

ANALYSIS OF PATIENT SATISFACTION TOWARD CLINIC SERVICES USING INTEGRATION OF SERVICE QUALITY AND KANO MODEL

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Abstrak

Harapan Sehat is a clinic engaged in healthcare sector. Klinik Harapan Sehat has a good performance. However, there are not many people that have discovered the advantages provided by the clinic. Despite having the good performance and implementing several targeted programs, Klinik Harapan Sehat is still experiencing fluctuation that has not been significant.

In this research, the analysis of patient satisfaction towards service quality was performed using Kano model and integration method of service quality at Klinik Harapan Sehat. In addition, the attributes were also identified on several respondents to be analyzed and applied in accordance with the capacity of Klinik Harapan Sehat to find out the level of patient satisfaction and quality towards the service in order to improve service standardization of the clinic.

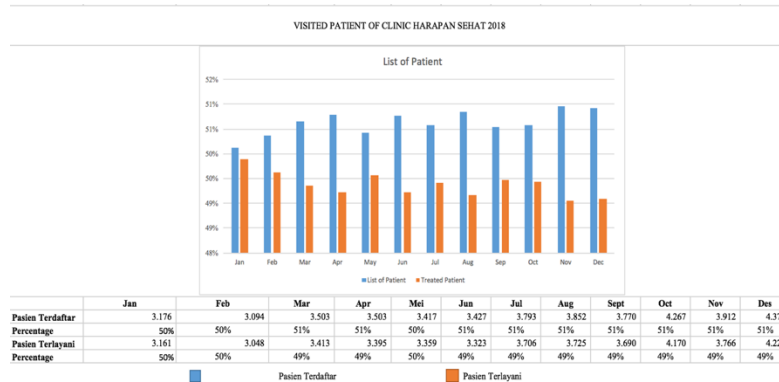
The purpose of this research is to identify the true customer needs that are necessarily implemented by Klinik Harapan Sehat based on the level of patient satisfaction towards the service at Klinik Harapan Sehat and the service quality which include tangibles, reliability, responsiveness, assurance, and empathy dimensions and to find out the relation between patient satisfaction and service fulfillment at Klinik Harapan Sehat through Kano model. There were 5 attributes from the respondents that were needed to be maintained and 10 attributes that were needed to be prioritized. The prioritized attributes were identified and the recommendations were provided.

Keywords: Need Attributes, Service Quality, Kano Model, True Customer Needs.

1. Background

Healthcare services are greatly in demand not only in cities, but also in sub-districts, regencies, and even remote areas that can be reached by all people. Various services provided by healthcare services determine the quality in accordance with each business vision and mission, as well as business motto. One of the healthcare service development can be seen from clinics located in Cianjur. One of the clinics in Cianjur is Klinik Harapan Sehat that was established in 2008. It was first established by dr. Yusuf Nugraha and is located at Jalan Raya Cilaku, Cibeber km. 9N. Klinik Harapan Sehat was established to provide optimal healthcare service for people without being constrained by costs and to help government to improve public health. Service operational at the clinic is conducted every day to overcome patients' needs at any time. Klinik Harapan Sehat's mission is to provide an optimal "*Pasti Mudah*" service, a movement to share, help, and protect the environment, build a "*Kampung Sehat*", foster young generation and healthcare communication, as well as to increase nationalism and build cross-sectoral cooperation, and several other programs, such as "*Pasti Mudah*" program.

There are several other facilities as well. If people are unable to collect used plastic bottles due to physical limitations, they can still receive free services by reading Qur'an. Furthermore, if people cannot do both and do not desire the free services but they are burdened due to the limited costs, Klinik HS also facilitates them to pay as much as they are able or not determined based on the price. The goal of Klinik HS is "*Membuat Ibu Pertiwi Tersenyum*" as quoted in the interview. This means that the owner of Klinik HS, dr. Yusuf Nugraha clearly believes in the hadith of Prophet Muhammad SAW, "Whoever helps ease someone in difficulty, Allah will make it easy for him in this world and in the Hereafter". In other words, the facility implemented in Klinik Harapan Sehat is one of the efforts to improve the health level of the underprivileged people.



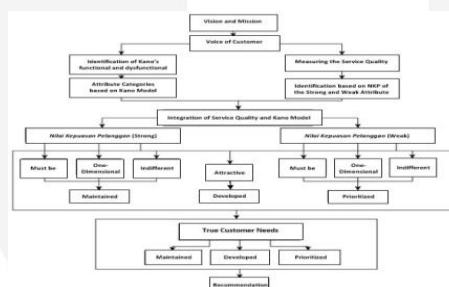
Picture 1.1 Visited Patient of Clinic HS

Klinik Harapan Sehat only recapitulated patients' complaint data using Quality Committee's Complaints and Suggestions register book and performed a direct evaluation afterwards. Therefore, Klinik Harapan Sehat still experienced fluctuation in providing its service to the patients because the number of the patients was increasing, which made it difficult for the clinic to provide its service. Thus, a service improvement is required to minimize problems and provide recommendations.

This research was conducted because there was a related research which showed the relation between patient satisfaction and service performed by Aida Andriani (2017). Therefore, the researcher is interested in conducting a correlated research entitled "Analysis of Patient Satisfaction toward Clinic Service Using Integration of Service Quality and Kano Model" at Klinik Harapan Sehat Cianjur.

2. Methodology

In the conceptual model, the research is conducted based on the integration between Kano model and Service Quality for customer needs. The purpose of the conceptual model is as a design made based on the structure of the framework to solve the problem, which represents the mindset of previous researchers. The model of the research concept is as follows:



2.1 Validity Test

The validity test aims to find out the validity of the statement of the respondent on the questionnaire. If the questionnaire is not valid, the improvement will be performed for redesign by evaluating the questions submitted previously. However, if the questionnaire is valid, the research can be continued to the next step. The calculation uses bivariate pearson correlation (Pearson Product Moment Correlation) and correlated item-total correlation (Malhotra 2007). If the statement correlation has a total value of >0.30 , the statement is declared valid.

2.2 Reliability Test

The reliability test is calculated by alpha cronbach (α) using SPSS. This was conducted because according to Sugiyono (2012), the reliability is a measuring tool to show consistency in research from time to time or in one condition with other conditions. The result of $\alpha > 0.60$ = reliable, the result of $\alpha < 0.60$ = unreliable.

$$\alpha = \left[\frac{k}{k-1} \right] \left[1 - \frac{\sum S_i^2}{S^2} \right]$$

Figure 1.2 Formula of Reliability Test

2.3 Service Quality

There were several methods used in this research, one of which is Service Quality method. According to Tan & Pawitra (2001), by comparing perceptions based on (perceived service), it can be concluded that the service quality is perceived well if the service received is in line with the expectations. If the service quality is perceived well, the service received will exceed the expectations and if the service quality is very bad, it can be perceived that the service quality is not received as expected (Tjiptono, 2005).

The results of the previous research on the dimensions yielded 5 dimensions that will be used in this research.

These dimensions can assess the service quality towards the customer satisfaction (Parasuraman, Zeithaml and Berry in Kotler 2002):

1. Tangibles: The company's attractiveness of physical quality, equipment, and appearance to attract outside parties.
2. Reliability: It refers to the ability to provide service based on the quality of the company's core business.
3. Responsiveness: To provide services immediately to the customers.
4. Assurance: The company's ability to build trust and confidence performed by its employees to the customers.

It can be concluded that there were 5 dimensions that supported the improvement, namely Tangibles, Reliability, Responsiveness, Assurance, and Emphaty. Generally, the 5 aspects in Service Quality aim to evaluate or improve the service quality to be better by looking at the perspective of customer satisfaction. The assessment of the service quality is performed by considering *Nilai Kepuasan Pelanggan* (NKP) of the provided service. The following are the ServQual calculation to determine Gap and NKP:

1. $\text{Gap} = \text{Kepuasan} - \text{Harapan}$

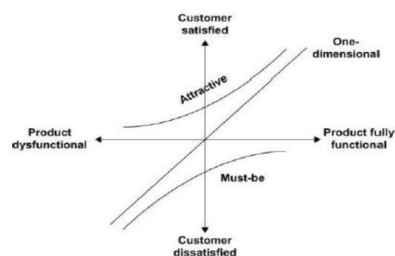
2. $\text{NKP} = \text{Gap} \times \text{Kepentingan}$

The effect of service quality is a benchmark to assess customer satisfaction towards certain service. Several experts believe that the customer satisfaction towards the service quality based on experience will be focused on evaluation or as a reference for overall quality improvement. In this context, it is also stated that the level of customer satisfaction has the same equation. Below are the rationale as stated by Tjiptono F. d. (2005):

1. If the customers do not have prior experience with a company, the perception on the service quality is based on their expectations.
2. Interaction (Service Encounter) is a process of acceptance and improvement of the company to customers on the perception of service quality.
3. Each additional interaction from the company will strengthen or otherwise change customers' perception of the service quality.
4. Perception of the service quality that customers have improved through the company in the future.

2.4 Kano Model

This research was performed using Kano model. Kano model is a tool for analyzing customer needs and satisfaction to classify an attribute based on how the quality affects customer needs to achieve satisfaction. The model is developed by Noriaki Kano (Kano, 1984). Kano model can identify the factors of service quality that affect customer satisfaction and service characteristics on customer's quality perceptions (Basfirinci, 2015). According to Kano, N., et al. (1984), Kano model is categorized into 3 aspects to meet customer needs, namely "must be" (basic attribute), "one-dimensional" (performance), and "attractive".



Source: (Wang, 2010)
Figure I.3 Kano Model

According to Tan, K.C. & T.A. Pawitra (2001), in determining the Kano categories for each attribute, Blauth's formula is applied.

- a. If $(\text{one-dimensional} + \text{attractive} + \text{must-be}) > (\text{indifferent} + \text{reverse} + \text{questionable})$, the grade is obtained from the maximum of (one-dimensional, attractive, must-be).
- b. If $(\text{one-dimensional} + \text{attractive} + \text{must-be}) < (\text{indifferent} + \text{reverse} + \text{questionable})$, the grade is obtained from the maximum of (indifferent + reverse + questionable).
- c. If the value of $(\text{one-dimensional} + \text{attractive} + \text{must-be}) = (\text{indifferent} + \text{reverse} + \text{questionable})$, the grade is obtained from the maximum among all Kano categories, namely (one-dimensional, attractive, must-be, indifferent, reverse, questionable).

In distributing questionnaire of Kano model and in analyzing the questionnaire data, data can be created with the calculation using the Kano model, in which each question has two parts; functional and dysfunctional that must be studied firstly in the evaluation table on the Kano model. The recapitulation of the answers from respondents and the attributes generated in the evaluation table of Kano model is summarized below.

Table I.1 Blauth's Formulas

Atribut Needed		Dysfunctional (negative question)				
		1	2	3	4	5
		Like	Must be	Netral	Live with	Dislike
Functional (positive question)	Like	Q	A	A	A	Q
	Must be	R	I	I	I	M
	Netral	R	I	I	I	M
	Live with	R	I	I	I	M
	Dislike	R	R	R	R	Q
Notes: A = Attractive, I = Indifferent, M = Must be O = One dimensional, Q = Questionable, R= Reverse						

3. Results and Discussions

The results in data analysis are obtained by analytic surveys using an approach to Non-Probability Sampling as an unknown subject and the sampling techniques at this stage used Simple Random Sampling techniques by selecting populations through random procedures to represent specific populations to be studied and to find out the relation between the service quality of healthcare and patient satisfaction. Afterwards, the data are analyzed by Normality Test. The normality test aims to find out whether the data obtained has a normal distribution or not. The results of the data were obtained using 30 respondents in the pretest of the analysis. Furthermore, in the calculation of construct validity, if the results of pretest data have a normal distribution with large amount and have parameters, such as mean and deviation standard, the calculation of validity is conducted by pearson product moment correlation. However, if the results are not normal, the calculation is performed with Rank Spearman using SPSS software. The research was conducted at Klinik Harapan Sehat Cianjur in May 2019. The collection stage was conducted by doing the interview and filling out the questionnaire sheet by the respondents who are currently being or have been the patients at Klinik Harapan Sehat Cianjur so that the information obtained from respondents is in accordance with their knowledge. The data collection was carried out in the waiting room of Klinik Harapan Sehat Cianjur.

3.1 Analysis of Data Processing on Service Quality's Questionnaire

Data measurement, especially primary data in the form of responses and answers of the respondents towards the questions was performed using Likert scale. Alternative assessments in measuring items of expectation, importance, and reality consist of 5 alternative choices with the following scores:

Table 1.2 Servqual Questionnaire

Importance Level		Reality Level		Expectation Level	
	<i>Sangat Tidak Penting</i>		<i>Sangat Tidak Puas</i>		<i>Sangat Tidak Diharapkan</i>
	<i>Tidak Penting</i>		<i>Tidak Puas</i>		<i>Tidak Diharapkan</i>
	<i>Penting</i>		<i>Puas</i>		<i>Diharapkan</i>
	<i>Sangat Penting</i>		<i>Sangat Puas</i>		<i>Sangat Diharapkan</i>

Analysis of data processing on servqual questionnaire was performed based on questionnaires of importance level, expectation level, and reality level. These questionnaires then produced two attributes, namely strong attribute and weak attribute based on the statement on the NKP of each attribute. In terms of strong attribute, there were 5 attributes with positive NKP, which was intended to find out whether the service of Klinik HS is in accordance with the respondent's reality.

Table 1.3 Strong Attributes

No	Results of Need Attribute through Interview	Code	NKP	Weak/Strong	Kano Category	Recommendation
1	The clinic's comfortable and clean condition	TAN01	0.44	Strong	M	Maintained
2	The availability of waiting room for patients	TAN03	0.33	Strong	M	Maintained
3	The availability of information on "Pasti Mudah" program for patients	REL02	0.75	Strong	M	Maintained

No	Results of Need Attribute through Interview	Code	NKP	Weak/Strong	Kano Category	Recommendation
4	The doctor's examination in accordance with the schedule	RES02	0.19	Strong	M	Maintained
5	The explanation of the doctor on the treatment to be carried out	ASR02	0.86	Strong	M	Maintained

Weak attributes are the attributes that produce negative NKP. These attributes have greater expectation level than the satisfaction level. This means that the negative NKP attributes have not yet met the patient's expectations on service at Klinik Harapan Sehat.

Table I.3 Weak Attributes

No	Results of Need Attribute through Interview	Code	NKP	Weak/Strong	Kano Category	Recommendation
1	The doctor's clean and neat appearance	TAN02	-0.36	Weak	A	Developed
2	The availability of convenient facilities	REL01	-0.63	Weak	M	Prioritized
3	The availability of " <i>Pasti Mudah</i> " program service to facilitate patients	REL03	-0.50	Weak	M	Prioritized
4	The attitude and behavior of officer in providing service	RES01	-0.04	Weak	M	Prioritized
5	The doctor's pace in examining patients	RES03	-0.01	Weak	M	Prioritized
6	The doctor's sincerity in treating patients	ASR01	-0.45	Weak	M	Prioritized
7	The response and explanation of the doctor on patient's complaints	ASR03	-0.26	Weak	M	Prioritized
8	The attitudes of nurse and doctor in responding to patient's questions	EMP01	-0.89	Weak	O	Prioritized
9	The clinic's pace in providing service to the patients	EMP02	-1.01	Weak	M	Prioritized
10	The service in accordance with patient's needs	EMP03	-1.42	Weak	M	Prioritized

3.2 Analysis of Data Processing on Kano Model Questionnaire

Based on the Chapter IV, the questionnaire results were obtained on the Kano model. There was one attribute of the attractive category, while there were thirteen attributes of the must-be category, one attribute of the one-dimensional category and there was no attribute of the indifferent category. Based on the results of the data processing on Kano model questionnaire, the results and the explanation of the need attributes of service at Klinik Harapan Sehat are as follows:

Table 1.4 Kano Model Questionnaire

No.	Attribute Code	A	O	M	A+O+M	I	R	Q	I+R+Q	Kano Category
1	TAN01	10	19	37	66	34	0	0	34	M
2	TAN02	31	20	19	70	30	0	0	30	A
3	TAN03	11	17	40	68	32	0	0	32	M
4	REL01	14	22	33	69	31	0	0	31	M
5	REL02	17	11	37	65	35	0	0	35	M
6	REL03	14	15	37	66	33	0	1	34	M
7	RES01	16	23	31	70	29	0	1	30	M

No.	Attribute Code	A	O	M	A+O+M	I	R	Q	I+R+Q	Kano Category
8	RES02	20	15	33	68	32	0	0	32	M
9	RES03	6	10	43	59	41	0	0	41	M
10	ASR01	11	27	33	71	29	0	0	29	M
11	ASR02	4	13	42	59	41	0	0	41	M
12	ASR03	18	25	29	72	28	0	0	28	M
13	EMP01	10	33	30	73	27	0	0	27	O
14	EMP02	14	11	39	64	36	0	0	36	M
15	EMP03	10	28	32	70	30	0	0	30	M

Based on the Table above, it can be seen that there are 13 need attributes included in must-be category, which are TAN01, TAN03, REL01, REL02, REL03, RES01, RES02, RES03, ASR01, ASR02, ASR03, EMP02, and EMP03. Meanwhile, there is 1 attribute included in one-dimensional category, which is EMP01. The attribute categorized as attractive category is TAN02. Moreover, there was no attribute included in indifferent category.

3.3 Analysis of Integration on Servqual and Kano Model

Below are the results of integration on the servqual and Kano model:

No	Results of Need Attribute through Interview	Code	NKP	Weak/Strong	Kano Category	Recommendation
1	The clinic's comfortable and clean condition	TAN01	0.44	Strong	M	Maintained
2	The doctor's clean and neat appearance	TAN02	-0.36	Weak	A	Prioritized
3	The availability of waiting room for patients	TAN03	0.33	Strong	M	Maintained
4	The availability of convenient facilities	REL01	-0.63	Weak	M	Prioritized
5	The availability of information on "Pasti Mudah" program for patients	REL02	0.75	Strong	M	Maintained
6	The availability of "Pasti Mudah" program service to facilitate patients	REL03	-0.50	Weak	M	Prioritized
7	The attitude and behavior of officer in providing service	RES01	-0.04	Weak	M	Prioritized
8	The doctor's examination in accordance with the schedule	RES02	0.19	Strong	M	Maintained
9	The doctor's pace in examining patients	RES03	-0.01	Weak	M	Prioritized
10	The doctor's sincerity in treating patients	ASR01	-0.45	Weak	M	Prioritized
11	The explanation of the doctor on the treatment to be carried o	ASR02	0.86	Strong	M	Maintained
12	The response and explanation of the doctor on patient's complaints	ASR03	-0.26	Weak	M	Prioritized
13	The attitudes of nurse and doctor in responding to patient's questions	EMP01	-0.89	Weak	O	Prioritized

No	Results of Need Attribute through Interview	Code	NKP	Weak/Strong	Kano Category	Recommendation
14	The clinic's pace in providing service to the patients	EMP02	-1.01	Weak	M	Prioritized
15	The service in accordance with patient needs	EMP03	-1.42	Weak	M	Prioritized

4. Conclusions

Based on the results of the research identified, it can be concluded that:

1. Based on the data processing of the Servqual questionnaire, the results yielded five need attributes of Klinik Harapan Sehat's service with strong attributes and with the largest NKP of 0.86. The results also yielded ten need attributes of the Klinik Harapan Sehat's service with weak attributes and with the largest NKP of -1.42. The processing results were obtained based on the NKP resulted in this research.
2. Based on the data processing on Kano model questionnaire, the result yielded one need attribute included as attractive category, thirteen attributes included as must-be category, and one attribute included as one-dimensional category. Meanwhile, there was no need attribute included as indifferent category.
3. Based on the results of integration on true customer needs, there were 10 need attributes that need to be prioritized. These need attributes included 'the doctors' clean and neat appearances' with the NKP of -0.36, 'the availability of convenient facilities' with the NKP of -0.63, 'the availability of *Pasti Mudah* program service to facilitate patients' with NKP of -0.50, 'the attitude and behavior of officer in providing service' with the NKP of -0.04, 'the doctor's pace in examining patients' with the NKP of -0.01, 'the doctor's sincerity in treating patients' with the NKP of -0.45, 'the response and explanation of the doctor on patient's complaints' with the NKP of -0.26, 'the attitudes of nurse and doctor in responding to patient's questions' with the NKP of -0.89, the clinic's pace in providing service to patients' with the NKP of -1.01, and 'the service in accordance with patient needs' with the NKP of -1.42. The processing results obtained the weak attribute with the highest NKP of -1.42 due to the lack of alertness of clinic staff in serving the patients with special needs. The clinic staff were also expected to always meet the needs of patients and to provide immediate and accurate service. Thus, the attribute of 'the service in accordance with patient needs' with EMP03 code resulted in the highest value of weak NKP and needs to be prioritized.



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