Analysis of Service Quality on Train Customer Loyalty of KAI Access users

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Abstract.
Standard client service needs to be enhanced, in particular train fire as it is for push use service transportation land. The goal of the study is that because reliability, responsiveness, empathy, assurance, and tangibility (service quality) have a favorable impact on customer loyalty and influence whether or not they will make a purchase using the KAI Access application, p This is an endeavor to increase consumer loyalty. In research, there are six hypotheses. This comprises: Ha 1: The KAI Access application does, in fact, influence client loyalty and dependability. Ha 2: It does affect how receptive a company is to client loyalty when a company employs the KAI Access application. Ha 3: Customer loyalty and empathy are both influenced by the KAI Access application. Ha 4: The use of the KAI Access application does influence assurance of client loyalty. Ha 5: Yes, the KAI Access application has a tangibly positive impact on client loyalty. Ha 6: It does effect customer train fire that employs the KAI Access program in terms of dependability, responsiveness, empathy, assurance, and tangibility (service quality). This study made use of SPSS analysis. Using KAI Access to purchase tickets, a passenger train fire served as the study's sample. According to research, varying dependability, responsiveness, empathy, assurance, and tangibility (service quality) have a substantial beneficial impact on how likely customers are to use the KAI Access application again and again.

Keywords: Customer Loyalty, Railways, Service Quality

1   Introduction

Transportation in general has become a major activity in metropolitan areas. Transportation in general will make it simpler for people to travel or shift locations with more inexpensive prices and quick turnaround times. In a general sense, transportation is something that matters. When possible, use a frame to transport an object from a location of origin toward a point of goals (Westin et al., 2020).

One of the most frequently employed tools for transportation is the train (Demir et al., 2023). One form of general transportation that makes it easier for passengers to go along pretty quickly when compared to other modes and not have to worry about

gridlock on the roads is the train (Sushchenko et al., 2023). This drives Indonesian railways to innovate their technologies in order to serve consumers' needs and satisfy their satisfaction (Kuo, 2023).

The railway industry currently has to adjust to the relevant circumstances in order to submit an offer for service. Very effective transportation that can also pique buyers' interests (Shi Kang et al., 2023). Diverse customers' activities influence one industry while playing a crucial role in its growth, capable of meeting all needs to use more customers who are interesting. Customer behavior matches corporate description To neither raise sales nor draw in customers on the market (Hecht et al., 2020). Something a company tries to understand about its customers starts with what is thought about, what is needed, what is put into practice, and then is developed through a firm's strategy or policy.

Companies that provide field services are typically exposed to consumer complaints, which may lead to a reduction in client loyalty. As an illustration, consider how difficult it is for the general people to travel to certain cities or other provinces due to the limited availability of the train fleet in Indonesia. Only few cities have their own train fires, and other incidents only occur between cities or provinces.

In order to guarantee that the level of customer satisfaction is met, expectations and quality control measures are used by the organization. The quality of the service is the most crucial component in whether a company can surpass its rivals. Company efforts to maintain and improve the quality of its products, services, and procedures are referred to as service quality (Ali et al., 2021). The goal of service quality is to accurately fulfill users' expectations as well as their needs and desires (Uvet, 2020).

Profit High service quality has a significant impact on business and customer happiness. The more highly skilled service providers, the more contented consumers they have, and the consequently higher profit for the business (Aktar, 2021). The primary performance aspect in a corporation is the quality of its output. Products and services that satisfy customer needs are high quality. When level service providers and prospective clients are compared, service quality is shown (Chiang & Trimi, 2020). The five characteristics of service cannot be split into empathy, reliability, tangibles, power response, and assurance (Abdullah & Kasmi, 2021).

Literally, loyalty means a person's dedication to something. Loyalty is demonstrated when a person has a positive brand experience, commits to that brand, and vows to continue making purchases from that brand (Zafran, 2022). Loyalty shows a customer's propensity to consistently use a particular brand. This demonstrates that consumer preference and actual purchases always determine loyalty (Gontur et al., 2022).

If the customer receives quality service, they will undoubtedly be satisfied. If a customer is satisfied with a brand, they will likely remain loyal to it. The development of trust results in satisfaction (Hariandja & Vincent, 2022). Because it ensures a company's continued existence, loyalty is crucial to business (Vergaray et al., 2023).

Research was conducted with the goal of learning whether dependability, responsiveness, empathy, assurance, and tangibility (service quality) had a substantial effect on training consumer loyalty. Later benefit research can be used to evaluate performance, train service personnel, fire on corporate initiatives, and produce good customer service to boost customer happiness. Therefore, research on customer response through activity investigation is necessary. That process will be evaluated based on the customer's response in order to gauge his level of loyalty.
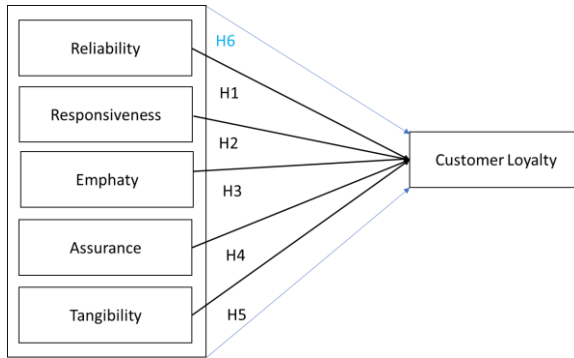
2   Hypothesis

Fig. 1. Research Hypothesis

Ha $_1$: It is suspected that there is an influence *of reliability* on *customer loyalty of* train *customers* who use KAI *Access* application .

Ha $_2$: There is an influence of *responsiveness* on *customer loyalty of customers* who use api cars KAI *Access* application .

Ha $_3$: There is an influence *of empathy* on *customer loyalty of customers* who use the car KAI *Access* application .

Ha $_4$: There is an influence *of insurance* on *customer loyalty of customers* who use api cars KAI *Access* application .

Ha $_5$: There is an influence *of tangibility* on *customer loyalty of customers* who use api cars KAI *Access* application .

Ha $_6$: There is an influence *on reliability , responsiveness , efficiency , assurance , and tangibility (service quality)* in a way simultaneous towards *customer loyalty* to *train* customers who use KAI *Access* application .

3   Research Methodology

3.1   Research Location and Time

Online survey completed using a google form. This study began the day it was approved, with a goal of finishing it in two months or less. Conduct data gathering and organization for one month, which involves authoring study-related papers and conducting the guidance process.

3.2   Data Collection Methods

Social media is used to disseminate Google forms and questionnaires, which are used to collect data for research projects.

Questionnaires about activity spread are used to obtain data. Distribution of a list of questions to responders serves as the primary approach for gathering data. Primary data

used in the research includes how customer loyalty is affected by service quality. Information obtained directly from the subject of the study, such as an individual's opinion, is referred to as primary data.

3.3 Data Processing

Survey research is done using a quantitative approach to research procedures. Measured factors include customer loyalty (KAI) and service quality (reliability, tangibility, empathy, assurance, and responsiveness) a user's access.

This study falls under the area of causal research, which uses a quantitative approach to identify correlations because each variable in the model has a corresponding effect (Voges et al., 2023). Through outcomes research, the goal of the study is to learn how quality service affects customer loyalty. Use a list of questions regarding variables that can be measured through careful planning, then use the answers to all the questions to guide future action. can actually serve to illustrate a condition variable.

3.4 Data Analysis

Multiple linear regression, validity, reliability, and assumption tests as well as the multicollinearity, normalcy, and heteroscedasticity tests are used to analyze data in research. In addition, the F test or coefficient determination (R^2) for test model viability and testing hypothesis, namely the T test and F test, is used to get a holistic view of how customer loyalty is influenced by service quality variables (reliability, responsiveness, empathy, assurance, tangibility), which are used in the KAI Access application.

4 Results and Discussion

4.1 Quality Test Instruments and Data

Validity Test as well Reliability.

A. Validity test

Initial steps involve testing the hypothesis and implementing things that demonstrate the overall indicator statement. can be used as an instrument study to conduct validity tests, which are used in research. There could be 100 respondents in total. If the level of significance is 5% and the r value is more than 1, the questionnaire is considered legitimate. However, if r is not determined from the r table sufficiently, the questionnaire is deemed invalid. The findings of the validity test of probability are as follows:

Table 1. Test Results *Validity* All Items in Research *Variables*

Variable	Item	R Count	R Table	Note
e ~ :~ a	X1.1	0.862	0.195	

	X1.2	0.914	0.195	
	X1.3	0.844	0.195	
	X1.4	0.898	0.195	
	X1.5	0.889	0.195	
	X1.6	0.895	0.195	
	X1.7	0.819	0.195	
Responsiveness	X2.1	0.885	0.195	
	X2.2	0.916	0.195	Valid
	X2.3	0.913	0.195	
	X2.4	0.867	0.195	
	X2.5	0.886	0.195	
Emphaty	X3.1	0.912	0.195	
	X3.2	0.887	0.195	
	X3.3	0.911	0.195	
	X3.4	0.925	0.195	
Assurance	X4.1	0.956	0.195	
	X4.2	0.950	0.195	
	X4.3	0.936	0.195	
	X4.4	0.917	0.195	
	X4.5	0.861	0.195	
	X4.6	0.906	0.195	
Tangibility	X5.1	0.886	0.195	
	X5.2	0.895	0.195	
	X5.3	0.871	0.195	
	X5.4	0.898	0.195	Valid
	X5.5	0.872	0.195	
	X5.6	0.932	0.195	
	X5.7	0.911	0.195	
	X5.8	0.857	0.195	
	X5.9	0.905	0.195	
	X5.10	0.904	0.195	
Customer Loyalty	Y1	0.900	0.195	
	Y2	0.888	0.195	

Source : results data processing 2023

Based on the results of testing the validity on 100 respondents, it was determined that every observation made to something requested variables was accurate. This was determined by the calculated r value more from the r table (0.195), which led to the conclusion that every observation made to the subject of the study's questionnaire was valuable as a tool for determining the accuracy of the data gathered.

B.   Reliability Test

The next stage is to conduct a survey with no more than 100 participants after determining that each variable in the statement is a variable that can be used to gauge the effectiveness of the instrument. If the mark Cronbach's alpha is more than 0.6, the conclusion is considered credible. This is a potential outcome from test analysis that can be trusted:

Table 2. Results of Reliability Testing *of Variable* Items in Study

Variable	Cronbach's Alpha	Information
Responsive-ness	0.948	
Empathy	0.935	
Tangibility	0.930	Reliable
Assurance	0.964	
Tangibility	0.972	
Customer Loyalty	0.747	

Source : results data processing 2023

A value of 100 respondents can comprehend that every variable is reliable based on the results table 2 for the index's dependability. That instant because of the veracity of the information presented This has a mark Cronbach alpha that is greater than 0.6, exceeding the figures displayed.

4.2   Descriptive Analysis

Table 3. Descriptive Analysis

Descriptive Statistics					
	N	Min	Max	Mean	Std. Deviation
Reliability	100	8	28	21.62	4.743
Responsiveness	100	5	20	16.30	2.997
Emphaty	100	4	16	12.69	2.806
Assurance	100	6	24	18.72	4,699
Tangibility	100	10	40	31.21	7,457
Customer Loyalty	100	2	8	6.08	1,612
Valid N (listwise)	100				

Source : results data processing 2023

You can see from table 3 that the average reliability value is 21.62. The responsiveness score is 16.30 on average. 12.69 is the average empathy rating. Assurance value on average is 18.72. Average value for tangibleness is 31.21. 6.08 is the average customer loyalty value.

4.3   Classic Assumption Analysis

The three traditional components of this assumption test are normality, heteroscedasticity, and multicollinearity.

Normality Test

Using the Kolmogorov-Mirnov method, testing normality seeks to ascertain if the distribution is normal or not. It is possible to see the outcomes of normalcy studies in the table below.

Table 4. Testing Normality

Variable	Sig	limit	Note
Unstandard Residual	0.086	>0.05	Normal

Source : results data processing 2023

According to Table 4, the level asymp. sig. worth is 0.086 > 0.05, indicating that the data is regularly distributed..

Heteroscedasticity Test

One fundamental assumption from a standard regression line model is that any disturbance that occurs during regression has the same variations sometimes. The following table displays the study's heteroscedasticity findings:

Table 5. Heteroscedasticity Test

Variable	sig	limit	Information
Reliability	0.492	>0.05	
Responsiveness	0.062	>0.05	
Empathy	0.939	>0.05	Didn't happen heteroscedacity
Assurance	0.508	>0.05	
Tangibility	0.125	>0.05	

Source : results data processing 2023

According to table 5, the likelihood exceeds 0.05 and the study's chosen variables don't exhibit heteroscedasis.

Multicollinearity Test

Performing a multicollinearity test To determine whether the regression model identified a connection between free variables. Any correlation between the variables in a good regression model must be avoided. To determine whether multicollinearity exists or not, use the variance inflation factor (VIF) and tolerance ().

Table 6. Testing Multicollinearity

Variable	Tolerance	VIF	Information
Reliability	0.460	2,173	
Responsiveness	0.668	1,498	
Empathy	0.431	2,320	Didn't happen multicollinearity
Assurance	0.240	4,170	
Tangibility	0.253	3,958	

Source : results data processing 2023

Based on table 6, it is clear that if the mark tolerance exceeds 0.1 or the VIF is less than 10, multicollinearity won't occur.

4.4   Research result

The regression line model will be examined analytically and simultaneously (F test) in the analysis (T test). The definition of U ji F and U ji T's significance is as follows:
Accept Ha if probability (p) is lower than 0.05.
It can be understood as a variable being simultaneously independent and having a big impact on the dependent variable.
The outcome of the performed multiple regression analysis is as follows:

Table 7. Multiple Linear Regression Test Results

Variable	B	t hitung	Sig t	Ket
(Constant)	-1.571			
Reliability	0.105	4.597	0.000	
Responsiveness	0.063	2.077	0.041	
Emphaty	0.149	3.733	0.000	Signifikan
Assurance	0.066	2.066	0.042	
Tangibility	0.039	1.991	0.049	
F hitung	76.932			
Sig F	0.000			
Adjusted R Square	0.793			

Source : data processing results 202 3

Using the Windows version of the SPSS application, the following results were produced based on Table 7 using multiple linear multiple regression:

$$Y = -1.571 + 0.105X1 + 0.063X2 + 0.149X3 + 0.066X4 + 0.039X5 + e$$

1. Constant = -1.571

    Customer loyalty is -1,571 units if there are no factors such as dependability, responsiveness, empathy, certainty, and angibility that affect it.

2. $B_1 = 0.105$

    With the premise that all other independent variables remain constant, it can be concluded that an increase in dependability by one unit will result in an increase in customer loyalty of 0.105.

3. $B_2 = 0.063$

    If the responsiveness variable increases by one unit, it can be assumed that other independent variables will remain constant and that customer loyalty will rise by 0.063.

4. $B_3 = 0.149$

    With the premise that other independent variables remain constant, it can be concluded that if the emphaty variable increases by one unit, customer loyalty will increase by 0.149.

5. $B_4 = 0.066$

    If the assurance variable increases by one unit, it can be assumed that other independent variables will remain constant and that customer loyalty will rise by 0.066.

6. $B_5 = 0.039$

    With the premise that all other independent variables remain constant, it can be said that if the variable t angibility increases by one unit, customer loyalty will rise by 0.039.

hypothesis testing (T Test)

A partial T test is used to partially comprehend the differences between the independent variable t and the dependent variable t.

1. Table 7 shows that the significance check's findings indicate that the probability value obtained is 0.000 0.05, and the n stated values can be Acceptance of the first piece of evidence (Ha) indicates that "reliability own influence positive and considerable towards consumer loyalty."

2. Table 7 demonstrates the significance check results, which indicate that the probability value obtained is a number of 0.041 0.05, and the specified values can be Acceptance of the second piece of data indicates that "responsiveness" has a positive and considerable influence on customer loyalty.

3. Table 7 shows that the significance check's findings indicate that the probability value obtained is 0.000 0.05, and the n stated values can be as proof "e mphaty own influence good and considerable towards customer loyalty" is the meaning of Ha 3, which is approved.

4. Table 7 demonstrates the significance check results, which indicate that the probability value obtained is 0.042 0.05, and the n stated values can be Based on table 7, it can be seen that the significance check's findings indicate that the probability value achieved is 0.049 0.05, and the n stated values can be interpreted as "a guarantee own influence positive and substantial towards customer loyalty." Ha 5 is acknowledged as supporting evidence, which signifies "tangibility own influence positive and considerable towards consumer loyalty."

Simultaneous Testing (F)

the outcomes of the F test, H Table 7 shows that the probability is 0.000 and the F count is 76,932. The factors dependability, responsiveness, empathy, assurance, and angibility jointly own influence on customer loyalty in that area, sig 0.000 0.05, it may be concluded.

Coefficient of Determination (*Adjusted ^{R2}*)

Based on Table 7's significant coefficient determination (Adjusted R2) = 0.793, it is possible to interpret the variables reliability, responsiveness, empathy, assurance, and tangibility as having their own influence on customer loyalty. The remaining 79.3%, or a total of 20.7 percent, is affected by other variables not included in the research model.

Reliability, responsiveness, efficiency, assurance, and angibility (service quality) have a favorable and significant impact on retaining consumers, according to testing simultaneous (F) and coefficient of determination (adjusted R2) results.

5   Conclusion

You can draw the following conclusions after using the SPSS application to process your data:

One can examine the validity test results using 100 respondents. Conclusion: As can be seen from the estimated r value and r table, each variable that was proposed to re-sponders was a genuine question (0.195). This item can be interpreted in accordance with all of the items already included in the questionnaire. to calculate research data.

All variables in the statement are presumed to be reliable based on the results of the reliability test. because it meets the criteria, which is a mark Cronbach alpha of greater than 0.6.

The results of the normality test indicate that the data is normally distributed when the asymp. sig value is 0.086 or higher from 0.05.

There is no heteroscedacity in the proposed variables because the probability value surpasses 0.05 in the study.

When the VIF value is less than 10 and the tolerance value is greater than 0.10, it can be said that. Multicollinearity does not occur.

According to the count testing hypothesis, "service quality" (reliability, responsive-ness, empathy, assurance, and tangibility) has a favorable and considerable impact on customer loyalty.

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