iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 14 **Issue:** V **Month of publication:** May 2026

DOI: https://doi.org/10.22214/ijraset.2026.82079

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 14 Issue V May 2026- Available at www.ijraset.com

Influence of Service Quality on Patient Satisfaction at Private Healthcare Hospitals

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Abstract: ***Service quality is increasingly becoming a crucial factor influencing patient satisfaction within the dynamic private healthcare industry. This paper evaluates the influence of service quality on patient satisfaction at private hospitals in the Kozhikode district of Kerala State. The quantitative research methodology was used, which involved the use of a questionnaire to obtain primary data from 150 respondents chosen using convenience sampling techniques. Service quality dimensions used to evaluate service quality included tangibility, reliability, responsiveness, assurance, and empathy. Structural Equation Modeling (SEM) was applied to investigate the relationship between service quality and patient satisfaction. The analysis indicates that service quality significantly influences patient satisfaction positively. Responsiveness and empathy dimensions emerged as the most influential factors. Tangibility, reliability, and assurance were also found to have significant impacts on patient satisfaction, although to a relatively lower extent than those two. It is clear from the results that increasing the level of service quality can improve patient satisfaction among private healthcare hospitals significantly. The results provide valuable information to hospital management and healthcare policy formulators to devise effective patient-focused service policies and standards.***

Keywords: Service quality, Patient satisfaction, Private hospitals, Hospital management, Healthcare policy.

I. INTRODUCTION

The health sector has experienced a number of changes over the recent past years due to increased competition, advances in technology and increased patient expectations. Within this setting, the role played by private health care hospitals cannot be overstated in terms of providing quality healthcare services and being able to meet patient centered-care requirements. Contrary to what was observed previously where the options available for patients were few, patients today have become much more knowledgeable, critical and demanding in regard to both clinical results and service provision. Quality of service has emerged as an important competitive advantage within the private hospital industry. The concept involves aspects like physical aspects of the environment, behavior of staff, timely service provision, reliability of diagnoses and treatment and creation of trust and assurance among other features. Quality of service is associated with patient satisfaction that ultimately affects patient loyalty, word of mouth and hospital reputation. Patient satisfaction is a multi-dimensional construct that captures patient experience as they engage in healthcare delivery process. It is commonly used as an indicator of healthcare delivery and performance. Patient satisfaction increases the likelihood that a patient will adhere to treatment plans, come back to the same hospital for care, and even refer the hospital to other people. Poor quality of services provided could result in low levels of patient satisfaction. In areas such as Kozhikode district in Kerala, where there has been rapid growth in private healthcare organizations, the relationship between service quality and patient satisfaction is especially relevant. Kerala has an advanced healthcare system, and there is stiff competition between private hospitals; therefore, there is a need for improvement of the quality of the services provided.

II. STATEMENT OF THE PROBLEM

The past few years have seen considerable growth in the private healthcare sector, especially in districts like Kozhikode in Kerala, where there is an availability of more than one healthcare service provider. With increased competition, it has become necessary for private hospitals to concentrate not only on their quality of medicine but also the quality of services rendered to their patients. Although many hospitals now possess better facilities and advanced technologies for treating patients, they find it difficult to provide quality services. While receiving prompt and good care is a basic requirement for every healthcare consumer, expectations from a healthcare facility now go beyond receiving proper medical treatment.

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Patients also desire quick service delivery, prompt response, interpersonal communication, among others. However, differences in service quality provided by various hospitals are likely to create dissimilarities in patient satisfaction rates. Whereas the importance of service quality in relation to patient satisfaction has been well established by many researchers, there seems to be a lack of empirical evidence regarding the extent to which various aspects of service quality influence the levels of patient satisfaction among private healthcare hospitals in the district of Kozhikode. Thus, the central issue that forms the focus of this research is the relationship between various dimensions of service quality and their effect on patient satisfaction among private healthcare hospitals in the district of Kozhikode.

A. Objective of the Study

This study evaluates the influence of service quality on patient satisfaction at private hospitals in the Kozhikode district of Kerala State.

III. MATERIALS AND METHODS

Research conducted by Ramsaran-Fowdar (2008) revealed that empathy and responsiveness are some of the most important determinants of patients' satisfaction levels in hospitals. Patients usually prefer customized, attentive and quick services than physical characteristics of medical institutions. Moreover, according to research carried out by Saad (2001), trustworthiness, communication, and staff behaviors are some of the most important determinants of patient satisfaction in hospitals. Assurance and empathy were identified as important qualities for building patient confidence and thus improving their perception about the hospital and its services. Additionally, in India, similar results have been reported regarding the importance of quality services. According to a study done by Rao, et al. (2008) on healthcare services quality, administrative processes, infrastructures, and interpersonal relations significantly affect patient satisfaction in hospitals. In other words, technical and functional quality are important in healthcare provision. Moreover, according to a study carried out by Son et al. (2004), quality of service has a direct and significant influence on patient satisfaction, which directly affects the patient's loyalty and hospital image.

Quantitative research design shall be adopted for this study in order to understand the effects of service quality on patient satisfaction in private healthcare hospitals in Kozhikode district, Kerala. In quantitative research design, systematic collection, measurement, and analysis of the data are conducted in order to understand the relationship that exists between service quality dimensions and patient satisfaction. For conducting this study, primary data would be used in the form of a structured questionnaire. The research adopts non-probability sampling technique and convenience sampling technique would be followed in this case. The sample comprises 150 patients who have availed treatment services from selected private healthcare hospitals located in Kozhikode district of Kerala. These patients will provide valuable information regarding their satisfaction due to various dimensions of the service quality. The data shall be analyzed statistically in order to obtain meaningful results out of them. Descriptive analysis of the data would be done and Structural Equation Modeling (SEM) would also be applied to analyze the relationships between various variables. Structural Equation Modeling is multivariate statistical analysis which allows simultaneous analysis of the relationships of several observed.

IV. RESULTS AND DISCUSSION

The analysis examined the relationship between key dimensions of service quality—tangibility, reliability, responsiveness, assurance, and empathy—and overall patient satisfaction in private healthcare hospitals.

Table 1
Regression Weights

Measured variable		Latent variable	Estimate	S.E.	C.R.	P
Reliability	<---	Patient satisfaction	1.000			
Assurance	<---	Patient satisfaction	1.146	.124	9.258	***
Empathy	<---	Patient satisfaction	.992	.114	8.694	***
Tangibles	<---	Patient satisfaction	.908	.115	7.873	***
Responsiveness	<---	Patient satisfaction	.723	.110	6.592	***

*** Sig. at 1% level

The regression weights table shows how strongly each observed service quality dimension contributes to the latent construct patient satisfaction. The estimates, along with their significance levels, help explain the relative importance of each factor. First, all dimensions—assurance, empathy, tangibles, and responsiveness—have positive estimates, indicating that improvements in these service quality factors lead to higher patient satisfaction. Since all p-values are marked as *** (significant at the 1% level), every relationship is highly statistically significant, meaning the results are reliable and not due to chance. Reliability (Estimate = 1.000) is the reference variable (fixed value), used as a baseline for comparison. Its role is important, but its coefficient is constrained for model identification, so interpretation focuses more on the relative strength of other variables. Among the predictors: Assurance (Estimate = 1.146, C.R. = 9.258) has the strongest influence on patient satisfaction. This implies that patients place the highest importance on trust, confidence in doctors, and the competence and courtesy of hospital staff. Empathy (Estimate = 0.992, C.R. = 8.694) is the second most influential factor, suggesting that personalized care, emotional support, and attention significantly enhance patient satisfaction. Tangibles (Estimate = 0.908, C.R. = 7.873) also have a strong impact, indicating that physical facilities, cleanliness, and modern equipment contribute meaningfully to how patients evaluate hospitals. Responsiveness (Estimate = 0.723, C.R. = 6.592) has the least influence among the variables, though still significant. This means prompt service and willingness to help are important, but comparatively less critical than assurance or empathy. The Critical Ratio (C.R.) values, all well above the threshold of 1.96, further confirm that each variable significantly contributes to patient satisfaction.

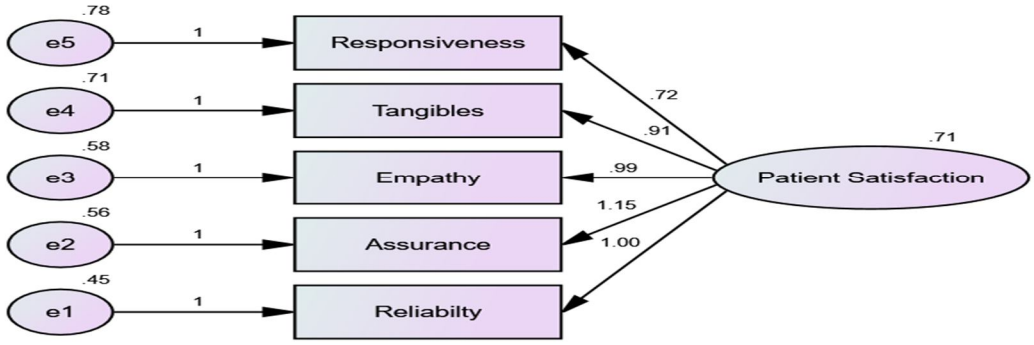
Table 2
Variances

Variables	Estimate	S.E.	C.R.	P
Patient satisfaction	.707	.134	5.284	***
Reliability	.451	.073	6.155	***
Assurance	.559	.093	6.008	***
Empathy	.582	.086	6.757	***
Tangibles	.713	.097	7.367	***
Responsiveness	.779	.099	7.906	***

*** Sig. at 1% level

The variance results indicate that all constructs, including patient satisfaction and the five service quality dimensions, exhibit statistically significant variability ($p < 0.01$), confirming that the data capture meaningful differences in patient perceptions. Patient satisfaction shows moderate variance (0.707), suggesting that satisfaction levels differ notably among respondents. Among the service quality dimensions, responsiveness (0.779) and tangibles (0.713) display the highest variability, indicating inconsistent experiences in prompt service delivery and physical facilities across hospitals. Empathy (0.582) and assurance (0.559) show moderate variation, reflecting some differences in patient experiences related to care, trust, and staff behavior. Reliability (0.451) has the lowest variance, suggesting that perceptions of accurate and dependable medical services are relatively consistent. Overall, while core healthcare delivery appears stable, greater variability in responsiveness and tangibles highlights areas where private hospitals need to improve consistency to enhance patient satisfaction.

Diagram 1
Measured and Latent Variables



The structural model diagram illustrates the influence of service quality dimensions on patient satisfaction in private healthcare hospitals, showing that all five constructs—reliability, assurance, empathy, tangibles, and responsiveness—have a positive and significant effect on patient satisfaction. Reliability is set as the reference factor (1.00), while assurance (1.15) demonstrates the strongest impact, indicating that patients place the highest importance on trust, competence, and confidence in healthcare providers. Empathy (0.99) follows closely, highlighting the importance of personalized care and emotional support, whereas tangibles (0.91) indicate that hospital infrastructure and physical facilities also play a substantial role in shaping satisfaction. Responsiveness (0.72), although comparatively lower, still significantly contributes, reflecting the importance of prompt service and staff willingness to assist patients. The error terms (e1–e5) show moderate variance, suggesting some unexplained variability in each observed variable, with responsiveness having the highest error variance and reliability the lowest, indicating more consistency in reliable services compared to other dimensions. The squared multiple correlation for patient satisfaction (0.71) implies that approximately 71% of the variation in patient satisfaction is explained by these service quality dimensions, confirming a strong model fit and reinforcing that improving service quality—especially assurance and empathy—can substantially enhance patient satisfaction.

Table 3
RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.051	.967	.902	.322
Saturated model	.000	1.000		
Independence model	.532	.492	.238	.328

The model fit results indicate that the default model has a good fit to the data, with an RMR value of 0.051 within acceptable limits and a high GFI of 0.967, showing strong explanatory power. The AGFI value of 0.902 further confirms an adequate fit after adjusting for model complexity, while the PGFI of 0.322 reflects acceptable parsimony. In contrast, the independence model shows poor fit, and the saturated model shows perfect fit as expected. Hence, these indices confirm that the proposed model is well-fitted and suitable for explaining the relationship between service quality and patient satisfaction.

Table 4
Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.954	.908	.971	.942	.971
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

The baseline comparison indices indicate that the default model has an excellent fit relative to the independence model. The values of NFI (0.954), IFI (0.971), TLI (0.942), and CFI (0.971) all exceed the recommended threshold of 0.90, confirming a strong model fit, while the RFI (0.908) also supports adequacy. These results show that the proposed model significantly improves over the null (independence) model in explaining the relationships among variables. As expected, the saturated model shows perfect fit (values = 1.000), whereas the independence model shows poor fit (values = 0.000). Hence, the findings confirm that the structural model provides a very good representation of the data and supports the hypothesized relationship between service quality and patient satisfaction.

Table 5
RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.103	.034	.174	.090
Independence model	.425	.383	.469	.000

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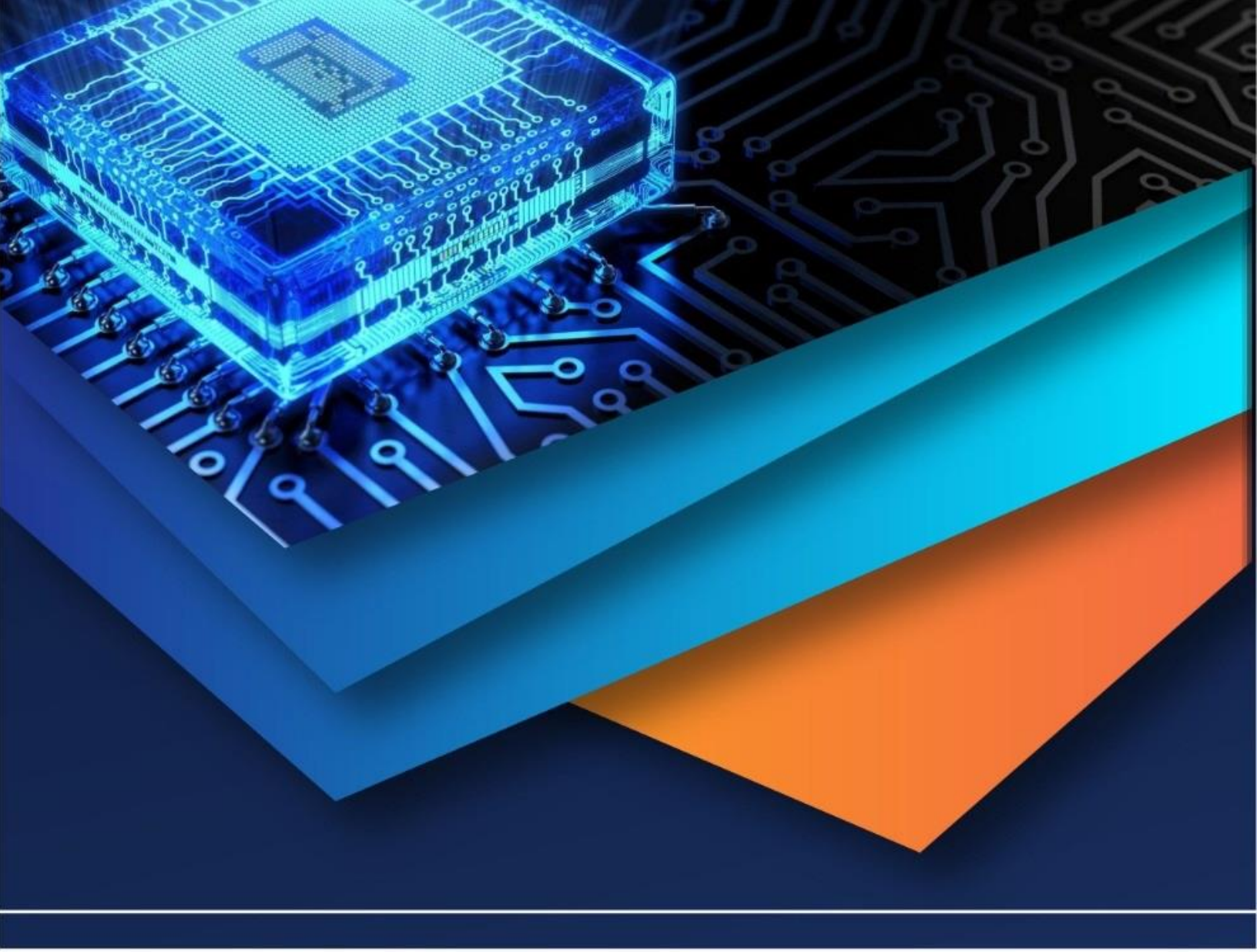
The RMSEA results for the default model (0.103) are slightly above the commonly recommended threshold of 0.08, indicating a moderate to marginal fit rather than an excellent one. The results clearly demonstrate that patient satisfaction in private healthcare hospitals is most strongly driven by assurance and empathy, followed by tangibles and responsiveness. While all service quality dimensions are important, hospitals should prioritize building trust, improving staff competence, and delivering compassionate care to maximize patient satisfaction.

V. RECOMMENDATIONS AND CONCLUSION

This study proves the significant and positive effect of service quality on patients' satisfaction in private healthcare hospitals. Each of the five service quality variables, namely reliability, assurance, empathy, tangibles, and responsiveness, positively influences patient satisfaction, whereas assurance and empathy are the two most important determinants. The results suggest that the model has a high explanatory power, meaning that service quality explains a substantial part of patient satisfaction. Nevertheless, the findings imply that there are several inconsistencies in providing healthcare services, especially concerning responsiveness and tangibles, showing that although the core medical services are stable, the overall experience of healthcare provision is inconsistent. While all fit indices for evaluating model goodness-of-fit prove a good fit, the RMSEA measure indicates some room for improvement in both the model itself and its real-life implementation. The analysis indicates that service quality significantly influences patient satisfaction positively. Responsiveness and empathy dimensions emerged as the most influential factors. Tangibility, reliability, and assurance were also found to have significant impacts on patient satisfaction, although to a relatively lower extent than those two. It is clear from the results that increasing the level of service quality can improve patient satisfaction among private healthcare hospitals significantly. The results provide valuable information to hospital management and healthcare policy formulators to devise effective patient-focused service policies and standards. To conclude, private healthcare hospitals should use their competitive advantage to increase patient satisfaction with their services through focusing on patient needs and interests and creating an efficient service process based on technical knowledge and personal interaction.

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