

Effect of Service Quality on Outpatient Satisfaction at Wede Ar- Rachman Clinic in Bandar Lampung After Using a QR CODE-Based Patient Complaint Information System

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Abstract—Health clinic is a health service institution that provides health services. Health clinics have several types of services including medical services, medical support services, and also as a place for medics to gain medical education. Therefore, a health clinic must have good resources. Wede Ar-Rachman Clinic started implementing a barcode-based complaint information system since August 2022 as an evaluation material for the clinic. This study aims to determine how much influence service quality has on outpatient satisfaction at Wede Ar-Rachman Clinic in Bandar Lampung after using a QR CODE-based patient complaint information system. Two hundred of respondents have been taken using purposive sampling. In this study, data analysis uses the Structural Equation Model (SEM). Based on the results of data analysis, it can be concluded that Service Quality has an effect on patient satisfaction after using the QR Code system.

Keywords—service quality, patient satisfaction, information system, QR Code

I. INTRODUCTION

The use of legal information technology is indispensable in the current era. The increasing level of need for information systems and information technology requires health agencies to keep up with the times. The need for a system is definitely unavoidable because it needs supporting system to succeed a program and advance the services of the health clinic.

A health clinic is a health service institution that provides health services. Health clinics have several types of services including medical services, medical support services, and as a place for medics to gain medical education. Therefore a health clinic must have good resources (Vina et al., 2022). Service quality is the expected level of excellence and control over that level of excellence to meet customer expectations (Imran et al., 2021).

Wede Ar-Rachman Clinic is a health clinic that serves general health and maternity services, which is located on Jl. Danau Toba Gg. Saburai No. 9, Gunung Sulah, Bandar Lampung with its vision namely " To

become a place of quality, superior, trusted health services and the main choice for the people in Bandar Lampung". Wede Ar-Rachman Clinic started the implementation of a barcode-based complaint information system since August as an evaluation material for the clinic. It helps the clinic to improve the quality of clinic services by finding out patients complaints and needs stored in the system so that the clinic can meet patient needs. Improving service quality can affect patient satisfaction.

The use of suggestion boxes as a means used to receive customer / patient complaints does not work effectively. There are still many visitors and patients who are reluctant to write and are less enthusiastic in providing input.

Wede Ar-Rachman Clinic started the implementation of a barcode-based complaint information system since August as an evaluation material for the clinic to improve the quality of clinic services so that they can find out complaints and patient needs so that the clinic can meet patient needs.

To be an evaluation material, it is necessary to re-investigate whether this QR Code-based patient complaint has an impact on outpatient satisfaction at the Wede Ar-Rachman Clinic after using of a QR CODE-based patient complaint information system.

To improve the service quality that can affect patient satisfaction.

The following is the QR Code used by the Wede Ar-Rachman clinic:



Figur 1. QR-code for complaints on Wede Ar-Rachman clinic services

The picture above is a QR Code that is used by the clinic for patients if they want to provide assessments, suggestions and criticisms towards the clinic. The system is very easy to use for patients and easy to understand. The following is the display of service complaint form:

KLINIK BERSALIN WEDE AR-RACHMAN

Bersalin adalah tempat yang aman dan nyaman untuk melahirkan. Kami menyediakan layanan kesehatan yang berkualitas dan terjangkau. Kami berkomitmen untuk memberikan pelayanan terbaik kepada ibu hamil dan melahirkan.

petunjuk pengisian :
silahkan anda pilih jawaban yang menurut anda sesuai dengan kondisi yang ada dengan cara memencet pilihan jawaban yang tersedia.

Keterangan :
1 = Sangat tidak setuju (STS)
2 = Tidak setuju (TS)
3 = Netral (N)
4 = Setuju (S)
5 = Sangat setuju (SS)

Singkat & Mudah untuk mengisi form ini.
Pemeriksaan rutin sangat penting.

Prosedur dalam penanganan pasien sangat tertib dan cepat.

1 2 3 4 5

Sangat tidak setuju Sangat setuju

Picture 2. The display of patient service complaint form

After using the barcode-based patient complaint information system, Wede Ar-Rachman clinic experienced an increase in visits from patients, the following is the data:

Table 1. Number of patient visits at Wede Ar-Rachman Clinic from April to September 2022

Month	Number of patient visits
April	1.466
May	1.569
June	1.880
July	1.651
August	2.020
September	2.325
total	10.891

Source: Wede Ar-Rachman Clinic

From these data, it can be seen that there is a very rapid increase in August and September. Thus, it can be interpreted that after improving the quality, many people believe in the services of the clinic.

Service Quality is the level of service related to the expectations and needs of customers or users. It means that the service is qualified if a particular company or institution is able to provide products and services in accordance with the wishes, needs and expectations of customers / users. Based on research results (Zarei et al., 2015) Service quality can affect patient

satisfaction, because the services are carried out in accordance with the wishes of the patient.

Patient satisfaction leads to favorable results, such as higher rates of patient retention, positive word of mouth and higher profits for health care providers. It also influences the rate of patient compliance with physician advice and requests (Al-Serhan & Jawazneh, 2020).

II. THEORETICAL FRAMEWORK

A. Health Service Quality

Service Quality is the level of service related to the expectations and needs of customers or users. It means that the service is qualified if a particular company or institution is able to provide products and services in accordance with the wishes, needs and expectations of customers / users. In general, service quality is often used as the basis for service products because the main product marketed is quality service and this service is purchased by customers (Andayani, 2021). According to (Vina et al., 2022), The quality of health services is a stage carried out by hospitals to meet patient expectations and satisfaction. If the patient's satisfaction is met, the hospital's image will be better. Quality of service can also be carried out for the improvement process so that we know a patient is satisfied or dissatisfied. Meanwhile, according to (Yudhyani, 2016), satisfaction is a feeling of pleasure or disappointment that is obtained after comparing the results gained with the desired expectations.

According to (Chang et al., 2013) the enhancement of service quality places emphasis on the actual service process, and the discussion of service encounter has obviously been the focus of service management. Based on the definitions above, it can be interpreted that the quality of health services is the ability to fulfill the needs of patients and make improvements or evaluations to elevate the quality of services so that the patients are satisfied with the services provided. The indicators of service quality according to (Wahidin & Makassar, 2020) are: reliability, responsiveness, confidence, sincerity and tangibility.

B. Patient Satisfaction

Patient satisfaction is the result of the quality of service provided by the hospital. Patient satisfaction arises as the existing results in accordance with their expectations are met. Patient satisfaction, according to Hafizurrachman (2004), is the distribution of information on the success of quality service providers with the values and expectations of patients who have their own authority to set the desired service quality standards (Jalan et al., 2022). According to (Harijanto, 2018), Patient satisfaction is a person's feeling of pleasure or disappointment that arises after comparing performance that is in accordance with expectations and that which is not appropriate. Satisfaction will occur if the expectations of the patient can be met by

the services provided by the hospital so that the effort to fulfill patients' satisfaction and expectations needs to be considered and evaluated continuously. Meanwhile, according to (wilhelmina kosnan, 2019) customer satisfaction will be fulfilled if what is felt exceeds what is expected. If expectations do not match what is felt, it will create a gap. the public is inclined to pay more for care from quality institutions that are better disposed to satisfy customer needs (Andaleeb, 2001).

From the definition above, it can be interpreted that patient satisfaction is a feeling of pleasure when a patient has received appropriate service/performance which is able to provide the needs of the patient. The indicators of patient satisfaction according to Pohan (2015) are:

Satisfaction with the access to health services, satisfaction with the quality of health services, satisfaction with the process of health services, including human relations, and satisfaction with the health service system.

C. Information System

An information system is a system created by humans consisting of components within the organization to achieve a goal, namely controlling the organization (Hermawan et al., 2016). Meanwhile, according to other experts, the information system is defined as a collection of systems that exchange data and mutually support each other to complete a job, and generate new information (Firmansyah & Pitriani, 2017).

According to Nurlalela in (Yoki Firmansyah et al., 2020), it is stated that the system can be combined with software, hardware, and brainware to produce information. The results of the processed information system will be used as a basis for consideration of a company to determine future steps. "It is a system that provides information in such a way that it is useful to the recipient". Meanwhile, according to Ladjamudin in (Nasution, 2017), it is stated the information system is a system created by humans consisting of components within the organization to achieve a goal, namely controlling the organization. According to (Agnitia LEstari et al., 2021), a system within an organization that meets management needs and daily transactions, supports operations and managerial tasks and strategic activities of an organization, as well as provides certain outside parties with the required reports. According to (Nangameka, 2020), System quality is used to measure the quality of the information system itself. The following are the indicators used:

- a. Ease of use
- b. Easy to learn
- c. Speed to access
- d. System reliability

- e. Flexibility
- f. Use of system features and function
- g. Security

D. QR-CODE

QR code stands for quick response code. The meaning of the code in this QR code is a two-dimensional barcode that can provide various types of information directly. To open it, it takes a scan or scanning with a smartphone (Feggy et al., 2021). QR codes are usually capable to store 2089 digits or 4289 characters, including punctuation marks and special characters. This makes QR code useful for displaying text to users, opening URLs, saving contacts to the phone book, and much more. Another benefit of QR codes is that they are able to store more data than barcodes (Meimaharani & Laily, 2014). Thus, it makes them more practical to use. A QR code consists of black dots and white spaces arranged in the form of a box, and each element has its own meaning.

Types of Quick Response Code:

1. Static QR Code

A static QR code is a code that cannot be edited again once it is created. Existing information cannot be replaced.

2. Dynamic QR Code

Unlike a static QR code, a dynamic QR code is a type of code that can be updated, edited, and changed as many times as needed.

E. Hypothesis Development

According to Al-Serhan et.al (2019), the results significantly influence the dimensions of service quality on patient satisfaction in selected hospitals in the city of Amman by using multiple linear regression analysis in identifying service quality factors that affect patient satisfaction.

According to Imran et. Al. (2021), service quality has a significant influence on patient satisfaction .

Based on those research above, the proposed hypothesis is as follows:

"The influence of service quality has an effect on outpatient satisfaction at Wede AR-Rachman Clinic in Bandar Lampung after using a QR Code-based patient complaint information system"

III. METHODOLOGY

Type of Study

This study is a quantitative method using an associative causality approach. Quantitative methods are data in the form of numbers. According to (Hasan, 2017), causal associative research is research that aims to analyze the relationship between one variable

and another or how a variable (X) affects another variable (Y).

Population and Sample

The population in this study were patients of Wede Ar-Rachman clinic. Hair et al (2010) revealed that a study using regression analysis and SEM methods must have a minimum number of samples which is five times the number of questions in the questionnaire. Therefore, the total questionnaire in this study is 10 times the number of questions where the number of indicators is 20, resulting in 200 respondents. $20 (\text{indicator}) \times 10 = 200$

Sampling

The sampling was conducted by giving questionnaires to adult patients and visitors / companions of pediatric patients, using *non-probability* sampling techniques and *purposive* sampling methods.

Data Analysis Method

Data analysis, in this study, used the Partial Least Square (PLS) approach. PLS is a component-based or variant-based Structural Equation Modeling (SEM) equation model. SEM and PLS are alternative techniques in SEM analysis where the data used do not have to have a multivariate normal distribution (Oda et al., 2014).

Hypothesis Test

The Effect of Service Quality on Outpatient Patient Satisfaction at Wede Ar-Rachman Clinic in Bandar Lampung After Using a QR CODE-Based Patient Complaint Information System

H_0 = The service quality (X) did not affect outpatient satisfaction at Wede Ar-Rachman Clinic in Bandar Lampung after using a QR CODE-based patient complaint information system

H_a = The service quality (X) affected outpatient satisfaction at Wede Ar-Rachman Clinic in Bandar Lampung after using a QR CODE-based patient complaint information system

IV. RESULT AND DISCUSSION

The following is the measurement of the independent variable and the dependent variable that will be measured in this study as follows:

Service Quality		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	The service procedure is fast					
2	The service procedure is proper					
3	The service provides information that is easily accessible for the patient					

4	The service provides information that is easily understood by the patient					
5	Effective communication with patients					
6	Active communication with patients					
7	The service gives serious attention when serving patient complaints					
8	The service gives responsive attention when serving patient complaints					
9	Cleanliness and facilities at the clinic are good					
10	The tidiness and facilities at the clinic are good					
11	The patients receive timely service					
12	The patients receive fast and responsive service					
13	The health workers at the Wede Ar-Rachman clinic are very competent					
14	The health workers at the Wede Ar-Rachman clinic are very professional					
15	The availability of services at the clinic is very good					
16	Availability of services at the clinic meets the patient needs					
Service Quality		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
17	Doctors can keep patient privacy					
18	Doctors can keep patient confidential data					
19	The clinic's facilities and environment are very good					
20	Clinic equipment and supplies are very adequate					

Instrument Test Results of Service Quality and Patient Satisfaction Variables

Validation Test Results

Item Question	R Count	R Table	Condition	Conclusion
Question 1	0,675	0,361	rcount>rtable	Valid
Question 2	0,478	0,361	rcount>rtable	Valid
Question 3	0,587	0,361	rcount>rtable	Valid
Question 4	0,832	0,361	rcount>rtable	Valid
Question 5	0,543	0,361	rcount>rtable	Valid
Question 6	0,653	0,361	rcount>rtable	Valid
Question 7	0,621	0,361	rcount>rtable	Valid
Question 8	0,584	0,361	rcount>rtable	Valid
Question 9	0,732	0,361	rcount>rtable	Valid
Question 10	0,569	0,361	rcount>rtable	Valid
Question 11	0,720	0,361	rcount>rtable	Valid
Question 12	0,468	0,361	rcount>rtable	Valid
Question 13	0,781	0,361	rcount>rtable	Valid
Question 14	0,490	0,361	rcount>rtable	Valid
Question 15	0,583	0,361	rcount>rtable	Valid
Question 16	0,692	0,361	rcount>rtable	Valid
Question 17	0,576	0,361	rcount>rtable	Valid
Question 18	0,698	0,361	rcount>rtable	Valid
Question 19	0,491	0,361	rcount>rtable	Valid
Question 20	0,743	0,361	rcount>rtable	Valid

Source: The results of the above data are processed in 2022

Variable Reliability Test Results

Variable	Cronbach's Alpha Score	R Coefficient	Description
Service Quality	0,743	0,600 - 0,799	High reliability
Patients Satisfaction	0,782	0,600 – 0,799	High reliability

Source : The results of the above data are processed in 2022

IV. CONCLUSION

According to the results of the study, there are measurements that had been tested for validity and reliability. Based on the test results, all instruments are valid and reliable which could be distributed to determine the effect of Service Quality on Outpatient Satisfaction at Wede Ar-Rachman Clinic in Bandar Lampung After Using the QR CODE-Based Patient Complaint Information System. The results of the hypothesis test show that service quality has an effect on patient satisfaction.

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