

## STRATEGY FOR INCREASING CONSUMER SATISFACTION OF HOSPITAL SERVICES USING IMPORTANCE-PERFORMANCE ANALYSIS (IPA) APPROACH

Sri Pangesti Budi Utami<sup>\*1</sup>, M. Syamsul Maarif<sup>\*\*</sup>, Megawati Simanjuntak<sup>\*\*</sup>

<sup>\*</sup>School of Business, IPB University  
Jl. Pajajaran Bogor 16151, Indonesia

<sup>\*\*</sup>Department of Family and Consumer Sciences, Faculty of Human Ecology, IPB University  
Jl. Lingkar Akademik, IPB Dramaga Campus, Bogor 16680 Indonesia

### Article history:

Received  
24 January 2022

Revised  
18 March 2022

Accepted  
28 May 2022

Available online  
31 May 2022

This is an open access  
article under the CC BY  
license



**Abstract:** The Covid 19 Pandemic further sharpened hospital competition that required the improvement of customers satisfaction. The purpose of this study was to analyze the level of satisfaction, the difference in service satisfaction between BPJS and Non-BPJS patients, and to formulate a strategy to improve patient satisfaction. The research used quantitative descriptive using an online survey and Focus Group Discussion (FGD). The number of respondents was 764, including 248 BPJS and 516 Non-BPJS respondents. The variables used in this study consist of reliability, responsiveness, assurance, empathy, and physical evidence. Data analysis used Customer Satisfaction Index (CSI), independent t-test, and Importance-Performance Analysis (IPA). The Customer Satisfaction Index (CSI) is 80.39% (BPJS 80.35% and Non-BPJS 80.40%), meaning patient satisfaction toward UMMI Bogor Hospital belongs to satisfy. There was no significant difference in the level of satisfaction of Non-BPJS patients and BPJS patients. The attributes that belonged to the main priority in repairs is the waiting time of polyclinic services, the timely presence of doctors in polyclinics, the friendliness and decency of pharmacy officers, the comfort of the waiting room, the cleanliness of the waiting room, and the neatness of building facilities, the safety of the hospital environment, the availability of medical devices, and the ease of complaining.

**Keywords:** customer satisfaction index, importance-performance analysis, non-BPJS, satisfaction, social security organizing agency (BPJS)

**Abstrak:** Pandemi Covid 19 semakin mempertajam persaingan rumah sakit yang membutuhkan peningkatan kepuasan pelanggan. Tujuan dari penelitian ini adalah untuk menganalisis tingkat kepuasan, perbedaan kepuasan layanan antara pasien BPJS dan Non-BPJS, dan untuk merumuskan strategi untuk meningkatkan kepuasan pasien. Penelitian ini menggunakan deskriptif kuantitatif menggunakan survei online dan Focus Group Discussion (FGD). Jumlah responden adalah 764 yakni 248 BPJS dan 516 responden Non-BPJS. Variabel yang digunakan dalam penelitian ini terdiri dari keandalan, responsif, jaminan, empati dan bukti fisik. Analisis data menggunakan Customer Satisfaction Index (CSI), independent t-test, dan Importance-Performance Analysis (IPA). Nilai Indeks Kepuasan Pelanggan (CSI) sebesar 80.39% (BPJS 80.35% dan Non-BPJS 80.40%), artinya kepuasan pasien terhadap RS UMMI Bogor termasuk dalam kategori puas. Selain itu, tidak ada perbedaan yang signifikan dalam tingkat kepuasan pasien Non-BPJS dan pasien BPJS. Atribut yang menjadi High priority dalam perbaikan adalah waktu tunggu layanan poliklinik, kehadiran dokter yang tepat waktu di poliklinik, keramahan dan kesopanan petugas farmasi, kenyamanan ruang tunggu, kebersihan ruang tunggu, dan kerapian fasilitas bangunan, keamanan lingkungan rumah sakit, ketersediaan lengkap alat kesehatan, dan kemudahan menyampaikan keluhan.

**Kata kunci:** badan penyelenggara jaminan sosial (BPJS), Indeks kepuasan pelanggan, importance-performance analysis, kepuasan, non-BPJS

<sup>1</sup> Corresponding author:  
Email: [pangesti.budiutami@gmail.com](mailto:pangesti.budiutami@gmail.com)

## INTRODUCTION

The era of the Covid-19 pandemic has further sharpened existing competition among businesses. Hospitals must create services that customers can accept, which requires a large amount of capital. Service innovation must be carried out to meet the community's needs, and patients and switches do not abandon the hospital to other hospitals. Patients today consider healing when they come to the hospital, but hospital services as supporters of the medication process are very concerned. Hospitals that are not qualified to provide services will be left behind in business competition (Sari et al. 2019).

In order to maintain the existence of business, the hospitals must have the right strategy to retain their customers and bring in new customers to provide health services. In order to address this issue, the patients need to feel satisfied with the health services provided by the hospital so that they will revisit the health services. Zeithaml and Bitner (2000) stated that satisfaction assesses the product's features or service itself, providing a level of customer pleasure related to meeting customer consumption needs. Consumer satisfaction is consumer feelings after comparing what they receive and their expectations (Pohan 2013).

Government policies related to *Social Security Organizing Agency* (BPJS) participation also impact companies. The general patient market is also a potential for hospitals to increase their income. Sofian et al. (2020) found a significant difference in the level of satisfaction of BPJS patients with Non-BPJS. However, satisfaction analysis using IPA as an analytical tool for BPJS and Non-BPJS patients at the same time is still rarely used. Therefore, the research is often found in the study of BPJS patient satisfaction. This research is essential so that it can be seen whether the services provided so far have caused differences in satisfaction in the two groups. If there are differences, then a strategy for increasing satisfaction can be formulated to provide the same satisfaction.

Customer satisfaction is known to have a very close relationship with service quality (Riyanto 2018). Good service quality will create a feeling of comfort for

customers to become loyal. Tjiptono (2009) mentioned that good service quality directly affects customer loyalty. Customer loyalty will improve the hospital's image so that the hospital can survive during existing competition. The quality of hospital services is the key to whether the hospital can survive with changes in the existing environment.

Marnovita (2020) stated that if the service received or felt is as expected, then the quality of the service is perceived as good and satisfactory. Parasuraman et al. (2008) stated five service quality dimensions: physical evidence, reliability, responsiveness, assurance, and empathy. When applied in the business environment, these five dimensions will increase customer trust and loyalty.

Several studies on performance analysis using the IPA method have been carried out, including multi-attribute analysis in the tourism industry (Deng & Pierskalla 2018), service and quality at hotels (Blešić et al. 2014), and food service at a restaurant (Obonyo et al. 2012), e-commerce (Fikri and Simanjuntak, 2020) and modern retail (Nur et al. 2020).

Several previous researchers had carried out several studies using Importance Performance Analysis (IPA), including analysis of the quality of hospital services (Natassia, 2020), customer satisfaction with workshops (Purnomo, 2015), regional general hospital services (Dewi, 2016), and level of satisfaction of users towards mall car parking (Dewi and Setyarini, 2020). Based on this, formulating a marketing strategy using the IPA method to increase customer satisfaction in the hospital industry is expected to develop a new marketing strategy for future management.

This study aims to identify the attributes that need improvement in the health care industry related to customer satisfaction using Importance Performance Analysis (IPA) techniques. IPA is used to measure the relationship between consumer perceptions and priorities for improving product/service quality (Martilla & James, 1977). The type of health service that focuses on the research is the hospital, focusing on five service quality dimensions: physical evidence, reliability, responsiveness, assurance, and empathy.

UMMI Bogor Hospital is a Type C Hospital with a current capacity of 199 beds. The beginning of establishing the UMMI Hospital in Bogor, May 18, 2013, was a mother and child hospital with Type B. Along with the introduction of BPJS in January 2017, UMMI Hospital turned into a general hospital with Type C. This brought very high consequences and challenges where changes in the housing segment Patients who have initially been a segment of Non-BPJS patients turned into BPJS patients. When viewed from the graph of patient visits before and after collaborating with BPJS, patient visits at the UMMI Bogor Hospital showed positive developments. The number of Non-BPJS patients also tends to increase yearly, although the increase is not as sharp as BPJS patients. The number of visits is increasing from time to time. This reflects that there is still potential and opportunities that can be taken by hospital management to increase the existing market. Analysis of patient satisfaction with hospital services is needed to increase the number of patient visits, both inpatient and outpatient.

Based on the problems described above, the research questions are how the level of patient satisfaction with the services of RS UMMI Bogor, the difference between BPJS and Non-BPJS patients, and what strategies can be done to increase patient satisfaction at UMMI Bogor Hospital. The purpose of this study was to analyze the level of patient satisfaction with the services of the UMMI Hospital in Bogor, to analyze the differences in service satisfaction between BPJS and Non-BPJS patients, and to formulate strategies to increase patient satisfaction at the UMMI Hospital in Bogor. The benefits of this research for hospital management are expected to help management formulate strategies for inpatient and outpatient services to satisfy the patients.

## METHODS

The study was conducted from August to October 2021 on patients at the Bogor UMMI Hospital. The research approach used descriptive quantitative using online survey techniques. In addition, qualitative research with Focus Group Discussion (FGD) was also conducted with the management of UMMI Hospital Bogor.

The research used convenience sampling, with the respondent criteria belonging to BPJS and Non-BPJS patients, both outpatient and inpatient, for 5

(five) months, namely December 2020 to April 2021. According to Sekaran (2006), convenience sampling collects information from members of the population who agree to participate. The number of respondents who filled out the questionnaire was 764 (248 BPJS and 516 Non-BPJS).

Research variables were measured using a four-level Likert scale. The Likert scale for this study allows for sorting data from the lowest level to the highest level (Gardenia, 2018) with details (1) very dissatisfied, (2) dissatisfied, (3) satisfied, and (4) very satisfied. The variables used in this study consisted of reliability, responsiveness, assurance, empathy, and physical evidence (tangible). Reliability is an assessment of patient satisfaction with the hospital's ability to provide services as promised accurately and reliably with 14 indicators. Responsiveness assesses patient satisfaction with fast (responsive) and precise customer service, with clear information delivery with six indicators. Assurance is an assessment of patient satisfaction with politeness and the ability of hospital employees to foster customer trust in the company with three indicators. Empathy assesses customer satisfaction with attention, sincerity, and individual or personal nature by understanding customer desires with nine indicators. Finally, physical evidence assesses patient satisfaction with the hospital's ability to show its existence to external parties with 13 indicators (Parasuraman et al. 2008).

To answer objective 1, descriptive analysis and Customer Satisfaction Index were used, objective two used Independent t-test, objective three used Structural Equation Modeling (SEM) and Importance Performance Analysis and descriptive narrative. The Customer Satisfaction index (CSI) is used to measure customer satisfaction. Importance Performance Analysis (IPA) is used to measure a person's level of satisfaction with another party's performance by comparing the level of expectations with the performance of other parties. The third objective, which is to formulate the strategy to increase satisfaction, resulted from the Focus Group Discussion and Importance Performance Analysis (IPA). The formula to calculate the Customer Satisfaction index (CSI):

$$CSI = (\text{Sum Score (Pxi)} / (\text{Scale} \times \text{Sum score of importance})) \times 100\%$$

## RESULTS

### Customer Satisfaction Index (CSI)

The Customer Satisfaction Index (CSI) is an index to determine the overall level of customer satisfaction with an approach that considers the importance of the service attributes being measured. Customer Satisfaction Index (CSI) is the quantitative analysis of satisfied customers in a customer satisfaction survey. The maximum CSI value is 100 percent. A CSI value of 80 percent or higher indicates that users are satisfied with service performance.

Based on each indicator, the score from the multiplication of performance and interest shows that the indicators with the highest scores are the cleanliness of the waiting room and the tidiness of building facilities with a score of 2.70, and the completeness of the availability of medical equipment with a score of 2.71. On the other hand, the indicators with the lowest score with a score below 2 are the friendliness and courtesy of polyclinic doctors (1.82), the response of officers to complaints submitted (1.84), the completeness of drugs available at the hospital pharmacy (1.96), and the ability and skills of doctors to serve (1.97). Therefore, the results of the CSI analysis show that the value of CSI is 80.39%, meaning that patient satisfaction with the hospital is included in the satisfied category, according to Sukardi and Cholidis (2006). On the other hand, the CSI of BPJS was 80,35% and Non-BPJS was 80.40%, including the satisfy category.

### The Difference of Satisfaction based on Payment Guarantees

Different test analysis was conducted to see differences in satisfaction based on the guarantor of payment when seeking treatment using an independent t-test. There are five variables analyzed by different tests: reliability, responsiveness, assurance, empathy, and tangibles. All variables showed no difference between the satisfaction of BPJS patients and Non-BPJS patients (Table 1).

The results show that the reliability variable has a p-value of 0.780, the responsiveness variable has a p-value of 0.788, the assurance variable has a p-value of 0.170, the empathy variable has a p-value of 0.837, and the physical evidence (tangibles) has a p-value of 0.173. This shows that the five variables are not significantly different because they have a p-value of 0.05.

The average value of the reliability (KE) in Non-BPJS patients is known to be 3.24, while the average value for Non-BPJS patients is 3.25. This indicates that the reliability for BPJS and Non-BPJS patient respondents tend to be the same. In the responsiveness, the average value of the responsiveness (DT) in Non-BPJS patients is known to be 3.22, while the average value for Non-BPJS patients is 3.21. Furthermore, on the assurance (JA), the mean value of the assurance (JA) in Non-BPJS patients is known to be 2.95, while the average value for Non-BPJS patients is 3.02. In the empathy (EM), the mean of the empathy (EM) in Non-BPJS patients is 3.27, while the average for Non-BPJS patients is 3.28. Similar to the others, on the physical evidence, the average for BPJS patients is 3.19, while for Non-BPJS patients, it is 3.14.

Table 1. The results of the analysis of different tests for BPJS and Non-BPJS patients

Code	Variable	Non-BPJS		BPJS		Total		P-Value	Conclusion
		Mean	SD	Mean	SD	Mean	SD		
KE	Reliability	3.24	0.42	3.25	0.43	3.25	0.43	0.780	Insignificant
DT	Responsiveness	3.22	0.44	3.21	0.46	3.22	0.45	0.788	Insignificant
JA	Assurance	2.95	0.67	3.02	0.62	2.97	0.66	0.170	Insignificant
EM	Empathy	3.27	0.43	3.28	0.43	3.28	0.43	0.837	Insignificant
BF	Tangibles)	3.19	0.48	3.14	0.59	3.18	0.52	0.173	Insignificant

Note: \*) Significant at  $p < 0.05$



This is different from previous research conducted by Rahmaniah (2019), which showed differences in the satisfaction of BPJS and Non-BPJS patients. BPJS patients tend to have a higher level of satisfaction than Non-BPJS patients, which means that Non-BPJS patients have higher expectations regarding the services they receive than BPJS patients. In his research, Sofian et al. (2020) also showed a significant difference between the satisfaction level of BPJS patients and Non-BPJS patients, with the result that the satisfaction level of BPJS patients was better than that of Non-BPJS patients with a mean difference of 3.83 between the two.

Based on data from all these variables, there is no difference in satisfaction between BPJS and Non-BPJS patients, which means BPJS and Non-BPJS patients are served equally well. Therefore, the absence of differences between BPJS and Non-BPJS for all variables makes the satisfaction analysis, and IPA did not differentiate based on the guarantor.

### **Importance Performance Analysis (IPA)**

SEM was used to determine the level of importance of each research variable indicator. First, the factor loading value of each indicator is used as the importance value of each indicator in the calculation of Importance-Importance Analysis. Later the value of importance level will be used in the IPA and CSI analysis. All factor loading values are valid because the value is more than 0.5. Similarly, the t-value shows that all indicators are significant (t-value is more than 1.96).

The IPA matrix is one of the analytical tools in this study. This method measures the level of service satisfaction. Gap analysis identifies performance gaps, usually measured by subtracting performance from importance (Shaw, 2002; O'Neill, 2001). Therefore, it is necessary to map into four quadrants for all variables that affect service quality to use IPA analysis. By using this method, it can be seen the level of service satisfaction that enters the quadrants on the IPA map. This is necessary to determine how much customers can feel satisfied with a company's performance and how much the service provider can understand what customers want for the services provided. Table 2 shows the average performance scores and importance for each indicator. Furthermore, the position of each indicator in the IPA quadrant and its follow-up.

Hospital development strategies are prepared using an importance-performance analysis (IPA) chart on priority improvement indicators. In the graph, management can determine the most critical indicators that need improvement by measuring customer perceptions of service indicators. For example, figure 1 shows a performance analysis based on hospital patient satisfaction. Management can determine the most important attributes that need improvement by measuring customer satisfaction with service attributes (Wong et al. 2011). The IPA method analyzes performance on an attribute and its importance as a determining factor in customer satisfaction (Silva and Fernandes, 2011).

The average score of satisfaction on each indicator is the basis for determining the level of good or bad hospital performance. This is done by comparing the value of customer satisfaction in a particular indicator to the average value of customer satisfaction for all indicators. In this case, the average value of customer satisfaction for all indicators is 3.22. The average loading factor is the basis for determining the importance of an indicator. This is done by comparing the value of the loading factor of an indicator to the average value of the loading factor of all indicators. The average value of the loading factor for all indicators is 0.73.

The first quadrant is a high priority level, but indicators' perception is low (high priority). This quadrant contains indicators that customers consider necessary but are not following customer expectations. Indicators that fall into the first quadrant are indicators that must be improved. For example, based on Figure 1, eight indicators must be improved, namely waiting time for polyclinic services (JA1), timely attendance of doctors at the polyclinic (JA2), friendliness, and courtesy of pharmacists (EM8), comfortable waiting room (BF2), cleanliness and tidiness waiting room, building facilities (BF3), hospital environmental safety (BF4), complete availability of medical equipment (BF6), and ease of submitting complaints (BF8). To increase satisfaction with the hospital, the management needs to improve these indicators. Based on this description, the first quadrant (high priority) attribute is vital in increasing competitiveness (Ormanoviæ et al. 2017).

Table 2. Results of importance performance analysis

Code	Indicators	Performance (P)	Importance (I)	Quadrant	Action
KE1	Service speed of registration officer	3.36	0.68	Quadrant D	Over
KE2	Accuracy of registration officer	3.29	0.72	Quadrant D	Over
KE3	Emergency room service speed	3.14	0.68	Quadrant C	Low priority
KE4	ER nurses' abilities and skills	3.19	0.71	Quadrant C	Low priority
KE5	Doctor's abilities and skills	3.39	0.58	Quadrant D	Over
KE6	The ability and skills of polyclinic nurses	3.31	0.67	Quadrant D	Over
KE7	Laboratory service speed	3.25	0.73	Quadrant D	Over
KE8	The ability and skills of laboratory personnel in serving	3.25	0.8	Quadrant B	Maintain
KE9	Radiology staff service speed	3.24	0.74	Quadrant B	Maintain
KE10	Radiology staff	3.24	0.79	Quadrant B	Maintain
KE11	Pharmacy service speed	3.08	0.71	Quadrant C	Low priority
KE12	Speed of officers in serving financial administration (< 15 minutes)	3.26	0.74	Quadrant B	Maintain
KE13	Clarity of cost breakdown	3.27	0.77	Quadrant B	Maintain
KE14	The accuracy of the cashier	3.26	0.77	Quadrant B	Maintain
DT1	Clarity of information from the registration officer	3.33	0.7	Quadrant D	Over
DT2	Clarity of information provided by the emergency room doctor	3.18	0.72	Quadrant C	Low priority
DT3	Clarity of information from laboratory personnel	3.24	0.8	Quadrant B	Maintain
DT4	Clarity of information from radiology officers	3.23	0.79	Quadrant B	Maintain
DT5	Clarity of information from pharmacists	3.18	0.7	Quadrant C	Low priority
DT6	Response of officers to complaints	3.17	0.58	Quadrant C	Low priority
JA1	Waiting time for polyclinic services	3.05	0.81	Quadrant A	High priority
JA2	Timely attendance of doctors at the polyclinic	3.06	0.76	Quadrant A	High priority
JA3	Completeness of drugs available at the hospital pharmacy	2.92	0.67	Quadrant C	Low priority
EM1	Friendliness and courtesy of the registrar	3.41	0.7	Quadrant D	Over
EM2	Hospitality and courtesy of emergency room doctors	3.20	0.66	Quadrant C	Low priority
EM3	Hospitality and courtesy of emergency room nurses	3.18	0.68	Quadrant C	Low priority
EM4	Hospitality and courtesy of polyclinic doctors	3.37	0.54	Quadrant D	Over
EM5	Hospitality and courtesy of polyclinic nurses	3.29	0.61	Quadrant D	Over
EM6	Friendliness and courtesy of laboratory staff	3.29	0.79	Quadrant B	Maintain
EM7	Hospitality and courtesy of radiology officers	3.27	0.78	Quadrant B	Maintain
EM8	Hospitality and courtesy of pharmacists	3.20	0.75	Quadrant A	High priority
EM9	The friendliness and courtesy of the cashier	3.30	0.77	Quadrant B	Maintain
BF1	Clarity of the signboard	3.14	0.72	Quadrant C	Low priority
BF2	Waiting room comfort	3.11	0.81	Quadrant A	High priority
BF3	Cleanliness of the waiting room and tidiness of the building	3.18	0.85	Quadrant A	High priority
BF4	Hospital environment safety	3.20	0.83	Quadrant A	High priority
BF5	Facilities for patient needs	3.10	0.72	Quadrant C	Low priority
BF6	Completeness of the availability of medical equipment	3.19	0.85	Quadrant A	High priority
BF7	Ease of getting hospital services	3.24	0.83	Quadrant B	Maintain
BF8	Ease of submitting complaints	3.16	0.81	Quadrant A	High priority
OVERALL MEANS		3.22	0.73		

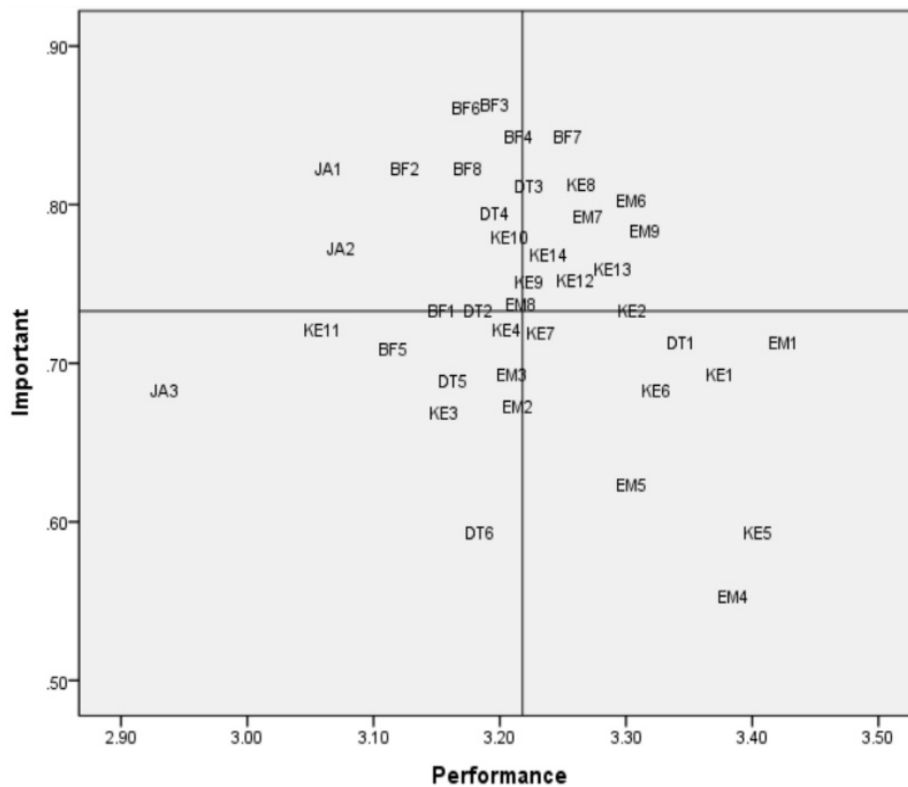


Figure 1. Importance performance analysis

The second quadrant is the high priority level, and the perception of the indicator is high (maintain). This quadrant contains indicators that need to be maintained because they have met customer expectations. Based on Figure 1, there are 12 indicators included in the second quadrant, namely the ability and skills of laboratory staff in serving (KE8), speed of service of radiology officers (KE9), the accuracy of radiology officers (KE10), speed of officers in serving financial administration (< 15 minutes ) (KE12), clarity of cost details (KE13), accuracy of cashiers (KE14), clarity of information provided by laboratory staff (DT3), clarity of information provided by radiology officers (DT4), friendliness and courtesy of laboratory staff (EM6), friendliness and courtesy of radiology officers (EM7), friendliness and courtesy of cashiers (EM9), and ease of getting hospital services (BF7). These indicators are strengths that need to be maintained by hospital management. If these strengths fail to be maintained, these indicators become the main priority to be developed.

The third quadrant is low priority and the perception of low priority indicators. This quadrant is a low priority because it contains indicators considered less important by customers. Based on Figure 1, the indicators included in the third quadrant are 11 indicators, namely the speed of service of emergency room staff (KE3),

the ability and skills of emergency room nurses to serve (KE4), speed of pharmacy services (KE11), clarity of information provided by emergency room doctors (DT2), clarity of information provided by pharmacy officers (DT5), the response of officers to complaints submitted (DT6), completeness of drugs available at hospital pharmacy (JA3), friendliness and courtesy of emergency room doctors (EM2), friendliness and courtesy of emergency room nurses (EM3), clarity of the instructions board (BF1), completeness of the patient's needs (electricity, water, and other facilities) (BF5). If these indicators fail to be maintained, the customer will remain satisfied so that this will not be a threat to hospital management.

The fourth quadrant is the low priority level, and the perception of the indicator is high (over). This quadrant contains excessive-performance indicators so that the allocation of resources should be used to improve improvements in the first quadrant indicators. Based on Figure 1, there are eight indicators of the fourth quadrant, namely the speed of service of the registration officer (KE1), the accuracy of the registration officer (KE2), the ability and skills of doctors in serving (KE5), the ability and skills of polyclinic nurses in serving (KE6), speed laboratory services (KE7), clarity of information provided by registration officers (DT1), friendliness and courtesy of registration officers (EM1), friendliness and

courtesy of polyclinic doctors (EM4) and friendliness and courtesy of polyclinic nurses (EM5). This means that these indicators have met customer expectations in general, so continuous development is not required.

There is a difference between the research results on the placement of attributes in different quadrants and the field's facts. This has also happened in a study conducted by Dewi (2020). Next, the research results by Ratnasari and Puspani (2019) are different from this study, where patient satisfaction at the primary clinic shows tangible variables that are assessed. The highest score is the doctor's examination room, while the one that gets the lowest rating is the number of seats lacking. In the reliability variable, the highest score is for officers who tell the patient how to treat the patient, and the lowest is for explaining the patient's illness. In the assurance variable, the highest value is health workers' motivation to provide confidence to recover, while the lowest attribute value is the atmosphere created between the officer and the patient. Finally, in the empathy variable, the highest value is the officer who provides health services without being picky, while the lowest is the officer who greets at the end of the service.

### Managerial Implications

The focus group discussion results are used as the basis for developing managerial implications. The FGD was conducted by inviting directors, managers, heads of rooms, and related units from this research, namely the registration, emergency room, cashier, pharmacy, laboratory, radiology, support manager, and service manager (Table 3). The two questions asked in the FGD were 1) What will the unit do regarding the problems in quadrant 1? and 2) What will the unit do regarding the problems in quadrant 3?

In quadrant three, a low priority level and the perception of low priority indicators. This quadrant is a low priority because it contains indicators considered less important by customers. However, when viewed from the calculations, several indicators are included in this quadrant, which customers consider essential. Therefore, concentration management improves the indicators included in this quadrant even though it is considered that there is no need for improvement in this quadrant.

Table 3. Managerial implications of the quadrant I problem

Problems	Actions	PIC
Waiting time at the service needs to be improved; this happens because the specialist doctor who comes does not match the practice hours.	Provide attendance of specialist doctors and warning letters from management.	Medical Services
The presence of specialist doctors who are not on time	Conduct ongoing education to all pharmacy staff Excellent service training Crew evaluation Officers use Smile PIN (yellow color) Created KPIs Re-held best employee	Medical support
Hospitality and courtesy of pharmacists	Conduct ongoing education to all pharmacy staff Excellent service training. Crew Evaluation Officers use Smile PIN (yellow color) Created KPIs Re-held best employee	



Table 3. Managerial implications of the quadrant I problem (continue)

Problems	Actions	PIC
The comfort of the waiting room is still lacking	Performed regular AC maintenance	General
	There are restrictions on the patient introduction	
	Created a policy for security so that it can be more selective in screening patients who enter the hospital area	
	The 3rd-floor prayer room will be made into an orthopedic poly so that it can break down the density of the 3rd-floor poly waiting room	
Cleanliness of the waiting room and tidiness of building facilities	The cleaning service is more active Cleaning service coordinates with the meeting taking into account the completeness of the concurrent facilities	General Affair Nursing Department
Improve the safety of the hospital environment	Coordination between related units	Public Relations & Legal Affairs
Completeness of the availability of medical equipment	Provide a complaint number	Marketing and Business Development
	The complaint number is notified through posters and standing banners	
Ease of submitting complaints	Coordination with IT so that every patient who has finished serving a unit will automatically receive WhatsApp filling out a customer satisfaction survey	IT and marketing
The customer satisfaction survey is conducted in all work units	The registration officer re-confirms the activation of the phone number when registering an old patient	Registration

Based on Figure 1, the indicators included in the third quadrant are 11 indicators, namely the speed of service of emergency room staff (KE3), the ability and skills of emergency room nurses to serve (KE4), speed of pharmacy services (KE11), clarity of information provided by emergency room doctors (DT2), clarity of information provided by pharmacy officers (DT5), the response of officers to complaints submitted (DT6), completeness of drugs available at hospital pharmacy (JA3), friendliness and courtesy of emergency room doctors (EM2), friendliness and courtesy of emergency room nurses (EM3), clarity of the instructions board (BF1), completeness of the patient's needs (electricity, water, and other facilities) (BF5). Several efforts will be made by management to improve indicators. To increase satisfaction, the hospital management needs to improve these indicators. These attributes are considered necessary by patients but are still low in management performance. Timely polyclinic services, warnings for doctors who are not on time, education and evaluation for staff who are not friendly to patients, waiting room designs that are rearranged every three months to avoid boredom, routine cleaning service supervision, routine management rounds once a week, the addition of CCTV at several points and security

officers to improve security and comfort, increasing the budget for the purchase of medical equipment is a top priority and provide suggestion box using a customer service number that accommodates patient complaints that must be followed up immediately are managerial implications that can be done by hospital management to improve services.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

The customer satisfaction assessment using the Customer Satisfaction Index (CSI) method shows that the CSI value is 80.39%, meaning that patient satisfaction with UMMI Bogor Hospital is included in the satisfied category. Based on the study results, there was no significant difference in the level of satisfaction of Non-BPJS patients and BPJS patients at UMMI Hospital Bogor, meaning that the average service provided to patients, both Non-BPJS patients and BPJS patients, was relatively the same for both groups of customers. The order of attributes that become the main priority in improvement is waiting time for

polyclinic services, timely attendance of doctors at the polyclinic, friendliness, and courtesy of pharmacists, waiting room comfort, cleanliness of waiting rooms and tidiness of building facilities, the safety of the hospital environment, availability of medical equipment, and ease of submitting complaints.

In addition to the above conditions, several attributes must be considered by management that needs to be considered to increase customer satisfaction even though in the study it is not a customer priority, including the speed of emergency service staff, the ability, and skills of emergency room nurses to serve, speed of pharmacy services, clarity of information provided by doctors. ER, clarity of information provided by pharmacy staff, the response of officers to complaints submitted, completeness of drugs available in pharmacy, friendliness, and courtesy of emergency room doctors, friendliness and courtesy of emergency room nurses, clarity of signage, completeness of facilities for patient needs (water, electricity and other facilities).

## Recommendations

There are several limitations of this study. The data collection methods applied voluntary sampling that was only limited to describing the characteristics of the Non-BPJS patients and BPJS patients so that it cannot be used to describe patient expectations for hospital services as a whole. The data on the characteristics and distribution of respondents used in this study did not fully represent the level of performance and expectations of users of the UMMI Hospital Bogor service facilities because not all patients were included. Socio-economic characteristics of respondents were also not available. In addition, the use of SEM to determine the value of importance has a weakness because it does not accurately indicate the level of importance of each attribute comparing the essential data directly collected from respondents.

## REFERENCES

- Blešić I, Popov-Raljić J, Uravić L, Stankov U, Đeri L, Pantelić M, Armenski T. 2014. An importance-performance analysis of service quality in spa hotels. *Economic Research-Ekonomska Istrazivanja* 27(1):483–393. <https://doi.org/10.1080/1331677X.2014.967537>
- Deng J, Pierskalla CD. 2018. Linking importance-performance analysis, satisfaction, and loyalty: A study of Savannah, GA. *Sustainability* (Switzerland) 10(704):1–17. <https://doi.org/10.3390/su10030704>
- Dewi CK, Setyarini NLPSE. 2020. Analisis tingkat kepuasan pengguna terhadap fasilitas parkir mobil Mall Puri Indah. *Jurnal Mitra Teknik Sipil* 3(3):659-670.
- Dewi M. 2016. Pengaruh kualitas pelayanan terhadap kepuasan pasien pengguna BPJS pada rumah sakit rehabilitasi medik Kabupaten Aceh Timur. *Jurnal Manajemen dan Keuangan* 5(2).
- Fikri F, Simanjuntak M. 2020. Evaluating Variable Which is Influencing Online Repurchase Intention to Increase Fresh Vegetables/Fruits Consumption in Indonesia by Using Importance Performance Analysis. Di dalam: *Proceedings International Conference on Management, Accounting, and Economy (ICMAE 2020)*. <https://doi.org/10.2991/aebmr.k.200915.021>
- Marnovita. 2020. Hubungan kualitas pelayanan dengan kepuasan pelanggan. *Jurnal Ilmiah Psikologi* 8(1):100-106.
- Martilla JA, James JC. 1977. Importance-performance analysis. *The Journal of Marketing* 41(1):77-79.
- Natassia. 2020. Importance performance analysis (IPA) dimensi kualitas pelayanan jasa rumah sakit selasih terhadap kepuasan pasien. *Jurnal Pelangi* 3(3): 62-67.
- Nur H, Simanjuntak M, Sartono B. 2019. Evaluasi lingkungan dan situasi ritel modern dengan importance performance analysis untuk meningkatkan niat pembelian ulang. *Matrik: Jurnal Manajemen, Strategi Bisnis dan Kewirausahaan* 14(1):43-53. doi:10.24843/MATRIK:JMBK.2020.v14.i01.p05
- O'Neill M, Wright C, Fitz F. 2001. Quality evaluation in online service environments: An application of the importance performance measurement technique. *Manag. Serv. Qual. An Int. J.*
- Obonyo GO, Ayieko MA, Kambona OO. 2012. An importance-performance analysis of food service attributes in gastro-tourism development in Western Tourist Circuit, Kenya. *Tourism and Hospitality Research* 12(4):188–200. <https://doi.org/10.1177/1467358413491132>
- Ormanović Š, Čirić A, Talović M, Alić H, Jelešković E. 2017. Importance-performance analysis: Different approaches. *Acta Kinesiologica* 11(2):58–66.
- Parasuraman A, Zwithaml A, Berry. 2008. Servqual:

- Multiple item scale e for measuring customer perception for service quality. *Journal of Retailing*.
- Pohan IS. 2013. *Jaminan Mutu Layanan Kesehatan: Dasar-Dasar Pengertian dan Penerapan*. Buku Kedokteran EGC.
- Purnomo W. 2015. Analisis kepuasan pelanggan terhadap bengkel dengan metode IPA (Importance Performance Analysis). *Jurnal Teknik Mesin* 3(3):54-63.
- Rahmaniah A. 2019. Hubungan kepuasan pasien BPJS dan non-BPJS terhadap mutu pelayanan kesehatan di poli ibu hamil puskesmas Temindung Kota Samarinda [skripsi]. Samarinda: Politeknik Kesehatan Kalimantan Timur.
- Riyanto A. 2018. Implikasi kualitas pelayanan dalam meningkatkan kepuasan pelanggan pada PDAM Cibadak Sukabumi. *Jurnal Ecomedica* 2(1):117-124.
- Sari L, Erpidawati, Susanti E. 2019. Hubungan kualitas layanan terhadap kepuasan pasien. *Jurnal Menara Medika* 1(2):124-130.
- Shaw NC, DeLone WH, Niederman F. 2002. Sources of dissatisfaction in end-user support: An empirical study. *Database for Advances in Information Systems* 33(2):41-56.
- Silva F, de J, Fernandes PO. 2011. Importance-Performance Analysis as A Tool in Evaluating Higher Education Service Quality: The Empirical Results of ESTiG (IPB). Di dalam: International Business Information Management Association Conference; Milan, Italy: International Business Information Management Association (IBIMA). hlm 306-315.
- Sofiana, Wahyuni R, Supriyadi E. 2020. Studi komparasi kepuasan pasien BPJS dan non-BPJS pada mutu pelayanan pendaftaran puskesmas Johar Baru Jakarta Pusat. *Jurnal Abirawa* 1(2):93-110.
- Sukardi, Cholidis C. 2006. Analisis tingkat kepuasan pelanggan terhadap produk Corned Pronas produksi PT CIP, Denpasar, Bali. *Jurnal Teknologi Industri Pertanian* 18(2):106-117.
- Tjiptono F. 2009. *Service Marketing: Esensi dan Aplikasi*. Yogyakarta: Marknesis.
- Wong MS, Hideki N, George P. 2011. The use of importance-performance analysis (IPA) in evaluating Japan's e-government services. *Journal of Theoretical and Applied Electronic Commerce Research* 6(2):17-30. <https://doi.org/10.4067/S0718-18762011000200003>
- Zeithaml VA, Bitner MJ. 2000. *Services Marketing: Integrating Customer Focus across the Firm*. Ed. ke-2. Boston: McGraw-Hill.