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LOYALTY ANALYSIS OF MASS TRANSPORTATION FACILITIES CUSTOMERS BASED ON SERVICE QUALITY AND USER SATISFACTION: A CASE STUDY OF INTER-CITY TRAIN CUSTOMERS IN INDONESIA

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ABSTRACT
Transfer from one place to another is the core of transportation. Human transport concerns security, comfort, and effectiveness. In terms of security and comfort, better service will increase user satisfaction and loyalty. The purpose of this study was to analyze the loyalty of intercity train mass transportation customers using age, habits, and gender as a mediating variable. The population of this study was train customers in Indonesia. Samples taken were 200 respondents. Data collection was conducted by distributing questionnaires to obtain user satisfaction on Indonesian train mass transportation facilities. The analytical tool used was the Path Analysis. The research result indicated significant influence between service quality on satisfaction and satisfaction with loyalty. In addition, the relationship between service quality and satisfaction is influenced by habits, age, and gender.

KEY WORDS
Service quality, customer satisfaction, customer loyalty.

Transportation is derived from transport which means to move. Currently, transportation is understood as a tool to move people/goods from one place to another. Furthermore, transportation can be divided into facilities and infrastructure. Means of transportation can be in the form of private modes, such as motorbikes, private vehicles. On the other hand, public modes are in the form of trains, buses, public transportation, and ships. Whereas what is meant by transportation infrastructure are roads, terminals, airports, ports, refueling stations and so on (Nordfjærn *et al.* 2014).

The increasing need for transportation requires additional mass transportation facilities to transport a huge number of people/goods simultaneously at the same time (Clifton, et al. 2014). Economic activity in Indonesia as a maritime country is strongly influenced by the need for mass transportation. One means of mass transportation widely used is the train. It features flexibility in determining the departure time and is available in various cities. These factors were used as considerations for selecting trains as a widely used transportation means (Tirachini, *et al.* 2010).

As a means of mass transportation, trains have differing service quality standards. Trains feature economic, business and executive classes. The class differences affect the service quality value (Tirachini, et al. 2010). Better service quality indicates a higher value.

The main purpose of train transportation is to encourage user satisfaction. Better user satisfaction increases the number of goods/passengers transported. The user satisfaction level is not only influenced by the service quality but also habits, age, and gender.

Habit is a work/action carried out consciously by humans based on respective experience. Better experience received for respective actions, the more difficult it will be to carry out other similar actions. A person's habits are influenced by internal and external factors. These factors are different from one another (Legal, *et al.* 2016).

On the other hand, age and gender factors contribute to user satisfaction. Siong and Aswin (2018) suggest that older and female customers have a higher level of satisfaction compared to younger and male customers. Therefore fulfilling the elderly and women consumers satisfaction level is more difficult.

This research offers novelty by combining these various variables into a complex study. Research on product quality and customer satisfaction has been conducted by Kitapci (2014)

and Wang (2019). However, this study combines it with research conducted by Siong and Azwin (2018) regarding how age and gender influence consumer satisfaction. This study also includes new variables, namely habits (Legal, et al: 2016) in the thinking framework. In the end, these various variables were combined to measure how obtained satisfaction affects user quality.

Based on the description above, this study aimed to determine the relationship between the quality of train-based transportation services in Indonesia, customer satisfaction and user loyalty. This study added three moderating variables: habits, age, and gender. The research result was expected to provide a clearer picture of the complexity of the relationship between service quality and user loyalty.

LITERATURE REVIEW

Service Quality

Quality is a dynamic condition closely related to products, services, human resources, processes, and environmental comfort that meet or exceed expectations (Kitapci, et al. 2014). Another definition of service quality is the degree to which characteristics related to meeting requirements (Wang, et al. 2019).

Quality is often regarded as a relative measure of the goodness of a product or service consisting of design and conformity quality (Chua, et al., 2015). The design quality is a function of product specifications. Conformity quality is a measure of a product capability to meet requirements or predefined quality specifications.

Consumer Satisfaction

Satisfaction is the achievement of conformity between product/service user expectation and reality. The lower difference between expectation and reality would generate higher satisfaction. (Mirabi, 2015).

Satisfaction can also be defined by the match between the sacrifice/value issued/paid and the benefits of the product/service obtained. Customers expect that high value would grant high-quality products/services (Mowen and Minor, 2015).

Loyalty

Mat, et al. (2018) suggested the most relevant model in measuring loyalty, namely the four-stage loyalty model which is divided as follows:
a. *The first stage: cognitive loyalty* relates directly to information available from goods or services in terms of price and benefits. Loyalty is relatively low at this stage. Should other service providers offer better prices, customers would switch provider. The customers are aware and sensitive about the products price and benefits.
b. *The second stage: affective loyalty*. The loyalty level encourages consumers retain the services used. For example, service convenience, ease of access, competitive rates, and etc.
c. *The third stage: conative loyalty* is related to the commitment to buy back a specific service. Customers have to commit to buying more goods or services consistently in the future. In this phase, there is an emotional bond between consumers and service providers.
d. *The four-stage: action loyalty* which includes routine habits and response behavior. Action is considered crucial to combine the previous stages.
e. The loyalty model above explains that consumer loyalty to service has a different background which ensures customer maintain the services used.

Habits, Age, and Gender

Habits are everything conducted in an autonomous manner, without thinking or carried out continuously so and becomes a part of someone. It is often referred to as habits (Clifton, et al. 2014). Habit is a system of behavior carried out continuously that one becomes

accustomed to the behavior as if it were alive and became a part of one's life. Usually, these habits are good and generally accepted (Legal, et. Al., 2016).

The contribution of age and sex to user satisfaction is not significant but affects the choice of transportation facilities used. Siong and Azwin (2018) stated that older and female customers were more difficult to satisfy in using train transportation facilities. This is inversely proportional to older and male customers, as satisfaction can be achieved relatively quickly.

Hypothesis

1. Effect of Service Quality on Satisfaction
   According to Kitapci, et al. (2014) the service quality provided by the company will be directly proportional to customer satisfaction. Better service quality increases customer satisfaction. The positive and significant influence of service quality on customer satisfaction is in line Wang, et al. (2019) research. It stated that service quality improvement would increase customer satisfaction. Therefore the following hypothesis was proposed:
   H1: Service quality affects the satisfaction of train mass transportation customers.
2. Effect of Satisfaction on Loyalty.
   Customer satisfaction is the customer's perception that value incurred is in proportion to the product/service received (Chao, et al. 2015). Loyalty is the willingness of someone to use the same product for a long time (Mat, et al. 2018). Mat, et al. (2018) explained that loyal does not mean never using other products/services. Customers can or have tried other products, but in the end, they use the first product of choice. Therefore the following hypothesis was proposed:
   H2: Satisfaction affects the loyalty of train mass transportation customers.
3. Habits, Age and Gender Effect on Customer Satisfaction
   Actions or behaviors carried out routinely, continuously, and conducted without thinking. It affects human behavior in decision making (Nordfjærn., Et., Al., 2014). Customer behavior encourages similar product usage. The older the age of a customer, the more difficult the satisfaction level is. Women have a higher standard of satisfaction compared to young age and the male customer. Therefore the following hypothesis was proposed:
   H3a: Habit moderates the satisfaction of train mass transportation customers.
   H3b: Age moderates the satisfaction of train mass transportation customers.
   H3c: Gender moderates the satisfaction of train mass transportation customers.

Thinking Framework

The Thinking Framework is used to facilitate researchers in analyzing the problems (Moleong, 2007) The framework of this study is adopted from previous research conducted by Wang, et. al., (2019), Siong and Azwin (2018), (Kitapci, et. al. 2014), Nordfjærn., et., al., (2014), and Aggarwal, et. al., (2012). The train service providers' service quality, moderated by habit, age, and sex, affects user satisfaction. User satisfaction will encourage to re-use transportation services or more often. This phenomenon is referred to as loyalty.
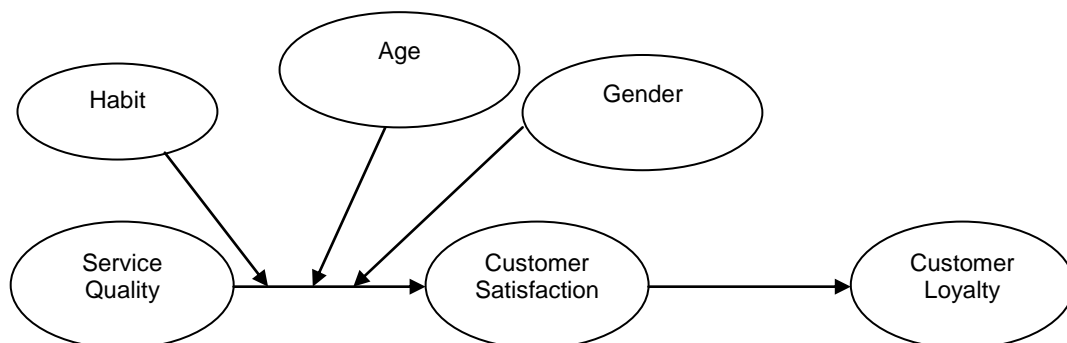

Figure 1 – Research Framework
METHODS OF RESEARCH

This study used quantitative methods with primary data sources. The research sample was customers of intercity mass transportation modes. This study used a purposive sampling technique. There were 200 respondents involved in this study, namely customers of train transportation modes. Data collection used a questionnaire distributed to train customers on Java Island. The respondents were chosen as Indonesian train customers are concentrated Java Island.

The analytical tool used was path analysis, as this study aimed to determine the causal relationship whether the independent variable affects the dependent variable directly and indirectly. In other words, whether they possess moderating variables (Rutherford dan Choe: 1993).

RESULTS AND DISCUSSION

Table 1 - Respondent Description

Characteristics	Group	Total	Percentage
Gender	Male	108	54,00
	Female	92	46,00
Age	< 50 years old	200	52,00
Transport	Train	102	51,00

Source: Processed Primary Data, 2019.

The respondents have evenly distributed data, in terms of gender, age and the habit of using mass transportation facilities. This study used respondents under 50 years old.

Table 2 - Outer Loading Test Result

Variable	Code	Validity	Description
Service Quality	KP1	0,7865	Valid
	KP2	0,9318	Valid
	KP3	0,8486	Valid
	KP4	0,7222	Valid
	KP5	0,7580	Valid
	KP6	0,7617	Valid
	KP7	0,8047	Valid
	KP8	0,7580	Valid
	KP9	0,7454	Valid
	KP10	0,9318	Valid
	KP11	0,7484	Valid
	KP12	0,7455	Valid
	KP13	0,8205	Valid
	KP14	0,9318	Valid
	KP15	0,8368	Valid
	KP16	0,7483	Valid
	KP17	0,9318	Valid
	KP18	0,8205	Valid
	KP19	0,8486	Valid
	KP20	0,8843	Valid
	KP21	0,7484	Valid
User Satisfaction	PS1	0,9318	Valid
	PS2	0,7346	Valid
	PS3	0,7685	Valid
	PS4	0,8465	Valid
User Loyalty	Lo1	0,7079	Valid
	Lo2	0,9318	Valid
	Lo3	0,9318	Valid
	Lo4	0,8168	Valid
	Lo5	0,7239	Valid

Source: Processed Primary Data, 2019

Validity and Reliability Test

The instrument is valid if the instrument can measure what should be measured (Cooper and Schindler, 2014). In this study, the validity test used the Convergent validity method utilizing SmartPLS 2.0.

Convergent validity of the measurement model using reflective indicators is assessed based on the loading factor indicators that measure the construct. In this study, there are 6 variables with 32 statement indicators. Convergent validity is obtained if two different instruments that measure the same construct have a high correlation. According to Ghozali (2008), an indicator is considered valid if it has a correlation value above 0.7. However, for loading values 0.5 to 0.6 can still be accepted with average variance extracted (AVE)> 0.5 and communality> 0.5.

Table 3 - Average Variance Extracted (AVE) Test Result

Variable	AVE	Communality
Service Quality	0,5663	0,5663
Satisfaction	0,6376	0,6376
Loyalty	0,5655	0,5655

Source: Processed Primary Data, 2019.

Table 2 and Table 3. Exhibited the validity test of the questionnaire using the Loading factor and the Average Variance Extracted. AVE is a coefficient that describes the indicator variance which can be explained by general factors. Some experts consider this coefficient as a variant of the consensus reliability estimation. Other experts consider this coefficient as a property that reveals discriminant validity. In this case, the researcher supports the AVE coefficient as a form of discriminant validity because this coefficient describes internal intercorrelations namely, the correlation between indicators in the model. According to AVE value, a good suggested model has an AVE value greater than 0.50. The results of the analysis exhibited that the AVE values of all variables are greater than 0.50, therefore all variables in this study are valid.

Normality Test

The inner model can also be called (inner relations, structural model, and substantive theory) which describes the relationship between latent variables based on substantive theory. The structural model or inner model is evaluated by analyzing the percentage of variance described or R^2 value. Changes in R square value can be used to assess the effect of independent latent variables on dependent latent variables and whether they have substantive effects or not. The results of the R-square value test is exhibited in table 4.

Table 4 - *R-squares* Test Result

Variable	R Square
Service Quality	0,8788
User Satisfaction	0,8217

Source: Processed Primary Data,2019

Based on table 4 the value of R Square (R^2) for service quality variables exhibits 0.8788. It indicates that 87.88% of service quality variables contribute to loyalty. User satisfaction exhibits a value of 0.8217 which means that 81.17% of patient satisfaction variables contribute to user loyalty.

Hypothesis Test

Hypothesis testing using the bootstrapping method was conducted to see the magnitude of the structural path coefficient and stability of the estimates evaluated by the t-statistical test with the help of SmartPLS 2.0 software. Based on the original sample and t-statistics. In this study, the value of path coefficients can be seen below.

Table 5 - Hypothesis Test Result

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)
Service quality =>Satisfaction	2,2351	2,2413	2,3332	2,3332	4,0233
Habit => Satisfaction	2,3310	2,3302	2,3442	2,3442	4,0202
Age => Satisfaction	3,5869	2,2205	2,3024	2,3024	3,5555
Gender => Satisfaction	2,4345	2,4430	2,3452	2,3452	4,4322
Satisfaction => Loyalty	2,2512	2,2200	2,3434	2,3434	5,4323

Source: Processed Primary Data, 2019.

Effect of Service Quality on Customer Satisfaction

The first hypothesis assessment indicates that the relationship between service quality variables to satisfaction exhibits the path coefficient value of 2.2351 with a t-value of 4.0233 which is greater than t-table (1.653). It indicates that the direction of the relationship between service quality and satisfaction is positive and significant as the value of t statistics is greater than t table. This is in accordance with the first hypothesis, therefore H1 is accepted.

Effect of User Satisfaction on User Loyalty

The fifth hypothesis assessment exhibited that the relationship between atmospheric quality and patient satisfaction is significant with a t-statistic of 5.4322 (> 3.453). The original sample estimate value is positive which is equal to 2.4345. It indicates that the direction of the relationship between User Satisfaction and User Loyalty is positive. This indicates that the quality of interactions has a positive and significant relationship to user satisfaction. This is in accordance with the fifth hypothesis, therefore H2 is accepted.

Effect of Habits on Customer Satisfaction

The second hypothesis assessment exhibited that the relationship between habit variable and satisfaction resulted in the path coefficient value of 2,3310 with a t value of 4,002. It is greater the value of t table (1,653) which exhibits that the direction of the relationship between habit and satisfaction is positive and significant. This is in accordance with the second hypothesis, therefore H3a is accepted.

Effect of age on customer satisfaction

The third hypothesis assessment exhibited that the relationship between age and satisfaction is significant with a t-statistic of 3.555 (> 3.453). The original sample estimate value is positive, which is 3.5869. It indicates that the direction of the relationship between age and satisfaction is positive. This indicates that age has a positive and significant relationship to satisfaction. This is in accordance with the third hypothesis, therefore H3b is accepted.

Effect of Gender on Customer Satisfaction

The fourth hypothesis assessment exhibited that the relationship between gender and satisfaction is significant with t-statistics of 4.4322 (> 3.453). The original sample estimate value is positive which is equal to 2.4345. It indicates that the direction of the relationship between sex and satisfaction is positive and significant. This indicates that gender has a positive and significant relationship to satisfaction. This is in accordance with the fourth hypothesis, therefore H3c is accepted.

CONCLUSION

The results of the analysis exhibited that there is a significant effect between service quality on satisfaction and satisfaction with loyalty. This result is in line with the research conducted by Kitapchi (2014), stating that the service quality provided by the company has an effect on customer satisfaction. The results of this study indicate that satisfaction will have

a positive and significant impact on loyalty using the train. In addition, the relationship between service quality and satisfaction is also influenced by user habits, age, and gender. The strongest moderation was age. It moderates the service quality to satisfaction. This indicates that the older a person is, the harder it is to obtain satisfaction. Siong and Azwin's research (2018) explained that variables further moderate the quality and its relation to satisfaction.

The research result proved that good service quality will increase user satisfaction by considering habits, age, and gender. Without habits, gender, and age, good service quality will still affect user satisfaction. In other words, the habit of using trains increases the number of train customers. Generating user satisfaction encourages loyalty. Loyalty may exist due to customers user never used other means of transportation. However, customers may have used other transportation but continue to use first transportation of choice.

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