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Service Quality Analysis with Service Performance and Importance Performance Analysis in Hospital

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Abstract

Hospital X is a private hospital in Surabaya which was inaugurated in 1995. There are many types of medical facilities and services is at Hospital X, one of the outpatient services. In implementation, Hospital X received complaints from visitors as a result the services it provides. This research aims to understand the extent where is the quality of service provided using the Service Performance method and Importance Performance Analysis (IPA) as well as providing suggestions for improvements right. This research begins with data collection and distribution questionnaire, analyzing data using the Service Performance method and for find out the quality of Hospital X's services and provide suggestions for improvement. Based on the results of research on Service Performance, it was found percentage of patient satisfaction level with the quality of hospital services X is 70%, which means that patients are satisfied with the services provided. The prioritized attributes are fast and precise acceptance procedures (X10), service according to SOP (X11), uncomplicated service procedures (X12), fast drug service time (X13), employees and medical personnel are responsive if there are complaints from visitors (patients) (X15), medical personnel try to help the patient solving problems encountered (X16), speed of medical services (X18), accuracy of medical services (X19), and employees are alert in serving prospective patients (X20).

Introduction

In the context of globalization and increasingly tight business competition, improving service quality is the main key to maintaining competitive advantage and increasing customer satisfaction. Service quality is a crucial aspect in the health sector, especially in hospitals, which function as the main provider of health services to the community. Meanwhile, service quality is perceived as the result of an evaluation process where customers compare their perceptions of service and results with what consumers expect (Maharani and Farhan Saputra, 2021). Service is an activity carried out for other people in accordance with what consumers want and expect (Wibowati, 2021). Service involves aspects that cannot be owned and can only be felt, creating added value and becoming an important parameter for consumers. Apart from product quality, a high level of service has the potential to encourage consumers to make repeat purchases, which is a crucial element for company sustainability (Karundeng et al., 2021).

Service quality is the company's ability to meet customer expectations and also if the service received or experienced is as expected, so that the quality is perceived as good and can satisfy customers (Cesariana et al., 2022). Customer satisfaction is the level of customer feelings after comparing perceived service performance compared to expectations (Gultom et al., 2020). This

means that satisfaction is a person's feeling of satisfaction or disappointment resulting from comparing product performance or results with expectations (Sugiyanto and Kurniasari, 2020). Customer satisfaction is influenced by service quality and price. If service variables can be improved and pricing policies can be adjusted to customer expectations and demands, a higher impact on customer satisfaction will be obtained (Gofur, 2019).

According to Shantika Martha (2019), in her research, she explains that to improve service quality and customer satisfaction, one strategy that can be implemented is the Service Performance and IPA methods. The Service Performance method was developed by Cronin and Taylor in 1992. Servperf has the advantage of providing information on which service quality attributes are more important to improve so that desires and interests can become more visible in the analysis of Efranto's service quality attributes in (Widodo and Nugroho, 2019).

Importance Performance Analysis (IPA) was first introduced by Martilla and James in Budiarto & Santoso (2020). Importance Performance Analysis (IPA), is a tool that helps in analyzing or is used to compare the extent of performance/service that can be felt by service users compared to the desired level of satisfaction. There are 5 service quality dimension attributes, namely Tangibles (direct evidence), Reliability (reliability), Responsiveness (capacity), Assurance (guarantee), Empathy (empathy) (Anastasya and Gurning, 2023). In this study, the Servperf and IPA methods were used to measure the quality of services in the Outpatient Department at Hospital X.

Based on Berlly et al., (2023), CSI or Customer Satisfaction Index. CSI is an index to see the overall level of customer satisfaction with an approach that considers the importance of the attributes being measured. Customer Satisfaction Index or customer satisfaction is a condition where the needs, desires and services of customers can be met through the quality services provided, which will lead to repeat purchases. It can be said that the meaning of the Customer Satisfaction Index is what customers expect according to what they get (Sebayang et al., 2022).

A hospital is a health institution or institution that provides medical services, care and treatment to individuals who are sick or need health care. Hospital X is a private hospital in Surabaya which was inaugurated in 1995. In its implementation, Hospital Therefore, hospitals must strive to improve service quality by measuring service quality. Visitors will be satisfied if the health services provided meet the desired quality standards.

Based on these problems, research was conducted entitled "Analysis of Service Quality with Analysis of Service Performance and Importance Performance at Hospital X" to find out more about the quality of service provided by Hospital service users to improve service quality. By conducting this research, it is hoped that we will be able to determine the performance of hospital services provided to visitors. This aims to ensure that the hospital can determine visitor satisfaction, so that it can improve and enhance the quality of services provided by Hospital X.

Methods

This research uses quantitative research methods carried out on Hospital X. The dependent variable in this research is the service quality of Hospital X. Meanwhile, the independent variables used in this research are 5 (five) dimensions of service quality. The population in this study were outpatients who visited Hospital X. The primary data for this research is in the form of questionnaires, interviews and observations. The questionnaire data in this research is a questionnaire on the importance and level of performance of service attributes regarding the 5 dimensions of service quality provided to patients. This research uses the Service Performance and Importance Performance Analysis (IPA) methods. The data processing methods in this research are: (1) Test validity and reliability using SPSS version 20.0 software; (2) Calculation of the average level of importance and level of performance, if the questionnaire results are valid and reliable. Then it can be continued with calculating the mean for the level of importance and level of performance. This data will be entered into the Importance

Performance Analysis matrix and Customer Satisfaction Index; (3) Processing the Importance Performance Analysis matrix, the results of the mean performance (X) and mean importance (Y) can be mapped into the Importance Performance Analysis diagram. The results of this step show that the main priority attributes have a high level of importance but have a low level of performance; (4) Calculate the Weight Factor (WF), this weight is the percentage of the MIS value of each attribute to the total MIS of all attributes.

$$WF_i = \frac{MIS_i}{\sum_{i=1}^{n} MIS_i} \text{ x } 100\%$$

Calculate the Weight Score (WS), this weight is the multiplication of WF by the mean level of satisfaction.

$$WS_i = WF_i \text{ x } MSS_i$$

Calculate the Customer Satisfaction Index, the results of the mean performance (X) and mean importance (Y) can be calculated using a formula to get the percentage level of customer satisfaction.

$$CSI = \frac{\sum_{i=1}^{p} WS_i}{HS} x\ 100\%$$

Result and Discussion

The research employs a rigorous methodological approach through the use of statistical tests to validate performance and importance levels, as evidenced in Table 2, and reliability tests presented in Tables 3 and 4. These tests are crucial as they establish the reliability and validity of the data collected. In Table 2, the validity tests demonstrate that all variables exceed the required r-value, which signifies robust data validity. This indicates that the chosen variables effectively measure the intended constructs related to hospital service quality, such as cleanliness, responsiveness, and staff competency.

Furthermore, Tables 3 and 4 illustrate the reliability tests using Cronbach's Alpha values. Both the performance and importance levels exhibit Cronbach Alpha values well above the acceptable threshold of 0.70. For instance, with a Cronbach Alpha of 0.936 for performance and 0.927 for importance, these results indicate high internal consistency among the attributes measured within each level. This methodological rigor enhances the credibility of the research findings by ensuring that the measurement tools used are reliable and consistent.

By establishing robust validity and reliability through these tests, the research strengthens its foundation for drawing meaningful conclusions about hospital service quality at Hospital X. Stakeholders can have confidence in the accuracy and consistency of the data, enabling them to make informed decisions based on the research findings. This methodological approach not only enhances the scholarly rigor of the study but also contributes to its practical applicability in improving service delivery and patient satisfaction within the healthcare setting.

Table 1. Attributes of Performance Level and Level of Importance

Dimensions	Variable	Attributes
Tangibles	X1	Hospital employees and medical personnel look neat
	X2	Cleanliness in the waiting room and outpatient examination room
	X3	Comfort in the waiting room and outpatient examination room
	X4	It has attractive supporting facilities such as TV, wi-fi, toilet and breastfeeding room
	X5	Completeness and cleanliness of medical equipment
	X6	Availability of doctors, nurses and midwives

Reliability	X7	Employees and medical personnel are reliable and skilled in serving visitors (patients)
	X8	Employees and medical personnel are skilled in using technology
	X9	Medical personnel are careful in carrying out examinations
	X10	The acceptance procedure is fast and precise
	X11	Service according to SOP
	X12	The service procedure is not complicated
	X13	Fast drug service time
Responsiveness	X14	Employees and medical personnel are always ready to help visitors (patients) if they experience difficulties
	X15	Staff and medical personnel are responsive when there are complaints from visitors (patients)
	X16	Medical personnel try to help patients solve the problems they face
	X17	Medical personnel provide clear information about the services provided to visitors (patients)
	X18	Speed of medical services
	X19	Accuracy of medical services
	X20	Staff are alert in serving prospective patients
Assurance	X21	Visitors (patients) are confident in the abilities of medical personnel
	X22	Medical personnel wear complete PPE when serving patients
	X23	Medical personnel take definite actions in providing services
	X24	Employees and medical personnel provide certainty and clarity in service times
	X25	Hospital X can maintain the confidentiality of visitor (patient) data
Emphaty	X26	Employees and medical personnel are friendly in providing services
	X27	Employees and medical personnel always communicate well with patients
	X28	Employees and medical personnel are polite towards patients
	X29	Employees and medical personnel always greet and ask about patient needs
	X30	Employees and medical personnel serve regardless of status
	X31	Employees respond well to criticism and suggestions

Source: Processed Data

In this research, the population examined consists of visitors or patients utilizing outpatient services at Hospital X, with an average daily outpatient visit rate of 508 visits per day. Therefore, the total number of outpatient visits from March to May 2024 is recorded as 45,720 individuals.In this research, researchers used the Slovin formula to determine the number of samples that would be the research target. The formula used is as follows:

$$n = \frac{N}{1+N.e^2} = \frac{45.720}{1+45.720.(0,1)^2} = \frac{45.720}{1+457,2} = \frac{45.720}{458,2} = 100 \text{ Respondents}$$

Table 2. Performance and Importance Level Validity Test Results

Variable	Level	
	Performance	Importance
	R_{Value}	R_{Value}
X1	0,564	0,527
X2	0,471	0,427
X3	0,489	0,439
X4	0,387	0,560
X5	0,582	0,455
X6	0,516	0,425
X7	0,639	0,649
X8	0,706	0,636
X9	0,717	0,600
X10	0,542	0,593
X11	0,533	0,589
X12	0,657	0,489
X13	0,527	0,494
X14	0,810	0,669
X15	0,387	0,407
X16	0,544	0,399
X17	0,673	0,720
X18	0,446	0,433
X19	0,425	0,357
X20	0,348	0,315
X21	0,667	0,774
X22	0,665	0,807
X23	0,592	0,412
X24	0,521	0,636
X25	0,447	0,573
X26	0,664	0,712
X27	0,705	0,715
X28	0,731	0,644
X29	0,759	0,718
X30	0,677	0,694
X31	0,671	0,645

Based on Table 2, it shows that all variables are declared valid because the calculated r-value is more than the r-table value (>0.195).

Table 3. Performance Level Reliability Test

Case Processing Summary		
	N	%
Cases Valid	100	100.0
Exluded[a]	0	.0
Total	100	100.0

Realiability	
Cronbach's Alpha	N of Items
.936	31

Based on the reliability test in Table 3, it can be seen that the performance level has a Cronbach Alpha (α) > αtable value. At the performance level, Cronbach Alpha was found to be 0.936 > 0.70, thus all attributes for the performance level can be said to be trustworthy and reliable enough to be used as a data collection tool.

Table 4. Importance Level Reliability Test

Case Processing Summary		
	N	**%**
Cases Valid	100	100.0
Exluded[a]	0	.0
Total	100	100.0

Realiability	
Cronbach's Alpha	**N of Items**
.927	31

Based on the reliability test in Table 4, it can be seen that the level of importance has a Cronbach Alpha value > αtable. At the level of importance, Cronbach Alpha was found to be 0.927 > 0.70, thus all attributes for the level of importance can be said to be trustworthy and reliable enough to be used as a data collection tool.

Table 5. Average Value of Each Attribute

Variable	**Average Performance Level**	**Average Importance Level**
X1	3,99	4,14
X2	3,81	4,34
X3	3,83	4,28
X4	3,43	3,97
X5	3,89	4,48
X6	3,71	4,59
X7	3,62	4,36
X8	3,75	4,26
X9	3,62	4,4
X10	3,07	4,4
X11	3,32	4,39
X12	3,07	4,45
X13	2,96	4,4
X14	3,74	4,23
X15	2,97	4,68
X16	3,01	4,66
X17	3,73	4,28
X18	2,89	4,65
X19	2,96	4,64
X20	2,98	4,68
X21	3,81	4,15
X22	3,68	4,19
X23	4,03	4,56
X24	2,83	4,24
X25	4,01	4,24
X26	3,5	4,16
X27	3,67	4,16
X28	3,68	4,18
X29	3,45	4,11
X30	3,61	4,22

X31	3,81	4,17

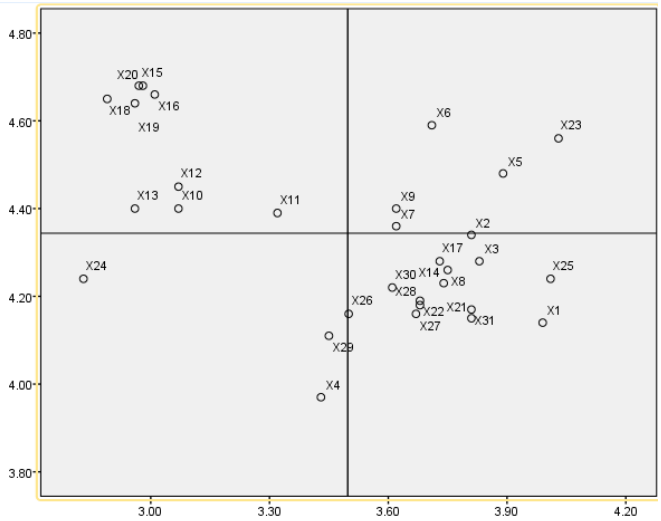

Figure 1. IPA diagram of Hospital Service Attributes

Table 6. Recapitulation Results and Distribution of Attributes According to Quadrant Position

Quadrant	Variable	Attribute
Quadrant I (High Importance – Low Performance)	X10	The acceptance procedure is fast and precise
	X11	Service according to SOP
	X12	The service procedure is not complicated
	X13	Fast drug service time
	X15	Staff and medical personnel are responsive when there are complaints from visitors (patients)
	X16	Medical personnel try to help patients solve the problems they face
	X19	Accuracy of medical services
	X18	Speed of medical services
	X20	Staff are alert in serving prospective patients
Quadrant II (High Importance – High Performance)	X2	Cleanliness in the waiting room and outpatient examination room
	X5	Completeness and cleanliness of medical equipment
	X6	Availability of doctors, nurses and midwives
	X7	Employees and medical personnel are reliable and skilled in serving visitors (patients)
	X9	Medical personnel are careful in carrying out examinations
	X23	Medical personnel take definite actions in providing services
Quadrant III (Low Importance – Low Performance)	X4	It has attractive supporting facilities such as TV, wi-fi, toilet and breastfeeding room
	X24	Employees and medical personnel provide certainty and clarity regarding service times
	X26	Employees and medical personnel are friendly in providing services
	X29	Employees and medical personnel always greet and ask about patient needs
	X1	Hospital employees and medical personnel look neat

Quadrant IV (Low Importance – High Performance)	X3	Comfort in the waiting room and outpatient examination room
	X8	Employees and medical personnel are skilled in using technology
	X14	Employees and medical personnel are always ready to help visitors (patients) if they experience difficulties
	X17	Medical personnel provide clear information about the services provided to visitors (patients)
	X21	Visitors (patients) are confident in the abilities of medical personnel
	X22	Medical personnel wear complete PPE when serving patients
	X25	Hospital X can maintain the confidentiality of visitor (patient) data
	X27	Employees and medical personnel always communicate well with patients
	X28	Employees and medical personnel are polite to patients
	X30	Employees and medical personnel serve regardless of status
	X31	Employees respond well to criticism and suggestions

Table 7. Customer Satisfaction Index (CSI) Calculation

Attribute	***Mean Importance Score* (MIS)**	***Weight Factor* (WF)**	***Mean Satisfaction Score* (MSS)**	***Weight Score* (WS)**
X1	4,14	0,03074	3,99	0,12267
X2	4,34	0,03223	3,81	0,12279
X3	4,28	0,03178	3,83	0,12173
X4	3,97	0,02948	3,43	0,10112
X5	4,48	0,03327	3,89	0,12942
X6	4,59	0,03409	3,71	0,12646
X7	4,36	0,03238	3,62	0,11721
X8	4,26	0,03164	3,75	0,11863
X9	4,4	0,03267	3,62	0,11828
X10	4,4	0,03267	3,07	0,10031
X11	4,39	0,03260	3,32	0,10823
X12	4,45	0,03305	3,07	0,10145
X13	4,4	0,03267	2,96	0,09672
X14	4,23	0,03141	3,74	0,11748
X15	4,68	0,03475	2,97	0,10322
X16	4,66	0,03461	3,01	0,10416
X17	4,28	0,03178	3,73	0,11855
X18	4,65	0,03453	2,89	0,09980
X19	4,64	0,03446	2,96	0,10199
X20	4,68	0,03475	2,98	0,10357
X21	4,15	0,03082	3,81	0,11742
X22	4,19	0,03112	3,68	0,11450
X23	4,56	0,03386	4,03	0,13647
X24	4,24	0,03149	2,83	0,08911
X25	4,24	0,03149	4,01	0,12626
X26	4,16	0,03089	3,5	0,10812
X27	4,16	0,03089	3,67	0,11338
X28	4,18	0,03104	3,68	0,11423
X29	4,11	0,03052	3,45	0,10530
X30	4,22	0,03134	3,61	0,11313

X31	4,17	0,03097	3,81	0,11798
Amount	134,6	1	108,4	3,49

Source: Processed Data

Based on Table 7, the customer satisfaction index can be determined as follows:

$$CSI = \frac{\sum_{i=1}^{p} WS_i}{HS} x\ 100\%$$

$$= \frac{3,49}{5} x\ 100\%$$

$$= 69,8\% \approx 70\%$$

From the results of these calculations, it can be seen that 70% of customers are satisfied with the performance of Hospital X.

Conclusion

Based on data processing, conclusions can be drawn from this research, including: (1) The quality of outpatient services at Hospital X shows that patients are satisfied with the service performance provided, based on a Customer Satisfaction Index (CSI) value of 70%. The CSI value which is in the 66-80% interval indicates that the patient is satisfied with the service performance at Hospital X; (2) Attributes with a level of importance but low performance that are considered the main focus are the attributes of fast and precise receiving procedures (X10), service according to SOP (X11), uncomplicated service procedures (X12), fast drug service time (X13), employees and personnel responsive medical services when there are complaints from visitors (patients), (X15) medical personnel try to help patients solve the problems they face (X16), speed of medical services (X18), accuracy of medical services (X19), and employees are alert in serving prospective patients (X20); (3) Based on the method used, researchers can provide suggestions for improvements to Hospital X, namely: (a) Conduct special training for registration officers; (b) Update the implementation of the online registration system by updating the remaining quota; (c) Simplifying administrative procedures and ensuring every employee has a clear understanding of service procedures, as well as providing clear directions to patients; (d) Improving the drug stock management system, and optimizing the drug distribution process from pharmacies to service units; (e) Providing regular training to employees and medical personnel on how to respond to complaints quickly and effectively, as well as conducting regular evaluations of employee compliance with complaint handling procedures by providing warnings or rewards according to performance, as well as increasing socialization regarding available complaint facilities; (f) Hold special training to increase the empathy of medical personnel towards patients, including effective communication techniques and a more personal approach; (g) Recruit more medical personnel, namely specialist doctors; (h) Implementing a more efficient and transparent digital queuing system, as well as analyzing and improving processes in medical services; (i) Implement better handling protocols for employees to deal with questions and needs of prospective patients, including prompt referral guidelines.

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