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Research paper



Service Quality, Satisfaction and Trust: a Study of Public Hospitals in Bandung, Indonesia

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Abstract

Research on service quality has been performed by researchers on various research objects. In many previous studies, service quality provided by service providers became the factor that affects customer satisfaction and other various research variables. The study was conducted at public hospitals that offer healthcare services with a focus on service quality. The purpose of this study was to analyze the service quality provided by public hospitals, and to test their effect on the satisfaction and trust of patients or attendants. The objects of this research are the public hospitals in Bandung with the patients or attendants as the unit of analysis. Primary data were obtained through the dissemination of questionnaires on patients or attendants to obtain data on their evaluation of service quality of public hospitals, and their satisfaction and trust towards public hospitals. Obtained data was processed using structural equation modeling to confirm causality of related research variable. The results depict the service quality provided by public hospitals in Bandung covering infrastructure, personnel quality, clinical care process, administrative procedures, safety indicators, and social responsibility. Moreover, the results of hypothesis testing show that service quality has an influence on patient satisfaction, and ultimately affects their trust in the hospital.

Keywords: *Service Quality; Satisfaction; Trust; Public Hospital*

1. Introduction

Perception of service quality is the most important factor among other factors which can affect consumer behavioral intention and it is widely recognized that any organization could succeed and survive with their service quality in today's competitive environment (1). Service providers, including healthcare institutions, have to improve their service quality due to the competitive environment. Despite the low competition nature in healthcare service where demand exceeds its supply as patients have limited alternatives and they would accept the services provided by the service provider, it does not mean that service provider does not have to offer the best services (2). The patient's evaluation of the healthcare quality provided by the hospital is a matter of concern to the hospital given that the patient's viewpoint has a major role in determining their trust in service providers (3).

As one of the big cities in Indonesia, Bandung has a number of public hospitals that offer healthcare services for various layers of society. In Indonesia, a hospital has an important role in public services by contributing healthcare services for people with different backgrounds. Public hospitals with higher quality standard still have problems as far as healthcare services are concerned. The facts are that there are still long queues of patients to be served and also still there are problems in nursing pertaining lack of resources and are also below standards (4). Previous research on healthcare services was conducted via patients' evaluation on services offered by public hospitals in Bandung. The results signify that hospitals are required to emphasize more effort on Administrative Procedures, specifically on Medicine Collection Procedures and Patients' Waiting Time (4).

This study was conducted with considering an indication of patients' dissatisfaction with regards to hospital service quality. The results of a preliminary study on 30 patients showed that generally, patients' were not satisfied enough with the healthcare service provided by the hospitals, especially pertaining to administrative processes. Relevant to the research problems previously stated, the objectives of this study are to analyze healthcare service quality provided by public hospitals and its effects on patients' satisfaction and eventually their trust on the hospitals.

2. Literature Review

Some alternative concepts of service quality have been developed by some researchers. Service quality is defined as the quality that consumer gets from the services offered by service providers. (5). Service quality is also defined as a gap between customers' perception and their expectation of the service (6). To be different, productive and efficient, good services need full attention from the service provider (7).

Perceived service quality is consumers' evaluation of overall product advantage based on their perception of what is received and what is offered (8). Consumers' perception is determined by the companies' products or services quality (6). Perceived service quality can be measured by service quality dimensions as one of the important factors (9).

Healthcare services have unique characteristics such as services that are in general different from goods (10). The specific characteristics of services have potential in inconsistency performance and raise the uncertainty that implies the potential for service failure (11). Specific characteristics of healthcare service are reflected

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in service strategy, experience and innovation, disruptive technologies and business models, critical nature of service, healthcare customers, developing nation context (12).

In the context of healthcare services, an extended definition of customer in the healthcare services process means that patients and patients' families should be recognized as consumers. The understanding of the consumers need as the receiver of the services is the basis to develop new services. Customer orientation guarantees the services offer can satisfy consumers' needs (13).

Since healthcare services characteristics are hard to be evaluated, understanding towards consumer perceptions become something important due to the fact that there are no objective measures for medical services. (12). Several service quality models were developed in healthcare, one of which was used the five-dimensions of Parasuraman (14). Based on the total quality service in healthcare services, the measurement from the patient perspective (13) are infrastructures, personnel quality, clinical care process, administrative procedures, safety indicators, social responsibility and overall experience of medical care received.

Researchers revealed the definition of consumer satisfaction in various ways. Oliver defined satisfaction as an evaluative, affective or emotional response, so customers can evaluate the object only after they interpret the object. (12). The development of research interest in consumer satisfaction topic has prompted some thoughtful interpretations of satisfaction causes and effects (15).

Research on service quality as an antecedent variable of related factors was conducted by previous researchers in healthcare services. (16) has conducted research in healthcare services and the results indicated that service quality perceptions had a large influence on service satisfaction in the exploratory and confirmatory samples. Furthermore, service quality also determines the customer satisfaction, loyalty, value, and their behavioral intention. (17).

The service quality provided by the service provider will also determine the consumers' trust in the service provider (3). Consumers' trust is influenced by the providers' service quality and will be a determinant of consumers' willingness to repurchase the services offered. (18). In this case, Gefen stated that trust indicates an individual's willingness to depend, based on ability, virtue, and integrity. (19).

Based on the literature discussion and previous empirical research, the following hypotheses were tested:

H1: Service Quality affects Patient Satisfaction
H2: Patient Satisfaction affects Patient Trust
H3: Service Quality affects Patient Trust

The research model is depicted in figure 1 as follows:

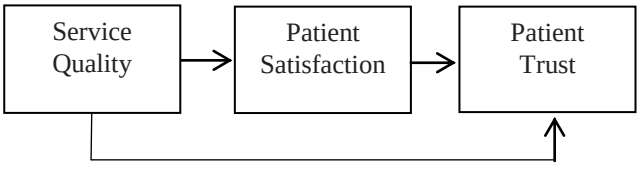


Fig 1: Research Model

3. Methodology

This study was descriptive and causal research. The descriptive study was conducted by analyzing the service quality provided by public hospitals, and causal research by examining the influence of service quality on patients' satisfaction and its impact on their trust. A preliminary study was conducted to ensure indications of research problems related to patients' satisfaction of service quality. In this case, a total of 30 questionnaires were distributed to figure it out. Primary data collection was conducted by distributing questionnaires to patients/attendants of public hospitals in Bandung as respondents. Primary data collection was conducted by distributing questionnaires to patients/attendants of public hospitals in Bandung as respondents, to obtain the description of patients' evaluation of service quality provided by the hospitals, patients' satisfaction, and their trust on the hospitals.

Patients/attendants of public hospitals in Bandung are the members of the population considering that in a state of illness both physically and psychologically, the patient may not be able to complete the questionnaire. In this case, patients' attendants have an important role considering they may in some ways influence the patients' preference in determining healthcare services provider (12). The research sample was determined using purposive sampling with the criteria of the patients or families/patients' friends (attendants) who had medical treatment in public hospital in Bandung in the last two years which is expected to give an idea of the current situation about the hospitals' service quality. There are a total of 234 respondents who become sample that meet the minimum criteria for the sample since the rules of thumb in determining sample size in multivariate research which should be several times as large as the number of variable in the study (20).

The respondents assess hospitals' service quality based on dimensions of total service quality (13) include infrastructures, personnel quality, clinical care process, administrative procedures, safety indicators, social responsibility, and excluding overall experience of medical care received. The other variables are patients' satisfaction and their trust. Respondents were asked to answer to what extent they agreed with each item on an eight-point numerical scale (ranging from 1 indicating strongly disagree to 8 indicating strongly agree). The collected data were tested first to ensure that the data were valid and reliable. Validity indicates that the instrument measures the right concept, and reliability indicates that it is stable and consistent (21). Furthermore, Structural Equation Modelling was used to determine the causal relationships of service quality, patient satisfaction, and patient trust, which the data processing was conducted with Lisrel program.

4. Results and Findings

The data were collected from patients who had treatment in public hospitals in Bandung. A total of 234 data concerning service quality, patient satisfaction, and patient trust was obtained from questionnaires distribution. The first step of the research process was to determine whether the scale used produced reliable results and it was conducted by reliability analysis. The alpha values were calculated to assess the reliability of the scales. How well the instrument that was developed measures the concept it was intended to measure, was conducted by validity analysis. In this case, reliability and validity analyses were conducted on the 13 items. Reliability was tested using Cronbach alpha coefficient, and validity of the instrument was tested using correlation coefficient.
The test results show that the alpha coefficient for the service quality variable is 0.725, suggesting that the items have internal consistency since a coefficient more than 0.70 with modest reliability indicates that the items used to measure the constructs are reliable and satisfactory(22). The reliability testing for patient satisfaction variable also shows that the instrument is reliable since the alpha coefficient is 0.916. Analysis of Cronbach's coefficient of patient trust variable also indicates that this scale can be used confidently with reliability 0.927. The value meets the reliability minimum criteria according to Hair and shows that the instrument is highly reliable.(23). All the reliability results can be seen in Table 1.

Table 1: Reliability Results

Variables	Alpha coefficient
Service Quality	0.725
Patient Satisfaction	0.916
Patient Trust	0.927

The validity testing results show that all six items of service quality construct are valid since the correlation values are between 0.390 – 0.547, and all three items of patient satisfaction construct are also valid with corrected item-total correlation values between 0.826 – 0.836. The same testing was conducted for patient trust construct, and the all four of its items are also valid with correlation value between 0.791 – 0.854. All the validity results is shown at Table 2.

Table 2: Validity Results

Items	Correlation Value
Infrastructures	0.390
Personnel Quality	0.511
Clinical care processes	0.519
Administrative procedures	0.430
Safety indicators	0.416
Social responsibilities	0.547
Decision making satisfaction	0.826
Same feeling for repetition	0.835
Right decision/ Wise choice	0.836
Trust in accepted treatment	0.791
Trust in medical care	0.843
Trust in hospital reliability	0.854
Overall trust	0.820

The above validity results mean that the instrument measures the right concept, and the reliability of this measure is an indication of the stability and consistency of the instrument in measuring the related concept. Furthermore, in order to get the answer to the research question regarding healthcare service quality provided by public hospitals, the 234 data were processed to get a description of the hospital service quality. The analysis results show that patients or attendants evaluate that each item of service quality including infrastructures, personnel quality, clinical care process, administrative procedures, safety indicators and social responsibility is barely above average with a score of five or six out of eight. In this case, patients evaluate and give above average score for the clinical process, safety measurement on ICU/polyclinic/hospital rooms and contribution of the hospitals to the society with a score more than six out of eight, better than the availability and quality of physical facilities provided by the public hospitals and personnel quality such doctor's and nursing care and supporting staff quality which are have a score more than five out of eight. Of the six items of service quality, patients evaluate and give the lowest score which is below five out of eight for the administrative procedures such as the process of registration, payment, collecting medicine from the pharmacy, waiting time, and accuracy of doctor service schedule. Mean of respondents' answers can be seen in Table 3.

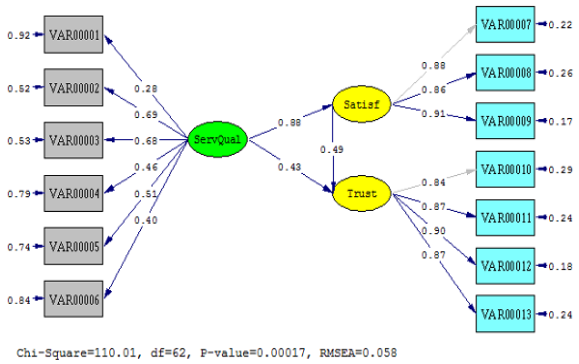


Fig 2: Structural Model Results

Table 3: Mean of Each Items

Items	Mean
Infrastructures	5.4701
Personnel Quality	5.7863
Clinical care processes	6.2393
Administrative procedures	4.8547
Safety indicators	6.2222
Social responsibilities	6.0556
Decision making satisfaction	5.9615
Same feeling for repetition	5.7991
Right decision/ Wise choice	5.8162
Trust in accepted treatment	6.1838
Trust in medical care	5.9915
Trust in hospital reliability	6.0470
Overall trust	5.7436

To validate the relationships between service quality, patient satisfaction, and patient trust empirically, this study used Structural Equation Modeling which specifies the causal relationships among constructs. The data processing results indicated a good fit between the data and model. The Root Mean Square Error Average (RMSEA) as a measure of model adequacy has a score of 0.058, and the smaller The Root Mean Square Error Average means the fit between the model and the data is closer (2). The other measures such as fit indexes are also used as indicators of a model fit, and the higher score means the better fit. The results show that the Goodness of Fit Index (GFI) = 0.93, Adjusted Goodness of Fit Index (AGFI) = 0.90, Normed Fit Index (NFI) = 0.97, and Comparative Fit Index (CFI) = 0.99, and these measures, which are above 0.90, indicate a good model fit. Therefore, structural equation model results indicated a good fit between the model and data. Figure 2 shows the structural model results.

Considering the structural model results concerning the hypotheses Table 4 shows that all three hypotheses are supported at the 0.10 significance level. The hypothesis testing regarding the effects of independent variables on dependent variables indicates that the healthcare service quality effects patients' satisfaction with t-value 13.01, patients' satisfaction influence patients' trust with t-value 3.34, and service quality influences patients' trust with t-value 2.84. Table 4 shows the hypotheses testing results.

Table 4: Hypotheses Testing Results

Hypotheses	Relationship between Variables	Coefficients	T-Values
H1	Service Quality → Patient Satisfaction	0.88	13.01
H2	Patient Satisfaction → Patient Trust	0.49	3.34
H3	Service Quality → Patient Trust	0.43	2.84

Based on the coefficients of the related variables, it is proved that service quality provided by public hospitals positively influences patients' satisfaction with a coefficient of 0.88, and patients' satisfaction positively influences patients' trust with a coefficient of 0.49. Service quality is also positively and directly influences patients' trust. This result suggests that patients' satisfaction depends on the service quality provided by the hospitals. The better the quality of service provided, a patient will be more satisfied. When patients satisfy, they will have trust in the hospital. The hospital service quality can also directly determine patients' trust. Therefore, the results of this study suggest that the healthcare service managers should determine their objectives by considering service quality and patient satisfaction as this will ensure their trust in the hospital.

A similar result was found in this study with the work of Chiou and Droge (24). Their study indicated that service quality significantly affected overall satisfaction and satisfaction significantly influenced trust. Specifically, their results show that attribute satisfaction and interactive service quality generate overall satisfaction

and trust (24). Another research was also conducted research in healthcare and positive relationships among the dimensions and patient satisfaction have been found (13). In addition, it is stated that the patient's evaluation of the healthcare quality provided by the hospital is a matter of concern to the hospital given that the patient's viewpoint has a major role in determining their trust in service providers (3).

5. Conclusion

This study examined the relationships among variables (service quality, patient satisfaction, and patient trust) and provided statistical evidence for their significance. The results indicate the impact of healthcare service quality on patients' satisfaction and the effect of patients' satisfaction on patients' trust, and also the direct effect of service quality on patients' trust. The result of this study has also high resemblance with the previous studies.The findings of this study provide managers with valuable insights of customer evaluation of healthcare service quality provided by public hospitals, and they can use it to improve their healthcare service quality. This improvement is important given the subsequent impact of service quality on patients' satisfaction, and eventually on their trust on the hospitals. The results of this study are also expected to provide input for other service providers in addition to healthcare services to give more attention to service quality and customer satisfaction in order to gain their trust. The hospitals need not only to provide healthcare services with good quality and can meet the patients' expectations, but also seek to obtain patients' trust on their healthcare services.

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