Improving Hospital Service Quality Strategy with Servqual and Kano Methods

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Abstract. In daily activities, human beings cannot be separated from the services offered by a particular organization, such as the use of public transportation, education, food, health and much more related to daily life. Therefore competition between services is inevitable. Quality is related to customer satisfaction. Customers will be a benchmark for the good or not the quality given by a particular company. Companies can increase customer satisfaction by providing good service of course. Hospital is one of the companies engaged in public health services. To get what the customer wants, the hospital is required to give maximum satisfaction to its customers, but the reality is still often encountered customer dissatisfaction while using hospital services. In addition, based on the results of previous studies, it was found that some attributes of service attributes were still at the level that needed improvement. In addition, based on the results of previous studies, it was found that some attributes of service attributes were still at the level that needed improvement. Corrective actions can be done by the Kano method. The Kano method categorizes the attributes of products or services based on how well the product or service can satisfy customer needs, with service attributes can be divided into several categories.

1. Introduction
In daily activities, humans cannot be separated from the services offered by a particular organization / institution, such as the use of public transportation, education, food and health and many more that are related to daily life. So from that competition between services is inevitable in order to win the hearts of consumers.

Quality is related to customer satisfaction. The customer will be a benchmark for the good or quality of a particular company / institution. With quality, long-term relationships will be established between customers and companies / institutions that will be mutually beneficial. These relationships will create emotional ties that allow companies / institutions to understand carefully the expectations and needs of customers. Companies can increase customer satisfaction by providing good service of course.

From the explanation above, it can be concluded that service delivery has a very important role in maximizing customer satisfaction which in turn can encourage an increase in corporate profits. So from that the company is required to always evaluate the quality of service in order to improve the quality of services that are owned in order to be able to maintain customers and expand market reach.
Hospital is one of the companies engaged in health services that have a vital role in every level of society. In order to get what the customer wants, the hospital is required to give maximum satisfaction to its customers, but the reality is still often encountered customer dissatisfaction while using hospital services. It was also often heard by the community and sometimes became national news. The problem that often occurs in this hospital is the lack of customer interest in treatment. In previous years the level of patients seeking treatment declined.

Therefore, by measuring service quality perceived by customers, it is hoped that the right strategy can be chosen to improve service quality, which is expected to increase the number of customers in treatment at the hospital. In addition, based on the results of previous studies, it was found that some attributes of service attributes were still at the level that needed improvement. Corrective actions can be done by the canoe method. The canoe method categorizes the attributes of products or services based on how well the product or service can satisfy customer needs, with service attributes can be divided into several categories.

2. Methodology/Experimental
This research is descriptive quantitative due to the measurement of research variables in the form of numbers and conducting analysis in the form of statistics. The approach of this research is through several stages, namely collecting data through questionnaires, analyzing data and testing hypotheses. The calculation steps are as follows:
1. Calculate the frequency of answers from respondents who answered 1, 2, 3, 4 and 5 for each expected service and perceived service
2. Calculate the weight by multiplying the frequency with the values 1, 2, 3, 4 and 5 in each column
3. Calculate the Suitability Level (TK) to see how much is given able to meet customer expectations. The level of conformity can be calculated by dividing the perceived service weight with the expected service weight multiplied by 100%
4. Calculate MIS / Average expectation score and MSS / Average performance score by dividing the weight by the number of respondents
5. Calculate Weighted Factor - WF (%) by dividing MIS by the total MIS score
6. Calculate the Weighted Score - WS by multiplying WF (%) with MSS
7. CSI (Customer Satisfaction Index) can be calculated by dividing the number of WS with the maximum weight of the linkert scale (maximum = 5) so that the CSI calculation results are obtained in numbers. This number has the following criteria (0.00 - 0.34: Dissatisfied), (0.35 - 0.50: Dissatisfaction), (0.51 - 0.65: Quite Satisfied), (0.66 - 0.80: Satisfied) (0.81 - 1.00: Very Satisfied)

From the assessment carried out on CSI, it appears that the Customer feels Very Satisfied.

1. Tangibles dimension
The Tangible dimension is a physical aspect that can include facilities and infrastructure to customer satisfaction itself. Can be seen from table 4.3. in statement No. 1 - 5, almost all CSI values are above 80%, only in number 1 which is still below 80% and needs to be given input so that improvements occur. This indicates that customers are satisfied that the five variables involved in the Tangible Dimension have CSI values averaging close to 80%. The Customer Satisfaction Index with a value of 80% or more indicates the user has felt very satisfied with the company's service performance. CSI Tangible Dimension can be seen in Figure 1.
2. Reliability Dimensions

Reliability dimension is the ability to perform services in accordance with the promised immediately, accurately, and satisfactorily. It can be seen that customers are very satisfied with the reliability aspects of the Hospital seen from Table 4.3. in statements no. 6 - 9 so that the variables involved in this Reliability Dimension have a CSI value of more than 80%. CSI Reliability Dimension can be seen in Figure 2.
3. Responsiveness Dimensions

The Responsiveness dimension is the ability to help customers and willingness to serve customers well. It can be seen that the customer is very satisfied with responsive service from the hospital so the variables involved (table 4.3 in statement No. 10-12) in the Responsiveness Dimension have CSI values of more than 80% or more. The Customer Satisfaction Index with a value of 80% or more indicates the user has felt very satisfied with the company's service performance. CSI Responsiveness Dimension can be seen in Figure 3.

![CSI Responsiveness Dimension](image)

**Figure 3. CSI Responsiveness Dimension**

4. Insurance Dimensions

Insurance dimensions are knowledge and can be trusted so that customers get a guarantee or free from all risks. It can be seen that the customer is very satisfied with the services of the Hospital which guarantees that the variables involved in the Responsiveness Dimension have a CSI value of more than 80% or more. The Customer Satisfaction Index with a value of 80% or more indicates the user has felt very satisfied with the company’s service performance. Insurance Dimension can be seen in Figure 4.
5. Emphaty Dimensions

The Empathy dimension is a feeling of caring to give individual attention to customers, understand customer needs, and ease of contact. It can be that customers feel that the Hospital has empathy for its customers so that almost all the variables involved in the Empathy Dimension have CSI values of more than 80% or more. Only in statement No. 19 that needs to make improvements. The Customer Satisfaction Index with a value of 80% or more indicates the user has felt very satisfied with the company's service performance. Empathy Dimension can be seen in Figure 5.

![CSI Empathy Dimension Graph]

**Figure 5. CSI Empathy Dimension**
2.1. Important Performance Matrix Analysis (IPA)

Importance - Performance Matrix Analysis is carried out in order to find out what attributes are important for customers and what attributes are in accordance with customer desires. Calculation steps to obtain the Importance-Performance Matrix as follows:

1. Calculate the frequency of answers from respondents who answered 1, 2, 3, 4, 5 for the level of customer approval.
2. Calculate the weight by multiplying the frequency with the values 1, 2, 3, 4, 5 in each column
3. Calculate the average weight for each attribute level of satisfaction (Xi) and average weights for each attribute of importance (Yi)
4. Calculate Xi's average and Yi's average for all attributes
5. Subtract each attribute average, Xi and Yi, with the average of the attributes of Xi and Yi
6. Value of the reduction of Xi and Yi for each of these attributes that will be used to map into the IPA diagram
7. The science diagram obtained, consists of 4 quadrants with the meaning of the attributes that enter into each quadrant. Index Performance Matrix Analysis can be seen in Figure 6.

![Figure 6. Index Performance Matrix Analysis](image)

2.2. Kano Model

The Kano model is one way that can be used to identify customer satisfaction, where this model aims to categorize the attributes of a product or service based on how well the product or service is able to satisfy customer needs. Processing Kano Model Questionnaire Data can be seen in Tabel 1.
Table 1. Processing Kano Model Questionnaire Data

| Statement | Kano’s Category | Total | Kano’s Category | Total |
|-----------|-----------------|-------|-----------------|-------|
|           | A | O | M | A+O+M | I | R | Q | I+R+Q | Category |
| TAN 1 | 5 | 5 | 4 | 14 | 25 | - | - | 25 | I |
| TAN 2 | 5 | 2 | 5 | 12 | 27 | - | - | 27 | I |
| TAN 3 | 3 | 6 | 10 | 19 | 20 | - | - | 20 | I |
| TAN 4 | 9 | 6 | 14 | 29 | 10 | - | - | 10 | M |
| TAN 5 | 7 | 3 | 6 | 16 | 23 | - | - | 23 | I |
| REL 1 | 6 | 10 | 12 | 28 | 9 | 2 | - | 11 | M |
| REL 2 | 15 | 2 | 3 | 20 | 19 | - | - | 19 | A |

Integration of Servqual and Kano can be seen in Table 2.

Table 2. Integration of Servqual and Kano

| No | Code | NKP | Excellence/Weakness | Kano’s Category | Improvement |
|----|------|-----|---------------------|-----------------|-------------|
| 1  | TAN 1 | -6.87 | Weakness | I | Improved |
| 2  | TAN 2 | -3.81 | Weakness | I | Improved |
| 3  | TAN 3 | -3.57 | Weakness | I | Improved |
| 4  | TAN 4 | -3.20 | Weakness | M | Improved |
| 5  | TAN 5 | -3.16 | Weakness | I | Improved |
| 6  | REL 1 | -3.67 | Weakness | M | Improved |
| 7  | REL 2 | -3.60 | Weakness | A | Improved |

In servqual and canoe integration it can be concluded that the strategic location (TAN 1), parking area (TAN 2), building conditions (TAN 3), and lighting and ventilation (TAN 5) are in the Indifferent (I) category while building facilities (TAN 4) and good service in the category Must be (M) and Informative in the Attractive (A) category.

3. Results and Discussion
On the Index Performance Analysis Matrix, weakness weaknesses are expressed, namely in quadrant 3 and quadrant 4 which includes attributes 1, 2 and 4. From the results of the study it was found that weaknesses that need to be improved include tangible and reliability aspects. In the tangible aspect, especially the TAN 1 code (strategic location), TAN 2 (adequate
parking area), TAN 3 (building conditions) and TAN 5 (lighting and ventilation) which are located in the canoe category, Indifferent (I) where satisfaction is not affected by the functioning or malfunction of products/services. On TAN 4 (facilities) and REL 1 (good service) lies in the category Must be (M) where a service does not function properly, then customer satisfaction will decrease, and vice versa will not increase if a service goes well. In REL 2 (Informative) lies in the Attractive (A) category, ie customer satisfaction will increase if a service goes well but its satisfaction does not decrease if the service does not function better than its usual function.

4. Conclusion
Based on the results of the research obtained, the services obtained are considered to be quite good in terms of the average customer satisfaction level which reaches 80% which means meeting customer expectations. Based on the calculation of CSI (Customer Satisfaction Index) indicates that customers are very satisfied with the services obtained

In the Kano’s method, TAN 1,2,3 and 5 belong to the Indifferent category, on TAN 5 and REL 1 including Must be category, and on REL 2 including Attractive category so that repairs include TAN 1 (Strategic Location) can be promoted with the introduction of the Hospital through advertisements including brochure brochures and billboard installations in strategic locations, TAN 2 (Parking lots) can be done with the addition of parking lots at Hospital through the purchase of unused vacant land, TAN 3 (Building Condition) Regular maintenance / maintenance of maintenance building, TAN 4 (facilities) can be carried out by maintenance / maintenance of facilities and additional facilities in the form of medical devices and medicines, TAN 5 (lighting and ventilation) can be repaired with respect to ventilation and lighting aspects which are considered to be lacking, REL 1 (good service) can be done by doing it a applicable procedures / SOPs, and periodic training of doctors and nurses is needed and REL 2 (Informative) can be done with the addition of information services regarding the Hospital both complaint services / Call centers etc.

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