



# Analysis of the Effect of Service Quality on Customer Satisfaction (Study on Outpatient Cardiac Polyclinic at Kartika Kasih Hospital)

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**Abstract.** Service quality is something that is directly noticed by customers and is the first determining factor in customer satisfaction. This is because a service interacts directly with customers and its intangible nature and cannot be owned makes customers need evidence that the services they receive are as expected through the quality of service provided by service providers. Customers will infer the quality of the service from the places, people, communication actions, and prices they observe. Customer satisfaction is something that is felt when the needs and desires of consumers are met or even exceed their perceptions and expectations through the services provided. The type of research used is descriptive research with the approach used is a quantitative approach. The aim of this research is to find out how much influence the independent variables have Tangibles (X1), Reliability (X2), Responsiveness (X3), Assurance (X4) and Empathy (X5) to the dependent variable Consumer Satisfaction (Y). The tool for measuring in this quantitative research is a questionnaire to produce data obtained in the form of answers from consumers or patients to questions or questions asked.

**Keywords:** Service Quality · Customer Satisfaction · Tangibles · Reliability · Responsiveness · Assurance · Empathy

## 1 Introduction

In this global era, development and competition are two things that are so tight, not only in the business world, competition is also something that every agency pays attention to, where they compete to provide the best for society or consumers who have used the services or services offered [1]. This also applies to one of the health service institutions, namely hospitals, where the number of competitors is the main problem and a challenge for health service institutions.

Kartika Kasih Hospital is a privately owned hospital and is a type D hospital located in the City of Sukabumi, West Java. Kartika Kasih Hospital provides health services supported by competent experts such as services from specialist doctors and supported by other medical facilities. One of the specialist doctors who recently joined Kartika Hospital is a cardiologist. The cardiac polyclinic began to join Kartika Hospital in 2018

and in 2020–2021 the visiting data for cardiac polyclinic patients has decreased. An overview of the number of patient visits to the cardiac polyclinic at the hospital. Kartika Kasih can be seen in the table below.

In this study, the focus will be on services at the cardiac polyclinic, which is a new polyclinic at the hospital. Kartika Kasih Sukabumi and is addressed to patients who visit the cardiac polyclinic, most of whom are new patients as well. This aims to assess how the development of services at Kartika Kasih Sukabumi Hospital. To understand this problem, researchers will try to look at the side of the service recipient, namely the patient, in evaluating the gap between expectations and perceptions of the quality of services provided at Kartika Kasih Hospital, especially the cardiac polyclinic. This gap is caused by management mismatches for the services expected by patients. Therefore to measure these gaps, theoretically the model that can be used is the SERVQUAL model which consists of dimensions of tangible, reliability, responsiveness, assurance and empathy.

## 2 Literature Review

### Service Quality

Service quality is something that is directly noticed by customers and is the first determining factor in customer satisfaction. This is because a service interacts directly with customers and its intangible nature and cannot be owned makes customers need evidence that the services they receive are as expected through the quality of service provided by service providers. Customers will infer the quality of the service from the places, people, communication actions, and prices they observe. This conclusion will determine the final result in the form of whether they are satisfied or not. The service quality approach that is widely used as a reference in marketing research and also used as a variable for service quality in this study is the Service Quality model, the 5 (five) dimensions of service quality include [2]:

- 1) Tangibles is the ability of a company to demonstrate its existence to external parties through the appearance and capabilities of the company's physical facilities and infrastructure. Included in physical evidence is physical facilities (buildings, warehouses, etc.), tools and equipment used (technology) and the appearance of employees.
- 2) Reliability is the company's ability to provide services in accordance with what was promised accurately and reliably.
- 3) Responsiveness is a policy to assist and provide fast and appropriate services to customers by conveying clear information.
- 4) Assurance is the knowledge, courtesy and ability of the company's employees to foster customer trust in the company.
- 5) Empathy, namely giving a sincere and individual or personal attitude given to customers by trying to understand their desires.

### Consumer Satisfaction

Consumer satisfaction can be classified into five perspectives. First, based on the Normative Deficit Definition perspective, it means that customer satisfaction is a comparison

between actual results and results that are culturally acceptable. Second, the Equity Definition perspective means that customer satisfaction is a comparison of the gains or benefits obtained from social exchanges. If these gains are not the same, then the aggrieved party will be dissatisfied. Third, the Normative Standard Definition perspective defines that customer satisfaction is a comparison between actual results and standard customer expectations formed from experiences and beliefs about the level of performance that should be received from a particular brand. Fourth, the Attributional Definition perspective defines that customer satisfaction is satisfaction not only determined by the presence or absence of disconfirmation of expectations, but also by the source of the cause of the disconfirmation. Fifth, the Procedural Fairness Definition perspective defines that customer satisfaction is a function of the customer's belief or perception that he has been treated fairly [3].

Consumer satisfaction can be interpreted as a comparison between services or results received by consumers with consumer expectations. Where the services or results received must at least be equal to consumer expectations or even exceed them [4]. It can be concluded that consumer satisfaction is something that is felt when the needs and desires of consumers are met or even exceed their perceptions and expectations through the services provided

### Hypothesis and Research Framework

From some of the explanations above, a framework of thought is formed is shown in Fig. 1

#### Hypothesis Tangibles

Completeness of facilities and infrastructure provided by the company is one of the reasons consumers choose and use company services. The comfort and cleanliness of the company's environment is also an added value to consumer perceptions. Improving service quality is one of the factors that can have a positive effect, through the physical facilities and comfort provided [5]. Based on the previous explanation, the hypothesis is as follows:

H1: The tangibles dimension has a positive and significant effect on customer satisfaction.

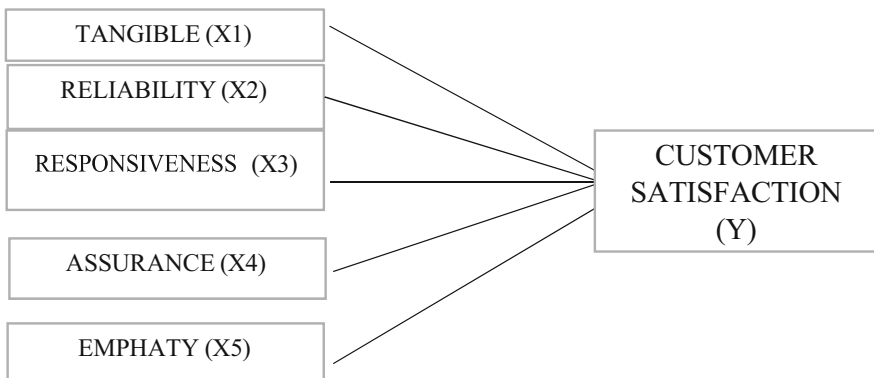


Fig. 1. Research framework

**Reliability**

Appropriateness of services or promises given with consumer expectations can determine consumer satisfaction. Providing the same service to consumers, the timeliness given, the minimum number of mistakes made by officers can make consumers feel their expectations are fulfilled. Based on the research variable reliability has a positive and significant effect on customer satisfaction [6]. Then the hypothesis is obtained as follows:

H2: The reliability dimension has a positive and significant effect on customer satisfaction.

**Responsiveness**

It has become the main task of service providers to respond quickly and swiftly in helping consumers to provide what they want. In providing services, especially health services such as hospitals, officers must have the ability to help consumers, have a good sense of wanting to help solve problems faced by consumers and enthusiastic officers in serving the interests of patients are things that must be considered by health workers. Based on this explanation, the following hypothesis is obtained:

H3: The responsiveness dimension has a positive and significant effect on customer satisfaction.

**Assurance**

The existence of a sense of security and comfort, such as the absence of doubts felt by consumers and feeling free from harmful risks, is a guarantee for consumers. This dimension includes the honesty of employees and their ability to convey this belief to customers. Assurance, empathy and reliability each have a positive effect on customer satisfaction [7]. Then the hypothesis is obtained as follows:

H4: The assurance dimension has a positive and significant effect on customer satisfaction.

**Empathy**

Companies must understand well the problems faced by consumers and must be able to act in the interests of consumers. If consumers are satisfied with the empathy of the employees, they will be satisfied with the services that have been provided. Tangible variables, reliability, responsiveness and empathy partially have a significant influence on customer satisfaction [8]. From this explanation the hypothesis is as follows:

H5: The empathy dimension has a positive and significant effect on customer satisfaction.

**3 Method**

The method in this study used a survey method provided by distributing questionnaires. This type of research is a descriptive research that aims to describe the quality of service to customer satisfaction. The type of research is determined based on the formulation of

the problem and the purpose of this study, namely knowing how the independent variables influence Tangibles (X1), Reliability (X2), Responsiveness (X3), Assurance (X4) and Empathy (X5) on the dependent variable, namely Customer Satisfaction (Y). The approach used is a quantitative approach, namely research that uses a lot of numbers or uses a research design based on statistical procedures or by other means of quantification to measure the research variables. The tool for measuring in this quantitative research is a questionnaire to produce data obtained in the form of answers from consumers or patients to questions or questions posed.

The population in this study were outpatients at the Cardiac Polyclinic at Kartika Kasih Sukabumi Hospital. The number of samples used as respondents must be adjusted to the number of indicators used and the appropriate sample size ranges from 100–200 respondents, assuming  $n \times 5$  observed variables (indicators) up to  $n \times 10$  observed variables (indicators) [9]. In this study the following results were obtained: 20 (indicator)  $\times 5 = 100$  respondents.

The data analysis technique used in this study includes the classical assumption test, multiple linear regression analysis, hypothesis testing and the coefficient of determination test ( $R^2$ ). This analysis was processed using the Software Statistical Product and Service Solution (SPSS) program which had previously been tested through testing data instruments through validity and reliability tests.

## 4 Result and Discussion

### 4.1 Results of Multiple Linear Analysis

Multiple linear regression analysis was carried out to determine whether or not there was an influence of two or more independent variables (X) on the dependent variable (Y). Based on the table above, the Unstandardized Coefficients B column shows that the regression coefficient results for the Tangibles variable (X1) are 0.256, the Reliability variable coefficient (X2) is  $-0.059$ , the Responsiveness coefficient (X3) is 0.258, the Assurance coefficient (X4) is 0.131 and Empathy coefficient (X5) of 0.335. Then based on the results of these data obtained a regression equation as follows:

$$Y = (-0.576) + 0.256X1 - 0.059X2 + 0.258X3 + 0.131X4 + 0.335X5 + e$$

Based on the multiple regression equation, the equation can be explained as follows:

- 1) Constant (a) of  $-0.576$  indicates that if the independent variables consisting of tangible, reliability, responsiveness, assurance and empathy are worth 0 (zero), then the customer satisfaction variable has a value of  $-0.576$ , which means that the influence of these five variables is important to increase customer satisfaction customer.
- 2) The tangible coefficient of 0.256 indicates that the tangible variable has a positive effect on customer satisfaction, where every time there is an increase in the tangible variable by 1 (one) unit, customer satisfaction will increase by 0.256, assuming the other variables are constant.
- 3) The reliability coefficient is  $-0.059$  indicating that the reliability variable has a negative effect on customer satisfaction or this shows that the reliability variable has a

relationship in the opposite direction to customer satisfaction. it can be interpreted that for every one unit increase in the reliability variable, the customer satisfaction variable will decrease by 0.059 assuming that the other independent variables are constant.

- 4) The responsiveness coefficient is 0.258 indicating that the responsiveness variable has a positive effect on customer satisfaction, where every time there is an increase in this variable by 1 (one) unit, customer satisfaction will increase by 0.258 assuming other variables remain the same.
- 5) The Assurance coefficient of 0.131 indicates that the assurance variable has a positive effect on customer satisfaction, where every time there is an increase in the assurance variable by 1 (one) unit, patient satisfaction is Rs. Kartika Kasih Sukabumi will increase by 0.131 assuming other variables are constant.
- 6) The Empathy coefficient of 0.335 shows that the empathy variable has a positive effect on customer satisfaction, where each time there is an increase in the empathy variable by 1 (one) unit, customer satisfaction will increase by 0.335 assuming the other variables are constant.

**4.2 Coefficient of Determination (R<sup>2</sup>)**

Testing the coefficient of determination functions to determine the percentage of influence exerted by the independent variables simultaneously on variable Y. The results of the analysis of the coefficient of determination can be seen in Table 3 (Table 1, 2).

**Table 1.** Number of Patient Visits to the Cardiac Polyclinic Hospital. Kartika Kasih Sukabumi Year 2020–2021

No	Year	Number of Patient Visits
1	2020	4.847 Visits
2	2021	4.516 Visits

Source: HIS data on cardiac polyclinic patient visits, Kartika Kasih Hospital patients

**Table 2.** Results of multiple linier analysis

Model	Unstandardized Coefficients	
	B	Std. Error
1 (Constant)	-.576	.764
Tangibles	.256	.077
Reliabiliy	-.059	.098
Responsiveness	.258	.102
Assurance	.131	.089
Empthy	.335	.104

**Table 3.** Coefficient of Determination Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.828 <sup>a</sup>	.686	.669	.98344

From the table above it can be concluded that the coefficient of determination (Adjusted R Square) is 0.669 or 66.9%, which means that the Tangible, Reliability, Responsiveness, Assurance, and Empathy variables contribute to the influence of customer satisfaction by 66.9%. While the remaining 33.1% customer satisfaction is influenced by other variables not examined in this study.

### 4.3 Partial Significance Test (t)

T test is done to find out how far the influence of an independent variable on the dependent variable is partial or individual [10]. There are provisions as a basis for decision-making on the T-test (Table 5.):

- a)  $H_a$  is accepted when  $t_{\text{count}} > t_{\text{table}}$   $H_a$  is accepted when the value of sig < 0,05  
 b)  $H_a$  is rejected when  $t_{\text{count}} < t_{\text{table}}$   $H_a$  is rejected when the value of sig > 0,05

The t table value in this study is 1.985 which is obtained from the following calculations:

$$t_{\text{tabel}} = t(a/2 ; n-k-1) = (0,025 ; 94) = 1,985$$

From the results of the t test in Table 4 and the t table values obtained, it can be proven that the hypothesis for each variable is as follows:

#### 1) Hypothesis Testing H1

Based on the table above on the tangible variable (X1) the t count is 3.309 > 1.985 and a significance value of 0.01 < 0.05 which means that there is a significant influence

**Table 4.** Partial Significance Test (t)Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.576	.764		-.754	.453
	Tangibles	.256	.077	.271	3.309	.001
	Reliability	-.059	.098	-.056	-.601	.549
	Responsiveness	.258	.102	.258	2.530	.013
	Assurance	.131	.089	.158	1.483	.141
	Empty	.335	.104	.316	3.224	.002

**Table 5.** Simultaneous Test ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	198.398	5	39.680	41.028	.000 <sup>b</sup>
Residual	90.912	94	.967		
Total	289.310	99			

between the tangible variables partially on customer satisfaction. H1 which states that the tangible dimension has a positive effect on customer satisfaction is accepted.

#### 2) Hypothesis Testing H2

From the data above it can be seen that the significant value for the reliability variable (X2) for the Y variable is  $0.549 > 0.05$  and t count is  $-0.601 < 1.985$ . So it can be said that there is no positive and significant influence between the reliability variable on customer satisfaction. Then H2 which states the reliability dimension has a positive effect on customer satisfaction is rejected. This can be interpreted if the ability to provide appropriate and prompt services certainly increases hospital patient satisfaction. Kartika Kasih Sukabumi.

#### 3) Hypothesis Testing H3

From the data above, the results of the t test on the responsiveness variable (X3) show a calculated t value of  $2.530 > 1.985$  and a significant value of  $0.013 < 0.05$ . It can be concluded that the responsiveness variable has a positive and significant effect on the consumer satisfaction variable, so H3 is acceptable.

#### 4) Hypothesis Testing H4

Based on the data presented in Table 4, the assurance variable (X4) shows a t- count of  $1.483 < 1.985$  and a significant value of 0.141. So from this data, it is obtained that the assurance variable has a positive influence on the consumer satisfaction variable, but it is not significant. Which means that H4 which states that the assurance dimension has a positive and significant effect on customer satisfaction is rejected.

#### 5) Hypothesis Testing H5

Based on Table 4. on the empathy variable (X5) the result of t count is  $3.224 > 1.985$  with a significant value of  $0.002 < 0.05$ . Then H5 states that the empathy dimension has a positive effect on customer satisfaction, which is acceptable because the calculated t value is greater than t table and the significant value is less than 0.05.

### 4.4 Simultaneous Test (F)

The purpose of doing the F test is to see whether or not there is a simultaneous effect of the independent variable (X) on the dependent variable (Y) with the following conditions:

- If the sig value  $< 0.05$  or  $f_{\text{count}} > f_{\text{table}}$ . then there is a simultaneous effect
- If the sig value  $> 0.05$  or  $f_{\text{count}} > f_{\text{table}}$ . then there is no simultaneous effect

The obtained  $f_{\text{table}}$  value of 2.31 is obtained by the formula  $F_{\text{table}} = f(k; n-k) = f(5;95)$ , where k is the number of independent variables and n is the number of respondents, by looking at the distribution table  $f_{\text{table}}$  found a value of 2, 31.



Based on the data above, it is known that the significant value for the influence of the independent variables consisting of tangible (X1), reliability (X2), responsiveness (X3), assurance (X4) and empathy (X5) simultaneously on customer satisfaction (Y) is equal to  $0.000 < 0.05$  and  $f_{\text{count}} \text{ of } 41.028 > 2.31$ . So that it can be concluded that there is a simultaneous influence given by the independent variable to the dependent variable.

## 5 Conclusion

Based on the results of the research that has been done, the following conclusions can be drawn:

- 1) Tangible variable (X1) has a positive and significant effect on consumer satisfaction
- 2) The variable reliability (X2) has a negative and insignificant effect on customer satisfaction
- 3) The responsiveness variable (X3) has a positive and significant effect on customer satisfaction
- 4) Variable Assurance (X4) has a positive but not significant effect on customer satisfaction
- 5) The empathy variable (X5) has a positive and significant effect on customer satisfaction.

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