



Research Article

SERVICE QUALITY ANALYSIS: AN EMPIRICAL STUDY OF CUSTOMER SATISFACTION IN A HEALTHCARE

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A B S T R A C T

Business competition is increasingly fierce, demanding that companies must provide the best products and services to customers. The quality of a product or service is an essential aspect for the continuity of a business, especially those attribute items that are directly felt by customers when purchasing or using a product. This study was aimed to analyze the quality of service to customers in a hospital-based on customer preferences. Customer assessment of each hospital quality indicator was performed through filling out questionnaires by inpatients, to determine the gap between the importance and performance levels. The analytical method used was Importance-Performance Analysis-IPA. As many as 25 quality indicators are identified from SERVQUAL. The quality dimension that becomes a priority for improved performance is related to Reliability, Assurance, and Empathy.

INTRODUCTION

Competition in the health services business such as hospitals continues to increase in conformity with increasingly complex customer demands. The comparison of medical treatment abroad such as in Singapore and Malaysia presses national hospitals to improve service quality. The quality factor of a product or service is a crucial aspect of business survival. Products and services that have low quality tend to be cast away by customers. Conversely, customers will feel their satisfaction fulfilled if all quality aspects of products and services used are fulfilled properly. Health care is a top priority of the political agenda in almost every country in the world (Rishard & Kodithuwakku, 2008).

National hospital services are still low, resulting in many patients choosing to seek treatment in Singapore and Malaysia because they are believed to provide better

medical services for customers. The phenomenon of the increasing number of Indonesian people who choose medical treatment abroad has been happening since the last few decades. There is a fairly close relationship between patient satisfaction and service quality and hence the adoption of effective service quality leads to customer satisfaction (Ampah & Ali, 2019); (Nindiani, Hamsal, & Purba, 2018). National Hospital Services have not been able to provide quality medical services that meet patient expectations, resulting in the tendency of patients to seek medical check-up and medical treatment abroad which still prolong to this day. This condition needs to be anticipated and overcome by improving the quality of national hospital services. (Pohan, 2012), confirms that several aspects influence the satisfaction level of hospital services: (a) The attitude of the staff approach to patients, (b) Quality of care, (c) Administrative procedures, (d) Waiting times, (e) General facilities, (f) Medical ward facilities, and (g) Treatment results as the result of medical treatment received by patients.

Quality of products and services has different tendencies, where the dimensions of service quality are more complex when compared to products. Health services as one type of public service, are demanded to always be at a high level, along with customer needs for the services of a hospital tend to demand excellent service. Complaints from customers are very strategic to be accommodated, analyzed, and developed through efforts to improve service quality based on the needs and desires of customers. This study was aimed to analyze the service quality to customers in a hospital-based on customer preferences. Hospital is a public service institution that is engaged in the field of health services required to provide appropriate services according to the needs of the community given the important health needs for every human being (Riffai, 2010).

LITERATURE REVIEW

Hospital is a complex and complicated organization, where there are many labor-intensive institutions with various mannerisms, characteristics, and functions that are specified in the process of providing medical services and hospital services have various professional groups (Heriandi, 2006). The complexity of a hospital's services can be seen from the many parts and medical actions with the support of experts with different medical specialty doctors. (Pohan, 2012), confirms this by stating that various professional groups within the Hospital will produce individual behavior and group behavior which ultimately results in organizational behavior in carrying out its duties and functions (Soejitno, 2000), which specifically analyzes and evaluates service quality, obtained data about the performance of medical personnel is still below the average value, namely: (a) Speed and accuracy of the examination, treatment, and care, (b) Has not followed the specified service schedule, (c) Has not provided services with the patience, polite and friendly, and (d) Has not provided the same service without discriminating patients. Research by (Parasuraman, Zeithaml, & Berry, 1985), states that the quality dimensions generally applied to service companies are grouped into: (1) Reliability, is the ability to provide services following the promises offered. This relates to the company's ability to provide services that are accurate and consistent with what has been promised, (2) Responsiveness, is the willingness and ability of staffs to help customers, respond to requests, and provide fast and appropriate services, which include: the readiness of staffs in serving customers, employee speed in handling transactions and handling customer complaints, (3) Assurance, including staff knowledge and hospitality and their ability to generate trust and confidence, courtesy and trustworthiness, (4) Empathy, including understanding

of giving individual attention to customers, ease in making good communication, and understanding customer needs and problems, and (5) Tangibles, in the form of direct/tangible evidence that includes the appearance of physical facilities such as buildings and front office rooms, the availability of parking lots, cleanliness, tidiness and comforts of the room, complete communication equipments and the appearance of the staffs.

The Importance Performance Analysis (IPA) method, was first introduced by (Martilla & James, 1977) to measure the relationship between customer perceptions and priorities for improving the quality of products or services known as quadrant analysis. The IPA method is a powerful evaluation tool for practitioners and academics to find good attributes and attributes that need to be corrected and require corrective action (Adinegara & Turker, 2016). Research by (Lee & Hsieh, 2011), states that the IPA method can help organizations identify the most appropriate strategy for improvement. The IPA analysis shows the relationship between the importance level of an attribute owned by a particular object with satisfaction or performance. Research by (Lirn, Wu, & Chen, 2012), confirms that the IPA method can be applied to identify the strengths and weaknesses of quality attributes from the customer's point of view by evaluating simultaneously the importance and the performance. The purpose of implementing the IPA method is to display information about the factors of the product attributes which according to customers need to be improved because it does not meet customer expectations in general. The existence of a gap between the importance level and the performance level based on customer preferences requires analysis of the IPA method to map the quadrant position of each attribute being assessed.

RESEARCH METHOD

The study was conducted on one of the Public Hospitals in Jakarta. The method used was a questionnaire filling to obtain the importance and performance value. The quality indicators being questioned on the questionnaire were obtained through literature and previous studies. The results of the questionnaire were firstly assessed its validity and reliability before analyzed with SPSS software. The study framework conducted in this study is as shown in Figure 1.

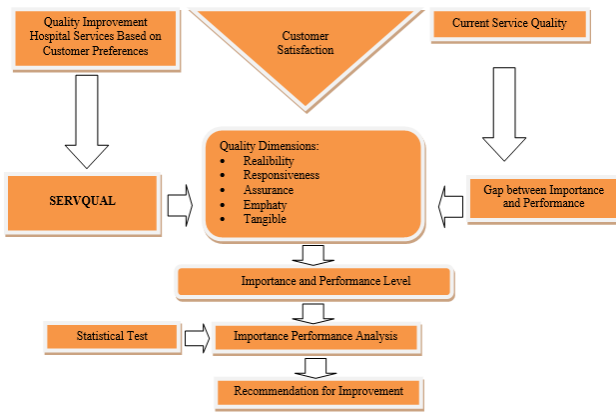


Figure 1. Study Framework

The level of customer assessment on importance and performance generally can be known after the entire data of the results of the questionnaire obtained is processed, then it will be known whether there is a gap between importance and performance. The next step is to make sure which attributes are prioritized for improvement can be identified through mapping in the IPA Diagram. This confirmed that not all attributes are a priority, even though there is a confirmed gap between importance and performance. Through the mapping of all attributes in the four IPA quadrants, it will be confirmed that only the attributes in Quadrant A are the priority for improvement, while those in other quadrants are not a priority. Data collection was obtained through questionnaires that had been filled out by hospital patients, with the total respondent of 60 inpatients. Data processing was performed using SPSS software and analyzed by the Importance Performance Analysis-IPA method.

Table 1. Value of Importance Level and Performance Level on Likert Scale

Importance/Expectation		Performance/Satisfaction	
Answer	Score	Answer	Score
Really Unimportant (RU)	1	Really Unsatisfied (RU)	1
Unimportant (U)	2	Unsatisfied (U)	2
Less Important (LI)	3	Less Satisfied (LS)	3
Important (I)	4	Satisfied (S)	4
Really Important (RI)	5	Really Satisfied (RS)	5

The results of the questionnaire analysis of 60 hospital patients were tested for their statistical validity and reliability. The IBM SPSS Statistics 21 software was used for the analysis, it is known from the value on the table that there are no attribute items with a validity coefficient below 0.2108. (r-table). This value statistically confirms that all eleven survey questions tested were valid. According to the value of the reliability test table, it is known that the Alpha reliability coefficient is 0.589 when this value is compared with r Table (for N = 60, the value of r Table is 0.2108), through this value (Alpha = 0.589 > 0.2108) statistically confirms that the research instrument is reliable. The average value of the level of importance and performance of hospital services is shown in Table 2. The average value of importance and performance in the table indicates that there are differences (gaps) between the two.

Table 2. Average Value of Importance Level and Performance Level of Hospital Services

Hospital Services	Average value
Importance Level	4.318
Performance Level	3.105

Table 3. Respondents' Responses on Importance Level of Hospital Services

No	Statement	RI		I		LI		U		RU		Total		Skor Total	Skor Ideal
		f	%	f	%	f	%	f	%	f	%	f	%		
1	P1	29	48.33	31	51.67	0	0	0	0	0	0	29	48.33	269	300
2	P2	19	31.67	41	68.33	0	0	0	0	0	0	19	31.67	259	300
3	P3	20	33.33	40	66.67	0	0	0	0	0	0	20	33.33	260	300
4	P4	23	38.33	37	61.67	0	0	0	0	0	0	23	38.33	263	300
5	P5	23	38.33	37	61.67	0	0	0	0	0	0	23	38.33	263	300
6	P6	20	33.33	40	66.67	0	0	0	0	0	0	20	33.33	260	300
7	P7	23	38.33	37	61.67	0	0	0	0	0	0	23	38.33	263	300
8	P8	26	43.33	34	56.67	0	0	0	0	0	0	26	43.33	266	300
9	P9	18	30.00	42	70.00	0	0	0	0	0	0	18	30.00	258	300
10	P10	19	31.67	41	68.33	0	0	0	0	0	0	19	31.67	259	300
11	P11	22	36.67	38	63.33	0	0	0	0	0	0	22	36.67	262	300
12	P12	25	41.67	35	58.33	0	0	0	0	0	0	25	41.67	265	300
13	P13	27	45.00	33	55.00	0	0	0	0	0	0	27	45.00	267	300
14	P14	17	28.33	43	71.67	0	0	0	0	0	0	17	28.33	257	300
15	P15	9	15.00	51	85.00	0	0	0	0	0	0	9	15.00	249	300
16	P16	11	18.33	49	81.67	0	0	0	0	0	0	11	18.33	251	300

No	Statement	RI		I		LI		U		RU		Total		Skor Total	Skor Ideal
		f	%	f	%	f	%	f	%	f	%	f	%		
17	P17	20	33.33	40	66.67	0	0	0	0	0	0	20	33.33	260	300
18	P18	5	8.33	55	91.67	0	0	0	0	0	0	5	8.33	245	300
19	P19	22	36.67	38	63.33	0	0	0	0	0	0	22	36.67	262	300
20	P20	31	51.67	29	48.33	0	0	0	0	0	0	31	51.67	271	300
21	P21	18	30.00	42	70.00	0	0	0	0	0	0	18	30.00	258	300
22	P22	4	6.67	56	93.33	0	0	0	0	0	0	4	6.67	244	300
23	P23	23	38.33	37	61.67	0	0	0	0	0	0	23	38.33	263	300
24	P24	13	21.67	47	78.33	0	0	0	0	0	0	13	21.67	253	300
25	P25	10	16.67	50	83.33	0	0	0	0	0	0	10	16.67	250	300
Sum of Total Score														6.477	
Percentage of Total Score (%)														85,96	

Respondents' Responses on Importance and Performance

Respondents' responses to the importance level of hospital services are shown in Table 3. In that table, the frequency of the answer score and percentage was calculated and the total score and the ideal score were aggregated. Table 3 illustrates the responses in the form of respondents' ratings of hospital services on the importance level. Based on the processing results shown in the table, it can be seen that the total score of importance for hospital services at the importance level is 6.477 or 85,96% of the total ideal score of 7.500.

Attributes that becomes a priority for improvement, then analyzed using the importance-performance analysis-IPA method. Descriptive analysis to describe respondents' responses to each statement item is grouped into 5 categories: very unimportant/very unsatisfied, unimportant/unsatisfied, less important/less satisfied, important/satisfied and very important/very satisfied, with interval value calculation as follows:

$$\begin{aligned} \text{Maximum Index Value} &= \frac{\text{Highest Scale}}{\text{Number of Categories}} \times 100\% \\ &= \frac{5}{5} \times 100\% = 100\% \end{aligned}$$

$$\begin{aligned} \text{Minimum Index Value} &= \frac{\text{Lowest Scale}}{\text{Number of Categories}} \times 100\% \\ &= \frac{1}{5} \times 100\% = 20\% \end{aligned}$$

$$\begin{aligned} \text{Distance of Interval} &= \frac{\text{maximum value} - \text{minimum value}}{\text{Number of Categories}} \\ &= \frac{100\% - 20\%}{5} = 16\% \end{aligned}$$

The division of each interval category can be described in the continuum line as shown in Figure 2.

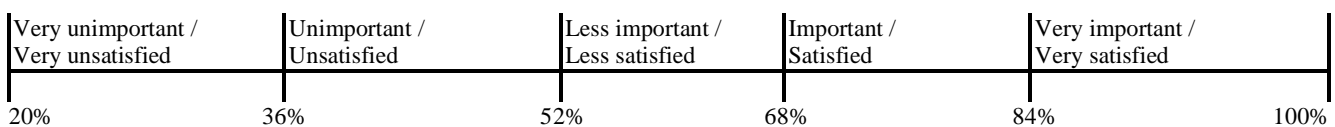


Figure 2. Continuum line of importance and performance levels

Table 4 below illustrates the responses of hospital patients as respondents on performance level. Based on the results of data processing shown in Figure 2, it can be seen that the total score for hospital services at a satisfaction level of 4.683 or only reached 62,44% of the ideal score of 7.500. Through the analysis of continuum line of the total score on hospital services, it is known that the position of performance values is in the range of 52% - 68%, where this value confirms that respondents' responses to the quality of hospital services are in the category of "Less satisfied".

The quality indicators found as priorities for improvement are then analyzed using the importance-performance analysis-IPA method.

Tabel 4. Respondents's Responses on Performance Level of Hospital Services

No	Statement	RS		S		LS		U		RU		Total		Total Score	Ideal Score
		f	%	f	%	f	%	f	%	f	%	f	%		
1	P1	0	0.00	6	10.00	38	63.33	16	26.67	0	0	0	0.00	170	300
2	P2	0	0.00	3	5.00	41	68.33	16	26.67	0	0	0	0.00	167	300
3	P3	0	0.00	1	1.67	55	91.67	4	6.67	0	0	0	0.00	177	300
4	P4	0	0.00	2	3.33	52	86.67	6	10.00	0	0	0	0.00	176	300
5	P5	0	0.00	2	3.33	41	68.33	17	28.33	0	0	0	0.00	165	300
6	P6	0	0.00	11	18.33	45	75.00	4	6.67	0	0	0	0.00	187	300
7	P7	0	0.00	16	26.67	43	71.67	1	1.67	0	0	0	0.00	195	300
8	P8	0	0.00	35	58.33	25	41.67	0	0.00	0	0	0	0.00	215	300
9	P9	2	3.33	26	43.33	30	50.00	2	3.33	0	0	2	3.33	208	300
10	P10	1	1.67	6	10.00	43	71.67	10	16.67	0	0	1	1.67	178	300
11	P11	0	0.00	6	10.00	45	75.00	9	15.00	0	0	0	0.00	177	300
12	P12	0	0.00	15	25.00	42	70.00	3	5.00	0	0	0	0.00	192	300
13	P13	0	0.00	5	8.33	50	83.33	5	8.33	0	0	0	0.00	180	300
14	P14	0	0.00	9	15.00	45	75.00	6	10.00	0	0	0	0.00	183	300
15	P15	2	3.33	20	33.33	36	60.00	2	3.33	0	0	2	3.33	202	300
16	P16	0	0.00	10	16.67	43	71.67	7	11.67	0	0	0	0.00	183	300
17	P17	0	0.00	5	8.33	47	78.33	8	13.33	0	0	0	0.00	177	300
18	P18	1	1.67	27	45.00	32	53.33	0	0.00	0	0	1	1.67	209	300
19	P19	2	3.33	20	33.33	34	56.67	4	6.67	0	0	2	3.33	200	300
20	P20	0	0.00	6	10.00	45	75.00	9	15.00	0	0	0	0.00	177	300
21	P21	0	0.00	21	35.00	39	65.00	0	0.00	0	0	0	0.00	201	300
22	P22	0	0.00	3	5.00	51	85.00	6	10.00	0	0	0	0.00	177	300
23	P23	0	0.00	12	20.00	45	75.00	3	5.00	0	0	0	0.00	189	300
24	P24	0	0.00	23	38.33	35	58.33	2	3.33	0	0	0	0.00	201	300
25	P25	0	0.00	18	30.00	41	68.33	1	1.67	0	0	0	0.00	197	300
Sum of Total Score													4.683		
Percentage of Total Score (%)													62,44		

RESULT AND DISCUSSION

Figure 3 is the code and position of the attribute of the mapping results in the IPA Cartesian Diagram, where each number indicates: [P1] Quick and precise procedure in receiving patients, [P2] Fast and precise examination service, [P3] Providing correct and appropriate treatment, [P4] Rapid and appropriate treatment services, [P5] Straightforward (low complexity) hospital care procedure, [P6] The ability of doctors and nurses to quickly respond to patient complaints, [P7] Staffs provide clear information, easily understood by the patient, [P8] The doctor is accompanied by a nurse in examining the patient, [P9] Patients can easily contact the doctor or nurse, [P10] Quick response when the patient needs service, [P11] Knowledge and ability of doctors, nurses and other staffs

at work, [12] Treatment provided by doctors and nurses is able to cope with illnesses, [P13] Has guaranteed service security and trust in service, [P14] Explanation of treatment procedures to be provided properly, [P15] The staff is able to maintain the confidentiality of the diagnosis of the patient's disease, [P16] The team of doctors, nurses, and other staffs pay special attention to each patient, [P17] Attention to complaints of patients and their families, [18] Services provided regardless of social status, [19] Doctors are always friendly to patients, P20] Nurses are always friendly in providing services to patients, [P21] Completeness, readiness and cleanliness of equipment used, [P22] Cleanliness, tidiness and comfort of the room, [P23] Service by inpatient staffs are polite and friendly, [P24] Neatness and cleanliness of the appearance of every staff, [25] Excellent spatial of medical wards.

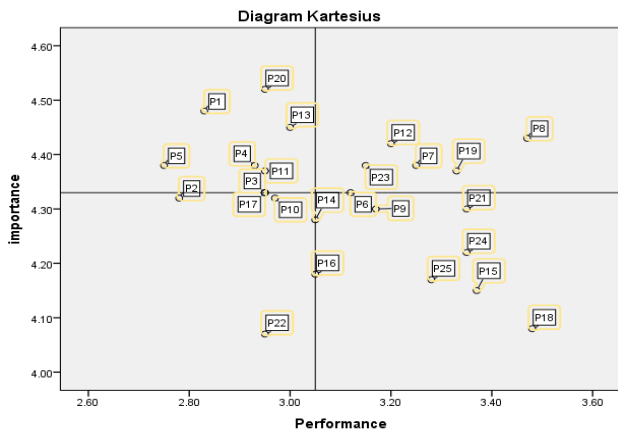


Figure 3. Cartesian Diagram of Hospital Service Quality

Determination of the boundary line for each quadrant axis (crossing line) in the IPA analysis is to use the median value, where the importance is 4.33 and performance is 3.05. The entire Hospital Services are in the Cartesian Diagram of quadrants A, B, C, and D as shown in Table 5.

Table 5
Position of quality indicators on Cartesian Diagram

Quadrant A	Quadrant B	Quadrant C	Quadrant D
[P1], [P3], [P4], [P5] [P11], [P13], [P17], [P20]	[P6], [P7], [P8], [P12], [P19], [P23]	[P2], [P10], [P14], [P16], [P22]	[P9], [P15], [P18], [P21], [P24], [P25]

In the IPA analysis, the attributes are: [P1] Quick and precise procedure in receiving patients, [P3] Providing correct and appropriate treatment, [P4] Fast and appropriate treatment service, [P5] Hospital service procedures are not complicated, [P11] Knowledge and ability of doctors, nurses and other staffs at doing their work, [P13] Having guaranteed service security and trust in service, [P17] Attention to complaints of patients and their families, [P20] Nurses who are always friendly in providing services to the patient, belong to diagram A (concentrate here).

Attributes that are in quadrant B (Keep up with the good work): [P6] The ability of doctors and nurses to quickly respond to patient complaints, [P7] Staffs provide clear information, easily understood by patients, [P8] Doctors accompanied by nurses in examining patients, [12] Treatment given by doctors and nurses is able to overcome the disease, [19] Doctors who are always friendly to patients, [P23] Services by inpatient staffs are polite and friendly,

Which is in quadrant C (possible overkill): [P2] Rapid and appropriate examination services, [P10] Quick response when patients need service, [P14] Explanation of treatment

procedures to be provided properly, [16] Team of doctors, nurses, and other staffs pay special attention to each patient, [P22] Cleanliness, tidiness and comfort of the room,

Attributes that are in quadrant D (low priority): [P9] Patients can easily contact doctors or nurses, [P15] Staffs are able to maintain the confidentiality of diagnosis of the patient's disease, [P18] Services provided regardless of social status, [P19] Doctors always be friendly to patients, [P24] Neatness and cleanliness of the appearance of every staff, [25] Excellent spatial of medical wards, [P21] Completeness, readiness and cleanliness of the equipment used.

The results of the IPA analysis confirm that for hospital services, the priority attributes to be improved are Quick and precise procedure in receiving patients, Providing correct and appropriate treatment, fast and appropriate treatment services, Straightforward (low complexity) hospital care procedure, Knowledge and ability of doctors, nurses and other staffs at doing their work, Having guaranteed service security and trust in service, Attention to complaints of patients and their families, and Nurses are always friendly in providing services to patients.

CONCLUSION

There is a gap between the level of Importance and Performance in-hospital services. Priority quality indicators that are prioritized for improvement are Quick and precise procedure in receiving patients, Providing correct and appropriate treatment, fast and appropriate treatment services, Straightforward (low complexity) hospital care procedures, Doctor knowledge and ability, which is a quality dimension from Reliability; nurses and other officers at work, Having guaranteed service security and trust in services, quality dimensions of Assurance; Attention to complaints of patients and their families, and nurses who are always friendly in providing services to patients which are a quality dimension of Empathy.

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