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Identify Key Drivers of Patient Dissatisfaction: Applying Importance-Performance Mapping Analysis (IPMA)

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A B S T R A C T

This study aims to identify the key factors contributing to patient dissatisfaction in six general hospitals operated by security institutions in East Java using the Importance–Performance Mapping Analysis (IPMA). Patient dissatisfaction generally arises from three categories of issues—clinical, management, and relational problems that influence patients' experiences during hospitalization. Using a purposive sampling method, data were collected from 130 inpatients who had previously submitted complaints. The analysis indicates that clinical issues, particularly indicators related to the adequacy of pain management and the appropriateness of hospital meals (CPQY4 and CPQY5), fall within the high-importance and low-performance quadrant, making them the primary priorities for service improvement. Meanwhile, several indicators within the management and relational problem categories, such as RPCN2 and MPET4, demonstrate high performance but have a low impact on dissatisfaction, suggesting that these aspects are functioning well but are not the principal determinants of patient dissatisfaction. The implementation of this study includes recommendations to enhance clinical competence through integrated training programs, regular medical audits, and the refinement of complaint-handling procedures to ensure a more proactive and responsive approach. Additionally, strengthening interpersonal communication, improving inter-unit coordination, and conducting routine evaluations using IPMA are proposed to help hospitals more accurately target improvement priorities and support the development of patient-centered healthcare services.

KATA KUNCI

Ketidakpuasan Pasien, Masalah Klinis, Masalah Manajemen, Masalah Relasional, IPMA.

A B S T R A K

Penelitian ini bertujuan mengidentifikasi faktor utama penyebab ketidakpuasan pasien pada enam rumah sakit umum milik institusi keamanan di Jawa Timur dengan menggunakan *Importance–Performance Mapping Analysis* (IPMA). Ketidakpuasan pasien umumnya bersumber dari tiga kelompok masalah klinis, manajemen, dan masalah relasional yang memengaruhi pengalaman pasien selama dirawat. Dengan metode *purposive sampling*, data diperoleh dari 130 pasien rawat inap yang pernah menyampaikan komplain. Hasil analisis menunjukkan bahwa masalah klinis, khususnya indikator terkait kecukupan penanganan nyeri dan kesesuaian makanan (CPQY4 dan CPQY5), berada pada kuadran *high-importance* dan *low-performance*, sehingga menjadi prioritas utama perbaikan layanan. Sementara itu, beberapa indikator dalam kelompok masalah manajemen dan masalah relasional, seperti RPCN2 dan MPET4, menunjukkan performa tinggi namun memiliki pengaruh rendah terhadap ketidakpuasan. Artinya aspek tersebut telah berjalan baik namun bukan penentu utama ketidakpuasan pasien. Implementasi penelitian ini meliputi rekomendasi peningkatan kompetensi klinis melalui pelatihan terpadu, audit medik berkala, serta penyempurnaan alur penanganan keluhan agar lebih proaktif dan responsif. Selain itu, penguatan komunikasi interpersonal, peningkatan koordinasi antar-unit, dan evaluasi rutin berbasis IPMA diusulkan untuk membantu rumah sakit mengarahkan prioritas perbaikan secara lebih tepat dan mendukung terciptanya pelayanan kesehatan yang berpusat pada pasien.

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1. Introduction

The World Health Organization (WHO) in 2021 reported patient satisfaction data from hospitals across 25 countries, based on more than six million patient inputs regarding healthcare services. The highest levels of patient satisfaction were recorded in Sweden with an index of 92.37%, followed by Finland (91.92%), Norway (90.75%), the United States (89.33%), and Denmark (89.29%). In contrast, the lowest levels were observed in Kenya (40.4%) and India (34.4%). This comparative data indicates that Indonesia remains in a suboptimal position, highlighting the need for further development and improvement in the quality of its healthcare services [1]. With a patient satisfaction index reaching only around 72.10%, Indonesia faces

substantial challenges in improving the quality of hospital services.

In the practice of patient-centered healthcare, numerous obstacles are frequently encountered, both in terms of facility readiness and the adequacy of human resources [2]. There are also various issues that arise depending on the functional service units, particularly in inpatient wards where patients interact with multiple parties, including ward nurses, laboratory personnel, admission officers, ward physicians, attending physicians, and consulting specialists [3]. Likewise, the diverse working environments within hospitals can influence efforts to enhance Patient Centricity and may even trigger complaints from patients who hold specific expectations [4]. Therefore, research involving inpatient respondents is expected to provide more comprehensive insights for improving healthcare services, including the management of patient complaints.

Complaints from inpatients related to patient dissatisfaction are highly likely to occur, particularly in public hospitals or institutions associated with public services, which naturally differ from private hospitals [5]. Previous studies have shown that the high number of complaints may be attributed to various factors, including limited facilities, disparities in access between urban and rural areas, and insufficient attention to humanistic aspects of healthcare delivery [6], [7]. Earlier research has also highlighted the importance of comprehensive, equitable healthcare system reforms that prioritize the patient experience, including dissatisfaction as a key indicator of healthcare quality [3], [8].

The practice of patient-centered care in Indonesian public hospitals, particularly in relation to patient satisfaction and dissatisfaction, is a highly relevant topic for investigation [5]. This topic is essential given the substantial number of public general hospitals operated by government institutions, which serve as key tertiary referral facilities. In addition to vertical hospitals managed by the Ministry of Health that function as major referral centers, there are even more regional public hospitals (RSUD) administered by provincial governments, as well as general hospitals operated by specific institutions. This context similarly applies to healthcare facilities in East Java Province.

There are currently several general hospitals in East Java that are relevant for examination in the context of improving service quality. This is because East Java possesses significant socio-economic, cultural, and geographical diversity ranging from urban, coastal, rural, to mountainous areas making it a representative region for comprehensively studying service conditions and patterns of patient complaints. General hospitals operated by security institutions in East Java, which typically have lower patient volumes compared to provincial public hospitals (RSUD), offer an ideal setting for more focused and in-depth exploration of service quality aspects. With a workload that is not as demanding as larger hospitals, factors such as communication, staff empathy, complaint handling, and patient feedback mechanisms can be analyzed with greater detail. This situation allows for an assessment of whether the relatively low number of complaints is attributable to actual service quality or other contributing factors. Based on these considerations, this study is focused on six general hospitals operated by security institutions that also serve the general public, including BPJS patients.

The phenomenon examined in this study was specifically derived from interviews with three directors of general hospitals operated by security institutions that also provide services to the general public. These face-to-face interviews were conducted in February 2025 at a type C general hospital in East Java. The interview findings revealed that patient complaint handling plays a crucial role in improving service quality and patient satisfaction. Although patient satisfaction surveys have routinely been conducted as part of hospital procedures, and a complaint-handling pathway already exists, its implementation has not yet been optimal. The interviews indicated that patient complaints continue to occur and are generally managed in accordance with established procedures; however, the process remains reactive and has not been fully integrated as part of the hospital's reputation risk mitigation strategy. The directors also noted that dissatisfied patients are often reluctant to formally report their complaints. Moreover, the current complaint-handling practices have not fully addressed the root causes that trigger dissatisfaction. Therefore, a strengthened and more systematic complaint-handling mechanism is needed to effectively and proactively address patient dissatisfaction.

The phenomenon observed in hospitals in East Java can be explained by the fact that general hospitals already have standard procedures for measuring patient satisfaction, typically through questionnaires completed by patients. This practice is mandatory because patient satisfaction serves as a key indicator of hospital quality and is a requirement for hospital accreditation. According to the 2008 Regulation of the Indonesian Ministry of Health on Minimum Service Standards, the expected patient satisfaction rate is greater than 90%. If a healthcare facility reports a satisfaction level below 90%, the services provided are considered to fall short of the minimum quality standards. Data from the Indonesian Ministry of Health show that the average patient satisfaction rate in public hospitals is 75.4%, lower than in private hospitals, which reach 82.7% [9]. This condition reinforces the assumption that patient complaints and dissatisfaction remain relatively high in general hospitals, including those located in East Java.

Given these various issues, a research approach is needed that not only describes the level of patient satisfaction but also identifies, in a more specific manner, the key drivers of patient dissatisfaction. In the context of hospital services, patient complaints generally arise from three major categories of problems: clinical problems, management problems, and relation problems. Clinical problems relate to the quality of medical interventions, diagnostic accuracy, delays in treatment, and the clinical competence of healthcare professionals, all of which directly affect patient safety and overall care experience. Management problems involve operational aspects of the hospital, such as long waiting times, inter-unit coordination, facility availability, administrative policies, and the effectiveness of complaint-handling mechanisms, which often become sources of dissatisfaction. Meanwhile, relation problems concern the quality of interactions between healthcare providers and patients, including empathy, communication, attitudes, and the ability to convey information clearly factors that strongly influence patients' perceptions of service quality. These three categories must be analyzed simultaneously to fully understand their relative contributions to patient dissatisfaction.

In an effort to provide a more accurate and evidence-based understanding of priority areas for improvement, the Importance–Performance Mapping Analysis (IPMA) serves as an appropriate methodological approach [10], [11]. IPMA not only evaluates the relationships among variables but also maps the levels of importance and performance of each factor influencing patient dissatisfaction [12]. Through this mapping, hospitals can identify which variables within the categories of clinical, management, and relation problems exert a substantial impact yet demonstrate low performance, thereby highlighting critical areas that require strategic improvement. Accordingly, this study aims to identify the key drivers that most significantly contribute to patient dissatisfaction by applying IPMA to six general hospitals operated by security institutions in East Java, with the goal of providing targeted service improvement recommendations that enhance patient centricity.

2. Research Method

This study employs a survey research design conducted across six Type-C general hospitals in East Java. Sampling from the population was carried out using a purposive sampling technique, in which respondents were selected based on predetermined criteria [13]. hese criteria required that respondents be currently in good health, have been inpatients at the hospital within the past six months specifically between August 2024 and March 2025 and have submitted at least one complaint during their inpatient care. Determination of the minimum required sample size was assisted using the G*Power® 3.1 software [14]. The following presents the sample size calculation used in this study can be seen on Figure 1.

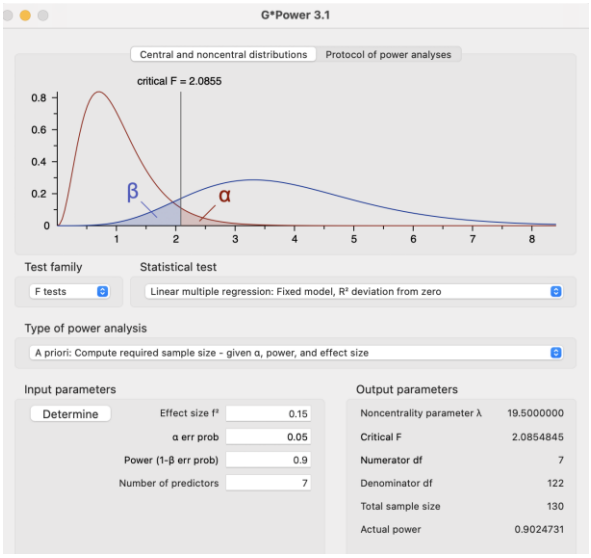

Figure 1. Power Analysis for Minimum Sample Size

In this calculation, several parameters were predetermined, including a medium effect size (f^2 = 0.15), a statistical power level of 90%, an alpha value of 0.05, and a total of seven predictors (including the moderating variable). The results of the power analysis using G*Power® 3.1 are shown in the figure below. Based on this calculation, the minimum required sample size for the study is 130 respondents.

Data analysis was conducted using Importance–Performance Map Analysis (IPMA), which provides enhanced managerial implications. Furthermore, the software includes additional features such as PLS-POS (prediction-oriented segmentation) to analyze data heterogeneity and to optimize predictive capability [15]. The IPMA approach integrates descriptive analysis using the mean values of respondents' answer scales with inferential analysis through the use of total effects, which serve as indicators of importance from the respondents' perspective.

3. Result and Discussion

In this study, the Importance–Performance Map Analysis (IPMA) was applied with Patient Dissatisfaction as the target construct to be analyzed. This approach was chosen to map the indicators of the three independent variables and to identify which factors are perceived by respondents as the primary sources of problems contributing to dissatisfaction in public hospital settings. The second rationale relates to the procedural requirements of IPMA, which do not allow the inclusion of negative directional effects in the calculation, whereas the overall structural model in this study contains several hypotheses with negative relationships. The results of the IPMA for the indicators of the independent variables are presented in Table 1.

Table 1. Average IPMA Indicator Values

Variable	Code	Indicator	Patient Dissatisfaction (Importance)	Performance
Clinical Problem	CPQY1	I feel that my healthcare during hospitalization was not well planned.	0,079	84,877
	CPQY2	My health condition as a patient was not adequately monitored during my stay in the hospital.	0,085	58,848
	CPQY3	Based on my own experience, I was unable to sleep comfortably during my hospitalization.	0,087	58,642
	CPQY4	In my view, the pain medication provided was insufficient to relieve my discomfort.	0,089	59,259
	CPQY5	The meals provided by the hospital did not meet my needs during my stay.	0,088	60,288
	CPQY6	The doctor appeared to be slow in establishing a diagnosis of my illness during my hospitalization.	0,078	61,317
Management Problem	MPET1	The condition of my inpatient room in this hospital was not sufficiently clean.	0,031	58,848
	MPET2	In my opinion, the bed sheets in my inpatient room were dirty.	0,042	54,527
	MPET3	The atmosphere in the inpatient room was not quiet enough for adequate rest.	0,046	60,700
	MPET4	I believe that the nurse shift handovers were not well coordinated.	0,047	60,288
	MPET5	I experienced a long waiting time from arrival until being assigned an inpatient room in this hospital.	0,039	62,757
	MPET6	The admission process upon entering the hospital took a long time.	0,049	61,317
Relation Problem	RPCN1	There were nurses who appeared indifferent when seeing me in pain.	0,031	54,321
	RPCN2	The nurses did not adequately understand my emotional condition during my hospitalization.	0,030	66,975
	RPCN3	The doctor did not seem willing to listen carefully to what I had to say.	0,044	31,790
	RPCN4	Before I was discharged, I was not given adequate explanations regarding my medications and follow-up schedule.	0,033	68,519
Average			0,056	60,204

Based on the average IPMA values presented in Table 1, the overall mean score for importance related to Patient Dissatisfaction is 0.056, reflecting the total effects of all indicators contributing to patient dissatisfaction. Meanwhile, the overall mean score for performance reaches 60.204, which represents descriptive data indicating how well these indicators function in practice from the respondents' perspective. The comparison between the mean importance and mean performance values shows that although the indicators have relatively low levels of importance, their performance remains at a reasonably adequate level. However, the gap between the lower importance value and the higher performance value suggests that there is potential to enhance the performance of indicators considered important, particularly within the context of Clinical Problems, in order to further reduce patient dissatisfaction and improve the overall patient experience in healthcare services.

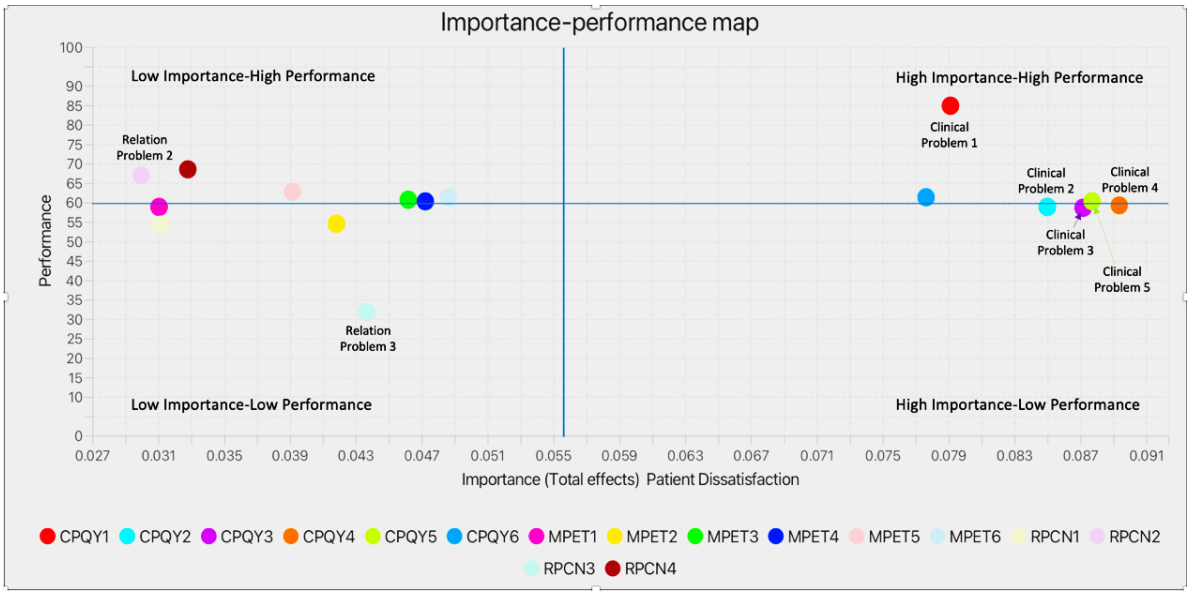

Figure 2. IPMA Indicator

The results of the Importance–Performance Map Analysis (IPMA) at the indicator level for the Patient Dissatisfaction variable show that Clinical Problem 4 (CPQY4) and Clinical Problem 5 (CPQY5) fall within the lower-right quadrant, indicating high importance but low performance. These indicators therefore represent the primary areas requiring improvement. This finding is consistent with certain research foundational theory on patient dissatisfaction, which posits that the quality of healthcare services is shaped by three key components: structure, process, and outcome [16], [17], [18]. In this context, CPQY4 and CPQY5 form part of the process of care, meaning that deficiencies in clinical processes have a direct and significant impact on patient dissatisfaction.

Some research through the SERVQUAL model also emphasizes that service inaccuracy, clinical errors, and unmet patient expectations are closely associated with reliability and responsiveness, the two dimensions that most strongly shape negative patient perceptions of healthcare institutions [19], [20]. The IPMA findings in this study reinforce these conclusions, indicating that failures in clinical aspects constitute the primary drivers of patient dissatisfaction. Consistent with this, there is research found that indicators related to procedural errors, delays in clinical management, and inaccuracies in establishing diagnoses contribute most significantly to patient dissatisfaction in regional hospitals in Indonesia [21], [22].

Meanwhile, indicators located in the upper-left quadrant such as Relation Problem 2 (RPCN2) and MPET4 exhibit high performance but relatively low influence on patient dissatisfaction. This condition indicates that the hospital has performed well in certain aspects of patient interaction, yet these factors do not serve as the primary determinants of dissatisfaction. This finding aligns with previous studies, which explain that while the quality of interpersonal interactions between patients and healthcare providers contributes to patient satisfaction, it does not always constitute a dominant factor in dissatisfaction, particularly in general hospitals that manage more complex clinical cases [23], [24], [25]. Technical and professional aspects (clinical quality) remain the most decisive determinants. Theoretically, in line with the Expectation–Disconfirmation Theory, patients tend to express greater dissatisfaction when discrepancies occur in technical or clinical aspects, as these are perceived to be more critical to their safety and health. Conversely, patients generally exhibit higher tolerance for shortcomings in interpersonal interactions [26].

Conversely, indicators in the lower-left quadrant—such as Relation Problem 3 (RPCN3) exhibit both low performance and low influence. This indicator does not contribute significantly to patient dissatisfaction, and its performance remains suboptimal. Nevertheless, due to its low level of importance, it has not become a priority in resource allocation for service quality improvement. However, this finding still offers valuable insights, as healthcare delivery involves substantial human interaction, particularly between patients, nurses, and physicians. Numerous studies have shown that patient communication and education in hospitals largely depend on human factors. The relational dynamics between patients and healthcare staff should therefore be viewed as an opportunity to provide empathetic, respectful, and responsive care. Hospital management in East Java should consider systematic efforts to enhance service quality by improving the quality of interpersonal interactions.

Previous studies found that issues related to communication, empathy, and patient engagement do not always directly influence dissatisfaction, but they play a crucial role in the success of healthcare service recovery and contribute significantly to long-term patient centricity [27]. The Patient-Centered Care framework from the Institute of Medicine also emphasizes that the quality of human interaction serves as a fundamental foundation for building enduring trust and sustained patient satisfaction [28], [29].

4. Conclusion

This study demonstrates that patient dissatisfaction in six general hospitals operated by security institutions in East Java is primarily driven by clinical aspects, particularly indicators CPQY4 and CPQY5, which fall within the high-importance and low-performance quadrant of the IPMA analysis, thus becoming the top priority for improvement. These findings reinforce Donabedian's theory that the process of care is a key determinant of service quality and further support the Expectation–Disconfirmation Theory, which posits that dissatisfaction emerges when the performance of clinical services fails to meet patient expectations. Meanwhile, managerial and interpersonal relationship aspects exhibit relatively strong performance but low influence on dissatisfaction, suggesting that although they are not the primary determinants, both aspects remain essential in supporting a patient-centered care approach. Theoretically, this study contributes methodologically by demonstrating the usefulness of IPMA as an effective and applicable tool for identifying priority areas for healthcare service improvement. Practically, the study recommends strengthening clinical processes through competency enhancement, regular medical audits, improved complaint-handling mechanisms, and optimized inter-unit coordination to reduce procedure-related complaints and service delays.

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