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# THE INFLUENCE OF SERVICE PERFORMANCE AND PASSENGER SATISFACTION ON PUBLIC TRANSPORT LOYALTY IN A SMALL CITY IN A DEVELOPING COUNTRY

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*Public transportation is widely considered more attractive in developed countries compared to developing countries, primarily due to its level of service performance, and the influencing factors vary depending on the characteristics of the place and the community. Meanwhile, passenger loyalty is essential to increase the demand for public transportation. This research aims to investigate the impact of service performance and passenger satisfaction on passenger loyalty to public bus transportation in Banda Aceh, Indonesia. The research was conducted on six Trans Koetaradja Bus corridors that connect the city and its surrounding areas, and the data was analyzed using the multiple regression method with SPSS. The results showed that that service performance and passenger satisfaction had an impact on passenger loyalty, with a correlation coefficient of 0.563. However, the determination value (R2) was only 0.317, indicating that only 31.7% of the service performance and passenger satisfaction affected passenger loyalty to the Trans Koetaradja bus. The remaining 68.3% were influenced by other variables. Meanwhile, the low contribution of service performance and passenger satisfaction was likely due to the fact that Trans Koetaradja passengers have private vehicles, which are considered more efficient. This can be seen from the respondents' trip frequency of only 1-2 times a week. To address this issue, integrated and accessible public transportation and mixed-use urban planning are needed in Banda Aceh to improve travel duration. It is hoped that these results can improve the public interest and loyalty to public transportation in their daily activities.*

*Keywords: service performance, passenger satisfaction, loyalty, public transportation, trans koetaradja*

## 1 INTRODUCTION

In developing countries such as Indonesia and Pakistan, public transportation continues to be a challenge. The low utilization of public transport and the prevalence of private vehicles have resulted in traffic congestion and increased air pollution. A study conducted in Pakistan found that only 15% of the 671 respondents used public transportation, with the majority relying on private vehicles. Furthermore, 40% of respondents used motorbikes, 35% used private cars, and 10% used non-motorized modes of transportation for their daily activities [1]. The development of sustainable public transportation can reduce the use of private vehicles [2} thus decreasing congestion. The Indonesian government has taken steps to improve public transportation facilities and infrastructure including in Banda Aceh. Banda Aceh is a small city in western Indonesia, where the majority of the population uses private vehicles in their daily activities. The Banda Aceh city government has provided a free modern bus system called the Trans Koetaradja, which is equipped with air conditioning, CCTV, and facilities for people with disabilities. The Trans Koetaradja has six corridors with mixed traffic route characteristics. Currently, the demand for public transport is low even though the performance of the Trans Koetaradja bus public transport service is good [3]. According to Budianto [4] service quality influences consumer loyalty by 38.3%, with other factors accounting for the remaining 61.7%. The facility of free fares for public transportation only exists in Banda Aceh but also does not increase public interest in using it. Despite these amenities, the demand for public transportation remains low, with high demand only during peak hours. The load factor value, which is the ratio of passengers to the capacity of the bus on three routes, ranges from 0.18 to 0.4 [5]. Therefore, research into the factors influencing consumer loyalty to the Trans Koetaradja buses is needed. To better understand the factors influencing passenger loyalty, research is essential.

Research on passenger loyalty to busway services in Brisbane revealed that passenger loyalty was influenced by factors such as individual preferences or past experiences, moral considerations, and cost constraints. Another research conducted on Mass Rapid Transit (MRT) users in Kuala Lumpur found that passenger loyalty was significantly influenced by customer satisfaction, with the level of service performance having a direct and positive impact on passenger loyalty [6]. According to Amsori [7], the research model shows that passenger loyalty is contributed to by user satisfaction to the extent of 70% and 44% by service value. The level of influence of service performance may vary depending on the characteristics of the place and the subject under review. Given this background, the aim of this research is to examine the impact of service performance and satisfaction level on passenger loyalty in the six Trans Koetaradja Bus corridors in Banda Aceh. Service quality is differentiated by the customer's expected performance and actual performance. The concept of service quality stems from the expectancy-disconfirmation paradigm [8].

According to Ramya [9], service quality refers to the ability of providers to meet customer expectations. Perceived service quality, which is a representation of perceived performance, plays a significant role in shaping customers' perceptions of their experiences [10]. Prior experiences often shape customers' expectations for the services they

receive [11]. Additionally, customer satisfaction has been shown to be the most important factor affecting loyalty in transportation research [12]. Satisfaction refers to a person's feeling of pleasure or disappointment after comparing the product's performance to their expectations [13]. Generally, customer loyalty can be achieved when a customer has a positive experience with a product or service [14]. Loyalty is developed through a process that involves four stages: behavioral, cognitive, affective, and conative loyalty [15]. Behavioral loyalty is demonstrated through repeated purchases and recommendations, while rejecting alternatives [11]. The concept of satisfaction refers to the customers' positive feelings about the service compared to their expectations, and loyalty is defined as the future use and willingness to recommend the service based on previous experience. [16]. Hanif's research found a positive and significant relationship between service quality, passenger satisfaction, and behavioral intentions [17].

Purwadana [18] reviewed that improved performance of transport and bus crew will have a positive impact on the quality of the Public Transport Service. Good services can enhance customer satisfaction, which is defined as the extent to which a product meets customer expectations [19]. Service quality and customer satisfaction are closely linked, with complaints serving as an indicator of failure [20]. According to Poliak [21], public transportation in urban areas plays a crucial role in providing access to key destinations such as homes, businesses, schools, healthcare facilities, services, and shopping areas. Travel destinations, accessibility, and mode-specific features that align with individual preferences often influence people's decisions about using public transportation [22]. When customers receive positive results, they are more likely to use, revisit, or recommend the service [23]). However, inconvenience can cause some individuals to stop using public transport [24]

## 2 METHODOLOGY

### 2.1 Population dan Sample

The research population is all passengers on six Trans Koetaradja Bus corridors that connect Banda Aceh City and its surroundings. Data collection is carried out from June 2022 until July 2022. According to guidelines for multivariate analysis such as regression, the sample size should be at least 10 times greater than the number of variables. This means that the minimum sample size required is 330 (10 x 33 variables) [25]. The results of data collection obtained 363 samples, and the six Trans Koetaradja Bus corridors are:

1. CBD of Banda Aceh – Lambaro – Sultan Iskandar Muda Airport
2. CBD of Banda Aceh – Ulee Kareng – Sultan Iskandar Muda Airport
3. CBD of Banda Aceh – Ulee Lheue Port
4. CBD of Banda Aceh – Darussalam
5. CBD of Banda Aceh – Setui – Mata Ie
6. CBD of Banda Aceh – Lhong Raya – Mata Ie

### 2.2 Research Variables and Measurement Criteria

This research used two independent variables, namely service performance (X1) and passenger satisfaction (X2), with passenger loyalty (Y) as the dependent variable. In addition, the service performance variable (X1) consists of 25 indicators divided into reliability, responsiveness, assurance, empathy, and tangibles sub-variables. The satisfaction (X2) and loyalty variables (Y) each have four indicators.

A questionnaire was distributed to the passengers of the Trans Koetaradja. Each question was measured with a five-point Likert scale, ranging from very satisfied to very dissatisfied, as shown in Table 1.

Table 1: Criteria for the level of performance and passenger satisfaction of Trans Koetaradja

| Level of Performance | | Level of Satisfaction | |
|---|---|---|---|
| Rating Scale | Score | Rating Scale | Score |
| Very poor | 1 | Very Dissatisfied | 1 |
| Poor | 2 | Dissatisfied | 2 |
| Neutral | 3 | Neutral | 3 |
| Good | 4 | Satisfied | 4 |
| Very good | 5 | Very satisfied | 5 |

### 2.3 Validity and Reliability Testing

The validity of an instrument specifies how well the instrument met the standards set by certain criteria to judge the quality of an instrument. An instrument is valid when it can measure what is desired, and show data from the variables researched appropriately. The validity test is used to measure the questionnaire [26]. Validity testing of each item was carried out using the product-moment correlation between the scores of each item and SPSS (Statistical

Package for the Social Sciences). The instrument is valid when it satisfies a significant value of 5%, and the calculated r-value is greater than 0.3 [27]. Reliability is how consistent an instrument is in measuring. The method used to measure the reliability of the questionnaire is Cronbach's Alpha. The questionnaire is reliable when the Cronbach Alpha >0.6 [28].

### *2.4 Data Collection*

The data collection on passengers' performance, satisfaction, and loyalty in six corridors of the Trans Koetaradja bus was obtained through a questionnaire. The primary data were service performance, passenger satisfaction, and loyalty. The secondary data included load factor and the factors of undemanding public transportation by the public in daily activities.

### *2.5 Data Analysis*

Data analysis was conducted using SPSS, and the stages are as follows:

1. Performing data recapitulation according to the measurement scale coding.
2. Summing up the total score of the independent and the dependent variables.
3. Before data collection, the questionnaire was tested for validity and reliability. The questionnaire can be distributed to respondents when declared valid. Meanwhile, the preliminary survey is used to review the questions when the questionnaire is declared invalid and unreliable.
4. The data obtained are with an ordinal scale, and the processing using the regression method cannot be conducted directly. Therefore, the data is transformed on an interval scale using the MSI (Method of Successive Interval) [29]. The MSI transformation is a method of transforming ordinal data into intervals by changing the cumulative proportion of each variable in the category to its standard normal curve value [30].
5. To determine the validity of the resulting model, classical assumption testing is carried out. The classic assumption test consists of normality, non-multicollinearity, and non-heteroscedasticity.
6. Analyzing the service performance (X1) and passenger satisfaction (X2) influences on passenger loyalty (Y) using SPSS.
7. After data analysis, each model's constant values and regression coefficients are obtained. The influence between the dependent (Y) and the independent variables (X1 and X2) is in the same direction for positive values and the opposite for negative.

## *3 RESULT AND DISCUSSION*

### *3.1 Validity and Reliability Testing Results*

The validity test of 25 questions on the service performance variable of the Trans Koetaradja bus showed the corrected item-total correlation coefficient >0.3, and all items were declared valid. Likewise, on the four items of passenger satisfaction and loyalty variable, the corrected item-total correlation coefficient is also above 0.3. Details of the corrected item-total correlation coefficients for each item can be seen in Tables 2, 3, and 4.

Table 2: Validity testing results of passenger satisfaction performance variables

| Item-Total Statistics | | | | |
|---|---|---|---|---|
| Variables | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| Pleasant and comfortable when using the bus | 11.98 | 3.616 | 0.552 | 0.732 |
| Convenience while waiting at the bus stop | 12.36 | 2.960 | 0.579 | 0.717 |
| The performance of the Trans Koetaradja bus is as expected | 12.41 | 3.335 | 0.654 | 0.683 |
| Have no complaints while using the bus | 12.48 | 2.959 | 0.551 | 0.736 |

Table 3: Validity testing results of the Trans Koetaradja bus service performance variables

| Item-Total Statistics | | | | |
|---|---|---|---|---|
| Variables | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| Ease and availability to access the bus. | 100.62 | 116.056 | 0.556 | 0.921 |
| Bus operating hours | 100.71 | 115.804 | 0.655 | 0.920 |
| Waiting time at the bus stop | 100.91 | 118.305 | 0.397 | 0.924 |
| Travel time to the destination | 100.54 | 113.221 | 0.655 | 0.920 |
| Bus travel speed | 100.57 | 115.379 | 0.569 | 0.921 |
| Bus departure punctuality | 100.66 | 117.277 | 0.508 | 0.922 |
| The punctuality of the bus arrival | 100.93 | 117.197 | 0.478 | 0.923 |
| Bus stop locations | 100.59 | 119.113 | 0.490 | 0.922 |
| Distance between stops | 100.79 | 118.289 | 0.468 | 0.923 |
| Bus routes | 100.66 | 119.782 | 0.426 | 0.923 |
| Driver discipline in obeying traffic rules | 100.14 | 117.011 | 0.585 | 0.921 |
| Bus driving skills | 100.30 | 115.061 | 0.613 | 0.920 |
| Readiness of the bus crew in helping passengers in need | 100.48 | 115.929 | 0.580 | 0.921 |
| Order in regulating passenger capacity | 100.56 | 118.067 | 0.538 | 0.922 |
| Passenger safety and security while on bus | 100.23 | 115.330 | 0.615 | 0.920 |
| Passenger safety and security at the bus stop | 100.57 | 116.207 | 0.530 | 0.922 |
| Security and safety facilities | 100.47 | 116.918 | 0.526 | 0.922 |
| Facilities for people with disabilities, pregnant women, and seniors on the bus | 100.56 | 115.400 | 0.584 | 0.921 |
| Services from the bus crew to passengers | 100.50 | 116.475 | 0.691 | 0.920 |
| The hospitality and courtesy of the bus crew to passengers | 100.44 | 116.289 | 0.631 | 0.920 |
| Bus crew skills in communicating with passengers | 100.63 | 117.569 | 0.507 | 0.922 |
| The physical condition of the bus | 100.45 | 115.785 | 0.627 | 0.920 |
| Cleanliness and neatness of the bus | 100.13 | 118.215 | 0.542 | 0.922 |
| The temperature inside the bus | 100.26 | 116.942 | 0.559 | 0.921 |
| The density of passengers | 100.82 | 117.967 | 0.496 | 0.922 |

Table 4: Validity testing results of passenger loyalty performance variables

| Item-Total Statistics | | | | |
|---|---|---|---|---|
| Variables | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| I will always use the Trans Koetaradja when I travel | 11.99 | 3.727 | 0.621 | 0.622 |
| I will refuse to use other public | 11.71 | 3.804 | 0.439 | 0.747 |

| Item-Total Statistics | | | | |
|---|---|---|---|---|
| Variables | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| I would recommend using the Trans Koetaradja to others | 11.74 | 4.235 | 0.652 | 0.628 |
| I will always provide input and advice to the Trans Koetaradja management | 11.84 | 4.358 | 0.463 | 0.713 |

Cronbach's alpha is the most commonly used test to determine the reliability coefficient of the questionnaire, ranging between 0 and 1. The acceptable reliability score is >0.6 [28], and Cronbach's alphas for the performance variables of the Trans Koetaradja bus service (X1), passenger satisfaction (X2), and the loyalty of passengers (Y) were 0.924, 0.771, and 0.737, respectively. Therefore, the three questionnaires were declared reliable and can be used to measure the loyalty of Trans Koetaradja bus passengers. Details of the reliability test results can be seen in Table 5.

Table 5: Reliability testing results

| Cronbach's Alpha | N of Items |
|---|---|
| a. Reliability statistics for performance variable | |
| 0.924 | 25 |
| b. Reliability statistics for satisfaction variable | |
| 0.771 | 4 |
| c. Reliability statistics for loyalty variable | |
| 0.737 | 4 |

### *3.2 Characteristics of Respondents*

Table 6 shows that 60% of respondents were mainly females. Concerning the highest educational levels, 49% were high school graduates, and only 0.3% held a doctoral degree. Furthermore, 23% and 1% were students and unemployed. Most respondents at 34%, were 17-25 years old, and 6% were over 56. Details of the respondents' travel characteristics are presented in Table 6.

Table 6: Characteristics of Respondent

| Description | Frequency (%) |
|---|---|
| Gender: | |
| - Male | 40 |
| - Female | 60 |
| Education: | |
| - Government employees | 2.8 |
| - Private workers | 10.2 |
| - Entrepreneur | 14.9 |
| - Housewife | 17.9 |
| - University student | 23.1 |
| - Student | 16.8 |
| - Farmer | 2.8 |
| - Labor | 1.4 |
| - Unemployment | 3.0 |
| - Other | 7.1 |
| Age: | |
| - 12-16 years old | 15.1 |
| - 17-25 years old | 34.2 |

| Description | Frequency (%) |
|---|---|
| - 26-35 years old | 21.5 |
| - 36-45 years old | 14.3 |
| - 46-55 years old | 9.4 |
| - >56 | 5.5 |

Table 7: Travel Characteristics of the Respondents

| Description | Frequency (%) |
|---|---|
| Private Vehicle Ownership: | |
| - Have a private vehicle; | 80.3 |
| - Do not have a private vehicle | 19.7 |
| Travel Frequency: | |
| - Once per week | 36.9 |
| - Twice per week | 24.5 |
| - Three times per week | 16.5 |
| - Four times per week | 9.7 |
| - Five times per week | 3.6 |
| - Six times per week | 1.9 |
| - Every day | 6.9 |
| Trip purposes: | |
| - Working | 16.5 |
| - Shopping | 17.6 |
| - Studying at school | 0.3 |
| - Studying at university | 8.5 |
| - Traveling | 30.3 |
| - Social trip | 8.3 |
| - Home from activity | 13.5 |
| - Worship | 1.1 |
| - Other | 3.9 |

Table 7 shows that 80.3% of respondents own private vehicles, indicating alternative modes besides transportation for traveling. The most dominant trip purpose was traveling at 30.3%, while the lowest was school trips at 0.3%. Regarding travel frequency, the highest percentage was only 1-2 times a week at 61.4%, with only 5.5% using the bus 5-6 weekly. It indicated that the respondents did not use the Trans Koetaradja for routine activities because the bus usage frequency did not match the number of working days.

### *3.3 Classic Assumption Testing*

The data used in the linear regression model should be an interval or ratio scale. In this research, there were 363 data on an ordinal scale. Therefore, the data was first transformed into intervals using the MSI (Method of Successive Interval). The data needs to be checked for normality, multicollinearity, and heteroscedasticity assumptions. This test is a requirement that should be met in multiple regression analysis.

1. *Normality Test*

The normality test in multiple linear regression determines the normality of the residual value distributed. A good normality test can be seen in the data distribution or plot points that conform to the diagonal line, and no data is far from the distribution. The results of the normality test using the SPSS application are shown in Figure 1. The result was a normal probability plot with the data distribution not far from the diagonal line, indicating normality. Apart from using graphs, the normality test can be determined using the Kolmogorov-Smirnov test, as shown in Table 8. Based on the Kolmogorov-Smirnov test, a Sig value of 0.188>0.05 is obtained, and the data is normally distributed.

Table 8: Kolmogorov-Smirnov test results

| | | Unstandardized Residual |
|---|---|---|
| N | | 363 |
| Normal Parameters[a,b] | Mean | .0000000 |
| | Std. Deviation | 2.31753377 |
| Most Extreme Differences | Absolute | .042 |
| | Positive | .038 |
| | Negative | -.042 |
| Test Statistic | | .042 |
| Asymp. Sig. (2-tailed) | | .188[c] |

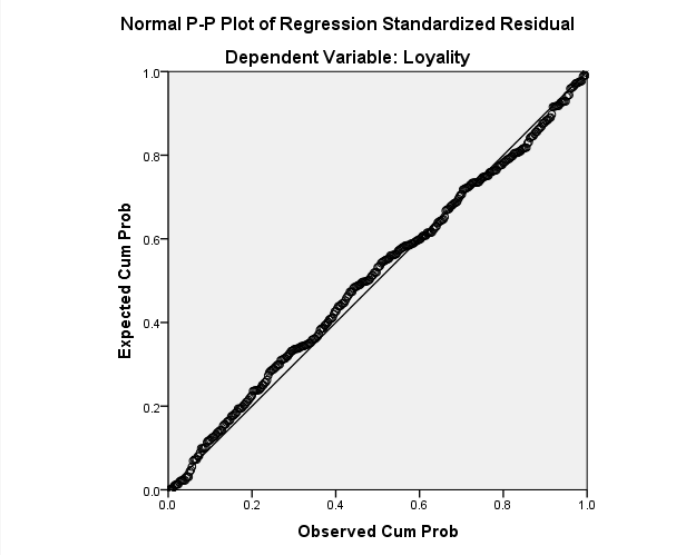


Figure 1: Normality Test

*2. Multicollinearity Test*

The multicollinearity test was used to examine a correlation between the independent variables in the regression model. The linear relationship between independent variables makes it difficult to distinguish the influence of each independent variable on the dependent. Table 9 shows the Tolerance value >0.1 and the VIF value <10, indicating no multicollinearity.

Table 9: Multicollinearity test results

Coefficients[a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 2.995 | .988 | | 3.031 | .003 | | |
| | Service Performance | .067 | .011 | .309 | 6.138 | .000 | .748 | 1.338 |
| | Satisfaction | .331 | .049 | .341 | 6.767 | .000 | .748 | 1.338 |

a. Dependent Variable: Loyalty

*3. Heteroscedasticity Test*

Based on the results of the scatter plot (figure 2), it can be seen that the plots formed do not have a specific distribution pattern or are spread above and below zero on the Y-axis or to the right and left on the X-axis. This shows no heteroscedasticity in the regression model, and the test can also use the Gletzer method. This test is carried out by regressing the independent variables with absolute residual variables. Meanwhile, the results can be seen in table 10, where the sig value >0.05 (service performance =0.157 and satisfaction =0.108), indicating no heteroscedasticity in the regression model.

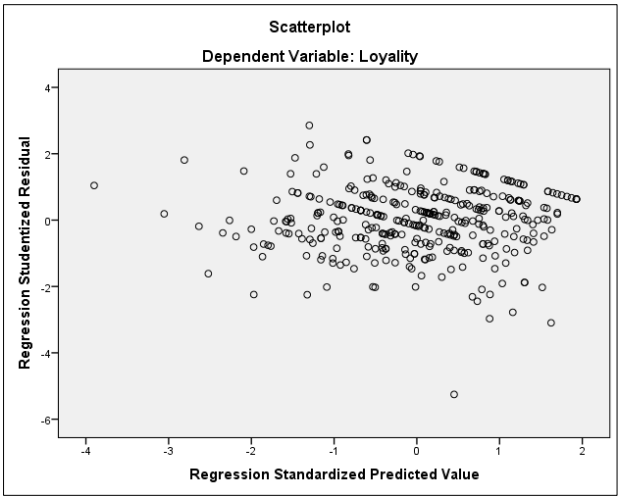


Figure 2: Scatterplot

Table 10: Heteroscedasticity Test results

Coefficients[a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 1.854 | .633 | | 2.929 | .004 | | |
| | Service Performance | -.010 | .007 | -.086 | -1.417 | .157 | .748 | 1.338 |
| | Satisfaction | .050 | .031 | .098 | 1.612 | .108 | .748 | 1.338 |

a. Dependent Variable: RES2

### *3.4 Regression Test Results*

The regression test results are shown in Table 11, indicating that all independent variables have a significant probability (<0.05). The linear regression model obtained was Y = 2.995 + 0.067X1 + 0.331X2. This model shows that passenger loyalty will be scored 2.995 when the variable value of bus service performance and passenger satisfaction is zero. Furthermore, when the value of X1 and X2 is one, the bus service performance as well as passenger satisfaction contribute to loyalty by 0.067 and 0.331 using the Trans Koetaradja bus

Table 11: Regression test results

Coefficients[a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 2.995 | .988 | | 3.031 | .003 | | |
| | Service Performance | .067 | .011 | .309 | 6.138 | .000 | .748 | 1.338 |
| | Satisfaction | .331 | .049 | .341 | 6.767 | .000 | .748 | 1.338 |

a. Dependent Variable: Loyality

Table 12 shows a significant F value (F=83.726, p=0.000), implying that service performance and passenger satisfaction simultaneously influence loyalty. Based on Table 13, the correlation coefficient was 0.563 and showed that service performance as well as satisfaction have a moderate relationship with passenger loyalty because it was between 0.4 and 0.69 [31]. The relationship is strong when the correlation coefficient (r)>0.70. The determination value (R2) of 0.317 (Table 13) showed that only 31.7% of bus service performance and passenger satisfaction contributed to loyalty. The remaining 68.3% was influenced by other variables not examined in this research.

Table 12: ANOVA test results

ANOVA[a]

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 904.372 | 2 | 452.186 | 83.726 | .000[b] |
| | Residual | 1944.289 | 360 | 5.401 | | |
| | Total | 2848.660 | 362 | | | |

Table 13: Summary model results

| Model | R | R Square | Adjusted R Square | Std. Error of the estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | 0.563 | 0.317 | 0.314 | 2.3240 | 1.945 |

The service performance and passenger satisfaction were good, with an average value of 4.25 and 4.19, from a maximum value of 5. Research in the cities of Jogja, Jakarta, and Padang obtained similar results. passengers feel the quality of service has not met the aspects of good service quality for the community. [32] [33] [34]. However, these two variables (service performance and passenger satisfaction) insignificantly contributed to passenger loyalty using Trans Koetaradja buses in their activities. This is probably due to the passengers having private vehicles, hence, they have a choice of transportation modes, especially for their routine activities such as work, school, and college. It can be seen from the frequency of respondents' weekly trips, dominantly 1-2 times a week.

The low loyalty of Trans Koetaradja passengers was also caused by the need to change modes to reach the destination. Public transportation facilities in Banda Aceh have been unable to access the entire area. Therefore, integrated public transportation with good frequency is needed to make travel time efficient. Providing exclusive bus lanes can also shorten passenger travel time because the speed is stable and not hampered by other vehicles. However, the Trans Koetaradja bus lane in Banda Aceh is in mixed traffic. The exclusive lane is difficult to establish in some areas because of limited road space availability, and this also happened to the Trans Jogja bus. The determination of Bus Lanes based on road width is >9 meters of buses [35]. In Indonesia, exclusive bus lanes are only implemented on Trans Jakarta, and each country's travel mode choice differs. This is due to the differences in system, characteristics, performance, perceptions, and local circumstances. In Banda Aceh, one of the small cities in the West of Indonesia, the traveling character per person per day different. Each individual can carry out various daily activities, such as working, having lunch, dropping off the kids, picking up kids from school, and delivering lunches. Therefore, private transportation was considered more flexible and efficient for activities. This condition is in line with the previous research, where convenience, easiness, flexibility, and time efficiency make private transportation more attractive because people feel 'in control' [36]. Ali et al. also stated that personalized transit modes provide more accessibility than the public [37].

Research in Cambodia, Spanish, and Israel show that transport operators should focus on quality, convenience, and availability while keeping fares low to attract more passengers. Furthermore, public transport fares are also an issue in increasing passenger demand and loyalty [38]. This is in contrast to the condition of Trans Koetaradja buses in Banda Aceh [28], which have free fares since they started operating in 2016. The buses also are equipped with air conditioning facilities and CCTV to increase passenger safety and comfort. The availability of these facilities is an indicator of good service performance. However, this research shows that they are not significantly contributing to passenger loyalty in line with a research in 2013. Fearnley [39] stated that free public transportation was promoted to reduce private vehicles. It has no significant effect on the use of private vehicles and only affects pedestrians and cyclists. Commuters in developing countries prefer private cars over public transportation due to prestige factors. In a country with a growing economy and a group with high purchasing power, private car ownership is a proving ground for success in a career [40].

Based on research in 2020 in Banda Aceh, people did not want to use public transportation because of punctuality issues, the bus not reaching the entire area, difficult access, private vehicle ownership, and a lack of service information. Details of factors of undemanding public transportation by the public in daily activities are shown in Figure 3.

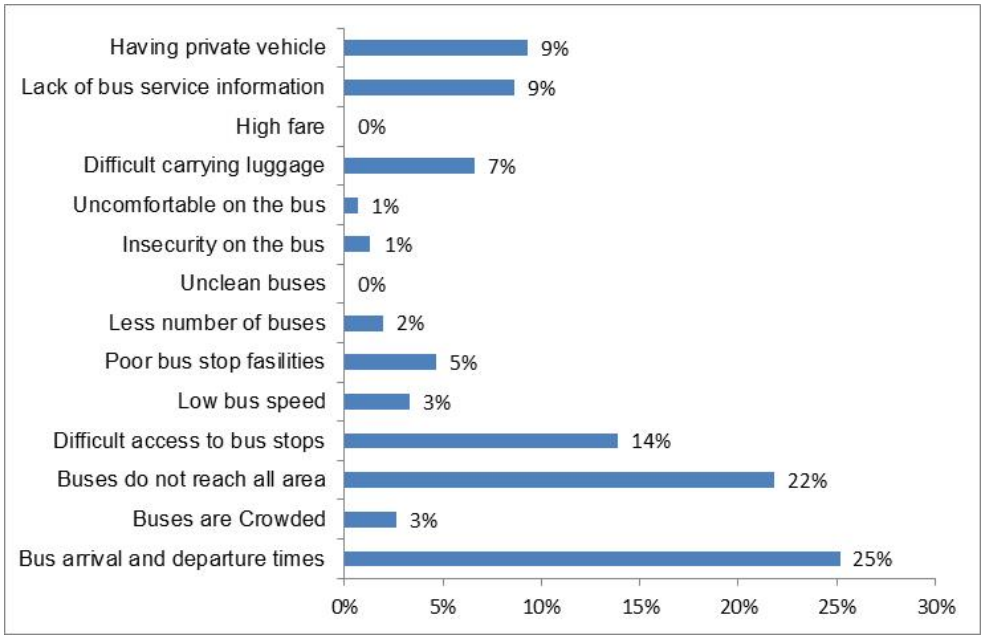


Figure 3: Factors that the public did not demand public transport

Significant efforts are needed to attract more customers who always use a private car to switch to public transportation, and consistency also needs to be maintained. One of the efforts is to limit the use of private transportation, and this restriction will be onerous when the initiatives are fully implemented during the same period. Restrictions need to be conducted progressively, inviting all components of society periodically. One program that can be executed is the "Public Transport Day" policy implemented in each component of society. For Example, "Public Transportation Days for Secondary Students," "For Tertiary Students," "For Employees," or other social groups with a specific schedule. The technical implementation can be regulated based on possible obstacles that each community component faces related to limiting private transportation to train and familiarise people about using the mode of transport in daily activities consistently and continuously. This program also needs to be paired with additional policies, such as the parking restriction policy, which is implemented in the same area and schedule when limiting the use of private transportation policy. This process may lead to good habits for the community in the hope of bringing cultural changes for the future use of public transportation with good maintenance.

## 4 CONCLUSIONS

In conclusion, service performance and passenger satisfaction simultaneously influenced loyalty, with a determination value of 0.317. It indicates that only 31.7% of bus service performance and satisfaction contributed to passenger loyalty to the Trans Koetaradja. The remaining 68.3% was influenced by other external variables not examined. This result occurred because the passengers generally have private vehicles as more efficient transportation choices, especially for their routine activities. It can be seen from the respondent's frequency of trips only 1-2 times a week. Public transportation that is integrated, close to the community, and can reach the entire area should be planned. Furthermore, urban planning that mixes land use will be more efficient in reducing the length of the trip. Before a policy is implemented, further research is needed on other variables that significantly affect passenger loyalty using public transportation, such as the socio-economic factor. The research are essential since investment in public transport is more appropriate, and the policies taken by the government can solve transportation issues in many cities in developing countries.

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