

Inpatient Service Quality and Intention to Recommend: The Mediating Roles of Satisfaction and Loyalty at PKU Muhammadiyah Delanggu General Hospital

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Abstract

Introduction: Patient-centered service quality influences patient satisfaction, loyalty, and intention to recommend.

Objective: This study examined the effect of inpatient service quality on intention to recommend, with patient satisfaction and loyalty as mediators at RSU PKU Muhammadiyah Delanggu. **Method:** This quantitative study used an explanatory cross-sectional design conducted at RSU PKU Muhammadiyah Delanggu from March to April 2026. A total of 275 adult non-intensive inpatient respondents were selected using consecutive sampling. Data analyzed using Structural Equation Modeling-Partial Least Squares. **Result and Discussion:** Inpatient service quality significantly affected patient satisfaction ($\beta = 0.798$; $p < 0.001$) and intention to recommend ($\beta = 0.316$; $p < 0.001$), but not patient loyalty ($\beta = 0.059$; $p = 0.392$). Patient satisfaction significantly influenced patient loyalty ($\beta = 0.687$; $p < 0.001$), while patient loyalty significantly influenced intention to recommend ($\beta = 0.588$; $p < 0.001$). Service quality also had significant indirect effects on patient loyalty through satisfaction ($\beta = 0.548$; $p < 0.001$) and on intention to recommend through satisfaction and loyalty ($\beta = 0.357$; $p < 0.001$). **Conclusions:** Inpatient service quality significantly affects patient satisfaction and intention to recommend, while patient satisfaction and loyalty mediate the relationship between service quality and recommendation intention.

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Introduction

Hospitals operate in an increasingly competitive healthcare environment where patient-centered service quality has become an essential factor for maintaining patient trust and organizational sustainability. In modern healthcare systems, service quality extends beyond clinical outcomes and includes patients' overall experiences throughout the care process. Hospital service quality is recognized as a multidimensional construct encompassing communication, empathy, responsiveness, environmental comfort, continuity of care, and other non-clinical aspects that shape patient perceptions and experiences (Qiu *et al.*, 2024; Sadıgova & Mirzayev, 2025). The growing emphasis on patient-centered care has also transformed patients from passive recipients of care into active and information-oriented consumers who place substantial value on service experiences (Young & Chen, 2020; Kemp *et al.*, 2023). Previous studies have shown that hospital selection and patient behavior are strongly influenced by perceived service quality and providers' responsiveness to patient needs (Siregar & Lubis, 2020). Operational disruptions and resource constraints experienced during and after the COVID-19 pandemic have negatively affected perceptions of healthcare quality, highlighting the need for continuous quality improvement and adaptive management strategies (Lopez-Picazo *et al.*, 2021; Huggins *et al.*, 2023; Hamadi *et al.*, 2024; Singh *et al.*, 2022).

Hospital service quality is widely recognized as an important determinant of patient satisfaction, loyalty, and other behavioral outcomes. Service quality is commonly measured using the SERVQUAL dimensions of tangibility, reliability, responsiveness, assurance, and empathy, which have been shown to influence patient perceptions and satisfaction (Alizadeh *et al.*, 2025; Zehra *et al.*, 2025). Patient satisfaction reflects the extent to which healthcare services meet or exceed patient expectations and is frequently used as a non-clinical indicator of hospital performance (Rahmatia *et al.*, 2025; Uprety *et al.*, 2025; Park & Kim, 2025; Lu *et al.*, 2025). Patients who are satisfied tend to develop stronger trust, more favorable perceptions, and greater tolerance toward service shortcomings (Cui *et al.*, 2025; Wangombe *et al.*, 2025). However, several studies have identified persistent gaps between patient expectations and actual service delivery, suggesting that quality improvement remains an ongoing challenge for healthcare organizations (Derisi *et al.*, 2020; Buckè *et al.*, 2020). Consequently, understanding the relationship between service quality and patient satisfaction remains important for healthcare management and policy development (Divya *et al.*, 2025; Koebe & Bohnet-Joschko, 2023).

Despite extensive research, findings regarding the effects of service quality on patient satisfaction and loyalty remain inconsistent. Several studies reported that service quality significantly improves patient satisfaction (Gustianingrum *et al.*, 2024; Widiyanto *et al.*, 2023; Hasan *et al.*, 2025; Hairudin & Oktaria, 2025; Hutabarat *et al.*, 2025), whereas others found that certain service quality dimensions do not significantly affect satisfaction (Handoko & Handayani, 2025; Hasibuan *et al.*, 2025; Lasol *et al.*, 2025). Similar inconsistencies have been reported in the relationship between service quality and patient loyalty. Some studies found a significant positive relationship between service quality and loyalty (Laila, 2024; Susniwati & Kurniawati, 2024; Rahmat & Kusumayati, 2024; Permatasari *et al.*, 2025), whereas others reported insignificant effects for certain service quality dimensions or mediation pathways (Larasati *et al.*, 2024). Patient loyalty itself represents a long-term commitment to continue using healthcare services and is reflected through repeat utilization, trust, and emotional attachment to the provider

(Chocknakawaro & Pusaksrikit, 2025; Rohita & Nurkholik, 2025). Previous studies also indicate that service quality may influence loyalty either directly or indirectly through patient satisfaction (Karki & Sahoo, 2025; Pribadi *et al.*, 2020). These inconsistent findings suggest that the relationships among service quality, satisfaction, and loyalty remain context-dependent and require further investigation.

The important outcome in healthcare services is patients' intention to recommend the hospital to others. Recommendation intention reflects patients' overall evaluation of service quality and care experiences and represents an important form of word-of-mouth and electronic word-of-mouth communication (Pauli *et al.*, 2023; Lacap & Alfonso, 2022). Satisfied and loyal patients are generally more willing to recommend healthcare providers to family members and friends (Uprety *et al.*, 2025; Cha, 2025). Previous studies have identified patient satisfaction and loyalty as important mediating variables linking service quality to recommendation behavior (Coutinho *et al.*, 2021; Phonthanukitithaworn *et al.*, 2020; Dayan *et al.*, 2022; Yağar *et al.*, 2025). At RSU PKU Muhammadiyah Delanggu, inpatient visits increased from 13,735 patients in 2021 to 16,701 in 2024 but declined to 16,151 patients in 2025, showing a potential gap between patient expectations and actual service experiences. Considering the inconsistencies in previous findings and the strategic importance of recommendation behavior for hospital competitiveness, this study aims to analyze the effect of inpatient service quality on intention to recommend, with patient satisfaction and patient loyalty serving as mediating variables at RSU PKU Muhammadiyah Delanggu.

Method

This study employed a quantitative approach using an explanatory research design to examine the causal relationships among inpatient service quality, patient satisfaction, patient loyalty, and intention to recommend. Explanatory research is appropriate when the objective is to test hypotheses and explain direct and indirect effects among variables within a conceptual framework. Based on the timing of data collection, this study used a cross-sectional design, in which all data were collected at a single point in time during March-April 2026. The research was conducted at RSU PKU Muhammadiyah Delanggu, located at Jalan Delanggu Utara No. 19, Gatak, Delanggu, Klaten, Central Java, Indonesia. This hospital is a Type C private general hospital that provides inpatient and outpatient services to the population of Klaten Regency and surrounding areas. The cross-sectional explanatory design was selected because it allows efficient testing of mediation relationships between service quality, patient satisfaction, patient loyalty, and recommendation intention within the hospital context.

The study population consisted of all adult non-intensive inpatient patients treated at RSU PKU Muhammadiyah Delanggu. Based on internal hospital data, the total number of adult non-ICU inpatients in 2025 was 10,509 patients. Because the effective data collection period was one month, the target population was estimated by dividing the annual population by 12 months, resulting in approximately 876 patients per month. The sample consisted of patients who met the inclusion and exclusion criteria and were encountered during the study period. Inclusion criteria were, (1) hospitalized for at least three days, (2) aged 18 years or older, (3) conscious and able to communicate effectively, and (4) willing to participate. Exclusion criteria included critically ill patients receiving intensive care, patients with cognitive or psychiatric disorders, and pediatric inpatients. Sampling was performed using a consecutive sampling technique, in which all eligible patients were recruited sequentially until the required sample size was reached.

The minimum sample size was determined using the Slovin formula with a 5% margin of error. The formula used equation (1):

$$n = \frac{N}{1+N(e)^2} \quad (1)$$

where n represents the sample size, N is the population size, and e is the margin of error. Substituting the estimated population of 876 patients and an error rate of 0.05 yielded a minimum sample size of 274.6, which was rounded up to 275 respondents. This sample size was considered sufficient for analysis using Structural Equation Modeling-Partial Least Squares (SEM-PLS), which is suitable for complex models with mediation effects and does not require strict assumptions of multivariate normality. The use of consecutive sampling ensured that every eligible inpatient had an opportunity to be included during the study period.

The study included four variables which are inpatient service quality as the independent variable, patient satisfaction as the first mediating variable, patient loyalty as the second mediating variable, and intention to recommend as the dependent variable. Service quality was measured using the SERVQUAL dimensions of tangibility, reliability, responsiveness, assurance, and empathy (Parasuraman *et al.*, 1988; Shei *et al.*, 2022). Patient satisfaction was defined as the patient's subjective evaluation formed by comparing expectations with actual care experiences and was measured using indicators of overall satisfaction, expectation confirmation, decision satisfaction, comparative satisfaction, and fulfillment of needs (Oliver, 1980; Venetis & Brown, 2022; Rahmatia *et al.*, 2025; Ching-Lin & Sukirthanandan, 2025). Patient loyalty was conceptualized as a commitment to continue using hospital services and was measured using indicators such as reuse intention, exclusive preference, loyal attitude, perceived relative superiority, tolerance toward price increases, and resistance to switching (Lacap & Alfonso, 2022; Romadhona *et al.*, 2025; Awat *et al.*, 2025; Nisa & Aristi, 2023; Kurniawan *et al.*, 2023). Intention to recommend was defined as the willingness to voluntarily provide positive recommendations to others and was measured using recommendation willingness, positive word of mouth, and active encouragement to choose the hospital (Keiningham *et al.*, 2007; Lacap & Alfonso, 2021, 2022; Vishnani *et al.*, 2022; Mawad & Freiha, 2024). All indicators were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 1
 Operational Definition of Variables

Variable	Type	Indicators	Scale	References
Service Quality	Independent (X)	Tangibility, Reliability, Responsiveness, Assurance, Empathy	Likert 1-5	Parasuraman <i>et al.</i> (1988); Shei <i>et al.</i> (2022)
Patient Satisfaction	Mediating (Z1)	Overall satisfaction, expectation confirmation, decision satisfaction, comparative satisfaction, fulfillment of needs	Likert 1-5	Oliver (1980); Ching-Lin & Sukirthanandan (2025)
Patient Loyalty	Mediating (Z2)	Reuse intention, exclusive preference, loyal attitude, relative superiority, price tolerance, switching resistance	Likert 1-5	Lacap & Alfonso (2022)
Intention to Recommend	Dependent (Y)	Recommendation willingness, positive WOM, active encouragement	Likert 1-5	Keiningham <i>et al.</i> (2007); Lacap & Alfonso (2021, 2022)

Primary data were collected directly from respondents using a structured questionnaire. The questionnaire contained closed-ended statements measured on a five-point Likert scale. Data collection was carried out when patients were approaching discharge or had completed the minimum required hospitalization period. Supporting secondary data, including hospital profiles, service quality reports, and patient statistics, were used to provide contextual information. Before full-scale data collection, the instrument was evaluated for validity and reliability. Construct validity was assessed by examining item correlations with their total variable scores and by evaluating factor loadings in the SEM-PLS model. Reliability was assessed using Cronbach's Alpha, with values ≥ 0.70 showing acceptable internal consistency, although values between 0.60 and 0.69 were considered acceptable for exploratory research.

Data analysis was conducted using SEM-PLS because this method is appropriate for simultaneously testing measurement models and structural relationships, including mediating effects. The analysis began with descriptive statistics to summarize respondent characteristics and response distributions. The outer model evaluation included convergent validity, with loading factors ≥ 0.70 and Average Variance Extracted (AVE) ≥ 0.50 ; discriminant validity using the Fornell-Larcker criterion or Heterotrait-Monotrait ratio (HTMT); and reliability testing using Cronbach's Alpha and Composite Reliability ≥ 0.70 . The inner model evaluation included the coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). Hypothesis testing was performed using bootstrapping, with hypotheses accepted when the t-statistic exceeded 1.96 and the p-value was less than 0.05. Mediation analysis was conducted by examining indirect effects to determine whether patient satisfaction and patient loyalty mediated the relationship between service quality and intention to recommend.

Table 2
 Criteria for SEM-PLS Evaluation

Evaluation Aspect	Criterion
Factor Loading	≥ 0.70
Average Variance Extracted (AVE)	≥ 0.50
Cronbach's Alpha	≥ 0.70
Composite Reliability	≥ 0.70
t-statistic	> 1.96
p-value	< 0.05

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R ²	Interpreted as weak, moderate, or substantial
f ²	0.02 = small, 0.15 = medium, 0.35 = large
Q ²	> 0 shows predictive relevance

Result and Discussion

1. Results

A total of 275 inpatient respondents participated in this study. The age distribution was relatively balanced, with the largest proportion in the 31-40 year age group (24.36%), followed by 18-30 years (23.27%), 41-50 years (18.91%), and both 51-60 years and > 60 years (16.73% each). Female respondents accounted for 60.00% of the sample, while males represented 40.00%. In terms of educational background, most respondents had completed senior high school or equivalent (47.27%), followed by diploma or bachelor’s degree holders (25.45%), junior high school graduates (17.82%), elementary school graduates (6.18%), respondents with no formal education (2.18%), and postgraduate degree holders (1.09%). The majority of respondents resided in Klaten Regency outside Delanggu District, showing that the hospital primarily serves patients from surrounding areas. These demographic characteristics suggest that the sample adequately represents adult inpatient populations capable of evaluating hospital service quality and forming perceptions related to satisfaction, loyalty, and intention to recommend (Fauziah *et al.*, 2023; Kitole *et al.*, 2025; Rahmat & Kusumayati, 2024; Widiyanto *et al.*, 2023; Abdullah *et al.*, 2023; Wasito & Puspita, 2025).

Table 3
Demographic Characteristics of Respondents (n = 275)

Characteristic	Category	Frequency	Percentage
Age	18-30 years	64	23.27%
	31-40 years	67	24.36%
	41-50 years	52	18.91%
	51-60 years	46	16.73%
	> 60 years	46	16.73%
Gender	Male	110	40.00%
	Female	165	60.00%
Education	No formal education	6	2.18%
	Elementary school	17	6.18%
	Junior high school	49	17.82%
	Senior high school	130	47.27%
	Diploma/Bachelor	70	25.45%
	Master/Doctoral	3	1.09%

Descriptive statistics showed that the mean score for service quality was 94.70 (SD = 9.044), with observed scores ranging from 70 to 110. Patient satisfaction had a mean score of 21.17 (SD = 2.353), with a minimum of 13 and maximum of 25. Patient loyalty recorded a mean of 24.11 (SD = 3.384), with scores ranging from 12 to 30. Intention to recommend had a mean score of 25.07 (SD = 2.893), with observed scores ranging from 16 to 30. These results show that respondents generally perceived inpatient service quality positively and reported relatively high levels of satisfaction, loyalty, and willingness to recommend the hospital to others (Rifaldy *et al.*, 2025).

Table 4
 Descriptive Statistics

Variable	Minimum	Maximum	Mean	Standard Deviation
Service Quality	70	110	94.70	9.044
Patient Satisfaction	13	25	21.17	2.353
Patient Loyalty	12	30	24.11	3.384
Intention to Recommend	16	30	25.07	2.893

The measurement model evaluation confirmed that all constructs met the criteria for convergent validity, discriminant validity, and reliability. Outer loading values ranged from 0.642 to 0.924, showing that all indicators were acceptable, with most exceeding the recommended threshold of 0.70 (Hair *et al.*, 2022; Ramayah *et al.*, 2021). The Average Variance Extracted (AVE) values ranged from 0.556 to 0.748, exceeding the minimum requirement of 0.50. Composite Reliability values ranged from 0.916 to 0.965, and Cronbach's Alpha values ranged from 0.886 to 0.962, demonstrating excellent internal consistency. The Fornell-Larcker criterion also confirmed adequate discriminant validity, showing that each construct was empirically distinct from the others.

Table 5
 Validity and Reliability

Variable	AVE	Composite Reliability	Cronbach's Alpha	Decision
Service Quality	0.556	0.965	0.962	Valid and Reliable
Patient Satisfaction	0.687	0.916	0.886	Valid and Reliable
Patient Loyalty	0.702	0.934	0.915	Valid and Reliable
Intention to Recommend	0.748	0.957	0.932	Valid and Reliable

The structural model showed satisfactory predictive ability. The coefficient of determination (R^2) showed that service quality explained 63.7% of the variance in patient satisfaction. Service quality and patient satisfaction jointly explained 54.0% of the variance in patient loyalty. Furthermore, service quality, patient satisfaction, and patient loyalty collectively explained 67.2% of the variance in intention to recommend. The model fit assessment showed an SRMR value of 0.067, which is below the recommended threshold of 0.08, showing an acceptable fit between the theoretical model and the empirical data. The predictive relevance analysis (Q^2) revealed positive values for all endogenous indicators, confirming that the model had adequate predictive capability (Hair *et al.*, 2022; Sarstedt *et al.*, 2022; Ximénez *et al.*, 2022; Saputra, 2025).

Table 6
 Structural Model Evaluation

Construct	R^2	R^2 Adjusted
Patient Satisfaction	0.637	0.636
Patient Loyalty	0.540	0.537
Intention to Recommend	0.672	0.669

Table 7

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Model Fit Indices

Index	Estimated Model	Criterion	Interpretation
SRMR	0.067	< 0.08	Good fit
NFI	0.766	> 0.90	Marginal
d _{ULS}	3.508	Lower is better	Acceptable
d _G	1.702	Lower is better	Acceptable

The effect size analysis (f^2) showed that service quality had a very large effect on patient satisfaction ($f^2 = 1.757$). Patient satisfaction had a large effect on patient loyalty ($f^2 = 0.372$), while patient loyalty had a large effect on intention to recommend ($f^2 = 0.665$). Service quality had a medium direct effect on intention to recommend ($f^2 = 0.192$) but a negligible direct effect on patient loyalty ($f^2 = 0.003$).

Table 8
Effect Size (f^2)

Relationship	f^2	Interpretation
Service Quality to Patient Satisfaction	1.757	Large
Patient Satisfaction to Patient Loyalty	0.372	Large
Service Quality to Patient Loyalty	0.003	Very small
Service Quality to Intention to Recommend	0.192	Medium
Patient Loyalty to Intention to Recommend	0.665	Large

Bootstrapping results confirmed that service quality had a positive and significant effect on patient satisfaction ($\beta = 0.798$, $p < 0.001$) and intention to recommend ($\beta = 0.316$, $p < 0.001$). Patient satisfaction significantly influenced patient loyalty ($\beta = 0.687$, $p < 0.001$), and patient loyalty significantly influenced intention to recommend ($\beta = 0.588$, $p < 0.001$). However, the direct effect of service quality on patient loyalty was not significant ($\beta = 0.059$, $p = 0.392$). Regarding indirect effects, service quality significantly affected patient loyalty through patient satisfaction ($\beta = 0.548$, $p < 0.001$) and significantly influenced intention to recommend through patient satisfaction and patient loyalty ($\beta = 0.357$, $p < 0.001$).

Table 9
Direct Effects

Relationship	Path Coefficient (β)	t-statistic	p-value	Decision
Service Quality to Patient Satisfaction	0.798	28.184	0.000	Supported
Service Quality to Patient Loyalty	0.059	0.857	0.392	Not supported
Patient Satisfaction to Patient Loyalty	0.687	10.199	0.000	Supported
Service Quality to Intention to Recommend	0.316	6.198	0.000	Supported
Patient Loyalty to Intention to Recommend	0.588	14.625	0.000	Supported

Table 10
 Indirect Effects

Indirect Relationship	Path Coefficient (β)	t-statistic	p-value	Decision
Service Quality to Patient Loyalty (via Patient Satisfaction)	0.548	8.782	0.000	Supported
Patient Satisfaction to Intention to Recommend (via Patient Loyalty)	0.404	8.375	0.000	Supported
Service Quality to Intention to Recommend (via Patient Satisfaction and Patient Loyalty)	0.357	11.285	0.000	Supported

2. Discussion

Inpatient service quality has a positive and significant effect on patient satisfaction at RSU PKU Muhammadiyah Delanggu. The path coefficient of 0.798, with a t-statistic of 28.184 and a p-value of 0.000, shows that service quality is the strongest determinant of patient satisfaction in the structural model. This finding suggests that patients who perceive the hospital as reliable, responsive, empathetic, and professionally competent are more likely to report higher satisfaction levels. The result is consistent with the Expectation-Disconfirmation Theory, which states that satisfaction arises when perceived performance meets or exceeds prior expectations (Oliver, 1980). In the context of inpatient care, patients evaluate not only medical outcomes but also environmental comfort, communication, waiting time, and staff attentiveness. This finding also supports the SERVQUAL model developed by Parasuraman *et al.* (1988), which identifies tangibles, reliability, responsiveness, assurance, and empathy as key dimensions shaping service perceptions. Similar conclusions have been reported by Anggara *et al.* (2025), Abdullah *et al.* (2023), Hairudin and Oktaria (2025), and Chocknakawaro and Pusaksrikit (2025), all of whom found that higher healthcare service quality significantly improves patient satisfaction. For RSU PKU Muhammadiyah Delanggu, the strong effect of service quality on satisfaction shows that management should prioritize continuous monitoring of inpatient service performance, particularly aspects related to staff responsiveness, communication, patient comfort, and service reliability, as these factors directly influence patients' evaluations of hospital services.

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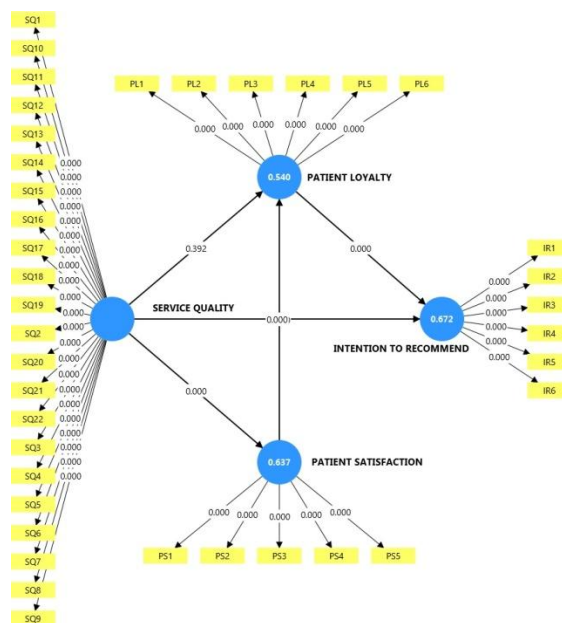


Figure 1. Bootstrapping Results of the SmartPLS 4 Model

Inpatient service quality has a positive but statistically insignificant direct effect on patient loyalty, with a path coefficient of 0.059, a t-statistic of 0.857, and a p-value of 0.392. This result shows that service quality alone is insufficient to create a strong commitment among patients to revisit the hospital or maintain a long-term relationship. In healthcare settings, loyalty tends to be influenced by a broader set of factors, including satisfaction, trust, emotional attachment, hospital reputation, and accessibility (Rahma & Prayoga, 2022; Rahmat & Kusumayati, 2024). For inpatient services, patients may also be constrained by physician referrals, emergency conditions, insurance arrangements, and family decisions, limiting their freedom to choose the same hospital repeatedly. Consequently, even when patients perceive high-quality service, they may not necessarily become loyal if alternative hospitals are more accessible or better aligned with future needs. This finding is consistent with Larasati *et al.* (2024), Awat *et al.* (2025), and Chocknakawaro and Pusaksrikit (2025), who reported that service quality affects loyalty primarily through patient satisfaction rather than directly. However, it differs from studies by Laila (2024), Susniwati and Kurniawati (2024), and Rahmat and Kusumayati (2024), showing that the relationship between service quality and loyalty may vary depending on organizational context and patient characteristics. This finding is particularly relevant for RSU PKU Muhammadiyah Delanggu because the decline in inpatient visits in 2025 suggests that maintaining service quality alone may not be sufficient to retain patients. Management should therefore strengthen patient relationship programs, improve continuity of care after discharge, and enhance communication with patients and families to foster stronger long-term attachment to the hospital.

Patient satisfaction has a positive and significant effect on patient loyalty, with a path coefficient of 0.687, a t-statistic of 10.119, and a p-value of 0.000. This finding suggests that patients who are satisfied with their inpatient experience are more likely to return to the same hospital and maintain a long-term relationship. Satisfaction represents a comprehensive evaluation of both clinical and non-clinical aspects of care, including treatment outcomes, communication quality, emotional support, and physical comfort.

According to Expectation-Disconfirmation Theory, repeated satisfaction strengthens trust and reinforces favorable behavioral intentions (Oliver, 1980). In healthcare services, trust and emotional attachment are essential foundations for loyalty because patients prefer institutions that consistently provide safe and dependable care (Kurniawan *et al.*, 2023; Cui *et al.*, 2025). The finding is also supported by relationship marketing theory, which emphasizes that customer satisfaction serves as the basis for long-term relational commitment. Empirical evidence from Hairudin and Oktaria (2025), Lende *et al.* (2025), Susniwati and Kurniawati (2025), and Wasito and Puspita (2025) similarly confirms that patient satisfaction is a major predictor of loyalty in hospital settings. For hospital management, this result implies that efforts to improve loyalty should focus on consistently delivering positive patient experiences throughout the inpatient journey, including admission procedures, nursing services, physician communication, discharge processes, and follow-up care.

Patient loyalty significantly influences recommendation intention, as reflected by a path coefficient of 0.588, a t-statistic of 14.625, and a p-value of 0.000. This result shows that loyal patients are more willing to recommend RSU PKU Muhammadiyah Delanggu to family members, friends, and the broader community. Recommendation intention is a form of positive word-of-mouth behavior and reflects a strong level of trust and advocacy toward the hospital. Relationship marketing theory explains that loyal customers often become advocates who voluntarily promote services they value (Kim & Diwas, 2020). In healthcare, such recommendations are particularly influential because they are based on authentic patient experiences and are perceived as more credible than formal advertising. This finding is also consistent with the Net Promoter Score concept, which classifies loyal and satisfied patients as promoters who actively endorse healthcare providers (Hamadi *et al.*, 2024). Similar results have been reported by Kemp *et al.* (2023), Singh *et al.* (2022), Laila (2024), and Rahmat and Kusumayati (2024), confirming that loyalty is a key determinant of recommendation behavior in hospital services. For RSU PKU Muhammadiyah Delanggu, loyal patients can serve as valuable ambassadors who contribute to hospital reputation and patient acquisition through positive word-of-mouth communication. Therefore, management should actively measure patient feedback and develop strategies to convert satisfied patients into long-term advocates of the hospital.

The mediation analysis provides strong evidence that patient satisfaction and patient loyalty sequentially mediate the relationship between inpatient service quality and recommendation intention. The indirect effect of service quality on recommendation intention through satisfaction and loyalty was statistically significant, with a path coefficient of 0.357, a t-statistic of 11.285, and a p-value of 0.000. In addition, service quality significantly affected loyalty through satisfaction ($\beta = 0.548$; $t = 8.782$; $p = 0.000$), while satisfaction significantly affected recommendation intention through loyalty ($\beta = 0.404$; $t = 8.375$; $p = 0.000$). These findings show that high-quality service first creates patient satisfaction, which then fosters loyalty and ultimately encourages recommendation behavior. The results support the theoretical sequence proposed by Expectation-Disconfirmation Theory and relationship marketing, where perceived service quality generates satisfaction, satisfaction builds loyalty, and loyalty leads to customer advocacy (Oliver, 1980; Parasuraman *et al.*, 1988; Kim & Diwas, 2020). Similar mediation patterns have been identified by Hairudin and Oktaria (2025), Chocknakawaro and Pusaksrikit (2025), Awat *et al.* (2025), and Rahmat and Kusumayati (2024). From a managerial, these results show that improving recommendation intention at RSU PKU Muhammadiyah Delanggu requires an integrated strategy that combines

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service quality improvement, patient satisfaction management, and loyalty-building initiatives. Rather than focusing solely on technical healthcare quality, hospital management should strengthen patient-centered care practices that encourage positive experiences, repeat utilization, and voluntary recommendations.

Conclusion

The quality of inpatient service has a positive and significant effect on patient satisfaction at RSU PKU Muhammadiyah Delanggu, showing that better service quality leads to higher levels of patient satisfaction. However, inpatient service quality has a positive but statistically insignificant direct effect on patient loyalty, suggesting that loyalty is not formed solely through service quality but is influenced by other factors, particularly patient satisfaction. Furthermore, patient satisfaction has a positive and significant effect on patient loyalty, demonstrating that satisfied patients are more likely to maintain a long-term relationship with the hospital. Patient loyalty also has a positive and significant effect on recommendation intention, which means that loyal patients are more willing to recommend the hospital to family, friends, and the wider community. In addition, patient satisfaction and patient loyalty were proven to significantly mediate the relationship between inpatient service quality and recommendation intention.

Future research is recommended to expand the research model by incorporating additional variables that may influence patient loyalty and recommendation intention, such as patient trust, hospital image, patient experience, communication quality, and perceived value. The inclusion of these variables may provide a more comprehensive understanding of the factors shaping patient behavior in healthcare services. Future studies are also encouraged to involve broader and more diverse samples by including multiple hospitals, both public and private, in order to improve the generalizability of the findings. In addition, further research may examine other healthcare service units, such as outpatient care, emergency departments, or specialized services, to explore possible differences in patient perceptions, loyalty, and recommendation behavior across healthcare settings. Longitudinal research designs are also suggested to better capture changes in patient satisfaction and loyalty over time.

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