

SERVICE QUALITY AND NET PROMOTE SCORE (NPS): A LITERATURE REVIEW ON THEIR RELATIONSHIP IN HEALTHCARE SERVICE

Citra M. N. Lombongkaehe¹, Grace S. Houghty²

^{1,2}Magister Keperawatan, Universitas Pelita Harapan

Abstrack

This literature review examines the relationship between service quality and Net Promoter Score (NPS) in the context of Indonesian healthcare services. Drawing on recent empirical studies, the review highlights that improvements across all dimensions of service quality-tangibility, reliability, responsiveness, assurance, and empathy-are essential for achieving high patient satisfaction and fostering loyalty. The findings indicate that while NPS is a useful and increasingly popular metric for measuring patient loyalty, its effectiveness is limited if used in isolation, as it may not fully capture the complexity of patient experiences and can be influenced by contextual factors. Therefore, integrating NPS with comprehensive service quality assessments and qualitative feedback is recommended to provide a more accurate and actionable understanding of patient perceptions. This review offers practical guidance for hospital managers seeking to enhance both patient experience and organizational performance through a holistic approach to service quality improvement.

Keywords: *Service quality, Net Promoter Score, Hospital, Outpatient unit*

INTRODUCTION

Service quality has long been recognized as a fundamental determinant of patient satisfaction and loyalty in the healthcare sector. As competition in the healthcare industry increases, hospitals are driven to continuously improve their services to retain existing patients and attract new ones. In Indonesia, the urgency to enhance service quality is further emphasized by the government's commitment to universal health coverage through the National Health Insurance (JKN) program and the public's growing expectations for high-quality, patient-centered care.

In recent years, Indonesian hospitals have faced increasingly complex challenges. The implementation of the JKN system has significantly changed the healthcare landscape, with increased patient visits and higher expectations for service quality. Patients today demand not only proper medical care but also a satisfying overall service experience. This has prompted hospitals to adopt a more comprehensive approach to evaluating and improving their service quality.

The concept of service quality in healthcare is inherently multidimensional, encompassing not only the technical aspects of care but also the interpersonal and environmental factors that shape the patient experience. Studies conducted in various Indonesian hospitals have consistently demonstrated that improvements across all dimensions of service quality—tangibility, reliability, responsiveness, assurance, and empathy—are crucial for achieving high levels of patient satisfaction. For instance, Kosnan (2019) found that each SERVQUAL dimension had a significant positive effect on inpatient satisfaction at RSUD Merauke, while Gultom et al. (2021) highlighted reliability as the most dominant factor

affecting outpatient satisfaction at RS Bhayangkara Tebing Tinggi. These findings underscore the need for a holistic approach to service quality improvement, one that addresses both the physical and human elements of healthcare delivery [1], [2].

In this context, the Net Promoter Score (NPS) has emerged as an increasingly popular tool for measuring patient loyalty in Indonesian hospitals. NPS, developed by Fred Reichheld in 2003, is a simple metric that measures customers' willingness to recommend an organization to others. In hospital settings, NPS is typically measured by asking patients, "How likely are you to recommend this hospital to a friend or family member?" on a scale of 0-10. Respondents are then categorized as Promoters (scores 9-10), Passives (scores 7-8), or Detractors (scores 0-6), and the NPS is calculated as the percentage of Promoters minus the percentage of Detractors.

While NPS offers a simple and easy way to measure patient loyalty, its effectiveness in the healthcare context has been subject to debate. Some researchers argue that NPS may oversimplify the complex patient experience, while others emphasize its practical value as a key performance indicator. Therefore, it becomes essential to examine the relationship between service quality and NPS comprehensively, considering the specific context of Indonesian healthcare services.

This literature review synthesizes recent Indonesian and international studies to explore how various dimensions of service quality influence patient satisfaction and loyalty, and to critically evaluate the strengths and limitations of NPS as a metric for healthcare service evaluation. By integrating empirical findings, theoretical perspectives, and practical implications, this review aims to

provide a nuanced understanding of how service quality and NPS interact in the healthcare context, and to offer guidance for hospital managers seeking to enhance both patient experience and organizational performance.

METHODOLOGY

This review synthesizes findings from recent Indonesian studies listed in the literature summary. The studies employ various quantitative and qualitative methods, including cross-sectional surveys, regression analysis, and retrospective NPS surveys, to examine the relationship between service quality, patient satisfaction, and loyalty in hospital settings. The focus is on studies that explicitly measure multiple dimensions of service quality and/or utilize NPS as a loyalty indicator.

The literature search was conducted across several electronic databases, including PubMed, Google Scholar, and the Indonesian Scientific Journal Database (ISJD). The search was limited to articles published between 2019 and 2024 to ensure relevance and currency of findings. Key search terms included combinations of the following keywords in both Indonesian and English: "service quality," "SERVQUAL," "Net Promoter Score," "NPS," "patient satisfaction," "patient loyalty," "hospital," and "Indonesia."

Inclusion criteria included studies conducted in hospitals or healthcare facilities in Indonesia, studies explicitly measuring one or more dimensions of service quality, studies using NPS or other patient loyalty indicators, and peer-reviewed articles, theses, and research reports with clear methodology. Exclusion criteria encompassed studies not focused on the healthcare sector, studies not measuring service quality or patient loyalty, publications before 2019, and

opinion articles or editorials without empirical data.

From each study meeting the inclusion criteria, the following data were extracted: bibliographic information (authors, year, title), research design and methodology, sample characteristics and setting, service quality dimensions measured, use of NPS or other loyalty metrics, key findings regarding the relationship between service quality, patient satisfaction, and loyalty, and practical implications and recommendations. The extracted data were then thematically analyzed to identify patterns, trends, and gaps in the literature. The analysis focused on three main areas: (1) the relationship between service quality dimensions and patient satisfaction, (2) the relationship between service quality and patient loyalty, and (3) the strengths and limitations of NPS as a loyalty metric in the healthcare context.

RESULTS

Service Quality and Patient Satisfaction

Multiple studies confirm a strong relationship between service quality and patient satisfaction in Indonesian hospitals. Kosnan (2019) found that all five SERVQUAL dimensions significantly influenced inpatient satisfaction at RSUD Merauke, indicating that improvements in physical facilities, reliability, responsiveness, assurance, and empathy can enhance patient satisfaction. At RSU Tanjung Selamat, Yusra (2020) discovered that service quality was suboptimal (46.5%), with low patient satisfaction (58.1%). Statistical analysis showed a significant relationship between service quality and BPJS patient satisfaction ($p=0.001$). In RS Bhayangkara Tebing Tinggi, Gultom

et al. (2021) determined that all service quality dimensions were significantly related to outpatient satisfaction, with reliability being the most influential factor (OR 58.99). Mayasari et al. (2021) demonstrated that in RSUD Sukadana, all five dimensions were significantly associated with parental satisfaction in pediatric inpatient care (all p-values < 0.05). At RSU Muhammadiyah Sumatera Utara, Wildani et al. (2020) found that tangibility, reliability, responsiveness, assurance, and empathy were all significantly correlated with satisfaction among JKN outpatients. These findings demonstrate that comprehensive improvements across all service quality dimensions are necessary to achieve high patient satisfaction.

Service Quality and Patient Loyalty

Patient loyalty is often measured by the intention to revisit or recommend the hospital. Studies show that service quality not only impacts satisfaction but also drives loyalty. Gultom et al. (2021) and Mayasari et al. (2021) both found that higher scores in service quality dimensions increased the likelihood of patients recommending the hospital to others, a proxy for loyalty. Prakoeswa et al. (2022) conducted a loyalty survey using NPS in a tertiary hospital in eastern Indonesia and found an overall NPS of 57.5%. Most respondents cited good and satisfying service as reasons for their high scores, but also provided specific recommendations for improvement, indicating that even satisfied patients expect continuous quality enhancement.

NPS as a Loyalty Metric in Healthcare

NPS is increasingly used in Indonesian hospitals to monitor patient loyalty. Kristanti & Sulistiadi (2024) in their

literature review highlight that while NPS is valuable for hospital marketing and loyalty measurement, its effectiveness in predicting satisfaction and driving improvement is limited by contextual factors and the nature of healthcare services. Adams et al. (2022) conducted a systematic review and found that NPS is easy to use and widely understood, but its value as a standalone metric is minimal. NPS can be influenced by patient demographics, health conditions, and cultural variations, making it less reliable for cross-institutional comparisons. A comparative study in Sikkim, India by Singh et al. (2020) found that private hospitals had a higher NPS (18%) than public hospitals (-3%), correlating with better service quality in tangible and empathy dimensions.

Limitations of NPS in Healthcare

While NPS offers a quick snapshot of patient loyalty, it has several limitations. It may not fully capture the complexity of patient experiences. Healthcare services are multidimensional, involving technical, interpersonal, and environmental aspects that may not be reflected in a single question. Scores can be affected by factors beyond service quality, such as patient expectations, lack of provider choice, and cultural norms. For example, patients in areas with few hospital choices may continue to use a particular hospital despite being dissatisfied with its services. Free-text comments accompanying NPS surveys often provide more actionable insights than the score itself, as they reveal specific areas for improvement that may not be captured by the numerical score.

Integrating Service Quality and NPS

The literature suggests that NPS should be used in conjunction with detailed service quality assessments and qualitative feedback. For example, Prakoeswa et al. (2022) found that while a high NPS reflected general satisfaction, patient comments revealed specific areas for improvement, emphasizing the need for continuous quality monitoring and targeted interventions. An integrated approach to measuring and improving service quality and patient loyalty might involve using SERVQUAL surveys to assess patient perceptions of the five dimensions of service quality, implementing NPS to measure overall patient loyalty, collecting qualitative feedback through free-text comments, interviews, or focus groups, analyzing the data to identify relationships between specific service quality dimensions and NPS, developing targeted interventions to improve the service quality dimensions that most influence NPS, and monitoring changes in service quality and NPS over time to evaluate the effectiveness of interventions. This integrated approach can provide a more comprehensive understanding of patient experience and identify specific areas for improvement[6], [10].

Table 1. Literature Review

Study	Methods	Key Dimensions/Measures	NPS Used	Main Findings
Kosnan (2019)	Cross-sectional survey	All SERVQUAL dimensions	No	All dimensions significantly affect inpatient satisfaction
Gultom et al. (2021)	Regression analysis	Reliability (dominant), others	No	Reliability most influential for outpatient loyalty
Mayasari et al. (2021)	Cross-sectional survey	All SERVQUAL dimensions	No	All dimensions linked to parental satisfaction in pediatric care
Wildani et al. (2020)	Quantitative survey	All SERVQUAL dimensions	No	All dimensions correlated with satisfaction among JKN outpatients
Prakoew a et al. (2022)	NPS survey + comments	Not specified	Yes	NPS 57.5%; high NPS but patient comments reveal areas for improvement
Singh et al. (2020)	Comparative NPS survey	Tangibility, Empathy	Yes	Private hospitals: higher NPS (18%) than public (-3%), linked to better service quality
Yusra (2020)	Cross-sectional survey	All SERVQUAL dimensions	No	Service quality significantly associated with BPJS patient satisfaction; service quality and satisfaction levels still low
Kristanti et al. (2024)	Literature review	NPS conceptualization/implementation	Yes	NPS is useful for hospital marketing strategies but has contextual limitations for measuring

				satisfaction and loyalty
Adams et al. (2022)	Systematic review	NPS vs. other patient experience measures	Yes	NPS is easy to use but limited for driving healthcare improvements; global rating may be more predictive of quality
Jahnert & Schmeiser (2021)	Regression analysis	NPS and profitability	Yes	Strong positive correlation between customer satisfaction (NPS) and profitability in insurance/healthcare context

DISCUSSION

The findings from this literature review have several practical implications for hospital management. Based on the finding that all SERVQUAL dimensions contribute to patient satisfaction and loyalty, hospitals should adopt a comprehensive approach to service quality improvement. This includes enhancing tangibility by investing in physical infrastructure, equipment, and staff appearance, which might include facility renovations, medical equipment upgrades, and ensuring professional appearance of all staff. Improving reliability involves developing systems and protocols to ensure consistency and accuracy in service delivery, which might include staff training, procedure standardization, and implementation of quality management systems. Enhancing responsiveness requires reducing waiting times and improving responsiveness to patient needs, which might include implementation of queue management systems, training staff in responsive communication, and ensuring adequate staffing levels. Improving assurance means investing

in staff training and development to ensure that they have the knowledge, skills, and attitudes necessary to provide high-quality care and inspire patient trust. Enhancing empathy involves promoting a culture of patient-centered care and empathy, which might include training staff in communication skills and empathy, as well as implementing policies and procedures that prioritize patient needs and preferences.

Based on the findings about the strengths and limitations of NPS, hospitals should optimize their use of NPS as a loyalty metric. This includes integrating NPS with service quality assessments by using NPS in conjunction with more comprehensive service quality surveys, such as SERVQUAL, to provide a more complete understanding of patient experience. Collecting qualitative feedback involves including open-ended questions in NPS surveys to collect qualitative feedback about the reasons behind patient scores, which can provide more actionable insights than numerical scores alone. Segmenting NPS analysis means analyzing NPS scores based on



different patient characteristics, such as department, insurance type, or demographics, to identify specific areas for improvement. Longitudinal monitoring involves tracking changes in NPS over time to evaluate the effectiveness of quality improvement interventions and identify trends. Benchmarking requires comparing NPS scores with similar hospitals to identify areas of excellence and opportunities for improvement.

NPS can be a valuable tool for hospital marketing strategies. This includes leveraging promoters by identifying and engaging patients with high NPS scores (Promoters) in marketing efforts, such as testimonials or referral programs. Addressing detractor concerns involves analyzing feedback from patients with low NPS scores (Detractors) to identify and address problematic areas. Developing marketing messages means using findings from NPS analysis to develop marketing messages that highlight the hospital's strengths in service quality dimensions that are most important to patients. Measuring marketing effectiveness involves using changes in NPS to measure the effectiveness of marketing campaigns and branding initiatives.

This literature review also identifies several areas for future research. Longitudinal studies are needed to assess the stability of NPS over time and to evaluate the effectiveness of quality improvement interventions in enhancing NPS. Research on contextual factors is necessary to understand how patient characteristics, hospital type, and cultural context influence the relationship between service quality and NPS. Studies exploring integration with other metrics could examine how NPS can be integrated with other service quality and patient satisfaction metrics to

provide a more comprehensive understanding of patient experience. Research assessing the financial implications of improved NPS, including potential cost savings and revenue enhancements, would be valuable. Studies exploring digital applications could investigate the use of digital technologies, such as mobile applications and online platforms, for collecting and analyzing NPS data in real-time.

CONCLUSIONS

This literature review demonstrates a strong and consistent relationship between service quality and both patient satisfaction and loyalty in Indonesian hospitals. Improvements across all SERVQUAL dimensions—tangibility, reliability, responsiveness, assurance, and empathy—are essential for achieving high levels of patient satisfaction and increasing the likelihood that patients will recommend hospital services. While the Net Promoter Score (NPS) is a valuable and increasingly popular tool for measuring patient loyalty, its effectiveness is limited if used in isolation, as it may not capture the full complexity of patient experiences and can be influenced by various contextual factors. Therefore, NPS should be integrated with comprehensive service quality assessments and qualitative feedback to provide a more accurate and actionable understanding of patient perceptions. Hospitals are advised to adopt a holistic approach to service improvement, using NPS as part of a broader strategy to monitor, evaluate, and enhance both patient experience and organizational performance. By integrating service quality measurement and NPS, hospitals can develop a more nuanced understanding of patient experience and identify specific areas for improvement. This

approach can help hospitals not only enhance patient satisfaction and loyalty but also improve overall organizational performance. In an increasingly competitive healthcare landscape, a focus on service quality and patient loyalty will become increasingly important for the success of Indonesian hospitals.

ACKNOWLEDGEMENTS

The author would like to express sincere gratitude to all researchers and institutions whose studies have contributed to this literature review. Special thanks are extended to the healthcare professionals and hospital administrators whose dedication to improving service quality and patient satisfaction has provided valuable data and insights. The findings and discussions presented in this manuscript are based on a synthesis of recent Indonesian research, including the works of Kosnan (2019), Gultom et al. (2021), Mayasari et al. (2021), and Wildani et al. (2020), among others, whose empirical studies have significantly advanced our understanding of the relationship between service quality, patient satisfaction, and loyalty in the Indonesian healthcare context. Appreciation is also given to those who have contributed to the development and application of the Net Promoter Score (NPS) as a patient loyalty metric, as well as to the reviewers and colleagues who provided constructive feedback during the preparation of this manuscript. Their collective efforts have been instrumental in shaping the conclusions and recommendations presented herein.

REFERENCES

- Gultom, R. J., Nababan, D., Sipayung, R., Hakim, L., & Tarigan, F. L. (2022). Hubungan kualitas pelayanan rawat

jalan dengan kepuasan pasien BPJS di Rumah Sakit Bhayangkara TK III Tebing Tinggi. *Journal of Healthcare Technology and Medicine*, 7(2), 1281-1298.

<https://doi.org/10.33143/jhtm.v7i2.1671>

Kosnan, W. (2020). Pengaruh kualitas pelayanan terhadap kepuasan pasien rawat inap di rumah sakit umum daerah Kabupaten Merauke. *Jurnal Ekonomi, Bisnis, Dan Akuntansi*, 21(4), 18-25.

<http://dx.doi.org/10.32424/jeba.v21i4.1538>

Yusra, Y. (2020). Hubungan kualitas pelayanan terhadap tingkat kepuasan pasien BPJS. *Jurnal SAGO Gizi Dan Kesehatan*, 1(2), 201-206.

<http://dx.doi.org/10.30867/gikes.v1i2.416>

Mayasari, A. T., Supriyati, S., Ritawati, R., Rahayu, S., Eniwati, E., & Arpiana, E. (2021). Hubungan Kualitas Pelayanan Kesehatan Anak Dengan Kepuasan Orang Tua di Ruang Rawat Inap RSUD Sukadana Kabupaten Lampung Timur. *Journal of Current Health Sciences*, 1(2), 51-58.

<https://doi.org/10.47679/jchs.20219>

Wildani, H., Badiran, M., & Hadi, A. J. (2020). Hubungan Kualitas Pelayanan Kesehatan Rawat Jalan Dengan Tingkat Kepuasan Pasien Peserta Jaminan Kesehatan Nasional Di Rsu Muhammadiyah Sumatera Utara. *Jurnal Komunitas Kesehatan Masyarakat*, 1(2), 7-21.

Prakoewa, C. R., Hidayah, N., Dewi, A., Mutiani, F., Adriansyah, A. A., & Yaqub, A. M. (2022). Loyalty Survey Based on Net Promoter Score in A Tertiary Hospital in Indonesia. *eJournal Kedokteran Indonesia*, 92-100.

<https://doi.org/10.23886/ejki.10.154.92-100>

- Diliasari, K., & Sulistiadi, W. (2024). Use of Net Promoter Score (NPS) in Hospital Marketing Strategy to Increase Patient Satisfaction and Loyalty. *International Journal of Social Service and Research*, 4(3), 907-911.
- Adams, C., Walpola, R., Schembri, A. M., & Harrison, R. (2022). The ultimate question? Evaluating the use of Net Promoter Score in healthcare: A systematic review. *Health Expectations*, 25(5), 2328-2339. <https://doi.org/10.1111/hex.13577>
- Singh, A., Tewari, E., & Ravi, P. (2020). SERVQUAL (service quality) vs NPS (net promoter score): a comparative study of private and public hospitals in Sikkim. *Indian Journal of Marketing*, 50(10-11), 23-39. <https://doi.org/10.17010/ijom/2020/v50/i10-11/155840>
- Jahnert, J. R., & Schmeiser, H. (2022). The relationship between net promoter score and insurers' profitability: an empirical analysis at the customer level. *The Geneva papers on risk and insurance-issues and practice*, 47(4), 944-972. <https://doi.org/10.1057/s41288-021-00237-3>