart-Partial Least Square (Smart-PLS). The survey was carried out in the North Sulawesi region by distributing questionnaires via social media from May 2024 to April 2025. The findings indicate that service quality, when moderated by patient trust, significantly affects patient satisfaction, whereas communication quality moderated by patient trust does not show a significant effect on patient satisfaction. This study confirms that service quality significantly enhances patient satisfaction when moderated by patient trust. In contrast, communication quality, even when moderated by trust, does not significantly impact satisfaction. These findings highlight the central role of trust in amplifying the effect of service quality, offering practical guidance for hospitals to focus on service excellence and trust-building as key drivers of patient satisfaction.

Keywords: Health Industry; quality of service; North Sulawesi

INTRODUCTION

The health industry has experienced substantial growth over the past 10 years in North Sulawesi Province and throughout Indonesia (Aisyah et al., 2025; Anastasia et al., 2023; Mboi et al., 2022; Schaefers et al., 2022). The emergence of new health care facilities, such as hospitals and clinics, has encouraged existing facilities to compete by developing and improving service quality for patients. According to data from the Central Statistics Agency, North Sulawesi Province had 310 health facilities (hospitals, posyandu, etc.) in 2023, compared to only 80 in 2015. This growth has intensified competition among hospitals and created challenges in human resource management, as the increase in facilities has not been matched by a proportional rise in health workers, potentially leading to declines in service quality. Although adding health care facilities is essential, it must be accompanied by sufficient health workers to enhance health services (Hammad & Ramie, 2022). According to the Government of Indonesia, a hospital is a "health service facility that provides individual health services in a complete manner through promotive, preventive, curative, rehabilitative, and/or palliative health services by providing inpatient, outpatient, and emergency services" (Government Regulation (PP) Number 28 of 2024 concerning Implementing Regulation of Law Number 17 of 2023 concerning Health, 2024).

There are 10 patient safety rights that must be upheld: the right to safe health services; the right to access clear and reliable health information; the right to participate in medical decision-making; the right to privacy and confidentiality of medical care; the right to

coordination and continuity of care; the right to report patient safety incidents without fear; the right to patient safety education and training; the right to a safe care environment; the right to receive fair and non-discriminatory care; and the right to compensation and recovery after a patient safety incident (World Health Organization, 2024). These rights ensure consistent, non-discriminatory service quality and safety for all patients in health care facilities. In Indonesia, patients "have the right to obtain quality health services in accordance with professional standards and standard operating procedures and to obtain effective and efficient services so that patients avoid physical and material losses" (Law of the Republic of Indonesia Number 44 of 2009 concerning Hospitals, 2009). Hospitals must deliver quality health services by respecting and protecting patient rights (Regulation of the Minister of Health of the Republic of Indonesia Number 4 of 2018 concerning Hospital Obligations and Patient Obligations, 2018), while continuously improving service quality—including adequate facilities, a safe environment, and effective communication between patients and hospital personnel.

Prof. Dr. R. D. Kandou Manado Central General Hospital (RSUP) is a vertical hospital under the Ministry of Health of the Republic of Indonesia and has operated since 1995. It serves as the primary destination for health services and referrals across North Sulawesi Province. However, it now faces significant challenges from new hospitals—particularly private ones—that offer alternative services to the community. With easier access to information and the influence of social media, public awareness of service quality and patient rights has grown, making people more selective in choosing facilities that deliver satisfactory experiences. Patient satisfaction is a key goal for all health care facilities, and many hospitals strive to achieve it by enhancing services. To succeed, hospitals must address influencing factors, such as communication quality between health workers and patients, and overall service quality. These factors also shape patient trust in the hospital. Although good communication quality can boost patient satisfaction, its effect may weaken without considering moderators like patient trust. Patient trust in health care providers is crucial for overall satisfaction, acting as a vital link between communication and satisfaction. Communication quality varies by context and individuals involved, meaning the same patient might feel satisfied or dissatisfied based on their specific interactions. Previous studies show that satisfaction with doctor interactions fluctuates due to prior expectations and experiences (Hasna et al., 2022). This underscores satisfaction's subjective nature, heavily influenced by individual expectations. Good communication alone is insufficient, as its quality depends on patient trust in health workers (Sudjadi et al., 2023). Research confirms that service quality has a dual impact: it builds patient trust and improves interactions with medical personnel, fostering positive experiences (Anam et al., 2022; Khairani et al., 2021). This influence on trust ultimately enhances satisfaction and loyalty. Similarly, Wahid and Nuryakin (2021) found that service quality directly drives satisfaction, shaping patients' intentions to return. Primaditya et al. (2024) emphasize that Total Quality Management (TQM) improves the patient journey by addressing overall needs.

Good communication with staff is a major factor in patients' interest in returning (Shilvira et al., 2023), serving as a key interaction point that highlights the value of memorable service. Effective communication enhances service quality and the overall patient experience. Studies show that therapeutic communication between medical personnel and patients increases satisfaction, reduces medical errors, and elevates health service quality (Anam et al., 2022;

Rizkiawan et al., 2024). Inadequate communication often sparks complaints, leading to dissatisfaction and potential malpractice claims (Anam et al., 2022; Khairani et al., 2021).

The average Community Satisfaction Indicator at Prof. Dr. R. D. Kandou Manado Hospital in 2024 was 86.7 (Prof. Dr. R. D. Kandou Manado Hospital, 2024), yet this contrasts with Google Reviews as of April 23, 2025. Of 416 reviews, the most recent 20 were negative, scoring below 4 out of 5 stars. Eeita Shirakami complained of slow service, unresponsiveness, and poor staff communication. Gilang Akbar Ramadhan echoed issues with poor service, ineffective communication, and inadequate facilities like air conditioning. These reviews reveal ongoing patient and family dissatisfaction, particularly with service delivery and communication during treatment. Discrepancies may stem from data collection methods, demographic biases, emotional responses, or manipulated information. Thus, comprehensive research is needed to examine how service quality and communication quality affect patient satisfaction, especially with patient trust as a moderator.

Based on this background, the research addresses these key questions: (1) Does service quality influence patient satisfaction? (2) Does service quality influence patient trust? (3) Does communication quality influence patient trust? (4) Does patient trust influence patient satisfaction? (5) Does service quality affect patient satisfaction with patient trust as a moderator? (6) Does communication quality affect patient satisfaction with patient trust as a moderator?

In line with these questions, the study objectives are to analyze the effect of service quality on patient satisfaction; the effect of service quality on patient trust; and the effect of communication quality on patient trust. It also aims to analyze the influence of patient trust on patient satisfaction and the moderating role of patient trust in the relationships between service quality and patient satisfaction, and between communication quality and patient satisfaction. Overall, this research offers theoretical contributions by testing and enriching variable relationship models in health care, and practical benefits through recommendations for hospital management to boost satisfaction via improved service, communication, and trust-building strategies.

MATERIALS AND METHOD

This study used a quantitative approach with a descriptive nature, which aims to objectively test the relationship between variables through statistical measurement procedures. The quantitative approach was chosen because it was able to provide a measurable empirical picture of the phenomenon being studied, especially in explaining the influence of service quality and communication quality on patient satisfaction with patient trust as a moderation variable. This research focuses on collecting and analyzing numerical data to obtain scientific validation according to the theoretical framework used.

The research was carried out at Prof. Dr. R. D. Kandou Manado Hospital with a research period from May 2024 to April 2025 using a cross sectional study design, which is data collection carried out at a certain time. This design allows researchers to analyze the conditions and perceptions of respondents in real time in the study time range without making repeated observations, thus being efficient in describing the relationships between the variables studied.

The population in this study is all patients of Prof. Dr. R. D. Kandou Manado Hospital. The sampling technique used purposive sampling, with the respondent criteria being patients who underwent a minimum of two days of hospitalization, aged 17–75 years, and had a minimum high school educational background. The number of samples was determined using the Jacob Cohen formula, which resulted in the need for a minimum of 101 respondents. To improve the accuracy of the data, the number was rounded to 110 respondents who were used as research samples.

The variables in this study consisted of service quality and communication quality as independent variables, patient satisfaction as dependent variables, and patient trust as moderation variables. Data was collected through an online survey using a five-point Likert scale and analyzed using Smart-PLS-based Structural Equation Modeling (SEM). The analysis includes external model testing to assess the validity and reliability of the instrument, as well as inner model, hypothesis testing, and moderation tests to evaluate causal relationships between variables according to the conceptual framework of the research.

RESULTS AND DISCUSSION

Outer Model

An external examination of the model is carried out to ensure that the measurements used are measurable and have validity and reliability. The assessment of the measurement model is facilitated through confirmation factor analysis using the MTMM (Multitrait-MultiMethod) framework, which involves the evaluation of convergent validity and discriminant validity. Reliability assessments are carried out through two methodologies, namely Composite Reliability and Cronbach's Alpha (Ghozali & Latan, 2015).

Convergent Validity

The convergent validity function is as a metric that is evaluated through the correlation between the score of a particular item/component and the construct score, which can be observed through a standard loading factor that describes the correlation strength for each measurement item (indicator) with the construct. Reflective measurements for individuals are considered to show a high level of validity if they show a correlation exceeding 0.70 with the construct intended for measurement.

Table 1. Convergent Validity Matrix

	Patient Trust (Z)	Patient Satisfaction (Y)	Communication Quality (X2)	Quality of Service (X1)	Patient Trust (Z) x Quality of Service (X1)	Patient Trust (Z) x Communication Quality (X2)
Physical Evidence				0.869		
Feedback data			0.886			
Empathy				0.918		
Empathy in communication			0.856			
Reliability				0.898		
Clarity of Information			0.835			
Certainty				0.933		
Trust	0.924					

	Patient Trust (Z)	Patient Satisfaction (Y)	Communication Quality (X2)	Quality of Service (X1)	Patient Trust (Z) x Quality of Service (X1)	Patient Trust (Z) x Communication Quality (X2)
Openness			0.854			
Return visit intention		0.837				
Patient experience		0.894				
Previous experience	0.867					
Comparison		0.875				
Recommendations		0.835				
Responsiveness				0.885		
Patient Trust (Z) x Communication Quality (X2)						1.000
Patient Trust (Z) x Quality of Service (X1)					1.000	

Source: Data processed, 2025.

Seen in Table 1, all data are above 0.7 so that the assumption of convergent validity on all question items passes. The results of outer loading can also be seen in the following image.

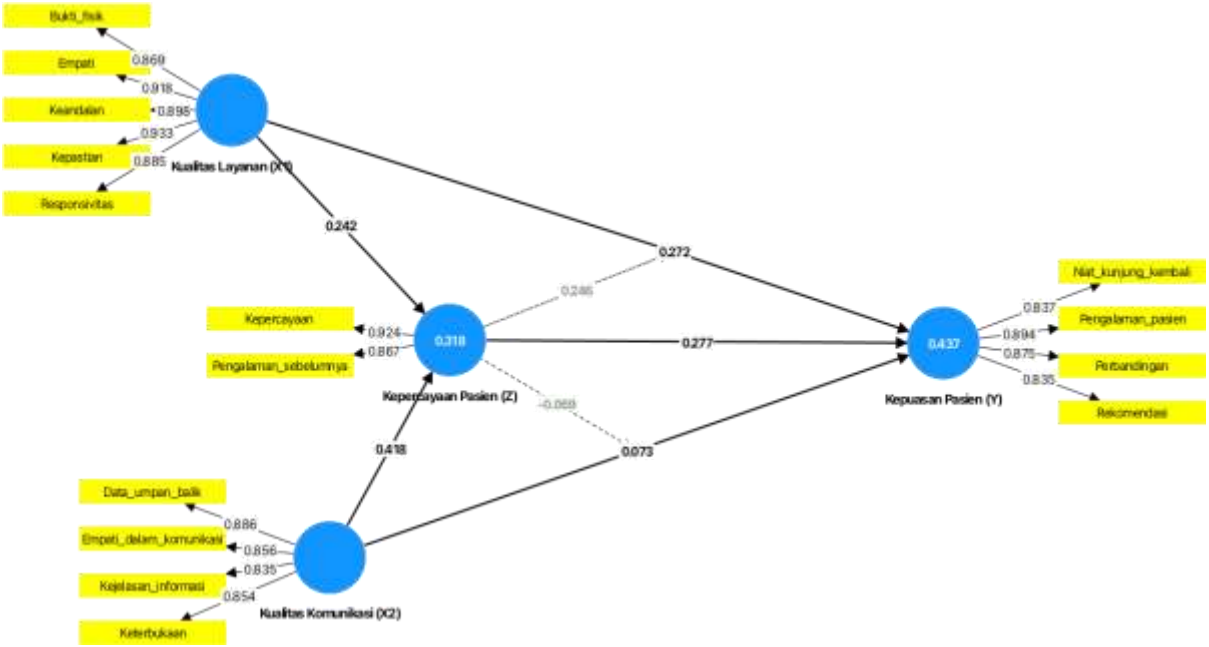

Figure 1. Path Diagram

Source: PLS-SEM Output, 2025

Convergent validity can also be evaluated by considering the external load of the indicator and the Average Variance Extracted (AVE) value. A model is considered to have sufficient validity if its AVE value exceeds 0.50 (AVE > 0.50), which implicitly indicates that the average construct can explain more than half (> 50%) of the total variance of the indicators that represent it.

Table 2. Construct reliability and validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Patient Trust (Z)	0.759	0.796	0.891	0.803
Patient Satisfaction (Y)	0.884	0.896	0.919	0.741
Communication Quality (X2)	0.880	0.883	0.918	0.736
Quality of Service (X1)	0.942	0.945	0.956	0.812

Source: Data processed, 2025.

Based on the results of this test, all variables have an AVE value above 0.50, so the convergent validity of all variables is declared feasible and acceptable.

Discriminant Validity

This testing stage serves to determine the extent to which the indicators representing one construct differ significantly from the others, known as discriminant validity. The validity of the discriminant can be evaluated through two methods, namely by analyzing the cross loading value or matching the square root of each construct AVE to the inter-construct correlation value. The determination of the discriminatory validity of the indicators in this study was carried out by observing the value of cross loading and AVE. The acquisition of cross loading is said to be better if the value of an indicator in one construct is higher than that of another. A good score is obtained if AVE is >0.50 for each construct. The following are the results of the discriminant validity test of each measuring instrument indicator.

Table 3. Discriminant Validity (Cross Loadings)

	Patient Trust (Z)	Patient Satisfaction (Y)	Communication Quality (X2)	Quality of Service (X1)	Patient Trust (Z) x Quality of Service (X1)	Patient Trust (Z) x Communication Quality (X2)
Physical Evidence	0.390	0.450	0.374	0.869	0.346	0.273
Feedback data	0.495	0.336	0.886	0.386	0.269	0.300
Empathy	0.383	0.518	0.383	0.918	0.558	0.456
Empathy in communication	0.447	0.386	0.856	0.383	0.252	0.205
Reliability	0.322	0.484	0.316	0.898	0.568	0.398
Clarity of Information	0.458	0.291	0.835	0.357	0.319	0.317
Certainty	0.385	0.558	0.429	0.933	0.516	0.359
Trust	0.924	0.496	0.498	0.419	0.248	0.191
Openness	0.378	0.384	0.854	0.305	0.295	0.291
Return visit intention	0.339	0.837	0.281	0.368	0.362	0.153
Patient experience	0.454	0.894	0.411	0.522	0.413	0.297
Previous experience	0.867	0.343	0.428	0.317	0.087	0.077
Comparison	0.435	0.875	0.323	0.530	0.530	0.301
Recommendations	0.397	0.835	0.373	0.439	0.335	0.183
Responsiveness	0.398	0.450	0.377	0.885	0.360	0.305
Patient Trust (Z) x Communication Quality (X2)	0.157	0.280	0.323	0.399	0.577	1.000
Patient Trust (Z) x	0.198	0.482	0.329	0.523	1.000	0.577

Quality of Service (X1)	

Source: Data processed, 2025

The data in Table 3 shows that the cross loading value of each construct indicator is greater than the other, so it is concluded that all indicators of each construct have met the discriminant validity criteria.

Table 4. Fornell-Larcker Criterion

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Patient Trust (Z)	0.896			
Patient Satisfaction (Y)	0.477	0.861		
Communication Quality (X2)	0.519	0.407	0.858	
Quality of Service (X1)	0.417	0.548	0.419	0.901

Source: Data processed, 2025

Discriminant validity is an important evaluation that ensures that variables that are theoretically different are also proven to be empirically different. The Fornell-Larcker criterion requires that a construct is declared valid if its square root value of AVE is higher than the correlation of that construct with other latent variables in the same model. Another alternative is the cross loading approach, which requires each indicator to have a higher factor-bearing value on its original construct than on other constructs (Sekaran & Bougie, 2016). For example, the Patient Trust (Z) construct has a root AVE value of 0.896, while its greatest correlation with other constructs such as Patient Satisfaction (0.477), Communication Quality (0.519), and Quality of Service (0.417) are all below 0.896, so the Fornell-Larcker criterion is met and the discriminant validity of the Z construct can be declared to have been met.

Table 5. Matriks Heterotrait-Monotrait ratio (HTMT)

	Patient Trust (Z)	Patient Satisfaction (Y)	Communication Quality (X2)	Quality of Service (X1)	Patient Trust (Z) x Quality of Service (X1)	Patient Trust (Z) x Communication Quality (X2)
Patient Trust (Z)						
Patient Satisfaction (Y)	0.564					
Communication Quality (X2)	0.628	0.457				
Quality of Service (X1)	0.485	0.589	0.457			
Patient Trust (Z) x Quality of Service (X1)	0.214	0.506	0.352	0.537		
Patient Trust (Z) x Communication Quality (X2)	0.172	0.289	0.346	0.410	0.577	

Source: Data processed, 2025.

To test the validity of the discriminant, Hair et al. (2019) recommend the use of the Heterotrait-Monotrait ratio (HTMT), which is considered more sensitive and accurate. The recommended criterion is that the HTMT value must be less than 0.90 (HTMT < 0.90) for each variable pair. When these criteria are met, discriminant validity is considered to have been achieved, which means that each variable is able to explain the variance of its own indicators more strongly than the variance of indicators in other constructs. Based on the data, because all variables in this study showed that the HTMT value was below 0.90, it was concluded that the criteria for discriminant validity had been met.

Reliability Test

Reliability testing is performed to ensure the accuracy and consistency of the instrument in measuring variables. In the context of reflective indicators, the criteria used are the Composite Reliability and Cronbach's Alpha values which are required to be at least 0.70. Based on the findings of this study, all variables showed values above the set threshold, indicating that the measurement instruments used were reliable.

Inner Model

The structural model (inner model) has the main function, namely to test and predict the causal relationships between latent variables that have been theoretically defined, as well as to explain how these latent constructs are related to each other based on the substantive hypothesis that has been formulated.

Multicollinearity Test

The function of the multicollinearity test is to ensure that there is no very high correlation between the (independent) predictive variables in the model. Excessive multicollinearity can lead to biased and unstable estimates, as well as make it difficult to identify the unique influence of each predictor variable. A common criterion used to detect multicollinearity is the Variance Inflation Factor (VIF), where the VIF value ≤ 10 is considered a threshold that indicates there is no serious multicollinearity problem. This limitation suggests that the correlation between independent variables is still within a tolerable level, allowing for adequate separation of influences from each variable. However, for a higher margin of safety, most researchers prefer a VIF value below 5 as the ideal limit, although VIF ≤ 10 remains the maximum tolerance limit accepted in various studies.

Table 6. Inner Model Matrix

	Patient Trust (Z)	Patient Satisfaction (Y)	Communication Quality (X2)	Quality of Service (X1)	Patient Trust (Z) x Quality of Service (X1)	Patient Trust (Z) x Communication Quality (X2)
Patient Trust (Z)		1.486				
Patient Satisfaction (Y)						
Communication Quality (X2)	1.212	1.547				

Quality of Service (X1)	1.212	1.658
Patient Trust (Z) x Quality of Service (X1)		1.781
Patient Trust (Z) x Communication Quality (X2)		1.564

Source: Data processed, 2025.

The test results showed that all variables were free from the problem of multicollinearity. This conclusion is supported by the VIF value of each variable which is entirely below the number 5 (VIF < 5) and shows that there is no excessive correlation between independent variables in the regression model.

R Square

The determination coefficient (R2) is a statistical measure used to show the amount of contribution or influence of the independent variable X on the dependent variable Y. Primarily, the value of R2 serves to predict and assess the proportion of total variation in variable Y that can be explained simultaneously by variable X included in the regression model.

Table 7. R-Square

	R-square	R-square adjusted
Patient Trust (Z)	0.318	0.305
Patient Satisfaction (Y)	0.437	0.410

Source: Data processed, 2025.

The results of the PLS analysis showed a moderate predictive ability of the model for both endogenous variables, albeit with different strengths. For the Patient Confidence (Z) variable, an R-square value of 0.318 indicates that 31.8% of the variation can be explained by variables in the model, while the remaining 68.2% is explained by factors outside the model. The model for the Patient Satisfaction (Y) variable showed stronger predictive ability with an R-square value of 0.437. This means that 43.7% of the variation in Patient Satisfaction is explained by the variables studied, and the remaining 56.3% is explained by external factors. Overall, the R-square value of Patient Satisfaction which is in the moderate to strong category indicates better explanatory ability compared to the Patient Trust model. These results indicate that the research model used is quite capable of explaining the relationship between variables, although there are still other factors that are not covered in the model and have the potential to affect Trust and Patient Satisfaction.

SRMR Test

Table 8. SRMR Matrix

	Saturated model	Estimated model
SRMR	0.064	0.063
d_ULS	0.495	0.475
d_G	0.366	0.360

Chi-Square	255.516	245.997
NFI	0.805	0.812

Source: Data processed, 2025.

According to Yamin (2022), the Standardized Root Mean Square Residual (SRMR) is a crucial metric for evaluating model fit. This metric works by measuring the average of the difference between the actual empirical data correlation matrix and the correlation matrix estimated by the constructed structural model. Basically, SRMR describes the ability of the proposed model to replicate the correlations that actually occur in the data. This test sees that the SRMR value is less than 0.10, then the model used is suitable. Based on the tests that have been carried out in Table 8, the SRMR value is 0.063 < 0.10 so that the model in this study is suitable and can be continued to hypothesis testing.

F-Square

The f^2 (F-square) test aims to assess the size of the local effect of an independent variable on a dependent variable in a structural model, which is measured from the change in the value of R^2 when an independent variable is removed from the model. The main goal is to identify how much of a contribution each of the predictive variables specifically makes; where the greater the decrease in R^2 that occurs, the greater the influence of the eliminated variable. According to Cohen (1988), the size of the effect is classified as small if $f^2 \geq 0.02$, medium if $f^2 \geq 0.15$, and large if $f^2 \geq 0.35$.

Table 9. F-Square Matrix

	Patient Trust (Z)	Patient Satisfaction (Y)	Communication Quality (X2)	Quality of Service (X1)	Patient Trust (Z) x Quality of Service (X1)	Patient Trust (Z) x Communication Quality (X2)
Patient Trust (Z)		0.092				
Patient Satisfaction (Y)						
Communication Quality (X2)	0.211	0.006				
Quality of Service (X1)	0.071	0.079				
Patient Trust (Z) x Quality of Service (X1)		0.090				
Patient Trust (Z) x Communication Quality (X2)		0.005				

Source: Data processed, 2025.

Based on the results of the F-Square analysis, the value of the influence of Communication Quality (X2) on Patient Trust (Z) is 0.211. This value belongs to the moderate effect category. The findings show that Communication Quality has a significant influence on increasing Patient Trust. This means that there is a real positive relationship, which means that the higher the quality of communication provided by the healthcare facility, it will directly

result in a commensurate increase in the level of patient trust in the health services they receive.

Furthermore, the effect of Patient Trust (Z) on Patient Satisfaction (Y) is shown by an f^2 value of 0.092. This value is in the small category, so it can be said that although patient trust plays a role in increasing patient satisfaction, the contribution is still relatively low. This shows that there are other factors besides patient trust that are more dominant in shaping patient satisfaction.

In addition, Service Quality (X1) to Patient Trust (Z) has an f^2 value of 0.071 classified as a small category, indicating that service quality can indeed increase patient trust, but the contribution is not too large. This condition shows that patient trust is more influenced by other factors such as the quality of communication than the quality of direct service. Then, the effect of Quality of Service (X1) on Patient Satisfaction (Y) is shown by an f^2 value of 0.079 which is categorized as small as well. This indicates that the quality of service does contribute to patient satisfaction, but its effect is still limited. Thus, while good service is important, patient satisfaction is not only determined by these aspects, but also by other aspects outside the model.

The interaction of Patient Trust (Z) with Quality of Service (X1) on Patient Satisfaction (Y) has an f^2 value of 0.090 which is in the small category. This means that although there is an influence of interaction between trust and service quality in improving patient satisfaction, the magnitude of the influence is still in the low category. Similarly, the interaction of Patient Trust (Z) with Communication Quality (X2) on Patient Satisfaction (Y) resulted in an f^2 value of 0.005 which is well below the subcategory and suggests that the interaction has practically no significant effect on patient satisfaction.

Goodness of Fit

The purpose of the Goodness of Fit (GoF) Test is to determine the extent to which the model, consisting of a measurement model and a structural model, can accurately represent the data, by comparing the observed value with the expected value based on the model. Based on the criteria put forward by Wetzels et al. (2009) and Yamin (2022), the interpretation of the GoF index is divided into three categories, namely low (GoF = 0.10), medium (GoF = 0.25), and high (GoF = 0.36). From the calculation results, the GoF value of the model is 0.812. Since the value is well above the threshold of 0.36, the model is classified as having a high match, which suggests that the empirical data are able to explain the overall measurement model very well.

Q2 Test

The predictive relevance test of the structural model was carried out using the Q2 value, which was calculated through the blindfolding technique. A model is declared to have predictive relevance if the resulting Q2 value exceeds zero ($Q2 > 0$); a value of zero or negative indicates the absence of predictive relevance to a particular endogenous construct (Hair et al., 2017). In addition, the magnitude of predictive relevance is classified based on relative size, i.e. Q2 values of 0.02 indicate a small influence, 0.15 indicates a moderate influence, and 0.35 reflect a large influence of independent variables on dependent constructs.

Table 10. Construct cross-validated redundancy

	SSO	SSE	Q² (=1-SSE/SSO)
Patient Trust (Z)	222.000	168.493	0.241
Patient Satisfaction (Y)	444.000	317.929	0.284
Communication Quality (X2)	444.000	444.000	0.000
Quality of Service (X1)	555.000	555.000	0.000

Source: Data processed, 2025.

Based on the PLS-SEM analysis, the Q2 value obtained was proven to be greater than zero and was categorized as having strong predictive relevance to the constructs of Patient Trust (Z) and Patient Satisfaction (Y). These findings indicate that the variables Quality of Service (X1) and Quality of Communication (X2) simultaneously make significant contributions in predicting variability or predictive relevance in Patient Trust (Z) and Patient Satisfaction (Y).

Hypothesis Test

Hypothesis tests in linear regression models, both simple and multiple, are generally carried out using t-tests and significance values (p-values) to assess the partial influence of independent variables (X) on dependent variables (Y). The test criteria stipulate that a variable X is statistically significant to Y if the significance value obtained is less than 0.05 and the value t_count greater than t_table. Conversely, if the significance value is greater than 0.05 and the t_count value is less than t_table, then it can be concluded that there is no significant influence between the X and Y variables partially.

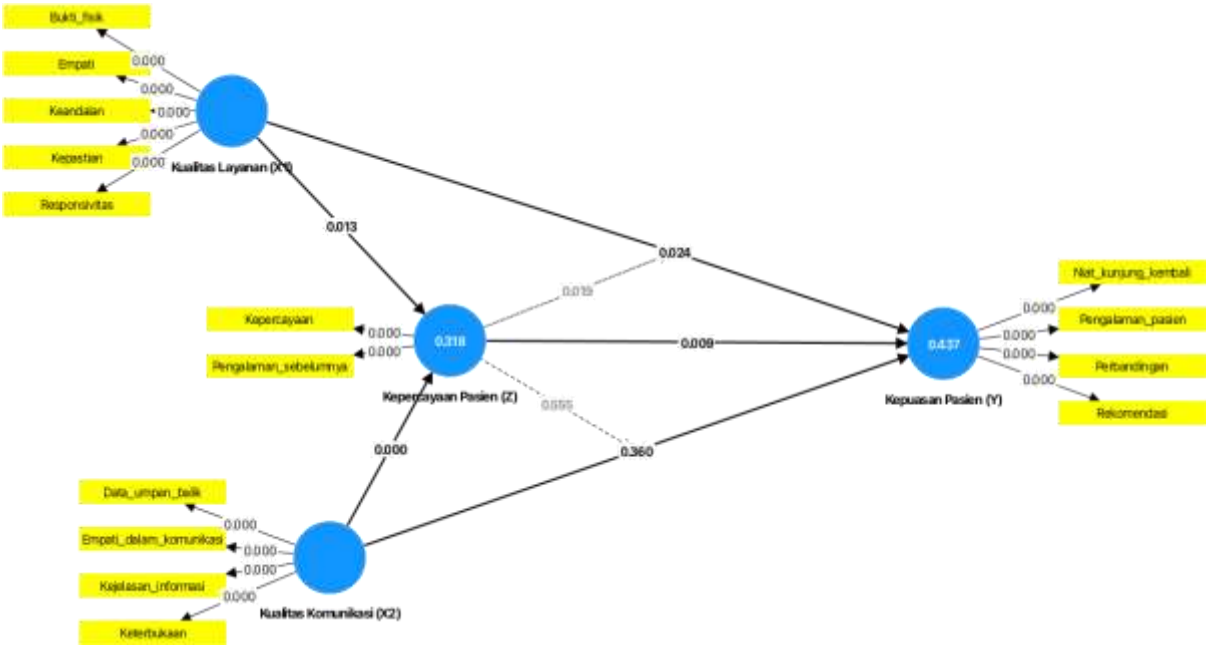

Figure 2. Hypothesis Test

Source: PLS-SEM Output, 2025.

Table 11. Path Coefficient

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Patient Trust (Z) -> Patient Satisfaction (Y)	0.277	0.266	0.106	2.624	0.009
Communication Quality (X2) -> Patient Trust (Z)	0.418	0.421	0.088	4.728	0.000
Communication Quality (X2) -> Patient Satisfaction (Y)	0.073	0.073	0.080	0.915	0.360
Quality of Service (X1) -> Patient Trust (Z)	0.242	0.240	0.097	2.492	0.013
Quality of Service (X1) -> Patient Satisfaction (Y)	0.272	0.284	0.121	2.258	0.024
Patient Trust (Z) x Quality of Service (X1) -> Patient Satisfaction (Y)	0.246	0.237	0.105	2.349	0.019
Patient Trust (Z) x Communication Quality (X2) -> Patient Satisfaction (Y)	-0.069	-0.060	0.116	0.590	0.555

Source: Data processed, 2025

The results of the path analysis showed that the Patient Trust variable (Z) had a positive and significant effect on Patient Satisfaction (Y) with a coefficient of 0.277, a T-statistical value of 2.624 (>1.96), and a p value of 0.009 (<0.05). Furthermore, Communication Quality (X2) had a positive and significant effect on Patient Trust (Z) with a coefficient of 0.418, a statistical T-value of 4.728, and a p-value of 0.000. However, the direct effect of Communication Quality (X2) on Patient Satisfaction (Y) was not significant, with a coefficient of 0.073, a statistical T-value of 0.915, and a p-value of 0.360 (>0.05). This indicates that good communication does not necessarily increase patient satisfaction, but rather plays a role through increasing patient trust first.

In the Service Quality variable (X1), the results showed a positive and significant influence on Patient Trust (Z) with a coefficient of 0.242, T-statistic of 2.492, and p-value of 0.013. Service Quality (X1) also has a direct effect on Patient Satisfaction (Y) with a coefficient of 0.272, T-statistic of 2.258, and a p-value of 0.024, meaning that the more optimal the service provided, the greater the level of patient satisfaction.

For the interaction variable, the results showed that the interaction of Patient Trust (Z) x Quality of Service (X1) had a significant positive effect on Patient Satisfaction (Y) with a coefficient of 0.246, T-statistic of 2.349, and p-value of 0.019. In contrast, the interaction of Patient Trust (Z) x Communication Quality (X2) was not significant to Patient Satisfaction (Y), with a coefficient of -0.069, a T-statistic of 0.590, and a p-value of 0.555. Thus, patient trust has not been shown to strengthen the influence of communication on patient satisfaction.

Based on the results of the research that has been presented, it is concluded that Service Quality has a positive and significant influence on both Patient Satisfaction and Patient Trust. This relationship between Service Quality and Patient Satisfaction is consistent with previous studies by Winata et al. (2022), Wulaisfan & Fauziah (2019), Rahayu et al. (2021), Murniati &

Kartini (2019), and Ardian et al. (2022), which collectively affirm that the quality of services received contributes directly to patient satisfaction. The quality of service directly increases satisfaction because customers rate the services received as meeting or exceeding expectations (Tindage et al., 2023). These findings are consistent with the view that quality service creates a positive experience that directly drives satisfaction. In addition, the findings of Service Quality also have a positive and significant impact on Patient Trust, strengthening the research results of Sudjadi et al. (2023), which prove that the provision of good service is the key to building and increasing patient trust in facilities and health workers.

This study shows that Communication Quality is an important factor that positively and significantly influences Patient Trust and affirms that good communication is the key to increasing trust. Effective communication in the medical service environment is seen as an important element that can strengthen patients' trust in health workers. Research by Degenhardt et al. (2024) reveals that the quality of communication, especially in a clinical context, can encourage the development of a strong positive relationship between the doctor's ability to communicate and the patient's level of trust.

The findings of this research indicate a positive and significant influence between Patient Trust and Patient Satisfaction; This means that the increase in patient confidence level is directly correlated with increased patient satisfaction with the services received. Previous studies support these results and show that patients' levels of trust in healthcare workers and the services they receive have a direct influence on patient satisfaction. Lim et al. (2018) found that the quality of good hospital services is closely related to high patient satisfaction, which at the same time reflects their level of trust in the service. In addition, Fatonah and Palupi (2020) show that the quality of handling patient complaints is an important factor that can increase satisfaction, and this factor is highly dependent on the trust that has been formed before. When patients have a sense of trust in the healthcare system, they tend to be more receptive to any form of interaction that can ultimately lead to higher levels of satisfaction.

The findings of this study confirm that Service Quality has a positive and significant impact on Patient Satisfaction, and this influence is strengthened by the existence of Patient Trust. This indicates that the role of patient trust can strengthen the influence of service quality on patient satisfaction. These results support a study previously conducted by Tindage et al. (2023) which shows the role of trust as a factor that strengthens the relationship between service quality and patient satisfaction, where increasing trust can magnify the positive influence of service quality on satisfaction. These findings confirm that patients' impressions of service quality are greatly influenced by their level of trust in healthcare facilities. Research by Wahyuningsih et al. (2023) provides additional support and states that good service quality can drive increased patient satisfaction, while trust serves as a variable that moderates the relationship. They found a positive and significant relationship between service quality and satisfaction, while affirming the important role of trust in strengthening that linkage. Rafi et al. (2020) also stated that the quality of hospital services has a significant effect on patient satisfaction, with trust as a moderation variable that strengthens the relationship. These findings clearly show that the quality of service goes beyond just technical aspects, but also includes the crucial ability of healthcare facilities to build, foster, and maintain patient trust.

The study found that even with a moderation of patient confidence, the quality of communication did not have a positive or significant impact on patient satisfaction. Rizkiawan

et al. (2024) emphasized that the quality of therapeutic communication plays an important role in shaping patient satisfaction in certain contexts, but not all aspects of communication have a meaningful influence when viewed in a broader scope. These findings show that efforts to improve the quality of communication need to be accompanied by strengthening other factors, such as service quality, so that patient satisfaction can be achieved optimally. Functionally, service quality describes the quality of service as a whole, including outcomes, technical processes, and service interactions, while communication quality specifically focuses on how information is delivered during the service process. The two are interconnected, good communication can reinforce the impact of quality of service through increased trust, while strong quality of service forms a perception of value and reliability that drives patient satisfaction.

Furthermore, the results of the research analysis also show that the most dominant variable in shaping patient trust is Communication Quality and the variable that directly affects patient satisfaction is a combination of Patient Trust and Service Quality. These results show that to improve patient satisfaction, healthcare organizations need to strengthen service quality and build trust, with the quality of communication playing an important role especially in forming patient trust. This analysis is in line with the results of research by Ariany & Lutfi (2021) which emphasizes that the quality of service can directly affect patient perception and in turn patient satisfaction.

Overall, the study supports the Expectancy-Disconfirmation Theory (EDT) because quality of service improves patient satisfaction, with trust acting as a key reinforcer that works through increased perceived value. In the health sector itself, trust has been shown to significantly strengthen the impact of the quality of public services (information and systems) on satisfaction (Durmuş & Akbolat, 2020; Du et al., 2020). However, communication quality has a more contextual role, where patients tend to prioritize technical quality and treatment effectiveness (Shie et al., 2022). Therefore, the role of trust moderation in the relationship between communication quality and satisfaction has the potential to be insignificant, especially if trust is more dominant in acting as a general mediator for overall service quality or if the communication aspect is not a major determining factor in the difference between patient expectations and experience.

This study provides an answer to a gap from previous research, namely that the quality of service moderated by patient trust has a significant effect on patient satisfaction, but the quality of communication moderated by patient trust does not have a significant effect on patient satisfaction.

CONCLUSION

This study demonstrates that patient satisfaction is significantly shaped by the interplay of service quality, communication quality, and patient trust, with service quality exerting a strong positive effect on satisfaction when bolstered by high trust levels, whereas communication quality acts inconsistently as a supportive factor reliant on service quality and trust. Patient trust emerges as a critical moderator, as low trust diminishes the impacts of both service and communication quality. Limitations include respondents' subjective perceptions, potential questionnaire dishonesty, and a small, undiverse sample due to time constraints, restricting generalizability. For future research, studies should break down communication

quality into specific dimensions (e.g., empathy, clarity, timeliness) to pinpoint the most influential aspects on satisfaction, using larger, diverse samples and mixed methods like longitudinal surveys and interviews. Managerially, health facilities should integrate service quality enhancements, trust-building initiatives, effective communication, routine satisfaction evaluations, and a culture treating complaints as key improvement data.

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