

## Train Public Transportation Service Needs In Developing Country (Case Study In Jakarta, Indonesia)

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**Abstract:** The purpose of this study is to determine service quality and customer satisfaction on customer loyalty of PT KAI Commuter Jabodetabek. The population of this study are the passengers of KRL Commuter Jabodetabek. The research method using purposive sampling method. Source of data used is primary data obtained using a questionnaire. This research analysis techniques using multiple regression analysis technique to measure the impact of service quality ( $X_1$ ) and customer satisfaction ( $X_2$ ) on customer loyalty ( $Y$ ). Data processing in this study aided by Stastitical program for Product and Service Solutions (SPSS) version 19. The result on partial test shows no impact on service quality or costumer satisfaction on costumer loyalty, while during simultaneous test shows that service quality and costumer satisfaction have influence on costumer loyalty.

**Keywords:** customer satisfaction, loyalty, public transportation, service quality ,train

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### I. Introduction

Transportation services have an important role in supporting the economic activities of the community. With the increasing population and the need of tools to support the increase of community mobility, it becomes necessary to have a transportation that is fast, efficient, and able to reach the entire community.

The train is kind of transportation which have suitable criteria to meet the needs of high society mobility. This transportation can carry many passengers in one trip, less time required for the trip, traffic free, and also cost relatively cheaper than other transportation.

Many large cities in other countries already use the railway mode as the primary transportation. In Indonesia, in particular the Greater Jakarta area, also has a major rail-based transport system that we know as PT KAI Commuter Jabodetabek that serve a variety of paths through the suburban cities such as Bogor, Bekasi, Depok and Tangerang. The potential number of users of PT KAI Commuter Jabodetabek is very large, this is because most of the people in those areas work in Jakarta. And every year, passengers of PT KAI Commuter Jabodetabek always rising and touched almost all segments of society in the Greater Jakarta area.

**Table 1. KRL Commuter Jabodetabek Trip per Year**

Year	KRL Commuter Jabodetabek Trip
011	140
012	195
013	507
014	627
015	884

**Table 2. KRL Commuter Jabodetabek Passanger per Day per Year**

Year	KRL Commuter Jabodetabek Passanger per Day
011	331.760
012	367.362
013	608.653
014	735.420
015	914.840

With much potential, PT KAI Commuter Jabodetabek always trying to improve its service. Until now, the capacity of PT KAI Commuter Jabodetabek has reached about 900,000 passengers per day. Based on the table above, there are an increasing number on trip and passenger of KRL annually. PT KAI Commuter Jabodetabek also seeks to enhance the quality of the service, like all current coach is equipped with air conditioning, special coach for women, as well as the use of electronic tickets. This is done to improve the service and user satisfaction PT KAI Commuter Jabodetabek.

## **II. Literature**

### **1.1. Service Quality**

According Fandy Tjiptono & Gregory Chandra in the book "Service, Quality & Satisfaction" (2005: 109) states, the quality of service or quality of service (service quality) contributed significantly to the creator of differentiation, positioning, and competitive strategy of any organization of marketers, both manufacturing and service providers. Definition of Service Quality by Creep Lupiyoadi & A. Hamdani (2008; 181) "The company's success in providing quality services to its customers, the achievement of a high market share, and increasing the company's profit is determined by the approach used. There are five dimensions of service quality that is as follows:

- 2.1.1 Tangible (tangible), ie the ability of a company to demonstrate its existence to external parties. Appearance and capabilities of physical infrastructure companies a reliable state of the surrounding environment is clear evidence of the services provided by the service provider. This includes physical facilities (eg, buildings, warehouses, and others - others), fixtures and equipment used (technology), as well as the appearance of employees.
- 2.1.2 Reliability (reliability), which is the company's ability to provide the promised services accurately and reliably. Performance should be in accordance with customer expectations, which means punctuality, the same service to all customers without error, sympathetic attitude, and with high accuracy.
- 2.1.3. Responsiveness (responsiveness), which is a policy to assist and provide services faster yan (responsive) and the right to the customer, with the delivery of clear information. Allowing consumers waiting for a negative perception in the quality of service.
- 2.1.4. Security and certainty (assurance), namely pengertahanan, politeness, and the ability of the employees of enterprises to foster a sense of trust of the customers to the company. It includes several components, among others, communication (communicaton), credibility (credibility), safety (security), competence (competence), and manners (courtesy).
- 2.1.5. Empathy (empathy), which provide a genuine concern and a private individual or given to customers by striving to understand the desires of consumers. Where a company is expected to have the understanding and knowledge of the customer, understanding customer's specific needs, and has the operating time that is convenient for the customer.

### **2.2. Satisfaction**

In general, satisfaction (satisfaction) is feeling or disappointed someone that arise because of the perceived performance membandingkan product (or result) to their expectations (Philip Kotler and Kevin Lane Keller, 2009; 138)According Rangkuti (2003: 266), customer satisfaction is the customer response to the correspondence between the previous interest rate of perceived and actual performance after use. Customer satisfaction is determined by different types of services procured by the customer for using multiple stages of the service. Dissatisfaction obtained at an early stage in the form of services creates a perception of poor service to the next stage, so that customers are not satisfied with the service and the overall!The creation of customer satisfaction can provide several benefits, including the relationship between the company and its customers to be harmonious, provide a good foundation for the repurchase and the creation of customer loyalty, and form a recommendation from the mouth to mouth (Word-of-mouth) are beneficial for companies (Fandy Tjiptono 2005; 24).

### **2.3. Customer loyalty**

More customer loyalty leads to behavior compared with an attitude. When consumers become loyal, they will exhibit behaviors that can be seen over time. According Sumarwan in Ujang Sumarwan, et al (2011; 230) is the loyalty of consumers who are satisfied with the product or brand is consumed or used will repurchase the product.Consumer loyalty means loyalty of consumers to shop at a particular location. Some basis to maintain a competitive advantage also helps attract and retain loyal customers, (Christina Whidya Utami, 2006; 58).Customer satisfaction is key in creating customer loyalty. For PT KAI Commuter Jabodetabek, many benefits received by the achievement of a high level of customer satisfaction, which can keep customers to keep choosing rail as major transport, reduce customer sensitivity to price, reducing the cost of marketing failures, and improve business reputation. If the customer was not satisfied with a service that is provided, then certainly

do not give a positive impression to the buyer in this case is PT KAI Commuter Jabodetabek. Relating to services and efforts to achieve customer satisfaction, there are still obstacles that faced especially there are some problems perceived by the user's PT KAI Commuter Jabodetabek. The first problem is that the public perceived accuracy Commuter Line train schedules are still frequent delays, or not in accordance with the timetable indicated. The second problem is that people still consider that the level of security on the train is still lacking. We still often find theft or loss of goods while riding the train. The third problem is the number of fleets that are considered not able to meet the needs of current users, reflected in the density of train carriages at rush hour. The fourth problem is the availability of officers to assist customers in service processes, as well as the availability of information and other support services that are not available adequately. Based on the explanation above, this research will discuss the effect of service quality on PT KAI Commuter Jabodetabek and customer satisfaction on customer loyalty.

#### **2.4. Issue**

Does service quality on PT KAI Commuter Jabodetabek and customer satisfaction impact customer loyalty?

#### **2.5. Research Purpose and Advantage**

##### **2.5.1. Research Purpose**

To test if service quality on PT KAI Commuter Jabodetabek and customer satisfaction impact customer loyalty.

##### **2.5.2. Research Advantage**

- (1) For researcher This study is expected to provide an opportunity for researchers to apply the theories and literature from the marketing school, focusing on quality of service and customer satisfaction.
- (2) For future researcher As a reference for future research

### **III. Research Method**

#### **Pupulation and Sample Determination Technique**

##### **3.1.1Population**

Population on this research are the customers of PT KAI Commuter Jabodetabek for route Bogor-Jakarta Kota and Bogor-Jatinegara. This is a no-limit population, where the population has a continuous process until N (population volume) become unlimited (Suharyadi & Purwanto, 2004 : 323). Criteria used in this research:

- (1) Have used PT KAI Commuter Jabodetabek service for route Bogor-Jakarta Kota and Bogor-Jatinegara more than twice
- (2) Above 17 years old (considered mature enough to understand and answer the questionnaire)

##### **3.1.2. Sampel**

This research uses Purposive Sampling Method, where determination of the sample is based on a certain type of person who can provide the desired information that meets the criteria specified by the researcher (Sekaran, 2006 :136). The sample used for this research is 100 respondents, For validity and reliability test, 30 samples are used.

#### **3.2. Operational Definition**

Service Quality variable is the score obtained from respondents' answer of service quality represented by tangible, reliability, responsiveness, warranty and assurance, and empathy dimension, called  $X_1$  variable. Customer satisfaction variable is the score obtained from respondents' answer on whether customer expectancy and price are met, called  $X_2$  variable. Customer loyalty is the score obtained from product X respondents' answer which is seen from the level of one's feelings after comparing the performance of the expected product, called Y variable.

#### **3.2. Variable Measurement**

Table 3. Variable Measurement

Variable	Dimension	Indicator
Service Quality ( $X_1$ )	1.Tangible	- Cleanliness and Tidiness on Train - Train Comfort
	2.Reliability	- Punctuality - Service quality based price
	3.Responsiveness	- Service responsiveness - Complaint responsiveness
	4.Assurance	- Security - Customer trust

Customer Satisfaction (X <sub>2</sub> )	5.Empathy	<ul style="list-style-type: none"> <li>- Communicative</li> <li>- Giving special attention to customer</li> <li>- Satisfaction in cleanliness</li> <li>- Satisfaction on tools</li> <li>- Satisfaction on service</li> <li>- Satisfaction on price</li> <li>- Regular use of service</li> <li>- Loyalty on purchase/use</li> </ul>
		Customer Loyalty (Y)

### 3.4. Data Collection Technique

This research using primary data which is obtained from research object using questionnaire. Measurements is using likert scale, which according to Anwar Sanusi (2011:59), is a scale skala likert adalah scale based on the summation of the attitude of the respondents to respond to statements related indicators of a concept or variable being measured. Data is collected during the day from 6 AM to 5 PM.

**Table 4. Instrument Grid**

Variable	Dimension	Indicator	Question No.	Amount of Question
Service Quality	1.Tangible	- Cleanliness and Tidiness on Train	1	1
		- Train Comfort	2	1
	2.Reability	- Punctuality	3	1
		- Service quality based price	4	1
	3.Responsiveness	- Service responsiveness	5	1
		- Complaint responsiveness	6	1
	4.Assurance	- Security	7	1
		- Customer trust	8	1
	5.Empathy	- Communicative	9	1
		- Giving special attention to customer	10	1
Customer Satisfaction		- Satisfaction on service	11-18	8
		- Satisfaction in cleanliness	19	1
		- Satisfaction on tools	20	1
Customer Loyalty		- Regular use of service	21,22,23	3

### 3.5. Hypothetical Test and Analysis Technique

Before the data analysis is done validity and reliability and classical assumption

### 3.6. Data Analytical Technique

Data were analyzed using regression analysis

## IV. Result And Discussion

### 4.1 Validity and Reliability test

Validity criteria with 30 samples is r 0,361 and valid

**Table 5. Validity and Reliability Test Result**

Variable	Count	Am	Amount Dropped	Valid	Amount	ability	Reli
Customer Loyalty	3	-		3		1	0,86
Service Quality	10	1 (no 6)		9		2	0,77
Customer Satisfaction	10	2 (no 6 and 9)		8		2	0,81

Based on the validity test result, eligible questionnaire (met the criteria to become research questionnaire) are delivered to 100 respondents who are using KRL Jabotabek. Questionnaire are delivered during 6AM to 5PM. From 11 questionnaires, only 87 are back and filled, from those 87 only 80 are feasible.

**Table 6. Questionnaire Spread**

Questionnaire spread	Questionnaire back	Not Feasible	Feasible
100	87	7	80

**Table 7. Respondent Description**

Sex	N	Job Description
	0	
Female	4	Employee
	7	
Male	3	Employee
	3	

**Tabel 8. Deskripsi Usia Responden**

1	Age	Respondent
0		
	22 –	18
25		
	26 –	49
40		
	40 –	33
58		

During assumption classic test, all variable have met the data normality, multikilinaerity, heteroskedastisity, and linearity criteria, thus the regression model can be continued.

#### 4.2. Descriptive Result

**Descriptive Statistics**

	Mean	Std. Deviation	N
Y	10,33	1,741	80
X1	30,88	4,439	80
X2	27,84	4,017	80

Average respondest answer for 3 variables are as follows:

Service Quality Variable, average answer is 30,88, means average respondents put neutral as the answer for all questions on service quality. Customer Satisfaction Variable, average answer is 27,84, means average respondesnts put neutral as the answer for all questions on customer satisfaction. Loyalty Variable, average answer is 10,33, means average respondesnts put neutral as the answer for all questions on loyalty.

#### 4.3. T Test

**Tabel 9. Uji T Regresi Berganda**

Model	Coefficients <sup>a</sup>				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	6,396	1,605		,000
	X1	,044	,046	,113	,345
	X2	,092	,051	,213	,077

a. Dependent Variable: Y

Research shows the degree of probability is > 0,05 for both variable, indicates that service quality with sig value 0,345and customer satisfaction with Sig 0,077 have no effect aon costumer loyalty..Determination Coefficient as follow:

**Table 10. Determination Coefficient**

**Model Summary <sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,276 <sup>a</sup>	,076	,052	1,695

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y

Shown that R Square is only 0,076, indicates both variable (service quality and customer satisfaction) have impact only 7,6 % to customer loyalty on using Comuter KRL.

#### 4.4. F Test

**Table 11. F Test**

**ANOVA<sup>b</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18,236	9,118	3,172	,047 <sup>a</sup>
	Residual	221,314	2,874		
	Total	239,550			

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y

During simultaneous test, resulted  $\text{Sig} < 0,05$  furthermore  $H_0$  is rejected and  $H_a$  is accepted. This indicates that service quality and customer satisfaction simultaneously impact customer loyalty.

#### 4.5. Research Discussion

Result on this research shows there is simultaneous effect of service quality and customer satisfaction on customer loyalty, but the effect doe not show partially. This result support research's hypothesis on there is an effect of service quality and customer satisfaction on customer.

Alternative public transportation such as KRL Jabodetabek commuter line is well needed to support daily activities, it means without it, people will face difficulty in doing their activities since KRL Jabodetabek commuter line is highly accepted considering the price and time saving.especially in Jabodetabek area.

Research result may indicates there is no effect on customer loyalty by service quality and customer satisfaction in partial, but it means that customer will keep using this service eventhough the service quality is good or bad. Despite their satisfaction on the service and environment given by PT KAI, the loyalty of customer remains the same since they need the transportation for their daily activities.

### V. Conclusion

Based on he research result, the data does not support the hypothesis, which concludes that service quality and customer satisfaction has no effect on customer loyalty, thus simultaneously, service quality and customer satisfaction do impact customer loyalty. Since for transportation service, KRL is the dailily need to support people activities, the hypothesis created do not suitable with the empirical data on this research as any quality served by PT KAI will not be a problem since people will still use it as a cheap and affoedable alternative public transportation.

#### 5.2. Suggestion

Suggestions for future research:

1. To increase respondents number to more than 100 respondents so that the result will be more reliable considering that KRL Jabodetabek pasangers is almost 700.000 people per day.
2. To distribute the questionnaire on different time, including on non-peak hour.

### References

- [1]. This heading is not assigned a number.A reference list MUST be included using the following information as a guide. Only cited text references are included. Each reference is referred to in the text by a number enclosed in a square bracket (i.e., [3]). References must be numbered and ordered according to where they are first mentioned in the paper, NOT alphabetically. Examples follow:Journal Papers:
- [2]. M Ozaki, Y. Adachi, Y. Iwahori, and N. Ishii, Application of fuzzy theory to writer recognition of Chinese characters, International Journal of Modelling and Simulation, 18(2), 1998, 112-116
- [3]. Note that the journal title, volume number and issue number are set in italics.Books:
- [4]. R.E. Moore, Interval analysis (Englewood Cliffs, NJ: Prentice-Hall, 1966).
- [5]. Note that the title of the book is in lower case letters and italicized. There is no comma following the title. Place of publication and publisher are given.Chapters in Books:
- [6]. P.O. Bishop, Neurophysiology of binocular vision, in J.Houseman (Ed.), Handbook of physiology, 4 (New York: Springer-Verlag, 1970) 342-366.
- [7]. Note that the place of publication, publisher, and year of publication are enclosed in brackets. Editor of book is listed before book title.Theses:

- [8]. D.S. Chan, Theory and implementation of multidimensional discrete systems for signal processing, doctoral diss., Massachusetts Institute of Technology, Cambridge, MA, 1978
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- [10]. W.J. Book, Modelling design and control of flexible manipulator arms: A tutorial review, Proc. 29th IEEE Conf. on Decision and Control, San Francisco, CA, 1990, 500-506