

# Integration of service quality and quality function deployment as an effort of pharmaceutical service improvement on outpatient in a referral Hospital, Karawang, Indonesia

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## ABSTRACT

The length of waiting time for the drug has often been a problem the patients complain about. This study aimed to analyze the effect of pharmacy service quality based on 5 quality dimensions from ServQual method that has been tangible, reliable, responsive, empathic, and assuring outpatient satisfaction. The difference in gap between perception and expectation was based on the priority scale for improvement of Quality Function Deployment concept. The results showed that the provided services did not meet expectations based on ServQual attributes because each attribute was negative. The biggest gap existed on the attribute of speed and accuracy of pharmacy staff in serving which was equal to -1.3. And, there were 10 attributes of House of Quality as customer satisfaction training was recommended as the main improvement effort. The results of path analysis of 100 samples found that sub-variable reliability and responsiveness had effects on the outpatient satisfaction of 59.8%.

**Keywords:** Service quality, quality function deployment, patient satisfaction.

## Introduction

The provider–patient relationship has become the topic of concern for many healthcare professionals<sup>[1]</sup>. Building a good relationship between patients and their health care professionals has been the essence of providing optimal care; in addition, this relationship has often been thought to influence patient health outcomes<sup>[2]</sup>.

changed. The new role has evolved from the traditional activity of dispensing medications to broader responsibilities of pharmaceutical care<sup>[3]</sup>. In order to ensure the implementation of Good Pharmaceutical Practise with the current philosophy of pharmaceutical care, its quality should be assessed. In this process, quality could be seen from three aspects including structure, process, and outcome of the services provided<sup>[4]</sup>. Satisfaction has been defined and assumed to entail cognitive evaluation and an emotional reaction to the structure, process, and outcome of services<sup>[5]</sup>. Patient satisfaction has been an important indicator of the quality of health-care services and has been an important predictor of maintaining a relationship with the health-care provider and adhering to a medication regimen<sup>[6]</sup>.

Pharmacy installation of a referral Hospital in Karawang, West Java, Indonesia (PI RSUD Karawang) is still having problems about patient dissatisfactions, especially outpatients for pharmaceutical service, related to the length of waiting time

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Over the last two decades, the role of the pharmacist has

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for drug that exceeds minimum service standard (SPM of finished medicine  $\leq 30$  minutes and SPM concoction  $\leq 60$  minutes) mainly during peak hours (between 10.00 - 14.00), i.e. the duration of the waiting time of the finished drug was 1 hour 40 minutes and for concoction medication was 1 hour 38 minutes (Report of patient waiting time of outpatient period August 2017).

So, the evaluation of patient satisfaction with pharmacy services as a crucial part of the health services through appropriate studies has been important. This would be helpful in identifying specific areas of the service which need improvement in realizing high quality pharmacy services in general and also enhancing the positive changes in the current pharmaceutical services.

It is difficult for patients to identify and prioritize their expectations, and for management to include these expectations in the service package [7]. Quality function deployment (QFD) technique has been available to provide hospitals with better understanding of customers' expectations and translate these expectations into appropriate service specifications and perform existing process assessment [8].

This study used the ServQual approach with five quality dimensions including: tangibility, reliability, responsiveness, empathy, and assurance to examine the gap between outpatients' general expectations of a service and their perceptions of the pharmaceutical service received. The results would be integrated with Quality Function Deployment (QFD) method to build a house of quality as a recommendation to improvement efforts. Finally, it assessed the effect of quality service (tangibility, reliability, responsibility, assurance, and empathy) associated with the patient satisfaction.

## Method

### Study Setting and Design

The research was conducted at Pharmacy Installation of RSUD Karawang. Research design had a cross sectional study approach, and used questionnaires as a data collecting tool with the survey method to outpatient pharmacy customers. Descriptive method was done in the further analysis of service quality with Quality Function Deployment (QFD) method, with inclusion criteria as follows:

- Respondents were outpatients participating in National Healthcare Insurance or BPJS (or their family) who inquired drugs in the Pharmacy Installation of RSUD Karawang.
- Respondents were aware and able to communicate well.
- Respondents were willing to participate as samples in this research.

### Period of Study

This study began from February 2018 until March 2018.

## Study Population

The population of this study was outpatients (or their family) who inquired drugs in Pharmacy Installation of RSUD Karawang.

## Sampling

The sampling technique for qualitative research using purposive sampling method to become informant in depth interview was done to the Head of Pharmacy Installation, and a consecutive sampling method for quantitative research with sample quantity on the outpatient pharmacy customer was calculated using the following formula for the evaluation of correlation:

$$n = \left[ \frac{z\alpha + z\beta}{0.5 \ln[(1+r)/(1-r)]} \right]^2 \left[ \frac{z\alpha + z\beta}{0.5 \ln[(1+r)/(1-r)]} \right]^2 + 3$$

$$n = \left[ \frac{1.96 + 1.28}{0.5 \ln[(1+0.4)/(1-0.4)]} \right]^2 \left[ \frac{1.96 + 1.28}{0.5 \ln[(1+0.4)/(1-0.4)]} \right]^2 + 3$$

$$n = 100 \text{ people}$$

### Note:

n= number of samples

Z $\alpha$ = The standard deviation of alpha ( $\alpha$ ) obtained from the normal distribution table is 1.96

Z $\beta$ = The standard deviation beta obtained from the normal distribution table is 1.28

r= The smallest correlation coefficient is expected to be detected significantly ie r = 0.4

To anticipate the incomplete data, 10% of the number of samples was added.

## Variable

Independent variable was Service Quality (X) with 5 dimensions from servqual method as subvariables, which were:

- Tangibility (X<sub>1</sub>): The appearance of physical facilities, equipment, personnel and communication materials
- Reliability (X<sub>2</sub>): The ability to perform the promised service dependably and accurately
- Responsiveness (X<sub>3</sub>): The willingness to help customers and provide prompt service
- Assurance (X<sub>4</sub>): The knowledge and courtesy of employees and their ability to convey trust and confidence
- Empathy (X<sub>5</sub>): The provision of caring, individualized attention to customers

Dependent variable was outpatient satisfaction (Y).  
 Confounding variables were age, level of education, and work status.

### Survey Instrument

- **ServQual Method**

The ServQual instrument was developed by Parasuraman et. al. (1988) to measure the quality of customer service as it demonstrated the “gap” between the customers’ expectations and the perceptions of the customers’ expectations based on five dimensions: tangibility, reliability, responsiveness, assurance, and empathy<sup>[9]</sup>. The gap score was calculated by the perception statements being deducted from the expectation statements. If any gap scores turned out to be positive, then this implied that expectations were actually being exceeded, and vice versa. The questionnaire used in this study comprised of “20” statements for the perception scale measure on a five-point scale ranging from 1 (not good) to 5 (excellent) and the same “20” statements for the expectation scale measure on a five-point scale ranging from 1 (not important) to 5 (very important).

- **Quality Function Deployment (QFD) Method**

QFD was developed in Japan by Yoji Akao in 1972, that defines a QFD as a method to determine what will satisfy the customers and translate those customers’ desires into the target design. The QFD approach requires the development of house of quality in connecting the customers’ voice with the specified products or services, technical requirements, process of planning control, and manufacturing operations<sup>[10]</sup>. In this study, the customers’ voice was the voice of outpatients who made up prescription in pharmacy. There were six steps in

building a house of quality; specifying the customers’ requirement, technical requirements, relationship matrix, planning matrix, correlation matrix, and technical targets<sup>[10]</sup>.

- **Integration Servqual and QFD Method**

As noted by Parasuraman, et. al., (1988), the ServQual dimensions can be modified based on the requirements and needs of an organization to make them more relevant to the context in which they are used<sup>[9]</sup>. ServQual has not been designed to address the element of innovation, and even though it provides important information on the gaps between expected service and perceived service, it is not able to resolve the existing gaps. So, it would be good if -ServQual can be integrated with other service quality tools that are more focused on reducing the service gaps<sup>[11]</sup>.

ServQual can be used in the design of house of quality (HOQ) contained in QFD method to evaluate customers’ satisfaction with the organization's services. It can also be used in identifying and analyzing customer requirements which is the first step in making HOQ<sup>[12]</sup>.

### Data Analysis

Path analysis was used in assessing the effect of each quality dimension on outpatient satisfaction. Path analysis required the interval scale, while a scale used was ordinal, so the data was transformed into an interval scale by using the formula scale 100.

### Result

#### Validity and Reliability Instrument

Variable	Reliability Coeff. (Cronbach Alpha)	Sub Variable	Validity coeff. (rs) *	Value P
Quality service (Perception)	0.956	Tangibility	0.881	< 0.001
		Reliability	0.912	< 0.001
		Responsiveness	0.946	< 0.001
		Assurance	0.958	< 0.001
		Empathy	0.730	< 0.001
		Quality service (Expectation)	0.959	Tangibility
		Reliability	0.954	< 0.001
		Responsiveness	0.873	< 0.001
		Assurance	0.879	< 0.001
		Empathy	0.883	< 0.001

\*) Correlation coefficient Rank Spearman

valid and reliable<sup>[13]</sup>.

The value of validity  $r_{cal} > r_{table}$  0.48 and the alpha values were calculated to assess the internal consistency reliabilities of the scales (see Table 1). These values were more than 0.70, and indicated that the items used to measure the constructs were

## Service Quality Pharmacy with ServQual

### Method

Patient satisfaction assessment was conducted on 100 patients of outpatient with BPJS who were awaiting medication at Pharmacy Installation, with the formula of calculation:

$$\text{ServQual Score} = \text{Score of perception} - \text{Score expectations}$$

The calculation results have been shown in the table below:

No. attribute	Mean/attribute		Percept-Expt	Dimension	Mean/dimension		Serv-Qual Score
	Perception	Expecta-tion			Percept	Expt	
1	3.48	4.26	-0.78	Tangibility	3.40	4.24	-0.84
2	3.20	4.29	-1.09				
3	3.83	3.85	-0.02				
4	3.09	4.55	-1.46				
5	3.84	4.48	-0.64	Reliability	3.57	4.42	-0.85
6	3.70	4.48	-0.78				
7	3.64	4.52	-0.88				
8	3.35	4.35	-1.00				
9	3.30	4.27	-0.97	Responsiveness	3.48	4.40	-0.92
10	3.59	4.41	-0.82				
11	3.45	4.32	-0.87				
12	3.16	4.47	-1.31				
13	3.72	4.40	-0.68	Assurance	3.85	4.47	-0.63
14	3.75	4.34	-0.59				
15	3.87	4.56	-0.69				
16	3.71	4.39	-0.68				
17	4.06	4.60	-0.54	Empathy	3.55	4.36	-0.81
18	3.58	4.42	-0.84				
19	3.51	4.33	-0.82				
20	3.56	4.34	-0.78				

### Analysis with Quality Function Deployment

#### 1. Identification of Customer Requirement

This step focused on understanding the customer. At this stage, Customer Requirement commonly referred to as voice of customers was obtained from the development of five dimensions of ServQual. These five dimensions became the primary requirements, and the development of the five dimensions in the form of 20 attributed the statements into second requirements. This information was refined, and then a second subset of the information became the input for the second step.

#### 2. Performance Appraisal of Pharmacy Installation RSUD Karawang (PI. RSUD Karawang)

The assessment was done by the patients, based on their perception. The performance appraisal data were obtained from the perception scale questionnaire using the Likert scale of 1 to 5, i.e.: not good (score 1), poor (score 2), good enough (score 3), good (score 4) and excellent (score 5), which translated all the reality values given by the respondents on each attribute, then divided them by the number of respondents.

#### 3. Determining level of importance

The data were obtained from the expectation questionnaire using Likert scale 1 to 5 that was not important (score 1), less important (score 2), quite important (score 3), important (score 4), and very important (score 5). The importance value of each attribute was obtained by summing up all the expected values given by the respondents on each attribute, then dividing them by the number of the respondents. The greater average value of each attribute, the more important for the attribute was to be satisfied by the PI. RSUD Karawang.

#### 4. Determining goal and Improvement Ratio (I.R)

The goal was a target that needed to be achieved to meet the customers' requirements identified by the head of PI.RSUD Karawang that was determined by Likert scale between 1 (very not good) up to 4 (very good).

The improvement Ratio was the stage where PI. RSUD Karawang could find out how much improvement should be done. The calculation of I.R was obtained from the comparison between the goal against the performance;

#### 5. Determining Technical Requirement

In this step, technical requirements related to the customers' expectation were determined and explained. Technical requirements were very important for QFD analysis because engineers and experts considered these requirements when

struggling to meet the customers' expectations, so they have been called as 'heart of QFD'. The technical requirements were determined by conducting an interview with the head of Pharmacy Installation.

6. The analysis of the Relationship Between Attributes of Customer Requirements and Technical Requirements  
After determining the technical requirements, the experts constructed the relationships between the customers' expectations and technical requirements keeping in mind the importance of ratings and the direction of improvement that were crucial points for QFD analysis. This information was evaluated and determined by the head of Pharmacy Installation. The resulting relationships, direction of improvement and importance degrees have been shown in Figure 1.

In this step, experts calculated the technical importance degree of each requirement. These values were calculated for each technical requirement as the summation of the importance degree of the customers' expectations, which had a relationship with the technical requirements multiplied with the weight of relationships. The formula was as follows:

$$\sum \text{Technical Importance Degree} = \sum (\text{Importance degree of customer satisfaction} \times \text{Weight of customer requirement})$$

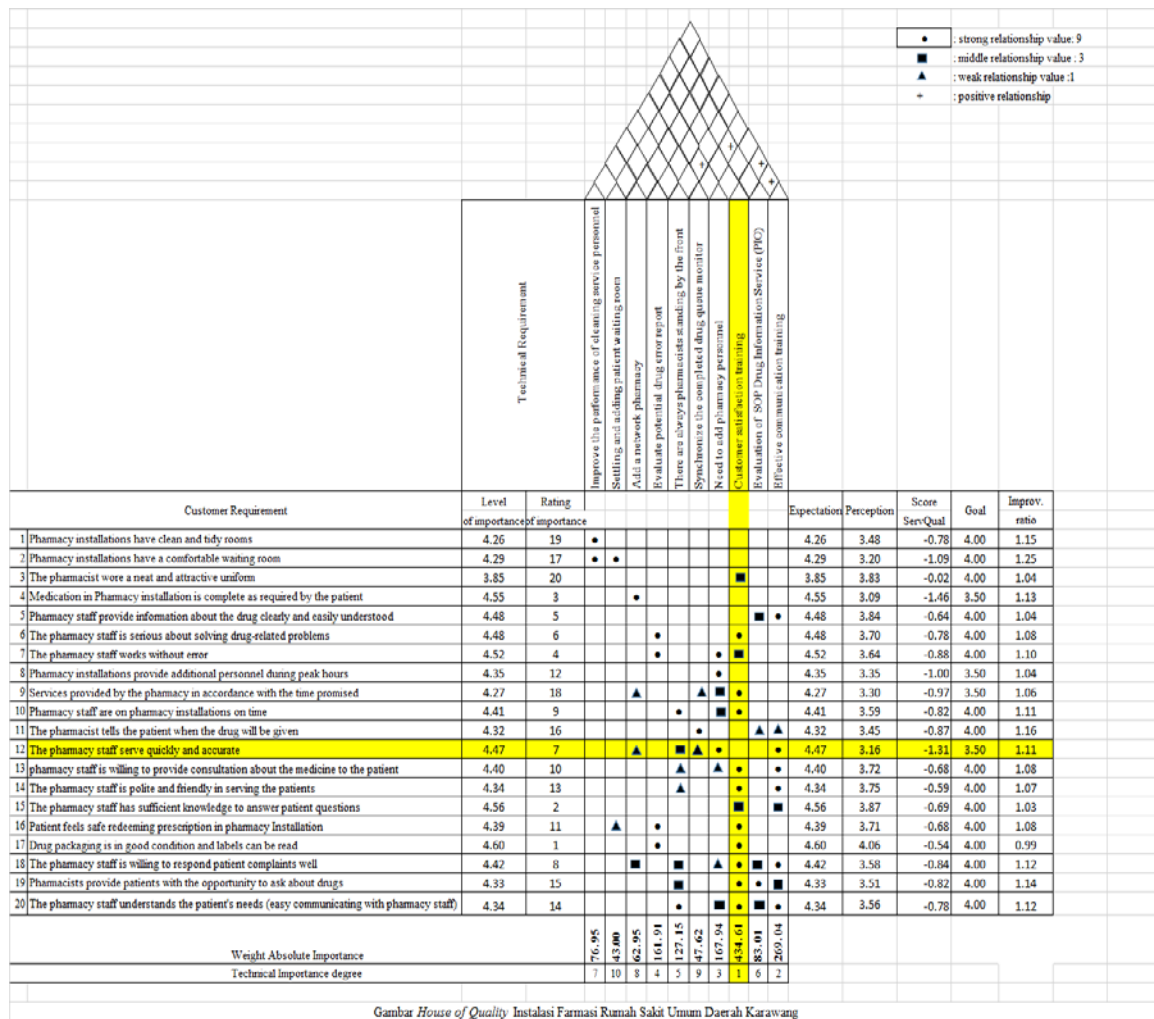
As the questionnaire was formed of five Likert scale, the response to each question gave the important degree for each related customer's expectations. The relative weight of the customer's expectations was the percentage explained for each importance degree response.

#### 7. Determining the relationship between technical requirements

In addition to the information given in the house of quality matrix, it should be realized that there could be a relationship between each technical requirements in itself. The improvement of one technical requirement could also indirectly or directly affect another technical requirement positively or negatively or vice versa. These correlations among technical requirements have been described in Figure 1, using a correlation matrix which also formed the roof of the quality house. Four different symbols were used in the correlation matrix to illustrate the relationship. For a strong positive correlation, there was a double positive symbol (++), for a positive correlation, there was a single positive symbol (+), for a strong negative correlation, there was a double negative symbol (--), and for a negative correlation, a downward triangle symbol was used. After the relationship was figured out among technical requirements, the symbols were placed on the roof of the house of quality. The house of quality matrix illustrates which technical characteristic had positive or negative relationships with the other technical requirements.

This approach helped to identify the minimum set of technical requirements of hospitals pharmacy to meet the various customer requirements, in turn leading to a cost-effective means of improving quality – quality as perceived by the customers.

The application of QFD to pharmaceutical care satisfaction has been shown in the house of quality (HOQ) illustrated in Figure 1.



Gambar House of Quality Instalasi Farmasi Rumah Sakit Umum Daerah Karawang

Figure 1. House Of Quality of Instalasi Farmasi RSUD Karawang

Considering education, the majority (54%) of the respondents had middle education, about 21% of the respondents had basic education, and 25% respondents had higher education, and more than half (64%) were working.

### Pharmaceutical Service Quality Analysis on Patient Satisfaction using Path Analysis

- Respondents' profile

Out of the 100 respondents, the majority (60%) of the respondents were aged above 30 years old, about 21% of the respondents were aged under 25 years old, and 19% of the respondents were aged between 25 to 30 years old.

- Path Analysis

Respondents Analysis based on Subvariable Pharmacy Service (Perception – Expectation)

Subvariable (Scale 100)*	Statistic Measurement				Normality data test
	Mean	SD	Median	Range	(P value)***
<b>1.Tangibility</b>					
Perception	60	14.94	56.25	12.50-93.75	0.001
Expectation	80.93	13.30	81.25	37.50-100	0.000
<b>2.Reliability</b>					

Perception	64.15	17.65	65	5-100	0.108
Expectation	85.50	11.83	85.50	50-100	0.000
<b>3.Responsiveness</b>					
Perception	62	17.76	59.38	12.50-100	0.000
Expectation	85	11.79	87.50	50-100	0.001
<b>4.Assurance</b>					
Perception	71.19	13.02	75	37.50-100	0.001
Expectation	86.81	12.37	87.50	50-100	0.000
<b>5.Empathy</b>					
Perception	63.75	15.59	66.67	8.33-100	0.002
Expectation	84.08	15.08	83.33	33.33-100	0.000
<b>Service Quality</b>					
Perception	64.23	13.16	64.37	36.25-97.50	0.172
Expectation	84.54	10.94	85.63	47.50-100	0.038
Satisfaction**	77.18	17.58	76.47	39.47-117.78	0.200

Note :

$$*) \text{ Score } 100 = 100 \times \frac{(\text{individu score} - \text{lowest score})}{\text{Range}} \frac{(\text{individu score} - \text{lowest score})}{\text{Range}}$$

$$**) \text{ Satisfaction} = \frac{\text{Perception}}{\text{Expectation}} \times 100\% = \frac{\text{Perception}}{\text{Expectation}} \times 100\%$$

\*\*\*) Kolmogorov Smirnov test ( $N > 50$ )

From the table above, it can be seen that the value of perception (reality) was below the expectation of the respondents, especially in sub-variable responsiveness, the median value of reality was 59.38%, and the median value of the expectation was 87.50%. On the overall, the median value of the service quality obtained for the reality was 64.37%, and the median value for the expectations was 85.63%. The value of the patient satisfaction with the pharmacy service quality was still below standard ( $\leq 80\%$ ) that is, the median value for the perception equalled to 76.47%, so as a whole, the outpatients were not satisfied with the pharmacy service given.

### Bivariable Analysis (Correlation of Each Sub-variable with Patient Satisfaction)

Table.4 shows that the correlation value of each subvariable to the patients' satisfaction was greatly significant (P value  $<0.001$ ) and the correlation value ( $r_s > 0.01$ ) indicated that each subvariable was related to the patients' satisfaction, so that the path analysis could be performed.

**Table 4: Correlation of Each Subvariable with Patient Satisfaction (Bivariable Analysis)**

Correlation	rs*	P**
Tangibility with patient satisfaction	0.519	<0.001
Reliability with patient satisfaction	0.721	<0.001
Responsiveness with patient satisfaction	0.702	<0.001
Assurance with patient satisfaction	0.559	<0.001
Empathy with patient satisfaction	0.541	<0.001

\*) significance correlation value  $>0.01$

rs = Correlation coeff. rank Spearman

\*\*\*) P value greatly significant  $<0.001$

### Correlation Between Sub-variable Service Quality

Table.5 indicating the correlation between the Subvariable

Service Quality ( $r_s$  value) shows that as a whole, it had a positive value if linked to each subvariable, so there was a direct influence on each subvariable. The absolute value on the concept of correlation was 1; if the value was close to 1 then had the strongest relationship, meaning that in table 5, the



correlation between subvariable responsiveness to empathy had the strongest relationship effect on the patients' satisfaction

(rs value 0.717). The value of a larger correlation indicated that the effect was also greater on the outpatients' satisfaction.

**Table 5: Correlation Between Sub-variable Service Quality (rs value)**

Correlation Coeff. (rs)	Tangibility	Reliability	Responsiveness	Assurance	Empathy
Tangibility	-	0.490	0.555	0.416	0.368
Reliability	0.490	-	0.681	0.614	0.662
Responsiveness	0.555	0.681	-	0.589	0.717
Assurance	0.416	0.614	0.589	-	0.633
Empathy	0.368	0.662	0.717	0.633	-

rs = rank Spearman

**Table. 6 Multivariable Correlation Analysis between X1, X2, X3, X4 and X5 with Y**

Model	Subvariable	B coeff.	SE (B)	Path coeff. (β)	t-cal	P Value
<b>Initial</b>	Tangibility	0.127	0.095	0.108	1.333	0.186
	Reliability	0.417	0.102	0.419	4.107	0.000
	Responsiveness	0.339	0.104	0.342	3.274	0.001
	Assurance	0.056	0.125	0.041	0.446	0.657
	Empathy	-0.027	0.112	-0.024	-0.243	0.808
<b>Final</b>	Reliability	0.466	0.089	0.468	5.265	0.000
	Responsiveness	0.372	0.088	0.376	4.229	0.000

P value = < 0.05 (significant)

### Multivariable Analysis Between Sub-variable (X1,X2,X3,X4 and X5) with Patients' Satisfaction (Y)

As can be seen in Table 6, from the initial model, only subvariable reliability and responsiveness had a significant influence (P value <0.05), so re-modeling was done to obtain the final model rating:

- Reliability: 0.000; Path coeff. (β) = 0.468
- Responsiveness: 0.000; Path coeff (β) = 0.376

Based on the probability value (P <0.05), it could be concluded that the equation model could be accepted, with the regression equation as follows:

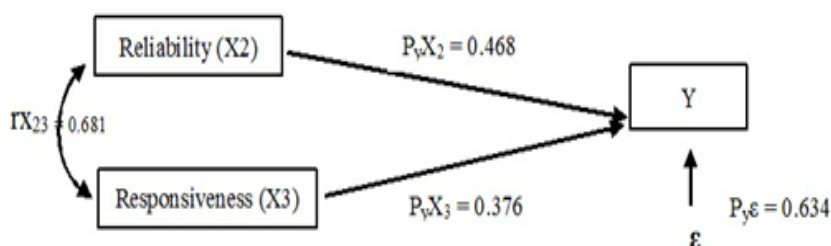
$$Y = 0.468 X_2 + 0.376 X_3 + \epsilon$$

The variables of reliability and responsiveness were correlated to the outpatients' satisfaction (with r<sup>2</sup> value 0.606, P <0.001, adjusted r<sup>2</sup> 0.598) meaning that the quality of pharmacy service had a 59.8% effect on the outpatient satisfaction who inquired drug in the Pharmaceutical Installation, and the remaining 40.2% was affected by the other variables. The effect of other variables not included in the model calculated using the formula (Pyε) was:

$$P_{y,\epsilon} = \sqrt{1 - r^2y(X2X3)}\sqrt{1 - r^2y(X2X3)}$$

$$= \sqrt{1 - 0.598}\sqrt{1 - 0.598} = 0.634$$

So based on the above results, the path diagram of the influence of pharmacy service quality on the subvariable reliability (X2) and responsiveness (X3) to the outpatient satisfaction (Y) could be made as follows:





**Figure 2:** Path diagram influence Pharmacy service to outpatient satisfaction

Category	Satisfaction score (Scale 100)				P* Value
	Mean	SD	Median	Range	
Age (y.o.)					0.624
<25 y.o.	77.27	14.99	75.00	45.00-107.89	
25 – 30 y.o.	80.59	16.29	79.45	48.68-111.67	
>30 y.o.	76.07	18.88	76.46	39.47-117.78	
Education					0.260
Basic	77.25	18.29	80.30	42.67-111.67	
Middle	79.38	18.91	79.69	39.47-117.78	
Higher	72.38	13.09	70.31	48.68-107.89	
Occupation					0.450
Working	76.18	17.27	73.59	39.47-117.78	
Not working	78.96	18.21	79.57	40.85-111.67	

Note. P Value <0.05 = significant  
P Value >0.05 = not significant

Table 7 above shows that each P value of the characteristics including age, education and occupation had a P value > 0.05 (not significant) which meant that these three characteristics of the subjects did not affect the relationship between the quality of pharmacy services and the outpatients' satisfaction.

## Discussion

### Integrating Servqual Method with QFD

#### Method

This study illustrated how an existing approach of ServQual and QFD integration can be applied to a hospital pharmacy. The results from the analysis with servQual method (Table 2) showed that the services provided by pharmacy has not met the expectations based on ServQual attributes because each attribute was negative. The biggest gap existed on the attributes of speed and accuracy of pharmacy staff in serving equal to -1.31, and an effort was made by the pharmaceutical installations to improve the gap differences were developed in the Quality Function Deployment.

Figure 1 shows the customer requirements, technical requirements, maximum relationship degree, relative weight of relationships, improvement ratio, and correlation among technical requirements from the house of quality in QFD. When the relative weight column was analysed, it was seen that customer satisfaction training had the highest weight score (434.61) and there was almost 29.48% improvement in the Installation Pharmacy of RSUD Karawang; the second highest weight score was training effective communication with the score of 269.04 that improved the pharmacy by 18.25%, and finally the third highest weight score was the need to increase the staff pharmacy with the score of 167.94 or 11.39%. When all three were combined, the hospital realized the improvement and customer satisfaction by the total of 59.12 percent.

The correlation among the technical requirement showed that there was no negative correlation, but there was a positive correlation between 'the pharmacy staff always standing by front section' with 'the need to increase the number of pharmacy staff', because the major problem that faced by the pharmacy was the shortage of staff. The positive correlation between synchronizing the finished drug queue monitor with the needs to evaluate the Standard Operating Procedures (SOP) of drug information services, was because sometimes the pharmacists forgot to click on the system monitor after completing a drug with drug information to a patient, and then to evaluate this SOP had a positive correlation with the training of effective communication. The last positive correlation was found in customer satisfaction training that could also include the topic of effective communication training because it could include the topic within.

The integrated usage of two methods gave a systematic and efficient approach in translating the customer needs into technical requirements in the present study of the hospital pharmacy. In spite of such integration, the service quality attributes of the analysed factors showed which attributes of service quality had a strategic significance on the customers' satisfaction and the expertise of the qualified professionals and how they were linked to these strategic service needs of the patients. The ability of correlating technical requirements with the customer satisfaction made this approach a powerful tool for the healthcare sector just like the other sectors.

### Pharmaceutical Service Quality Analysis on Patient Satisfaction using Path Analysis

The present study demonstrated that the service quality dimensions affected the outpatients' satisfaction. However, only two dimensions of the service quality predicted the outpatients' satisfaction significantly, that is, reliability and responsiveness. Reliability refers to the accurate, dependable, and consistent performance of the service (service outcome). Reliability has been considered as the most important

dimension in determining the outpatients' satisfaction. The patients definitely expected the hospital pharmacy to deliver services at the time it was promised. In addition, the patients also expected the staff to be capable of handling the patients, providing information about the drug clearly which could be easily understood and to be competent enough to provide accurate services. And responsiveness was the second most important dimension in determining the outpatients' satisfaction. Responsiveness was the willingness to help the customers and provide prompt services. Responsiveness had a significant influence on the outpatients' satisfaction after reliability. The patients expected the pharmacy staff to be on pharmacy installations on time; therefore, all staff should manage their time properly and be able to provide excellent services to the customers.

## Conclusion

This study illustrated that how an existing approach of ServQual and QFD integration can be applied to a hospital pharmacy. Success in applying the integration of these two methods depended on the accuracy of the data presented and the ability to develop technical requirements as the key to successful implementation of QFD. The results of the study showed that the services provided did not meet the expectations based on Servqual attributes because each attribute was negative. The biggest gap existed on the attributes of speed and accuracy of the pharmacy staff in serving equal to -1.31, and there were 10 attributes of House of Quality as a recommendation improvement effort, which were the main based on the weight scores of the customer satisfaction training. The results of assessing the quality of the pharmacy services based on 5 dimensions servQual in this research, showed that only the dimensions of reliability and responsiveness influenced on the outpatients' satisfaction, and this was in line with problems that had been complained about the length of waiting time for drugs in Pharmacy Installation of RSUD Karawang.

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