Business Management
Vol. 5 No 1 Februari 2026
p-ISSN:*2828-7606,* ***e-ISSN:****2828-8203*
DOI: *10.58258/bisnis.v5i1.10382/https://ejournal.mandalanursa.org/index.php/Bisnis*

Patient Perceptions of Service Quality at dr. Charles P.J. Suoth Lanud Sam Ratulangi Hospital Using the Importance Performance Analysis (IPA) Method

Mhd. Syahwildan[1], A Rohendi[2], Agus Hadian Rahim[3]
Universitas Adhirajasa Reswara Sanjaya[12]
Universitas Padjadjaran[3]

Article Info
Article history:
Accepted: 20 February 2026
Publish: 21 February 2026

Keywords:
Patient Satisfaction;
Service Quality;
Importance Performance Analysis;
Hospital;
Servqual.

Abstract
This study examined patient perceptions of service quality at dr. Charles P.J. Suoth Lanud Sam Ratulangi Hospital using the Importance Performance Analysis (IPA) method integrated with Servqual. A qualitative descriptive research design was employed, involving 38 inpatients selected through double sampling. Five service quality dimensions were evaluated: Tangibles, Reliability, Responsiveness, Safety, and Empathy. Servqual analysis revealed that negative gap values predominated across 19 of 27 attributes, with the Empathy dimension recording the largest mean gap (−0.25). IPA quadrant mapping identified six attributes requiring immediate improvement, four to be maintained, five of low priority, and twelve exceeding patient expectations. Improvement strategies are recommended in three domains: physical facility expansion, staff communication training, and service timeliness enforcement. The findings underscore the centrality of interpersonal dimensions—particularly Empathy and Responsiveness—in shaping overall patient satisfaction in military hospital settings.

Corresponding Author:
Mhd. Syahwildan
Universitas Adhirajasa Reswara Sanjaya
Email: muhammadsyahwildan@gmail.com

1. INTRODUCTION

The contemporary healthcare landscape has transformed hospitals from purely clinical institutions into complex service organizations that must simultaneously meet patients' medical needs and their broader expectations of comfort, respect, and responsiveness. In Indonesia, the promulgation of Law No. 44 of 2009 on Hospitals formalized this dual mandate, requiring hospitals to deliver prime individual healthcare services across inpatient, outpatient, and emergency settings [14]. The subsequent expansion of the national health insurance program (BPJS) further elevated patient expectations by guaranteeing universal access, making service quality a decisive differentiator among competing healthcare providers [15].

At the theoretical core of healthcare service quality lies the Servqual framework developed by Parasuraman, Zeithaml, and Berry [3], [4], which conceptualizes service quality as the gap between what patients expect and what they actually experience. This framework identifies five dimensions—Tangibles, Reliability, Responsiveness, Assurance (Safety), and Empathy—each capturing a distinct facet of the service encounter. Empirical research consistently demonstrates that these dimensions exert differential effects on overall patient satisfaction depending on cultural context, hospital type, and patient demographics [1]. In Indonesian public hospitals, studies have highlighted the Empathy dimension as particularly sensitive, given cultural expectations of warmth, personalized attention, and respectful communication from medical personnel [5].

dr. Charles P.J. Suoth Lanud Sam Ratulangi Hospital, a military-affiliated inpatient facility in Manado, North Sulawesi, provides healthcare services primarily to Indonesian Air Force personnel, their families, and the surrounding civilian community. Despite adequate infrastructure, the hospital experienced a sustained and escalating pattern of patient complaints: 29 complaints were recorded in 2019, 31 in 2020, 56 in 2021, and 55 in the first half of 2022 alone. These complaints were submitted through multiple channels—social media, direct verbal feedback, and suggestion boxes—and converged primarily on inpatient service quality. This upward trajectory suggests a structural misalignment between the hospital's service delivery and patient expectations, rather than isolated incidents.

Addressing this misalignment requires a diagnostic tool capable of simultaneously capturing importance and performance assessments across multiple service attributes and translating those assessments into actionable managerial priorities. The Importance Performance Analysis (IPA), originally proposed by Martilla and James [2] and subsequently validated across diverse service industries, meets this requirement by mapping service attributes onto a Cartesian quadrant matrix. Each quadrant carries a distinct strategic implication: attributes in Quadrant I (high importance, low performance) require concentrated improvement; those in Quadrant II (high importance, high performance) should be maintained; those in Quadrant III (low importance, low performance) represent lower priorities; and those in Quadrant IV (low importance, high performance) indicate potential over-investment [9]. By integrating Servqual gap scores with IPA mapping, this study offers both a precise diagnosis of where service quality deficits lie and a structured roadmap for their resolution.

The objectives of this study are: (1) to measure the gap between patient expectations and perceived service performance across five Servqual dimensions using the Servqual instrument; (2) to classify service attributes into IPA quadrants to identify priority areas for improvement; and (3) to formulate targeted managerial strategies aligned with the IPA findings. The results are intended to guide hospital management in resource allocation decisions that maximize patient satisfaction within operational constraints..

2. RESEARCH METHOD

This study adopted a qualitative descriptive research design, aligning with Sugiyono's conceptualization of qualitative inquiry as emphasizing meaning, contextual depth, and interpretive understanding rather than statistical generalization. The research was conducted at dr. Charles P.J. Suoth Lanud Sam Ratulangi Hospital, located in Manado. Data collection took place throughout 2022, with the active inpatient ward serving as the primary research site. The selection of a qualitative framework was grounded in the study's objective to explore how patients perceive and evaluate service quality. Such perceptions are inherently subjective, embedded within specific organizational and social contexts, and not entirely reducible to numerical indicators alone.

The study population consisted of all inpatients treated at the hospital during the research period. Administrative records from 2022 documented an annual inpatient volume of 1,692 patients over eleven months, with an average monthly Length of Stay (LOS) of 154 patients. For sampling purposes, this LOS figure was treated as the operational population, as it represents individuals who were actively receiving inpatient services and thus directly experiencing the dimensions of service quality under examination.

Sampling was conducted using a double sampling strategy that integrated quota sampling and purposive sampling techniques. Quota sampling was applied to ensure proportional representation between short-stay patients, defined as those hospitalized for

less than two times twenty-four hours, and long-stay patients, defined as those hospitalized for two times twenty-four hours or more. Subsequently, purposive sampling was employed to identify respondents who met the inclusion criteria, namely being at least 18 years of age and expressing willingness to participate in the study. Patients under 18 years of age and those who declined participation were excluded. The sampling quota was determined at 25 percent of the average LOS population, resulting in a target sample size of 38 respondents. The distribution of this allocation is presented in Table 1.

Table 1. Sample Distribution of Inpatients (2022)

No.	Criterion	Population (LOS avg.)	Quota	n
1	< 2×24 hours	26	25%	6
2	≥ 2×24 hours	128	25%	32
Total		**154**		**38**

The measurement instrument consisted of a structured questionnaire developed from the Servqual framework as adapted for hospital settings by Al-Borie and Damanhouri. The instrument comprised 27 items distributed across five dimensions of service quality. The Tangibles dimension included seven items capturing aspects of the physical environment, medical equipment, staff appearance, and accessibility. Reliability was measured through four items reflecting service consistency and timeliness. Responsiveness consisted of eight items addressing staff promptness, courtesy, and communication practices. The Safety dimension included four items related to patients' perceptions of safety, staff competence, and trustworthiness. Finally, Empathy was measured through four items encompassing individualized attention, complaint handling, empathetic interaction, and the accuracy of medical records.

Each item was assessed twice using a five-point Likert scale: first to measure perceived importance, ranging from 1 (Not Important) to 5 (Very Important), and second to measure perceived satisfaction, ranging from 1 (Not Satisfied) to 5 (Very Satisfied). In addition to the questionnaire, data collection was enriched through documentation review, direct observation within the inpatient ward, and informal interviews with hospital staff to provide contextual understanding and triangulation.

Instrument validity was evaluated using the Pearson Product Moment correlation technique. An item was considered valid when the calculated correlation coefficient (r-count) exceeded the critical value of 0.320 ($n = 38$, $\alpha = 5\%$). Reliability testing was conducted using Cronbach's Alpha, adopting the minimum threshold of 0.60 as recommended by Sugiyono. Items that failed to meet these criteria would have been revised or excluded; however, all 27 items satisfied both validity and reliability standards and were therefore retained for analysis.

Servqual gap scores were subsequently calculated for each attribute using the formula $G = \text{Satisfaction} - \text{Importance}$. Negative gap scores indicate that perceived performance falls below patient expectations. Mean gap values were then computed for each dimension to identify patterns of systemic underperformance. To deepen interpretive insight, Importance–Performance Analysis (IPA) mapping was conducted by plotting mean importance scores on the vertical axis and mean satisfaction scores on the horizontal axis. The overall grand means of both scales were used as quadrant boundary lines. Attributes positioned within each quadrant were analyzed interpretively to generate targeted managerial recommendations aimed at improving service quality performance.

.

3. RESULTS AND DISCUSSION

3.1 Instrument Validity and Reliability

All 27 items achieved r-count values above the critical value of 0.320 in both the importance and satisfaction ratings, confirming that the instrument validly measures its intended constructs. For the importance dimension, r-count values ranged from 0.455 (Tangibles) to 0.890 (Responsiveness), while for the satisfaction dimension they ranged from 0.405 (Tangibles) to 0.968 (Responsiveness). The comparatively lower r-count for Tangibles in both scales reflects the greater heterogeneity of physical environment items relative to the more behaviourally focused dimensions, but all values remained comfortably above the threshold.

Cronbach's Alpha values confirmed adequate internal consistency across all dimensions. For the importance scale, Alpha values ranged from 0.653 (Empathy) to 0.850 (Tangibles). For the satisfaction scale, values were considerably higher, ranging from 0.865 (Empathy) to 0.945 (Tangibles), suggesting that patients showed greater consensus in their satisfaction ratings than in their importance ratings. The higher satisfaction-scale alphas may reflect the more concrete, experience-based nature of satisfaction judgments compared to the more abstract and individually variable importance judgments. All values exceeded the 0.60 threshold, confirming reliable measurement across all five dimensions.

3.2 Servqual Gap Analysis

The Servqual analysis produced 27 individual gap scores, of which 19 were negative (indicating under-performance) and only 7 were positive. This overall imbalance—three times as many underperforming attributes as satisfactorily performing ones—confirms that patient satisfaction at the hospital is systematically below expectations rather than reflecting isolated failures. Table 2 summarizes the mean gap scores by dimension, providing a dimension-level overview of the service quality landscape.

Table 2. Servqual Gap Analysis – Dimension Mean Scores

Dimension	Mean Importance	Mean Satisfaction	Mean Gap	Overall Direction
Tangibles	4.50	4.70	−0.20	Negative (Majority)
Reliability	4.47	4.49	−0.02	Slightly Negative
Responsiveness	4.42	4.50	−0.08	Negative (Majority)
Safety	4.26	4.41	−0.15	Negative (Majority)
Empathy	4.24	4.49	−0.25	Negative (All)

The Empathy dimension recorded the most substantial aggregate deficit (mean gap −0.25), with its worst-performing attribute being the accuracy and error-freeness of medical records (gap score −0.61). This finding is particularly significant because it touches on patient safety as well as satisfaction: inaccurate medical records not only frustrate patients but also carry clinical risk. The second most problematic attribute in the Empathy dimension was staff responsiveness to patient questions and complaints (gap −0.40), pointing to a communication culture that patients perceive as

insufficiently attentive to their individual needs. Tjiptono [6] argues that the Empathy dimension is especially salient in healthcare because patients are in a vulnerable state and therefore acutely sensitive to signals of personal attention or indifference.

The Tangibles dimension showed the second largest aggregate gap (−0.20), driven primarily by deficiencies in hospital facilities—specifically, waiting rooms, corridors, and lift capacity (gap −0.43)—and inadequacies in medical technology and equipment (gap −0.56). These physical infrastructure gaps are noteworthy because Tangibles represent the first point of patient contact with the hospital environment and shape initial quality perceptions before any interaction with staff occurs. Research by Muninjaya [10] confirms that the physical environment functions as a signal of the hospital's overall commitment to quality, meaning that infrastructure shortfalls disproportionately damage first impressions.

The Safety dimension showed a mean gap of −0.15, with patients reporting the largest deficit in staff transparency regarding visiting hours and administrative procedures (gap −0.56). This suggests that administrative clarity—knowing what to expect and when—is valued by patients as a dimension of safety, likely because uncertainty about procedures generates anxiety in inpatient settings. Conversely, Safety P4, which measures whether patients feel safe when interacting with staff, was one of the seven positive-gap attributes (+0.34), indicating that patients generally trust hospital personnel even if they find administrative communication lacking.

Responsiveness showed a mean gap of −0.08, making it the second-best performing dimension after Reliability. Notably, Responsiveness P1—staff friendliness and courtesy—achieved the highest positive gap score in the entire study (+0.69), indicating that hospital personnel are perceived as exceptionally warm and professional in their interpersonal manner. This is a significant competitive strength. However, the dimension was also home to two substantially negative attributes: Responsiveness P5 (staff empathy toward inpatients, gap −0.56) and Responsiveness P3 (staff handling of patient information confidentiality, gap −0.34), suggesting that while staff are friendly, patients do not consistently experience deep understanding of their individual situations.

Reliability recorded the smallest mean gap (−0.02), making it the dimension closest to meeting patient expectations overall. Reliability P1—the commitment of staff to deliver services at the promised time—was the only Reliability attribute to achieve a positive gap (+0.63), indicating that service scheduling is generally well-managed. The remaining three Reliability attributes all recorded small negative gaps (ranging from −0.15 to −0.40), reflecting minor but persistent shortfalls in service consistency, the range of available medical specialties, and overall service comfort.

3.3 Importance Performance Analysis: Quadrant Mapping

The IPA analysis plotted all 27 attributes on the Cartesian matrix, with the grand mean importance value (4.38) and grand mean satisfaction value (4.52) defining the quadrant boundaries. Table 3 summarizes the resulting quadrant classification, followed by an interpretive discussion of each quadrant's managerial implications.

Table 3. IPA Quadrant Classification Summary

Quadrant	Classification	Service Attributes
Quadrant I	*Concentrate Here*	Facility adequacy (waiting room, corridors, lifts); service punctuality; staff friendliness and courtesy; staff familiarity

		with patient needs; clarity of administrative information; overall patient trust in staff.
Quadrant II	*Keep Up the Good Work*	Hospital layout facilitates access; room cleanliness and comfort; continuous monitoring of disease progression; appropriate time allocation for inpatient care.
Quadrant III	*Low Priority*	Latest medical technology and equipment; staff dress code and appearance; staff helpfulness and sympathy; patient safety perception when interacting with staff; staff responsiveness to patient needs.
Quadrant IV	*Possibly Overkill*	Rapid response capability; hospital location accessibility; staff problem-solving interest; service comfort; availability of medical specialties; patient information confidentiality; inpatient-first priority; medical team friendliness; staff knowledge adequacy; staff cooperation readiness; polite handling of complaints; accuracy of medical records (12 attributes).

Quadrant I—Concentrate Here—contains the six attributes that patients rate as most important but the hospital has failed to deliver at satisfactory levels. These represent the hospital's most urgent improvement priorities, as underperformance on high-importance attributes is the primary driver of patient dissatisfaction [2]. The six Quadrant I attributes span all five Servqual dimensions: one Tangibles attribute (facility adequacy), one Reliability attribute (service punctuality), two Responsiveness attributes (staff friendliness and staff familiarity with patient needs), one Safety attribute (administrative transparency), and one Empathy attribute (overall trust in staff). The breadth of this list across dimensions signals that the hospital's quality gaps are multi-dimensional rather than concentrated in a single area, requiring a coordinated improvement strategy rather than isolated fixes.

The presence of service punctuality in Quadrant I merits particular attention. Patients place high importance on receiving care at the agreed time—whether for doctor visits, medication administration, or diagnostic procedures—because delays in inpatient settings generate anxiety, discomfort, and a perception of neglect. Improving punctuality requires systemic interventions: standardized service protocols (SOPs) with explicit time targets, coordinated scheduling across clinical units, and real-time monitoring of service delivery. Unit heads should be formally accountable for time-based performance indicators, with deviations reported and escalated through a structured follow-up mechanism.

Staff familiarity with patient needs—the second Responsiveness attribute in Quadrant I—reflects patients' desire to feel known as individuals rather than treated as anonymous cases. This attribute is deeply connected to the Empathy dimension: when staff take the time to understand a patient's specific concerns, history, and preferences, the patient's perception of empathy rises markedly. Effective communication training, including active listening techniques, structured patient handovers between shifts, and systematic documentation of patient preferences, can substantially improve performance on this attribute without requiring additional resources.

Quadrant II—Keep Up the Good Work—encompasses four attributes that patients value highly and that the hospital currently performs well on. These are genuine service strengths and represent the foundation of the hospital's reputation. Hospital layout and room cleanliness reflect the Tangibles dimension effectively meeting

patient expectations; continuous disease monitoring and appropriate time allocation reflect Responsiveness attributes that are being managed competently. Maintaining these strengths requires continuous quality audits, staff recognition programs that reward consistent performance, and investment in the systems (e.g., electronic patient monitoring, housekeeping protocols) that underpin them.

Quadrant III—Low Priority—contains five attributes that patients rate as relatively less important and that the hospital also delivers at lower performance levels. While improvement is still desirable, these attributes do not constitute urgent managerial priorities. The five attributes include medical technology adequacy, staff dress code, staff helpfulness, patient safety perception during staff interactions, and staff responsiveness to all patient needs. The placement of staff helpfulness in Quadrant III—rather than Quadrant I—may initially appear counterintuitive, but reflects the nuanced reality that patients prioritize the quality and timeliness of core clinical interactions over the more peripheral courtesy behaviors captured by this attribute. Improvements in Quadrant III can be pursued through lower-cost, behavioral interventions such as dress code enforcement programs and service culture workshops.

Quadrant IV—Possibly Overkill—is the largest quadrant, containing 12 attributes across all five dimensions. These attributes all perform above the grand mean satisfaction threshold but below the grand mean importance threshold, meaning the hospital consistently delivers on attributes that patients consider relatively less critical. From a resource efficiency perspective, this represents a misallocation: investment in further improving Quadrant IV attributes yields diminishing marginal returns in patient satisfaction, while Quadrant I deficits remain unaddressed. Hospital management should audit the resources—staffing time, training programs, equipment maintenance—currently directed toward Quadrant IV attributes and consider reallocating a portion toward Quadrant I improvements. This reallocation does not require reducing quality on Quadrant IV attributes to an unacceptable level; it simply means ceasing to over-invest in areas where performance already exceeds expectations**.**

3.4 Integrated Managerial Recommendations

Synthesizing the Servqual gap analysis with the IPA quadrant findings, three strategic priorities emerge for hospital management. First, physical facility improvement is non-negotiable: the single Tangibles attribute in Quadrant I (facility adequacy) is also among the attributes with the most negative gap scores in the Servqual analysis. Hospital leadership should formally propose and prioritize the expansion of waiting areas and improvement of corridor and lift capacity, with a structured implementation timeline and follow-up evaluation cycle.

Second, staff communication and empathy training must be operationalized as a core competency development program. The Empathy dimension—the worst-performing dimension in Servqual terms—accounts for one of the six Quadrant I attributes (patient trust in staff) and contributes significantly to the overall service quality deficit. Training programs should be mandatory for all clinical and non-clinical staff, encompassing effective communication, active listening, patient-centered care principles, and culturally sensitive interaction. Complementing this with a reward-and-punishment system that explicitly links performance appraisals to service quality metrics would create institutional incentives for behavioral change [6].

Third, service timeliness must be elevated to a key performance indicator at the unit level. The presence of service punctuality in Quadrant I—combined with the generally

acceptable Reliability scores for other attributes—suggests that the hospital is capable of reliable service delivery but has not yet systematized time-based accountability across all clinical units. Implementing inter-unit coordination protocols, daily service time monitoring dashboards, and escalation procedures for delays would transform punctuality from a discretionary aspiration into a measurable operational standard.

4. CONCLUSION

This study applied the Servqual and Importance Performance Analysis methods to assess patient perceptions of service quality at dr. Charles P.J. Suoth Lanud Sam Ratulangi Hospital. The findings reveal a consistent pattern of service quality deficits: 19 of 27 attributes received negative gap scores, indicating that patient expectations systematically exceed hospital performance across most dimensions. The Empathy dimension recorded the most severe aggregate deficit, followed by Tangibles, Safety, Responsiveness, and Reliability. These results are not merely statistical artefacts; they reflect real patient experiences of insufficient personalized attention, inadequate physical facilities, and unclear administrative communication.

The IPA analysis translates these deficits into a prioritized action agenda. Six high-importance, underperforming attributes in Quadrant I demand immediate managerial attention: facility capacity, service timeliness, staff courtesy, staff familiarity with patient needs, administrative transparency, and overall patient trust. Four Quadrant II attributes represent existing strengths to be actively maintained. Five Quadrant III attributes can be improved incrementally, and twelve Quadrant IV attributes—while performing well—may represent over-investment opportunities for resource reallocation.

Three integrated strategies are recommended: (1) a structured facility expansion program addressing physical infrastructure deficits; (2) a mandatory staff communication and empathy training curriculum linked to performance management systems; and (3) the institutionalization of service timeliness as a unit-level key performance indicator with monitoring and escalation protocols. Future research should assess the longitudinal impact of these interventions on patient satisfaction scores and explore whether the identified service quality patterns differ across patient demographic groups, diagnoses, or ward types..

5. ACKNOWLEDGMENT

The author expresses gratitude to the management, clinical staff, and inpatients of dr. Charles P.J. Suoth Lanud Sam Ratulangi Hospital for their generous cooperation, and to thesis supervisors Prof. Dr. A. Rohendi, M.M., M.H. and Dr. Agus Hadian Rahim, Sp.OT(K)Spine, M.Epid, M.HKes, MMRS (Universitas Adhirajasa Reswara Sanjaya) for their scholarly guidance throughout this research.

6. REFERENCES

[1] H. M. Al-Borie and A. M. S. Damanhouri, "Patients' satisfaction of service quality in Saudi hospitals: a SERVQUAL analysis," Int. J. Health Care Qual. Assur., vol. 26, no. 1, pp. 20-30, 2013.

[2] J. A. Martilla and J. C. James, "Importance-Performance Analysis," J. Mark., vol. 41, no. 1, pp. 77-79, 1977.

[3] A. Parasuraman, V. A. Zeithaml, and L. L. Berry, "A conceptual model of service quality and its implications for future research," J. Mark., vol. 49, no. 4, pp. 41-50, 1985.

[4] V. A. Zeithaml, A. Parasuraman, and L. L. Berry, Delivering Quality Service: Balancing Customer Perceptions and Expectations. New York: Free Press, 1990.

[5] F. Tjiptono and G. Chandra, Service, Quality & Satisfaction, 3rd ed. Yogyakarta: Andi, 2011.
[6] F. Tjiptono, Service Management: Mewujudkan Layanan Prima. Yogyakarta: Andi, 2012.
[7] P. Kotler and K. L. Keller, Marketing Management, 14th ed. Upper Saddle River, NJ: Pearson Prentice Hall, 2012.
[8] Sugiyono, Metode Penelitian Kualitatif. Bandung: CV Alfabeta, 2020.
[9] J. Supranto, Pengukuran Tingkat Kepuasan Pelanggan. Jakarta: Rineka Cipta, 2006.
[10] A. G. Muninjaya, Manajemen Mutu Pelayanan Kesehatan, 2nd ed. Jakarta: EGC, 2015.
[11] Nursalam, Manajemen Keperawatan: Aplikasi dalam Praktek Keperawatan Profesional. Jakarta: Salemba Medika, 2002.
[12] J. L. B. Sagala, "Pengembangan sistem penilaian kualitas pelayanan dengan metode IPA," J. Tek. Inform., vol. 1, pp. 1-10, 2014.
[13] U. Eman, "Analisis kepuasan pasien rawat inap pada RS Delima Asih Medika Karawang," J. Ekon. Manaj., vol. 5, pp. 1-12, 2013.
[14] Government of Indonesia, Law No. 44 of 2009 on Hospitals. Jakarta, 2009.
[15] Ministry of Health Republic of Indonesia, Ministerial Regulation No. 13 of 2015 on Environmental Health at Primary Health Centers. Jakarta, 2015.