

# The Influence of GRONROOS'S Service Quality Model on Triple Play's Customer Satisfaction

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**Abstract.** Internet user penetration in Indonesia continued to grow and now over 88.10 million, or more than 34.90% of the total population in Indonesia (APJII, 2015). APJII's survey showed that the most favorite places to access the internet is from home. XYZ, a local telco company, exert all efforts in order to revive the fixed line business through the launch of triple-play product which is product bundling packages connected by optical fiber consisting of a high-speed internet services, fixed phone and interactive TV. Triple-play product is a new product launched in early 2015. However, due to its fault report numbers continue to rise, customers were suspected have not been satisfied and have not felt a good service quality. Based on Grönroos's Service Quality Model, the service quality as perceived by customer has three dimensions : functional, technical and image. This study aims to look at how the influence of the service quality of triple play product on customer satisfaction. The research data obtained directly from respondents by online questionnaires, were distributed via e-mail to customers in Balikpapan, the number of valid respondents who filled out a questionnaire, were 400. SEM (Structural Equation Modelling) were employed to analyze the data, with help of SmartPLS 2.0. Results indicate that functional quality and technical quality have positive and significant influence on image. Functional quality, technical quality and image have positive influence on service quality. Service quality and image have positive and significant influence on customer satisfaction. This research is an empirical evidence in the use of Grönroos's models to explain the influence of service quality on customer satisfaction.

**Keywords.** service quality; customer satisfaction; triple-play.

## I. INTRODUCTION

A survey conducted by the Association of Indonesian Internet Service Provider (APJII), revealed that the penetration of Internet users in Indonesia continued to grow and by 2014 had reached 88.1 million, or approximately 34.9% of the total population in Indonesia. This number was grew 6% from the previous year. The most favorite place to access the internet is from home (APJII, 2015: 24-26).

XYZ, a telco company, reached an excellent financial performance throughout 2014, segment data, Internet and IT had the highest growth. XYZ also has assets in the fixed line business unit which has the potential opportunity for substantial growth. Companies exert all efforts in order to revive the fixed line business through the launch of triple-play product which is product bundling packages connected by optical fiber consisting of a high-speed internet services, fixed phone and interactive TV.

XYZ aggressively develop the infrastructure of fiber cable to the home (FTTH), with its focus on monetization fiber cable homes-passed. Fiber optic is a latest and advanced technology in transmitting data and are used in fixed broadband services, which has many advantages of copper wires or coaxial, among others : (a) Fiber optics is able to transfer data much faster, (b) The speed of fiber optics is much more stable, (c) Fiber optics are more resistant to weather conditions such as lightning strikes and electromagnet disturbances.

XYZ has seven territory division, one of its divisions has the highest proportion of fiber subscribers. In one of the cities in that division, the number of complaints reported tends to increase. Suspected cause is customer satisfaction and quality of service, not good enough.

So far the measurement of quality of service is more focused on functional aspects (delivery process) or on how to serve. SERVQUAL instruments are widely used by researchers. Meanwhile, according to Grönroos (1982, 2007), quality of service perceived by the customer has three dimensions : functional dimensions (or process), the dimensions of technical (or outcome) and the dimensions of corporate image (image). Image serves as a filter for the individual in the perception of service quality.

Furthermore, Richard and Allaway (1993), quoted from Kang and James (2004), argued that utilizing only functional quality attributes to explain and/or predict consumers' behavior might be a misspecification of service quality and have low predictive validity.

Hence the current study will research the influence of the service quality of triple play product on customer satisfaction.

To do this we employed Grönroos's service quality models to achieve research objectives.

## **II. THEORETICAL BACKGROUND**

### **A. Service**

Kotler and Keller (2016: 422) explains that a service is any act or performance which one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product. Services components can be small or large part of the total offer.

Lovelock, Patterson & Walker (2004) in Tjiptono & Chandra (2016: 11), suggests a perspective of "service" as a system. In this perspective, any service business is seen as a system consisting of two main components: (1) a service operation where the input and processed product elements created services; and (2) delivery of services where the elements of service products are assembled, completed and delivered to the customer. Some of these systems visible or known to customers (often called front office), while others are not visible or is not even known to exist by the customer (back office).

### **B. Service Quality (Quality of Service)**

Lewis & Bloom (1983) in Tjiptono & Chandra (2016) defines the quality of services as a measure of how good the level of services rendered capable accordance with customer expectations. So the quality of services can be realized by fulfilling the needs and desires of consumers and delivery accuracy in balancing the expectations of customers. Thus, there are two main factors that affect the quality of services, namely : expected service (services to be expected) and perceived service (services perceived) (Parasuraman et al, 1985). Quality of service (service quality) can be determined by comparing between the perceptions of customer for services that obviously they received / obtained and the actual services they expect / want to attribute of a company. If he/she receives as expected, then the perceived service quality is good and satisfactory, if the services received exceed the expectations of consumers, the perceived service quality is superb. Nevertheless, if the service received is lower than expected, then the perceived quality of services is poor.

Parasuraman et al (1988), said that there are five main dimensions are structured as follows :

1. Reliability : The ability to perform the promised service dependably and accurately.
2. Responsiveness : The willingness to help customers and provide prompt service.

3. Assurance : The knowledge and courtesy of employees and their ability to convey trust and confidence.
4. Empathy : The provision of caring, individualized attention to customers.
5. Tangibles : The appearance of physical facilities, equipment, staff, and communication materials.

Lehtinen and Lehtinen (1991) in Tjiptono and Chandra (2016), proposed two dimensions of service quality, namely: process quality (a factor which evaluated the customer during the service delivered) and the output quality (factors that are evaluated after the service is delivered). Also distinguished between physical quality (related to the product and its supporters), interactive quality (related to the interaction between customer and service provider), and corporate quality (related to the company's image). Grönroos (1982, 2007), describes three dimensions of service quality are almost identical, namely : outcome-related (technical quality), process-related (functional quality), and image-related dimensions.

### C.Customer Satisfaction

In a literature review of customer satisfaction conducted by Giese and Cote (2000) in Tjiptono & Chandra (2016), they identified 20 reference definitions in customer satisfaction research over 30 years of period. Although definitions vary (some of which are mutually inconsistent with each other), they have found similarities in terms of three main components : (1) customer satisfaction is a response (emotional and cognitive); (2) The response regarding a particular focus (expectations, product, consumption experience, and so on); (3) response occurs at a specific time (after consumption, after the selection of products / services, based on the accumulated experience, and others). In short, customer satisfaction consists of three components : a response regarding a particular focus specified at a particular time.

### D.Research Model

Based on earlier research that based on Grönroos's service quality model (Grönroos, 1984, 2007) and the study of Kang and James (2004) as well as Zaibaf et al (2013), the quality of service perceived by customers has three dimensions :

functional (or process), technical (or outcome) and image.

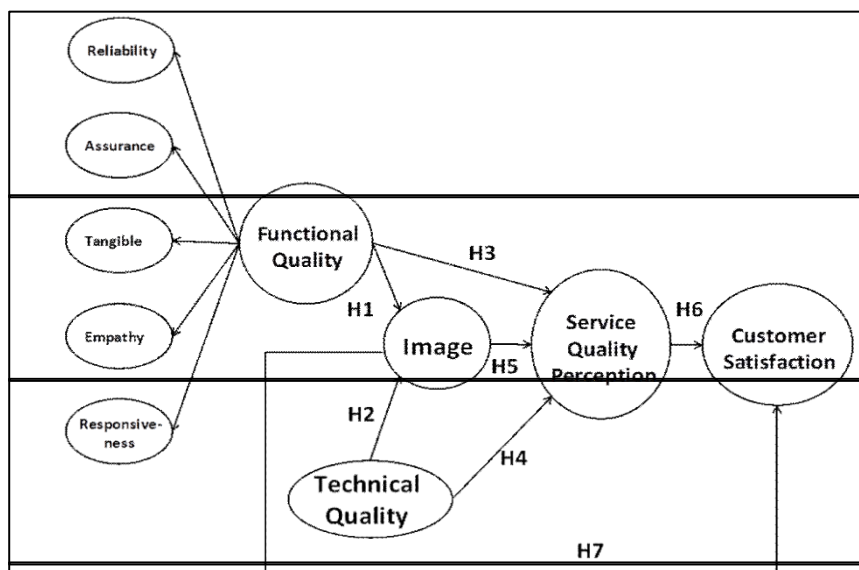


Figure 1. Research Model

Dimensional image serves as a filter for the individual in the perception of service quality.

Discussions with five business players were also conducted to look opinions and agreements that in the context of Grönroos's service quality model, three dimensions (functional, technical and image) would have positive and significant influence on service quality and customer satisfaction.

Therefore in this study will be examined the hypothesis as follows :

H1 : functional quality have positive and significant influence on image ; H2 : technical quality have positive and significant influence on image ; H3 : functional quality have positive and significant influence on service quality; H4 : technical quality have positive and significant influence on service quality ; H5 : image have positive and significant influence on service quality ; H6 : service quality have positive and significant influence on customer satisfaction ; H7 : image have positive and significant influence on customer satisfaction.

The research framework is implemented in this study can be explained in the Fig. 1.

### **III. METHODOLOGY**

#### **A.Participants**

Participants were the customers of triple-play products who are already have subscribed for at least one month in Balikpapan City. Participant in this study were 400 respondents with the following characteristics : 75.75% were male ; 64.75% were married ; 48.5% have role/status in family as father, 67.25% have a diploma or a bachelor degree and 38% have as many as Rp. 305.000,- until Rp. 500.000,- for telecommunication's budget per month

#### **B.Instrument**

The primary data in this study were obtained directly from respondents using questionnaires.

Operationalization of variables in this study refers to Grönroos's service quality models : functional quality, technical quality and image. As well as the latent variable customer satisfaction. Functional quality translated from SERVQUAL instrument (Parasuraman et al, 1994), namely: Reliability (5 items), Responsiveness (4 items), Assurance (4 items), Empathy (4 items), Tangible (4 items). Technical quality translated at 3 item in question (Kang & James, 2004). Image translated at 8 item in question (Kang & James, 2004).

Service quality translated at 3 item in question (Tjiptono et al, 2004), and customer satisfaction translated at 8 item in question (Kang & James, 2004).

#### **C.Validity and Reliability Test**

According to Indrawati (2015: 149), to exercise the convergent validity test of the instrument, inter-item correlation coefficient (corrected item-total correlation or CITC) could be used. Guilford (1956) in Indrawati (2015) suggest a correlation coefficient of at least 0.4.

In this study, validity and reliability test conducted on June 1, 2016 via online questionnaire, by taking a sample of 60 respondents. Using SPSS, convergent validity were tested by calculating the correlation coefficient then compared with  $R_{table}$ . From the convergent validity test results, it is known that the correlation coefficient between items for each of the variables : Functional Quality (Reliability, Responsiveness, Assurance, Empathy, Tangibles), Technical Quality, Image, Customer Satisfaction and Service Quality, have a

value greater than 0,4 (see Table 1). These can be concluded that the entire item in questions meets the convergent validity criteria.

Table 1. Validity Test

Variable	Code	Corrected itemtotal correlation	Variable	Code	Corrected itemtotal correlation
<i>FUNCTIONAL QUALITY</i>			<i>TECHNICAL QUALITY</i>		
<i>a. Reliability</i>	RL1	0.758	TQ1		0.716
	RL2	0.774	TQ2		0.625
	RL3	0.743	TQ3		0.746
	RL4	0.719	<i>IMAGE</i>	IM1	0.701
	RL5	0.590		IM2	0.758
<i>b. Responsiveness</i>	RS1	0.688		IM3	0.758
	RS2	0.700		IM4	0.725
	RS3	0.769		IM5	0.758
	RS4	0.827		IM6	0.808
<i>c. Assurance</i>	AS1	0.773		IM7	0.713
	AS2	0.708		IM8	0.529
	AS3	0.628		IM9	0.774
	AS4	0.666		IM10	0.728
<i>d. Empathy</i>	EM1	0.716	<i>CUSTOMER SATISFACTION</i>	CS1	0.806
	EM2	0.722		CS2	0.829
	EM3	0.726		CS3	0.819
	EM4	0.733		CS4	0.801
	EM5	0.760		CS5	0.841
<i>e. Tangibles</i>	TA1	0.595		CS6	0.869
	TA2	0.712		CS7	0.865
	TA3	0.612		CS8	0.845
	TA4	0.537	<i>SERVICE QUALITY PERCEPTIONS</i>	SQ1	0.845
		SQ2		0.789	
		SQ3		0.845	

In this study, the reliability test were calculated using Cronbach Alpha, which is the most common technique. The value of Cronbach Alpha must be greater than 0.70, which indicates that the questionnaire had a pretty good level of reliability, this theory refers to Hair et al. (2010), Kaplan and Saccuzzo (1993: 126), Nunnally & Bernstein (1994), Pedhazur & Pedhazur (1991); in Indrawati (2015: 155). Cronbach Alpha's calculation results for each variable using SPSS software shown in Table 2.

The results indicate that the Cronbach Alpha value of each variable greater than 0.70, it could be concluded that the measuring instrument in this study is reliable or meet reliability criteria.

Table 2. Reliability Test

Dimension/ Variable	Cronbachs Alpha	Composite Reliability
<i>Reliability</i>	0,925	0,944
<i>Responsiveness</i>	0,902	0,932
<i>Assurance</i>	0,906	0,934
<i>Empathy</i>	0,931	0,948
<i>Tangibles</i>	0,890	0,924
<i>Functional Quality</i>	0,972	0,974
<i>Technical Quality</i>	0,862	0,917

<i>Image</i>	0,961	0,966
<i>Service Quality</i>	0,93	0,955
<i>Customer Satisfaction</i>	0,973	0,978

#### D. Data Analysis Technique

Data were analyzed using Structural Equation Modeling/SEM, type: SEM-PLS (partial least square). There are two test stages : (a) Testing of Measurement Model (Outer Model) and (b) Testing of Structural Model (Inner Model). The study hypothesis was tested by evaluating the structural model, by looking at the significance relationship values between the variables or to predict causal relationships between variables; it is performed by bootstrapping procedure with SmartPLS 2.0. Then will be obtained value of t (t-test) and compared with compared with t-table. If the t-test > ttable, then H0 rejected and H1 accepted. Otherwise, if t < ttable, then H0 accepted and H1 rejected.

## IV. RESULTS

### A.Descriptive Analysis

Respondent's perceptions to the variables/dimensions which were measured, are described in the Table 3 as follows :

Table 3. Scores and R-Square

Dimensions/ Variable	Score %	Category	R Square
<i>Functional Quality</i>			
-Reliability	62,93%	Moderate	
-Responsiveness	67,03%	High	
-Assurance	72,24%	High	
-Empathy	66,66%	High	
-Tangibles	72,78%	High	
<i>Technical Quality</i>	68,18%	High	
<i>Image</i>	73,20%	High	0,661
<i>Service Quality</i>	68,77%	High	0,785
<i>Customer Satisfaction</i>	70,08%	High	0,867

Based on Table 3, we know that respondents gave ratings "moderate" on reliability (62.93%), and "high" to: responsiveness (67.03%), assurance (72.24%), empathy (66.66%) and tangibles (72.78%). Furthermore, the majority of respondents gave ratings of "high" on the variables: technical quality (68.18%), image (73.20%), service quality (68.77%) customer satisfaction (70.08%).

### B.Result of the measurement model test (outer model)

In this study, statistical tests employed using SmartPLS 2.0 software. Testing method use two phases approach, the first phase focused on testing the measurement model (outer model) and the second phase focused on testing the structural models (inner model).

Outer models done by assessing the validity and reliability representing each construct. Validity and reliability test was calculated using SmartPLS 2.0 , the number of respondents was 400. In these tests, loading factor, AVE, Communality, Cronbach's Alpha, and Composite Reliability will be shown.



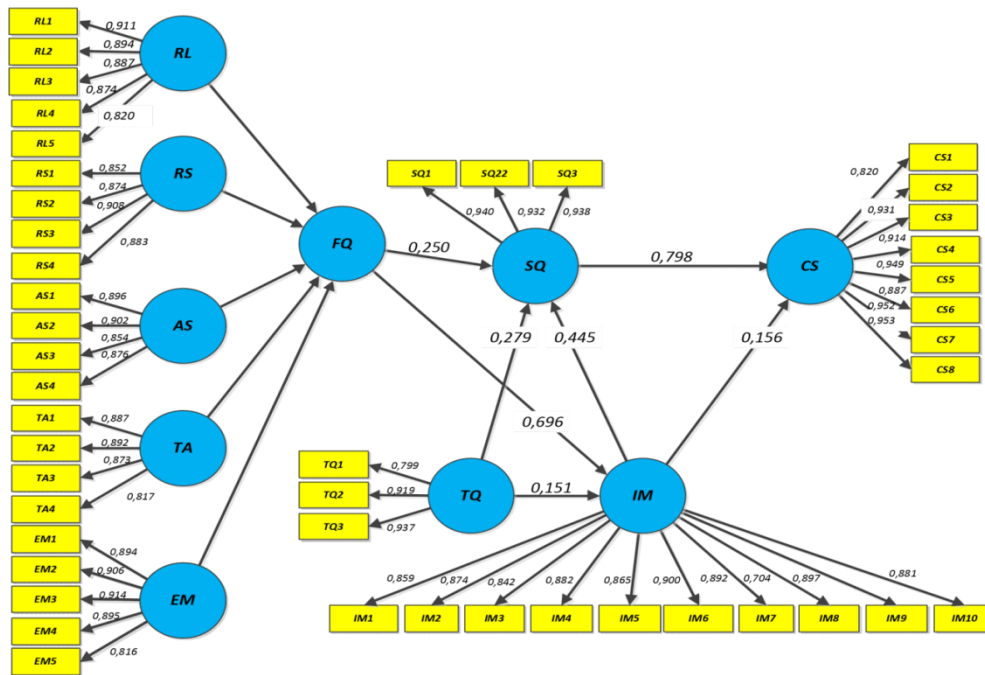


Figure 2. The result of structural equation model test

Validity test results obtained the value of the whole outer loading indicators that were resented in the statement item have a value greater than 0.70. While the value of Average Variance Extracted (AVE) of all variables > 0.50 and communality values > 0.5 . So it can be concluded that all the indicators and variables fulfilled the convergent validity test (See detail in table 4).

Table 4. Validity test result

Variable	Dimensions	Indicator	Outer	AVE	Communality	Variable	Indicator	Outer	AVE	Communality		
Functional Quality	Reliability	RL1	0.911	0.771	0.771	Technical Quality	TQ1	0.799	0.787	0.787		
		RL2	0.894				TQ2	0.919				
		RL3	0.887				TQ3	0.937				
		RL4	0.874			Image	IM1	0.859	0.742	0.742		
		RL5	0.82				IM2	0.874				
	Responsiveness	RS1	0.852	IM3	0.842							
		RS2	0.874	IM4	0.882							
		RS3	0.908	IM5	0.865							
		RS4	0.883	IM6	0.9							
	Assurance	AS1	0.896	IM7	0.892							
		AS2	0.908	IM8	0.704							
		AS3	0.854	IM9	0.897							
		AS4	0.876	IM10	0.881							
	Empathy	EM1	0.894	Service Quality Perception	SQ1	0.94	0.877	0.877				
		EM2	0.906	SQ2	0.932							
		EM3	0.914	SQ3	0.938							
EM4		0.895	Customer Satisfaction	CS1	0.82	0.845	0.845					
EM5		0.816		CS2	0.931							
Tangibles	TA1	0.887		CS3	0.914							
	TA2	0.892		CS4	0.949							
	TA3	0.873		CS5	0.887							
	TA4	0.817	CS6	0.952								
										CS7	0.953	
											CS8	0.94

The study also did Discriminant Test (Rated Cross Loading), it found that the largest cross loading is at its constructs formed. It can be concluded that the indicators meet the criteria of discriminant validity test.

The reliability test of construct variables, revealed that the value of Cronbach's Alpha and Composite Reliability for all variables constructs were greater than 0.70, which means that all variables are reliable or meet the reliability test (see Table 5).

Table 5. Reliability test result

Dimensions/ Variable	Cronbach's Alpha	Composite Reliability
Reliability	0.925	0.944
Responsiveness	0.902	0.932
Assurance	0.906	0.934
Empathy	0.931	0.948
Tangibles	0.890	0.924
Functional Quality	0.972	0.974
Technical Quality	0.862	0.917
Image	0.961	0.966
Service Quality	0.930	0.955
Customer Satisfaction	0.973	0.978

### C.Result of the structural model test (inner model)

The results test of inner model and hypothesis testing are shown in the table 6.

Table 6. Result of Path Coefficient, Hypothesis Testing and R-Square

Hipotesis	Path Coefficients	T Statistics	Hypothesis test	R Square
Functional Quality -> Image	0,696	15,712	Significant	0,661
Technical Quality -> Image	0,151	3,229	Significant	
Functional Quality -> Service Quality	0,250	3,520	Significant	0,785
Technical Quality -> Service Quality	0,279	5,548	Significant	
Image -> Service Quality	0,445	7,661	Significant	
Image -> Customer Satisfaction	0,156	3,342	Significant	0,867
Service Quality -> Customer Satisfaction	0,708	18,067	Significant	

## V.DISCUSSIONS & CONCLUSIONS

### A.Discussions

Based on Table 6 and Fig.2, this study show several important findings as follows :

- a. variable functional quality and technical quality have positive and significant influence on image. The path coefficient value of functional quality (0.696) higher than technical quality (0.151). The previous study by Kang and James (2004), concluded the same thing, that the functional quality and technical quality significantly influence on image, and the path coefficient value of the functional quality higher than technical quality. Whereas in the study by Zaibaf, et al (2013), found that functional quality is significantly affect the image, but the technical quality is not significantly affect the image. Kang and James examined the mobile phone companies in Korea, while Zaibaf, et al (2013) examined the hospitality business in Iran. The research objects in this study have a similar characteristics with the one studied by Kang and James, so the results related of technical



quality variables almost similar. The results support Grönroos theory, that the functional quality, technical quality have positive and significant influence on image.

- b. variable functional quality, technical quality and image have positive and significant influence on service quality. The path coefficient values on Image (0.445) is higher than the functional quality (0.250) and technical quality (0.279). This indicates that the variable image acts as a filter against functional and technical for the customer's perception of service quality. This is consistent with a previous study by Kang and James (2004). Kang and James (2004), concluded the same finding, that the functional quality, technical quality and image significantly influence service quality. And the path coefficient value of the image is higher than the functional quality, technical quality. Whereas in the study by Zaibaf, et al (2013), concluded that the functional quality and image are significantly affect service quality, but technical quality not significantly affect service quality and coefficient value of functional quality are higher than the image. The results support the Grönroos's service quality model, that the functional quality, technical quality and image have a significant effect on service quality, and image acts as a filter.
- c. variable image and service quality have positive and significant influence on customer satisfaction. In this case the path coefficient value on service quality (0.798) is higher than image (0,156). Compared with the previous research by James and Kang (2004) and Zaibaf, et al (2013), this study developed a research model by adding a direct relationship between image with satisfaction. For research about influence of service quality on customer satisfaction, in the previous study by Kang and James (2004) and Zaibaf, et al (2013), both concluded that service quality have positive and significant influence on customer satisfaction. The results support the theory, that the service quality and image has positive and significant influence on customer satisfaction.

## B. Conclusions

The conclusion that can revealed from the results of this study are as follows :

1. Based on descriptive analysis known that the functional variable quality, the majority of respondents gave ratings of "moderate" on reliability and "high" on another dimension, namely: responsiveness, assurance, empathy and tangibles. Furthermore, the majority of respondents gave ratings of "high" on the variables : technical quality, image, service quality and customer satisfaction. This shows the overall customer perception towards triple-play products provide value "pretty good" to the existing variables in this study.
2. Based on the result of hypothesis test, (a) functional quality have positive and significant influence on image with the path coefficient value of 0.696; (b) technical quality have positive and significant influence on image with the path coefficient value of 0.151. (c) functional quality have positive and significant influence on service quality with the path coefficient value of 0.250; (d) technical quality have positive and significant influence on service quality with the path coefficient value of 0.279; (e) image have positive and significant influence on service quality with the path coefficient value of 0.445. (f) Service quality have positive and significant influence on customer satisfaction with path coefficient value of 0.798; (g) Image have positive and significant influence on customer satisfaction with the path coefficient value of 0.156.
3. The model which is used in this study has value of RSquare on research variable as follow : image 0.661, service quality 0.785 and customer satisfaction 0.867, thus It is concluded that this model can be used to predict the influence of functional quality and technical quality on image, service quality and customer satisfaction. Where the functional quality and technical quality variables influence 66.10% of image variable. Image, functional

quality and technical quality influence 78.50% of service quality variable. Furthermore, image and service quality influence 86.70% of customer satisfaction variable.

### **C. Managerial Implications**

As for suggestions that may be filed based on the results of research and discussion, among others, are as follows:

- a. Because of the lowest descriptive value rated by customers is reliability dimension, it is suggested that the management should more focus on improving reliability (the ability to provide accurate service since the first without any errors and deliver the service in accordance with the agreed time).
- b. From the test results, the research model containing : technical quality, functional quality and image, can be used to measure to the customer's individual perception of service quality.
- c. From the results of path coefficient value, it can be seen that service quality have more influence on customer satisfaction, image have more influence on service quality, functional quality have more influence on image.

Therefore the functional quality variable, needs to raise on higher priority for improvement so that customer satisfaction will be better.

### **D. Research Implications**

Suggestions for further research, the results of this study indicate that the influence of functional quality is more powerful than technical quality, it is necessary to do further research on the object with the type of products / services are different, especially on which allows customers to assess aspects of technical.

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