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ANALYSIS OF HEALTH SERVICE QUALITY ON PATIENT SATISFACTION IN IMPROVING XYZ HOSPITAL SERVICES

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ABSTRACT

XYZ Hospital is a type c military hospital located in Surabaya and has the function of support and optimal health services for military personnel, military families, and the general public. In its implementation, there are several problems related to health services including a decrease in the number of patient visits, a lack of human resources, and long patient service times. Therefore, it is necessary to analyze the quality of health services in improving XYZ hospital services. The method approach used covers Service Quality (Servqual) is used To look for performance gaps, Importance Performance Analysis (IPA) used to know the level of suitability perceptions and expectations of health services hospitals, and Quality Function Deployment (QFD) through the house of quality (HOQ) for determining priority a must repair done. Based on research results of 99 respondents show of 5 dimensions Servqual obtained a valuable performance gap positive namely 3 attributes E1-X7, E4-X10, A3-X27 and a value negative namely 27 attributes R2-X20, R4-X22, RE1-X12, RE3-X14, R5-X23, A5-X60, A1-25, T4-X4, A2-X26, T1-X1, RE5-X16, R3-X2, RE7-X18, T5-X5, RE2-X13, T3-X3, E5-X11, R1-X19, R6-X24, T2-X2, A4-X28, T6-X6, RE6-X17, A6-X30, RE4 -X15, E3-X9 and E2-X8. After analysis with the IPA, the method obtained Quadrant I 10 attributes that is T5-X5, RE1-X12, RE3-14, RE5-X16, RE7-X18, R4-X22, R5-X23, R2-X20, A1-X25, A5- X29 being priority repair service health, quadrant II 6 attributes that show keep it up performance T1-X1, T4-X4, RE4-X15, R1-X19, A2-X26 and A6-X30 quadrant III 8 attributes considered not enough important for patients and services received considered ordinary and quadrant IV 6 attributes. considered not enough important for patients however services provided too much. Analysis next uses the QFD method to create HOQ to determine the originating voice of the customer from IPA analysis in quadrant I and Quadrant II, as well as response technical repair to service such, so, got 3 responses technical as priority repair. First, 15% target responsiveness to the patient service process done with good Health training and training on an ongoing basis scheduled, both 13% target responsiveness to the use of system information management hospital, and the third target is 11 % reliability to Settings timetable practice doctor.

Keywords: *Quality Healthcare, satisfaction, SERVQUAL, IPA, QFD, XYZ Hospital*

1. INTRODUCTION

Hospitals are one organizer service whose continued health development and the amount increases over time from year to year. Based on data from the Central Statistics Agency (BPS) noted amount hospitals in 2021 were as many as 3112 units an increase of 5.17 % from the year previously which is as many as 2959 units. Amount the consists of 2514 houses sick common and 598 units constitute hospital special. (Mahdi, 2022) . Trend amount house increasingly sick increase from year to year showing that hospital must capable compete and win the competition. Besides it, with the appearance globalization economy and an era of change, be a challenge are you serious about managers in management hospitals? In a time of change, this is necessary cautious with a leader so you can adapt to development with permanent guard continuity organization to stay survive.

In the open era boundaries, Geographical constraints are the emergence of new competitors viz creation hospital which is not only at level local or national but also at the level international. because, at the moment this hospital that has up and running is expected to prepare itself for advanced organization, especially source power and system management, to be able to create service health house quality pain for the customer. Function service health inside the hospital alone has changed from before is organization social Becomes organization seeking corporations profit (profitability) of the business he runs. this is because of the hospital the characteristic complex. solid, capital intensive, and organization technology, requires enough charge tall for maintaining effort health this.

Source power human must be owned hospital governed by accreditation hospital, mostly in determine quantity and specifications staff and facilities support must service owned hospital.

Standardization source power like *human resources*, standard management, and technology is a component important for facing competition and creating a hospital with service quality healthcare, which is an indicator enhancement image and profitability hospital.

XYZ Hospital is a type c military hospital is hospital military type c which has the function of doing optimal health support and services for personnel military, family, and society in general so that needed quality health services. That need involve the patient as a feeling customer impact direct from service given health. Quality Health Services is very closely related to patient satisfaction to be tools measuring the success of quality Health services. (Pasalli ' and Patattan, 2021). The effort to enhance quality Health services can be conducted with a several methods or methods. Among them, is the use of the method of *Service Quality (Servqual) and Importance Performance Analysis (IPA).*

Study relevant previous with measurement quality service part big use method *Servqual* among them *the effect of service quality to customer satisfaction by using internet banking services in* Jambi. Study this study influencing elements of quality internet banking service for the customer, find that quality service internet based significantly influences satisfaction customer (Assegaff, 2017), Next study uses the method *Servqual* and *simple addictive weighting* (SAW) about implementation method *Servqual* and SAW for Analysis based on patient satisfaction quality outpatient service road. *gaps* used is *customer satisfaction.* (Putro, 2017)*,* The next study did about *measuring patients' satisfaction with health care services in the UAE (United Arab Emirates) hospitals using Servqual*. The study evaluates quality service health with investigate influencing factors of patient satisfaction at home sick private and public in the UAE based on five dimensions of quality service from Servqual (Al-Neyadi, Abdallah, and Malik, 2018). Next *service quality and satisfaction in the healthcare sector of Pakistan-The patient's expectations* examine about hope patient satisfaction with facility health hospital general more tall compared to hospital private sector in Pakistan (Al- Neydi, Abdallah and Malik, 2018).

2. MATERIAL AND METHOD

Service Quality by generally grouped into five dimensions according to Parasuraman (Sinollah and Masruro, 2019). namely a. *Tangibles* (proof physical) Direct evidence covers appearance and facilities, building, equipment, and appearance from employee company. The appearance of the physique company will affect on evaluation customer to the quality of services provided company, b. *Reliability* (reliability) Reliability shows how far the company gives the service the same as has been promised in a manner accurate and precise. Reliability this not only important for big problems because problems small also be Thing important for customers in giving evaluations about the company, c. *Responsiveness* (power responsive) Power responsive is showing will and commitment from a company in giving proper service time. Power responsive not only about the hurry services provided but also the willingness of the company or employee to help the customer. , d.

Assurance (confidence) Ability to give birth to trust and confidence from customers that include knowledge, courtesy, and ability employee for cultivating trust customer to the company, e. *Empathy* (Empathy) Ability of employees to communicate to explain with good about services provided by the company will give impact good from evaluation customers. *Service Quality* got defined as the difference In the expectation of customers to service before and after service has been given (A. Parasuraman, Valarie A. Zeithaml, 1988). Service quality (Servqual) is a tool for measuring the quality of service, which can be used to analyze the reason for problem service and understand how quality service could be repaired. The measurement of quality of service is almost the same as the measurement of satisfaction among consumers, which is determined through the variable expectations that are felt (perceived performance) by consumers.

Importance Performance Analysis is a technical analysis for identifying factor performance. Something organization must show satisfaction with user services (consumers). The method originally by Martilla and James was used in the field of market and behavioral research consumers. However in development Next, use it has widespread until covers studies about service house hospitals, tourism, school, and even analysis performance bureaucracy public (government). IPA (*Importance Performance Analysis)* Method is a framework that works inside understanding satisfaction among customers as a function of *expectations (importance* or level of interest) related to something attribute as well as evaluation of customer to performance perceived organization (performance). customers (Supranto, 2006) .

The IPA method is capable give information important to manager industry service good form size satisfaction customers nor allocation of source power in a manner efficient. Both of them are in an easy format applied. There are two approaches in the method, namely: 1) assess gap performance with count difference Among score *performances* with score *importance*; 2) identify attributes priority service for upgraded and owned impact to enhancement satisfaction customer with using a Cartesian diagram _in four quadrants. Method (IPA) can categorize attributes from product or service based on how much good something product or service the capable measure performance perceived satisfaction _ important by patient and performance satisfaction received by patients (Hidayat, Wibowo and Wardana, 2021).

QFD method is a method structure used in the planning and development process product for set

specifications as well as evaluate something product to Fulfill the needs and wants of consumers (Cohen, 1995) manufacture HOQ includes *Customer Needs and Benefits*, *Planning Matrix*, *Technical Response, Relationship Matrix, Technical Correlations, and Technical Matrix.* Steps _ in the study covers.

2.1 Library Studies and Studies Field

At the stage of Library studies and studies, field researchers gather information nor existing literature good form books, journals, laws, or Home websites Sick, profile House XYZ Hospital which has a relationship with the topic problem to be raised in the research.

2.2 Identification Problems

The study started the identification problem which is activities to be based on implementation research. Activity this conducted to recognize the problem main to be discussed and then next with formulation problem. Identification of which problems occur in the care unit road, emergency unit emergency and inpatient units stay to expected patient satisfaction.

2. 3 Determination Variables and Indicators

Determination of variables and indicators was conducted before making the questionnaire, used for knowing which factors should be researched. Determination variables and indicators also make it easier to analyze in research. Where is the definition of operational variable research and scale measurement hope is the desire from respondents about service hospitals that can are known with a questionnaire structure? Temporary definition operational variable research and scale measurement reality are circumstances actually service house received pain respondent could is known with questionnaire structured.

2.4 Determination Population and Technique Taking Sample

On Stage, this determination sample is to be chosen from the treated patient population or get service at Home XYZ Hospital in all service units to represent the population. Selected sample order could represent so the amount of sample determined according to the formula slovin.

$$n = \frac{N}{1+ Ne^2} \qquad (1)$$

Description :
n = magnitude sample
N = magnitude population
e = margin of error (0.05)

To determine the number of samples in the population, then the researcher took 4 years of data final amount patient visits per day at the hospital from 2018 to 2021 got.

$n = \frac{127}{1+ 127(0.05)^2}$ = 127/1.3175 = 96.39 rounded up

For 96 samples. To anticipate errors in the research questionnaire, the target respondents were increased to 99 people

2.5 Compilation and Dissemination Questionnaire

The compilation and deployment questionnaire refers to 5 dimensions in method servqual that is *Tangible, Reliability, Responsiveness, Assurance, and Empathy* are also used as variable determinant indicators to be researched. Respondents were directed to answer all questions with a good thorough evaluation of existing answers.

2.6 Stage Data Collection and Processing

Stage data collection and processing proccess include:

2.6.1 Validity Test

Validity test used for knowing legitimate or valid or not something questionnaire. Something questionnaire is said to be valid if the question on the questionnaire is capable for disclose something that will be measured by a questionnaire. The questionnaire test (validity and reliability) was performed in two stages. Stage 1 for 30 respondents is a preliminary survey introduction that has similar characteristics to the subject research. Taking samples to test the validity of the research instrument this based on the opinion (Singarimbun, M., & Shofian, 1995) that a minimum number of trial samples were 30 respondents and questionnaires could is said to be valid if r count > r table. For determination of the r table based on the quantity amount respondent, in Thing, these 30 respondents, see the number critical on row N-2 is 30-2 = 28 with level significant 5 % number critical obtained in the r table two direction is 0.361. Stage 2 as Step advanced in validity and reliability test for the 99 respondents who will research. For the validity test questionnaire, Step advanced with amount 99 respondents were obtained number critical r table with see row N-2. With respondents, a number of 99 people, then the path has seen is line 99-2 = 97. with a level significant 5 % number critical obtained in the r table two direction is 0.1975, then is said to be valid if r counts ≥0.1975. The study this using Pearson's Bivariate (Correlation Product *Pearson 's moment*). Analysis this conducted with correlate each item score with the total score. The total score is the sum of the whole items. Correlated question items were significant with total score Data processing using *IBM* SPSS Statistics 25 software.
The formula correlation is as follows:

$$r_{xy} = \frac{N\Sigma xy - (\sum x)(\sum y)}{\sqrt{(N\Sigma x^2 - (\sum x)^2)(N\Sigma y^2 - (\Sigma y)^2}} \qquad (2)$$

Information:

r_{xy} = Correlation coefficient between variable X and variable Y

Σxy = The number of multiplication between the variables x and Y

$\sum x^2$ = The sum of the squares of the X . values

$\sum y^2$ = The sum of the squares of Y . values

$(\sum x)^2$ = The sum of the values of X is then squared

$(\sum y)^2$ = The sum of the Y values is then squared

kindly statistics number obtained correlation must compare with the number critical table correlation r value

2.6.2 Reliability Test

A reliability test instrument was conducted for knowing the reliability of the tool measure used. In quantitative, data is stated as reliable if two or more researchers in the same object _ generate the same data, or a group of data when broken down Becomes two shows no data difference. (Sugiyono, 2014) . A reliability test in a study uses the method of Cronbach's Alpha Coefficient. The coefficient is coefficient the most reliable used because the coefficient describes the variation of items, either for correct format or wrong or rather than, as formal on a Likert scale. The formula is as follows:

$$rtt = \left[\frac{k}{k-1}\right]\left[\frac{1-\sum \sigma b^2}{\sigma t^2}\right] \quad (3)$$

Description :

rtt = coefficient instrument reliability (total test)

k = many grain question

$\sum \sigma$b2 = number of item variants

σt2 = total variance

As for the scale *Cronbach's alpha,* 0 to 1 can be interpreted as the following :

a. Cronbach's alpha value is 0.00 to 0.20, meaning not enough reliable

b. Cronbach's alpha value is 0.21 to 0.40, meaning rather reliable

c. Cronbach's alpha value is 0.41 to 0.60, meaning enough reliable

d. Cronbach's alpha value is 0.61 to 0.80, meaning reliable

e. Cronbach's alpha value is 0.81 to 1.00, which means it is very reliable

From the scale above could be concluded that where results from the calculation *Alpha Cronbach* 's then consulted with the provision that something variable said reliable if give Alpha Cronbach's value > 0.60.

2.7 Processing Method Servqual

After obtaining the necessary research data and passing the validity and reliability tests based on five dimensions Data *gap* analysis is carried out Among expectations and perceptions with a look for score *gaps.* With count *Servqual score* so The results of the calculation can be obtained and used as a reference happening gap between *gaps.* To do analysis method servqual could rare steps _ as follows (Irawan *et al.*, 2020) :

Look for the score reality from each variable Xi and score hope from the Yi variable.

sum up score expectation (Yi) and reality (Yi), from every variable whole respondent, then the average is calculated $\overline{X \text{ and } Y}$

$$\overline{X} = \frac{\sum Xi}{n} \quad (4)$$

$$\overline{Y} = \frac{\sum Yi}{n} \quad (5)$$

Where :

$\bar{X}$= Average score level of reality

$\bar{Y}$= Average score of expectation level

n= Number of respondents

The count *gap* between the reality means score with average score expectations.

$$Nsi = \bar{X}i\text{-}\bar{Y}i \quad (6)$$

Where :

Nsi = The average score of the *gap* variable

Calculates the average *gap* from every variable

$$\overline{NS}i = \frac{\sum NSi}{Ai} \quad (7)$$

Where

$\overline{NS}i$= The average value of the *gap* per variable with

Ai = Many attribute each variable i

Conclusion results calculation score satisfaction each dimension with conditions :

a. servqual score negative (<0) indicates exists gap Between reality with hope customer, said " No Satisfied ".

b. servqual score more big or same with zero (>=0), indicating reality has in accordance or exceeds hope customer, is said to be " Satisfied ".

2.7. Processing IPA (Importance-performance analysis *)* method

IPA is used to determine the level of service that has been provided by the hospital and the improvements that the hospital needs to make to improve the quality of its services. The analysis consists of two components, namely the suitability level analysis and quadrant analysis. The calculation of the level of conformity between the level of expectation and the level of performance is by formula (Wibisono, 2019) :

$$\bar{X} = \frac{\sum_{i=1}^{n} \text{x i}}{n} : \bar{y} = \frac{\sum_{i=1}^{n} \text{y i}}{n} \; : \quad (8)$$

For description :

$\bar{X}, \bar{y}$ $= The$ average score of the level of satisfaction (X) and the level of importance (Y) for an attribute

$\sum Xi, \sum Yi$: The total score of the level of satisfaction (X) and the level of importance (Y) for the i-th attribute

n: Number of respondents

2.8 Processing QFD *(Quality Function Deployment)* Method

House of Quality (HOQ) is the first matrix in the QFD hierarchy which is used in translating customer needs into product or service planning characteristics. There are several steps in making H O Q (Franceschini, 2002) namely :

a. Part A Identifying needs consumers to get voice customer

b. Part B tools that can help team development prioritize the needs of customers. contents from matrix planning include:

1) Importance level customer

$$\text{importance level customer} = \frac{\sum_S^i \text{Si x i}}{N} \quad (9)$$

Description :

Si = Amount respondent i-th

i = Weight value (1,2,3,4,5)

N = Amount respondent

1) Satisfaction level customer

$$\text{Satisfaction level customer} = \frac{\sum_S^i \text{Si x i}}{N} \quad (10)$$

Information

Si = Amount respondent i-th

i = Weight value (1,2,3,4,5)

N = Amount respondent

2) Satisfaction level customer competitor

$$CDS = \frac{\sum_S^i \text{Si x i}}{N} \quad (11)$$

Description :

CDS = Weight performance competitive

Si = Amount respondents who gave weight

i = Weight value (1,2,3,4,5)

N = Amount respondent

3) *Goal, the goal* is the target of customer satisfaction to be achieved by the company based on the actual level of satisfaction.

4) *Improvement ratio*, obtained from the distribution of goals */goals* with the current condition of the company's products.

5) *Sales point* delivers information about ability from requirements mentioned by the customer in giving score sell for the product or existing services planned.

6) *Sales point* delivers information about ability from requirements mentioned by the customer in giving score sell for the product or existing services planned.

$$Raw\ Weight = (impotance\ to\ customer)\ X\ (improvement\ Ratio) X (sales\ Point) \quad (12)$$

7) *Normalized Raw Weight*, *normalized raw weight* is the percentage of the raw weight value of each requirement attribute.

$$Normalized\ Raw\ Weight = \frac{Raw\ Weight}{Total\ Raw\ Weight} \quad (13)$$

c. Part *(Technical Requirements)* Matrix This contains characteristics technical which is the part where the company implements possible methods to be realized in an effort to fulfill the desires and needs of consumers.

d. *Part D The* relationship matrix Among *what* (*voice of customer*) with *how* (characteristic technical).

e. Part *E Technical correlation* is describing matrix _ map each other dependency and mutuality relate.

f. Part F of *Technical Importance* is used to analyze characteristics technical with the highest point until the lowest.

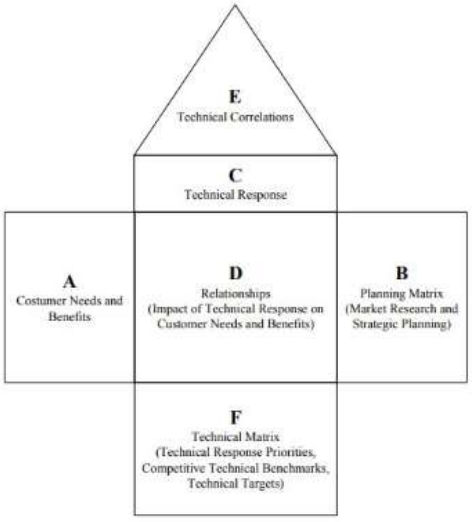

Figure 1. HOQ Table

3. DISCUSSION AND RESULT

3.1 Manufacture Questionnaire

Making a questionnaire based on studies earlier about measuring *service quality* with the use method *servqual* and results from consultation with management from hospital as well as results Interviews with the patient as respondents, so that 30 indicators are obtained measurement in *servqual* Five - Questionnaire Servqual.

Table 1. Variables Dimensions *Servqual*

Dimensions Servqual	***Attribute***	***Question In Questionnaire***
Tangibles (physical evidence)	T1-X1	Medical/non-medical officers have an attractive appearance
	T2-X2	The patient waiting room at the hospital is comfortable and clean
	T3-X3	The hospital has water handwashing facilities with soap and *hand sanitizers* in every room
	T4-X4	The hospital have power enough health professionals
	T5-X5	There is a suggestion box and stationery to accommodate suggestions from patients and families

Dimensions Servqual	*Attribute*	*Question In Questionnaire*
	T6-X6	Cleanliness bathroom and toilets are well maintained
Empathy	E1-X7	patient's an illness and can provide a way out
	E2-X8	Nurses in serving are polite and friendly
	E3-X9	The comfort of the patient during the examination is of great concern to doctors and nurses
	E4-X10	Doctors and nurses provide encouragement and motivation to patients
	E5-X11	There is no discrimination of social status/ certain groups to the patient
Reliability	RE1-X12	Doctor's arrival and medical action according to the schedule
	RE2-X13	Nurse responses fast and precise for the patient
	RE3-X14	Experienced medical personnel in providing health services
	RE4-X15	Provide visiting time to patient's family on schedule
	RE5-X16	Doctor capable of diagnosing disease accurately
	RE6-X17	Issuance of billing receipts accurately and professionally
	RE7-X18	Easy service procedure and referral system.
Responsiveness	R1-X19	The counter clerk answered the patient when he had difficulty understanding the treatment procedure
	R2-X20	Patient registration can be done online
	R3-X21	The hospital staff notifies when the service will be provided
	R4-X22	The waiting time for patients to get outpatient services is less than 60 minutes.
	R5-X23	There is a complaint center or *customer service* that is always ready to serve which can be contacted by the complaints department or via telephone.
	R6-X24	The hospital dispensary staff gave a clear explanation of the dosage and the rules for taking the medicine.
Assurance	A1-X25	Medical treatment by doctors according to patient complaints
	A2-X26	The hospital always maintains the sterilization of health service facilities (cleanliness of medical devices)
	A3-X27	Guarantee that the confidentiality of patient information (social identity and condition) patient) can be maintained properly
	A4-X28	Medical officers can foster a sense of trust in patients
	A5-X29	Hospital pharmacies have a stock of medicines that patients need.
	A6-X30	Parking attendants have responsibility for vehicles that are guarded by leaving the parking area.

3.2 Validity and Reliability Test Questionnaire for 30 respondents

Doing instrument testing in the form of a questionnaire against 30 people for testing validity and reliability as well as ensure respondents truly understand the meaning of existing questions in the questionnaire, If variables in the questionnaire are found invalid then conducted remove invalid questions or change type question whereas for level reliable if found questionnaire no reliable conducted with add or reduce respondents and can also be done replace respondent because possibility respondent not yet understand existing questions in the questionnaire. Next, if all variables in the questionnaire were declared valid and reliable so conducted deployment questionnaire to 99 respondents who are sample study in Thing This is the patient receiving home treatment sick. For distribution questionnaire was shared with inpatients 33 outpatients, 33 emergency room patients, and outpatients stay 33 people. Election respondents for fill in the questionnaire that is with

various type considerations starting from the level of education, work, ever get treatment at home sick others who are benchmarks and treated at home XYZ pain so could compare quality type service given health, consideration other to election respondent including patients who have 17 years old above who understands and understands about mastery to theme research and so on.

The processing results of five-dimensional validity and reliability tests *servqual* for 30 respondents on the level expectations and levels of perception.

Table 2. Validity Test Processing Results

Variable	Expectation Level	Perception Level	r table	Interpretation
	r Count	r Count		
T1-X1	0.369	0.642	≥ 0.361	" Valid"
T2-X2	0.662	0.567	≥ 0.361	" Valid"
T3-X3	0.499	0.722	≥ 0.361	" Valid"
T4-X4	0.510	0.683	≥ 0.361	" Valid"
T5-X5	0.600	0.595	≥ 0.361	" Valid"
T6-X6	0.422	0.667	≥ 0.361	" Valid"
E1-X7	0.715	0.591	≥ 0.361	" Valid"
E2-X8	0.381	0.691	≥ 0.361	" Valid"
E3-X9	0.464	0.493	≥ 0.361	" Valid"
E4-X10	0.690	0.725	≥ 0.361	" Valid"
E5-X11	0.565	0.698	≥ 0.361	" Valid"
RE1-X12	0.395	0.524	≥ 0.361	" Valid"
RE2-X13	0.703	0.592	≥ 0.361	" Valid"
RE3-X14	0.467	0.602	≥ 0.361	" Valid"
RE4-X15	0.532	0.673	≥ 0.361	" Valid"
RE5-X16	0.571	0.492	≥ 0.361	" Valid"
RE6-X17	0.406	0.616	≥ 0.361	" Valid"
RE7-X18	0.622	0.674	≥ 0.361	" Valid"
R1-X19	0.647	0.599	≥ 0.361	" Valid"
R2-X20	0.478	0.643	≥ 0.361	" Valid"
R3-X21	0.475	0.539	≥ 0.361	" Valid"
R4-X22	0.525	0.608	≥ 0.361	" Valid"
R5-X23	0.415	0.515	≥ 0.361	" Valid"
R6-X24	0.596	0.578	≥ 0.361	" Valid"
A1-X25	0.859	0.595	≥ 0.361	" Valid"
A2-X26	0.565	0.594	≥ 0.361	" Valid"
A3-X27	0.680	0.713	≥ 0.361	" Valid"
A4-X28	0.586	0.567	≥ 0.361	" Valid"
A5-X29	0.477	0.482	≥ 0.361	" Valid"
A6-X30	0.556	0.606	≥ 0.361	" Valid"

Test results using IBM SPSS statistics 25 shown in the table level expectations and levels perception show for r count value $\geq$ r Table so that existing variables in the questionnaire could be declared valid. Next conducted a check reliability for variables questionnaire for 30 respondents on the level of expectations and levels of perception. Cronbach's Alpha results show a level expectation of 0.915 $\geq$ 0.60 and a level perception of 0.940 $\geq$ 0.60 's means for the variables in the questionnaire are very reliable.

Reliability Statistics	
Cronbach's Alpha	N of Items
.940	30

Table 3. Statistical Reliability Expectation Level

Reliability Statistics	
Cronbach's Alpha	N of Items
.915	30

Table 4. Reliability of Perception Level Statistics

Variable	Perception	Hope	r table	Interpretation
	r Count	r Count		
A1-X25	0.637	0.288	≥ 0.1975	" Valid"
A2-X26	0.565	0.381	≥ 0.1975	" Valid"
A3-X27	0.357	0.584	≥ 0.1975	" Valid"
A4-X28	0.581	0.602	≥ 0.1975	" Valid"
A5-X29	0.490	0.262	≥ 0.1975	" Valid"
A6-X30	0.387	0.307	≥ 0.1975	" Valid"

3.3 Stage 2 Test the Validity and Reliability of 99 respondents

Stage 2 is carried out after the implementation of validity and reliability tests for 30 respondents. Next tested the validity and reliability of 99 respondents were. The results of the validity and reliability tests questionnaire on the level of Expectations and levels of perception for 99 respondents obtained as follows:

Table 5. Validity Test Processing Results

Variable	Perception	Hope	r table	Interpretation
	r Count	r Count		
T1-X1	0.609	0.368	≥ 0.1975	" Valid"
T2-X2	0.440	0.346	≥ 0.1975	" Valid"
T3-X3	0.374	0.619	≥ 0.1975	" Valid"
T4-X4	0.625	0.203	≥ 0.1975	" Valid"
T5-X5	0.383	0.267	≥ 0.1975	" Valid"
T6-X6	0.387	0.417	≥ 0.1975	" Valid"
E1-X7	0.424	0.388	≥ 0.1975	" Valid"
E2-X8	0.649	0.296	≥ 0.1975	" Valid"
E3-X9	0.523	0.204	≥ 0.1975	" Valid"
E4-X10	0.276	0.233	≥ 0.1975	" Valid"
E5-X11	0.325	0.604	≥ 0.1975	" Valid"
RE1-X12	0.597	0.320	≥ 0.1975	" Valid"
RE2-X13	0.253	0.410	≥ 0.1975	" Valid"
RE3-X14	0.564	0.250	≥ 0.1975	" Valid"
RE4-X15	0.396	0.362	≥ 0.1975	" Valid"
RE5-X16	0.557	0.239	≥ 0.1975	" Valid"
RE6-X17	0.507	0.329	≥ 0.1975	" Valid"
RE7-X18	0.488	0.614	≥ 0.1975	" Valid"
R1-X19	0.558	0.679	≥ 0.1975	" Valid"
R2-X20	0.560	0.263	≥ 0.1975	" Valid"
R3-X21	0.435	0.498	≥ 0.1975	" Valid"
R4-X22	0.380	0.258	≥ 0.1975	" Valid"
R5-X23	0.518	0.261	≥ 0.1975	" Valid"
R6-X24	0.339	0.551	≥ 0.1975	" Valid"

According to the Table show, the value of r count on the level of perceptions and expectations shows r count value ≥ r Table so that variables the stated valid. Next for reliable variables on level perception obtained Cronbach's alpha value is 0.877 ≥ 0.60, and Cronbach's alpha value for Hope level obtained 0.802 ≥ 0.60 so variables on level perceptions and expectations could be considered very reliable.

Table 6. Statistical Reliability Perception

Reliability Statistics	
Cronbach's Alpha	N of Items
.877	30

Table 7. Reliability Expectations Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.802	30

3.3 Distribution Characteristics Respondents

Characteristics respondent receiver service health at home sick shared a number of the part based on group age, type sex, kind of occupation, education level, income, every treatment, reason chosen, and duration treated at home sick. Distribution Characteristics Respondents Study as follows:

Table 8. Distribution Characteristics Respondents

No	Patient Characteristics	Amount	Percentage
1	Age	99	100%
	17- 24 years	12	12%
	25-34 years	31	31%
	35-49 years	47	47%
	50-64 years	7	7%
	65 years to the top	2	2%
2	Type Sex	99	100%
	Man	61	62%

No	Patient Characteristics	Amount	Percentage
	Woman	38	38%
3	Type Work	99	100%
	Student / Student	2	2%
	Civil Servants	19	19%
	Employee Private	8	8%
	Housewife _ Ladder	28	28%
	TNI	35	35%
	Etc	7	7%
4	Level of education	99	100%
	Junior high school	3	3%
	Senior high school	65	66%
	College	31	31%
5	Income	99	100%
	Less than 3,000,000	11	11%
	3,000,000-4,500,000	44	44%
	4,500,000-6,000,000	37	37%
	Above 6,000,000	7	7%
6	The amount Get treatment	99	100%
	1-2 Times	7	7%
	3-5 times	53	54%
	More than 5 times	39	39%
7	Reason Choose	99	100%
	Easy reachable, Near House	11	11%
	BPJS	65	66%
	Facility enough complete	15	15%
	Visiting hours lose	8	8%
8	Long treated	99	100%
	Less than 3 days	21	21%
	3-6 days	63	64%
	more than 6 days/hospital Street	15	15%

3.5 Processing Method Servqual

Derived research data from completed questionnaire spread to 99 respondents and tested the validity and reliability with the use of further IBM SPSS 25 software assistance conducted data processing with method *Servqual* that is To do *gap* data processing, for look for score *gaps* between expectations and perceptions customer or about patients service that has felt and also have once get home health services another pain as a benchmark. As for the comparison Between hope and reality quality service, accordingly with 5 dimensions/variables in the method *Service Quality* that has spread through the question in the questionnaire is as follows:

Table 9. Gap performance Servqual

Variable		**Health Services**	**Perception**	**Expectation**	**gaps**	**Rating**
Tangibles	*T1-X1*	Medical/non-medical officers have an attractive appearance	2.63	4.37	-1.75	10
	T2-X2	The patient waiting room at the hospital is comfortable and clean	1.89	2.68	-0.79	20
	T3-X3	The hospital has water handwashing facilities with soap and *hand sanitizers* in every room	2.40	3.60	-1.19	16
	T4-X4	The hospital have power enough health professionals	2.66	4.51	-1.85	8
	T5-X5	There is a suggestion box and stationery to accommodate suggestions from patients and families	2,32	3.75	-1.42	14
	T6-X6	The cleanliness of the bathroom and toilet are well maintained	2.67	3,43	-0.77	22
Empathy	*E1-X7*	The doctor listens to complaints about the patient's	4.03	3,40	0.63	29

Variable		Health Services	Perception	Expectation	gaps	Rating
		illness and can provide a way out				
	E2-X8	Nurses in serving are polite and friendly	2.68	2.91	-0.23	27
	E3-X9	Doctors and nurses pay great attention to patient comfort during examinations	2,31	2.70	-0.38	26
	E4-X10	Doctors and nurses provide encouragement and motivation to patients	3.54	2.66	0.88	30
	E5-X11	There is no discrimination of social status/certain groups to patients	2,22	3,41	-1.19	17
reliability	*RE1-X12*	The arrival of doctors and medical procedures according to the schedule	2.08	4.64	-2.56	3
	RE2-X13	Nurses respond quickly and precisely to patients	2,26	3.54	-1.27	15
	RE3-X14	Experienced medical personnel in providing health services	2.30	4.62	-2.31	4
	RE4-X15	Provide visiting time for the patient's family according to the schedule	3.97	4.52	-0.55	25
	RE5-X16	Doctors capable in diagnose disease in a manner accurate	2,26	3.90	-1.64	11
	RE6-X17	Issuance of billing receipts accurately and professionally	1.96	2.64	-0.68	23
	RE7-X18	Easy service procedure and referral system.	2,19	3.73	-1.54	13
Responsiveness	*R1-X19*	The counter clerk answered the patient when he had difficulty understanding the treatment procedure	2.58	3.69	-1.11	18
	R2-X20	Patient registration can be done online	2,11	4.83	-2.72	1
	R3-X21	The hospital staff notifies when the service will be provided	1.97	3.58	-1.61	12
	R4-X22	The waiting time for patients to get outpatient services is less than 60 minutes.	2.07	4.65	-2.58	2
	R5-X23	There is a complaint center or *customer service* that is always ready to serve which can be contacted by the complaints department or via telephone.	1.99	3.89	-1.90	5
	R6-X24	The hospital dispensary staff gave a clear explanation of the dosage and the rules for taking the medicine.	2,28	3,28	-1.00	19

Variable		Health Services	Perception	Expectation	gaps	Rating
assurance	*A1-25*	Medical treatment by doctors according to patient complaints	2,23	4,10	-1.87	7
	A2-X26	The hospital always maintains the sterilization of health service facilities (cleanliness of medical devices)	2.68	4.53	-1.85	9
	A3-X27	Assurance that the confidentiality of patient information (social identity and patient condition) can be maintained properly	3.89	3.53	0.36	28
	A4-X28	Medical officers can foster a sense of trust in patients	2.61	3.39	-0.79	21
	A5-X29	Hospital pharmacies have a stock of medicines that patients need.	2,15	4.03	-1.88	6
	A6-X30	Parking attendants have responsibility for vehicles that are guarded by leaving the parking area.	3.87	4.47	-0.61	24

In Table.3.9 it can be seen that of 30 variables there are 3 valuable variables positive i.e. on attributes *Empathy* E1-X7 (Doctors listen to complaints about the patient's illness and can provide a way out), attribute E4-x10 (Doctors and nurses provide encouragement and motivation to patients) and attributes *Assurance A3-x27* (Guarantee that the confidentiality of patient information / social identity and patient conditions can be maintained properly) this show that reality has in accordance or exceed hope customer, is said to be " Satisfied ". Whereas for 27 attributes other worth negative Thing this show that House XYZ pain is not yet capable Fulfill the desire of consumers/patients because consumer still feels no satisfied with the health service among them attribute *R2-X20, R4-X22, RE1-X12, RE3-X14, R5-X23, A5-X60, A1-25, T4-X4, A2-X26, T1-X1, Re5-X16, R3-X21, RE7- X18, T5-X5, RE2-X13, T3-X3, E5-X11, R1-X19, R6-X24, T2-X2, A4-X28, T6-X6, RE6-X17, A6-X30, RE4-X15, E3-X9, and E2-X8. With three negative gaps, biggest name on the dimensions of responsiveness is R2-X20 (patient registration can be conducted online). R4-X22 (*Patient waiting time to get outpatient services less than 60 minutes) and *RE1-X12 (*Doctor arrival and medical action according to schedule).

3.6 Processing IPA (Importance Performance Analysis)

Data processing with the use of the IPA method was carried out with suitability level analysis and quadrant analysis. Analysis Compatibility level is the results comparison score satisfaction or perceived reality with score hope or interest so that obtained results calculation suitability.

Table 10. Conformity Level Satisfaction and Reality

Variable Service	Evaluation Satisfaction (perception) x	Evaluation Interest (Hope) y	Average Satisfaction (perception) x	Average Interest (Expectation) y	Conformity Level (Tki)
T1-X1	260	433	2.63	4.37	60%
T2-X2	188	265	1.89	2.68	71%
T3-X3	240	356	2.40	3.60	67%
T4-X4	263	446	2.66	4.51	59%
T5-X5	229	371	2.32	3.75	62%
T6-X6	266	340	2.67	3.43	78%
E1-X7	398	337	4.03	3.40	118%

Variable Service	Evaluation Satisfaction (perception) x	Evaluation Interest (Hope) y	Average Satisfaction (perception) x	Average Interest (Expectation) y	Conformity Level (Tki)
E2-X8	265	288	2.68	2.91	92%
E3-X9	231	267	2.31	2.70	87%
E4-X10	351	263	3.54	2.66	133%
E5-X11	222	338	2.22	3.41	66%
RE1-X12	208	459	2.08	4.64	45%
RE2-X13	226	350	2.26	3.54	65%
RE3-X14	228	457	2.30	4.62	50%
RE4-X15	393	447	3.97	4.52	88%
RE5-X16	225	386	2.26	3.90	58%
RE6-X17	196	261	1.96	2.64	75%
RE7-X18	216	369	2.19	3.73	59%
R1-X19	256	365	2.58	3.69	70%
R2-X20	210	478	2.11	4.83	44%
R3-X21	195	354	1.97	3.58	55%
R4-X22	207	460	2.07	4.65	45%
R5-X23	199	385	1.99	3.89	52%
R6-X24	226	325	2.28	3.28	70%
A1-25	220	406	2.23	4.10	54%
A2-X26	265	448	2.68	4.53	59%
A3-X27	386	349	3.89	3.53	111%
A4-X28	259	336	2.61	3.39	77%
A5-X29	213	399	2.15	4.03	53%
A6-X30	382	443	3.87	4.47	86%
∑	7623	11181			68%

Based on table 3.10 above obtained for the Total Conformity Level (Tki Total) between reality with hope $TKi = \frac{7623}{11181} X100\% = 68\%$

Criteria Evaluation Overall :
0.81 – 1.00 (Very Good)
0.66 – 0.80 (Good)
0.51 – 0.65 (Enough ok)
0.35 – 0.50 (Not Good)
0.00 – 0.34 (Absolutely No ok)

So for level suitability Based on results calculation Among level reality and level hope to quality, the attributes studied through comparison score reality with score hope in a manner whole performance quality service is in category Well is. 68%

From the results level, average score reality (satisfaction) with level expectations (interests) are obtained the value to be level satisfaction and level expectations on the *Importance Performance Analysis (IPA) matrix*. Point intersection obtained from grade point average expectations (y) and reality (x), so could is known interest or perception relatively various attribute to the satisfaction or hope home customers /patients sick. Creating a Cartesian Diagram using IBM SPSS software assistance Statistics 25. Here Cartesian diagram views each dimension *servqual.*

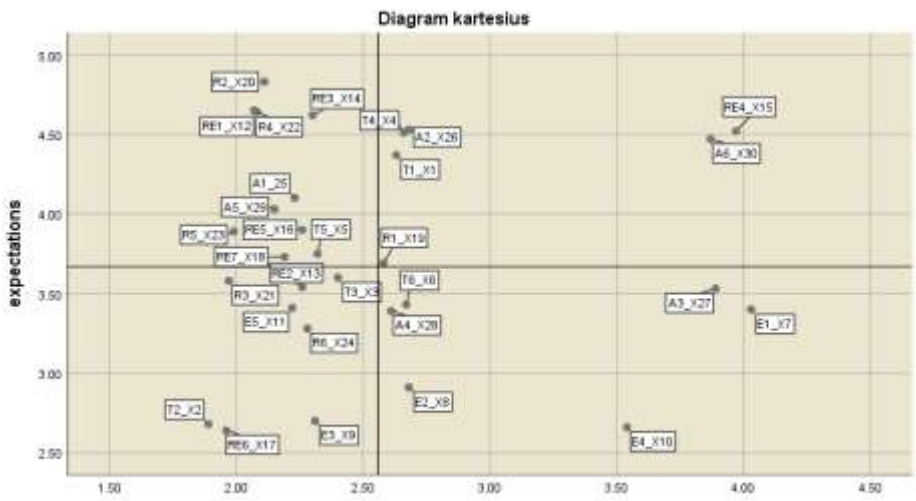

Figure 1. Cartesian diagram

Based on the results Cartesian diagram visualization obtained Quadrant I, namely 10 attributes including T5-X5, RE1-X12, RE3-14, RE5-X16, RE7-X18, R4-X22, R5-X23, R2-X20, A1-X25, A5-X29. It means to attribute the according to the patient is considered very important but in reality or in fact not yet in accordance with hope. For it's on attribute this need improved quality. While the attributes T1-X1, T4-X4, RE4-X15, R1-X19, A2-X26, and A6-X 30 are in quadrant II (6 attributes), this show attributes the already in accordance with hope from the patient so need to be maintained. In quadrant III there are 8 attributes i.e. T2-X2, T3-X3, E3-X9, E5-X11, RE2-X13, RE6-X17, R3-X21, R6-X17, R3-X21, R6-X24 indicating items the considered not enough important for patients and services received considered normal. For there are 6 attributes in quadrant IV namely T6-V6, E1-X7, E2-X8, E4-X10, A3-X27, and A4-X28. this means the item is considered not enough important for patients however services provided are too excessive.

3.7 Processing Method QFD

On data processing using QFD in getting contribution technical, priority technical, and response targets technical. As for Target and response technically conveyed _ in form table11.

Table 11. Targets and responses technical

No	Variable *Technical Requirements*	*Score*		*priority*
		Contribution Target	*Technical Response Targets*	
1	Add different uniforms and cockades in each service unit health	0.879	4,28	10
2	Fulfill needs power specialist permanent, health training, and training (patient safety, skill/competency)	2,259	4,28	8
3	Add a suggestion box in each Health service unit, Designing interesting suggestion box	0.495	3.75	16
4	Fulfill Timetable arrival doctor, Collaboration with house another pain	3.305	4,42	3
5	Training power medical with prioritize patient safety, improve skills or ability with competency tests and health seminar activities	2,521	4,41	5
6	Adding rules for time visits which are displayed in the service take care to stay	0.595	4.52	12
7	training, training, and seminars, Evaluation results Competence doctor who has done, Facility ultrasound & ECG support	2,464	4,31	6
8	Employee training and training about procedure service and referral, Using System Information Management Hospital (SIMRS)	1,522	3.99	9
9	training employees, *Flow chart* procedures service that treatment on display Emphasize communication therapeutic (reciprocal definition nurse and patient)	0.541	3.69	14
10	Use System Information Management House Hospital (SIMRS), training and use training application	3,871	4,26	2

No	Variable *Technical Requirements*	*Score*		*priority*
		Contribution Target	*Technical Response Targets*	
11	training and seminars Emphasize communication therapeutic, Using System Information Management Hospital (SIMRS)	4,268	4,34	1
12	Use System Information Management Hospital (SIMRS), There is board information responsible officer who answers every day and got contacted	2,267	4.07	7
13	Training as well as health training and seminars and availability facilities supporters ultrasound and ECG examination	2,575	3.60	4
14	Care tools in a manner regular before and after use, Replace and add broken equipment, Training, and training health	0.597	4.53	11
15	Add type more medicine complete, Collaboration with Other Pharmacies	0.532	4.03	15
16	Addition land parking, Use parking electronics, and add installation camera CCTV	0.590	4.47	13

Based on the table on obtained three priority response technical as priority repair by parties management hospital to increase quality Health services. First Target to *responsiveness* for increase service take care Street so that patients can be served not enough 60 minutes that is with To do Health training and training to power medical and nonmedical inside the hospital, speed and accuracy in Patient care is highly dependent on a skill from officer skilled medic in serving patients primarily with prioritizing patient safety as well emphasize communication therapeutic which is communication Among nurse with the patient or doctor with patients with meaning repair emotion of patients, doctors or nurse make himself in a manner therapeutic with various technique communication optimally, Second target to *the responsiveness of* patient registration can conducted online Use System Information Management Hospital (SIMRS) as well socialization Training and usage training SIMRS application, installation information use the application displayed on the board announcement or easy place _ visible for the patient to understand method registration online. Because this hospital not yet implementing SIMS. Third target to *reliability* for could Fulfill the timetable of the arrival of doctor specialists with arrange timetable activity practice doctor in service poly take care Street good in the morning day and evening, as well doctor on duty for service take care stay, Collaboration with hospital closest or clinic that has doctor complete specialist so that capable Fulfill timetable activity practice doctor already planned.

4. CONCLUSION

Based on the results of data processing that has been conducted by researchers can conclude for the quality of Health services provided by Home XYZ illness is classified as good, but there are still some a must noticed including:

a. Analysis results Method Servqual obtained of the 30 attributes assessed there are 3 attributes worth positive is Assurance dimension attribute A3-X27 (Assurance that the confidentiality of patient information (social identity and patient condition) can be properly maintained), Empathy attributes E1-X7 (Doctors listen to complaints about the patient's illness and can provide a way out) and E4-X10 (Doctors and nurses provide encouragement and motivation to patients) whereas 27 attributes another worth negatively. Three Valuable attributes negative highest there on responsiveness dimensions R1-X20 (patient registration can be done online), R4-X22 (patient waiting time to get outpatient services less than 60 minutes), and reliability on RE1-X12 attributes (doctor arrival and medical action according to schedule).

b. Analysis results with the IPA method get 10 attributes in quadrant I which are a must priority quick conducted improvements to Tangible T5-X 5 dimensions, Reliability RE1-X12, RE3-14, RE5-X16, RE7-X18, Responsiveness R4-X22, R5-X23, R2-X20, and Assurance A1-X25, A5-X29 and quadrant II for maintaining quality Health services namely at T1-X1, T4-X4, RE4-X15, R1-X19, A2-X26, A6-X30.16 attributes is the voice of the customer for the next step in making HOQ.

c. Research results with the use QFD (*Quality Function Deployment)* method with made HOQ (*House Of Quality)*, showed 3 responses technically possible _ used as priority repair internal health services increase quality service Hospital XYZ, that is first target *responsiveness*/power responsive to effort increase inpatient services road, Both targets against *responsiveness/* power responsive to patient

registration conducted online with using SIMRS (System Information Management Hospital) and Third targets against *reliability/* reliability that is Fulfill timetable arrival doctor specialist with distribution timetable activity practice doctor in the morning day or afternoon so that patients can arrange when must get treatment to the hospital.

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