# The Preception of Trans Batam Pasenger Due to The Increase in Fuel Prices

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## ABSTRACT

**Purpose:** The development of world transportation modes is improving. facilities and infrastructure to be able to facilitate mobilization can now be accessed anywhere. Transportation also plays a role in the development of an area because the function of transportation can also be said to be one of the supports for the economy and regional development in an area. This research wants to find out the interest of Batam residents in Trans Batam due to the increase in fuel as an alternative to the use of daily transportation modes

**Design/methodology/approach:** Data obtained from the results of the Trans Batam user questionnaire survey using the method of expressing preferences and using variables in the form of tariffs, timeliness, service quality, information availability, safety, comfort, cleanliness, availability of facilities, availability of routes, and interest in using Trans Batam. The survey results were then carried out a comparative analysis using a spider web model from questionnaire data that had been shared with 100 respondents.

*Findings:* The survey results were then conducted in a comparative analysis using a spider web model from questionnaire data that had been shared with 100 respondents. The findings are that there are improvements in performance in tariffs, service quality, and availability of facilities. Meanwhile, on timeliness, information availability, and safety, there are no significant performance changes. However, there is a decrease in performance on the comfort, cleanliness, and availability of routes. The conclusion obtained from the results of this study is that there is an increase in interest of Batam residents in Trans Batam due to the increase in fuel prices.

**Research limitations/implications:** Most of the data collection in the implementation of this research was carried out by distributing questionnaire links anonymously, so it is possible that there were respondents who filled them out at random so that the quality of the data was lacking.

*Practical implications:* Tariffs are the main factor for potential consumers in choosing public transportation modes. There are also two other factors contributing to the increasing interest of Batam residents in Trans Batam, that is the quality of service and the availability of facilities.

*Originality/value:* This paper is an original work.

*Paper type:* Research paper

Keywords: Fuel Hike, Interest, Trans Batam Received : May 4<sup>th</sup> Revised : May 12<sup>th</sup> Published : July 31<sup>th</sup>

## I. INTRODUCTION

The development of world transportation modes is getting better. Facilities and infrastructure to be able to facilitate mobilization can now be accessed anywhere. Transportation also plays a role in the development of an area, because the function of transportation can also be said to be one of supports for the economy and regional development in an area (Rifai, et al., 2022). One aspect of transportation that concerns the needs of many people is public transportation. A city without public transport will require a random mass of people traveling randomly without reaching their target. There are many direct, indirect and random factors that affect public transport, but by far the most disturbing is the human interaction in urban traffic (Iclodean, 2020). One example of public transport is buses, buses are ground vehicles designed to carry many passengers at once. Buses are a practical

mode of transportation for different age groups in the community, cheap and highly connected between cities. However, despite its popularity, the safety of express buses is a major concern (Azman, et al., 2020).

In Indonesia, public transportation is still not popular to be used as a means of daily transportation. Indonesians prefer to use private vehicles instead of public transportation, while public transportation is more able to support road performance during peak hours. Basically, public transportation is a solution to improve road performance in urban areas. Several studies have shown that in addition to quality, people's desire to switch to public transport is an affordable and integrated route that makes it easier for users (Nurlukman, et al., 2020).

Batam is one of the cities with heavy traffic in Indonesia. Moreover, Batam is under construction, and many public roads in Batam City are undergoing repairs. Not infrequently during peak hours, Batam experiences a decrease in road performance at certain points, but Batam residents still choose to use private vehicles instead of using public transportation which can improve road performance. Public transport can play an important role in reducing the use of private vehicles by individuals which in turn can improve traffic performance, pollution, and the use of fossil fuels (Patel, et al., 2019).

In Law Number 22 of 2009 concerning Road Traffic and Transportation, especially article 158, it is explained that "The government guarantees the availability of Road-based mass transportation to meet the needs of transporting people with Public Motor Vehicles in urban areas". To meet the needs of public transport, the norms of this Law it is also emphasized that the responsibility to ensure the availability of safe, safe, comfortable, and affordable public transport is the responsibility of the Government, and in its implementation, the Government can involve the private sector. This allows commercial drivers to represent their interests with the government and allows governments to also regulate their services through directives, especially at a time when public transport management requires a collaborative effort between the government and operators (Dzisi & Dei, 2020).



Figure 1. Trans Batam Bus Mate Terminal

In the transition to a more sustainable transport system, public bus transport has an important role in reducing car dependence (Aldenius, 2018). Trans Batam as an alternative mode of transportation for Batam residents is a public transportation provider in the city of Batam which operates every day from 06:00 WIB to 17:00 WIB. Nowadays, Trans Batam has reduced the route taken from 40 trips to 20 trips a day, and with the same ticket price. This is done so that the community does not feel burdened due to the increase in fuel. With the hope that Batam residents prefer to use public transportation instead of using private vehicles. The goal to be achieved by this study is to determine the interest of Batam residents in Trans Batam because of the increase in fuel as an alternative to the use of daily transportation modes.

#### **A. Literature Review**

#### 1. Previous Studies

Based on Yuliana & Febriyani's research entitled "The Effect of Service Quality and Tariffs on the Buying Interest of Damri Bus Passengers in the Bandung City Transportation Unit", results were obtained that showed that free variables, namely service quality, and tariffs, had positive effect on buying interest. This positive influence shows that the higher the quality of service and tariffs, the higher the interest in buying will be (Yuliana & Febriyani, 2018). We found that the service factors most related to satisfaction are cleanliness and comfort within the transport (Van Lierop, et al., 2018).

Based on Suhaily & Soelasih in their research entitled "What effects repurchase intention of online shopping", concluded that there is an influence of e-service quality on customer satisfaction and repurchase intentions, while repurchase intention has a negative effect. Therefore, price perception does not affect customer satisfaction but affects repurchase intentions. In addition, experiential marketing does not affect customer

satisfaction and repurchase intentions. In addition, customer satisfaction has a positive effect on repurchase intentions (Suhaily & Soelasih, 2017).

Based on Yulisetiarini & Prahasta in their research entitled "The Effect of Price, Service Quality, Customer Value, and Brand Image on Customers Satisfaction of Telkomsel Cellular Operators in East Java Indonesia", concluded that: (a) Tariffs have a significant positive effect on customer satisfaction; (b) Service quality has a significant positive effect on customer satisfaction; (c) Customer value has a significant positive effect on customer satisfaction (Yulisetiarini & Prahasta, 2019).

Based on Setiawan in his research entitled "The impact of brand image, service quality, and sales promotion on customer repurchase intention through customer satisfaction at Tokopedia in Surabaya", concluded that: (a) Brand image has a positive and significant effect on customer satisfaction; (b) The quality of service has a positive and significant effect on customer satisfaction; (c) Sales promotion has a positive and significant effect on customer satisfaction; (d) Customer satisfaction has a positive and significant effect on repurchase intentions (Setiawan, 2018).

#### 2. Fare

Fare is the amount of fee charged to each passenger of a public passenger transport vehicle expressed in rupiah. Public transport tariffs are tariffs set by the government politically and economically considering the proposals of operators and users of public transport services. The government should coordinate with public transport operators through the franchise process for public regulation and concession fare rates (Wong, et al., 2018).

Public transport planning also takes policy over a long period. The demands of citizens and the decisions of city managers are important factors in transportation planning (Sert, et al., 2017). To protect consumers, the government sets a maximum tariff limit, and if it is deemed necessary to maintain healthy competition, it also sets a minimum tariff. Meanwhile, tariffs should be regulated to ensure reasonable profits for public transport operators and acceptable to consumers

The public transport fare policy is a very important basic component in the operation of public transport because the fare is a major factor in attracting passengers (Hariani, et al., 2020). The freight fare policy is divided into three (Ridwan, 2017), namely:

- 1. *Cost of Service Pricing*, Rates are reviewed based on the costs required for the operating costs of freight services plus a reasonable level of profit.
- 2. *Value of Service Pricing*, Rates are reviewed based on the value of transportation services provided by transportation service users.
- 3. *Charging What the Traffic Will Bear*, Freight rates are reviewed with a certain freight volume to get the most profitable net income result.

Determining the number of public transportation tariffs requires wise handling and policies because it must be able to bridge the interests of passengers as consumers and entrepreneurs/operators of public transportation (Ropika, R., 2018). Considering transportation costs as a fixed part of the booking fee (Rasay & Golmohammadi, 2020), it can be an important key for people to choose public transportation which in this case is Trans Batam as a daily mode of transportation.

#### **3. Buying Interest**

Buying interest is the stage of consumer interest in a product and buying interest arises after the consumer's awareness and perception of a particular product (Nurfauziah & Hamdani, 2021). This interest in buying is followed by an action in the form of purchase behavior. Consumer interest in a purchase arises automatically when the consumer is interested in or responds positively to the seller's offer.

Buying interest is the behavior of a person (consumer) by which the consumer has the desire to choose, use and even want the products offered by the manufacturer or company (Rachmawati, et al., 2020). So, it can be defined as buying interest is the process of deciding to buy a product or service which is measured by the degree of probability of consumers making a purchase. Indicators of buying interest include Exploratory interest (seeking information), Transactional interest (tendency to make purchases), and Preferential interest (making the main one) (Maharama & Kholis, 2018).

*Brand awareness* also has a significant effect on consumers' buying interest. A brand with a positive image will make consumers loyal and want to buy this product back in the future. Brand awareness is the issue of whether the brand name appears in the minds of consumers when thinking about a particular product category and whether there is a convenience when that name rises (Novansa & Ali, 2017).

Based on the results of Pandjaitan's analysis, the results were obtained that variable X or brand awareness had a significant effect on variable Y, or customer intention to buy GoJek services. Based on the results of the t-

test conducted, it can be concluded that the brand awareness obtained from Go-Jek has a positive effect on intentions with an estimated score of 0.968, and more than 95% for the significance score. This explains that Go-Jek is an online transportation brand that greatly influences people in Bandar Lampung to use its services (Pandjaitan, 2019).

## II. METHODS

Data is one of the main strengths in compiling scientific research and modeling (Rifai, et al., 2015). The data obtained from the research will be used to understand or solve problems. The research was carried out at the end of 2022 with residents of Batam City as the subject of their research. This research was conducted to find out whether there was an increase in interest in Batam residents to ride public transportation in Batam City, which in this case was Trans Batam due to the increase in fuel.



Figure 2. Research Location

The process of systematic scientific research must begin with the proper identification of the problem (Rifai, et al., 2016). This research method was carried out using quantitative analysis methods, where the instrument used was a questionnaire to collect data for this study. Later the questionnaire will be distributed electronically to respondents using one of the sites that can be used to fill out surveys *online*, or non-electronically using paper that contains surveys that will later be filled out by respondents. The research variables will be measured through a questionnaire with an answer range following an ordinal scale of "1" for very bad to "5" for very good.

## **III. RESULTS AND DISCUSSION**

#### A. Research Factor Selection

In Indonesia, there is a law on public transportation service standards as stated in Law Number 22 of 2009 concerning Traffic and Transportation (Article 141) which reads: "Public Transportation Companies must meet minimum service standards which include: Safety; Salvation; Comfort; Affordability; Equality; and Order." Each of these factors is explained in every point in the Regulation of the Minister of Transportation of the Republic of Indonesia Number 98 of 2013 and updated with PM Number 29 of 2015.

The process of selecting research factors is determined based on the results of literature related to journals that discuss factors of transportation services, then several factors are selected that are used as considerations for the influence on increasing public interest in public transportation. The factors selected in this study are: Tariffs (Rosa & Widad, 2017); Timeliness (Azali, et al., 2018); Quality of Service (Yulisetiarini & Prahasta, 2019); Availability of Information (Sembada & Setyono, 2020); Safety (Azali, et al., 2018); Comfort (Azali, et al., 2018); Cleanly (Sembada, et al., 2020); Availability of Facilities (Madigan, et al., 2017); Route Availability (Retnoningtyas & Handayeni, 2021); and Interest in the Use of Trans Batam.

#### **B.** Characteristics of Respondents

Respondents in this study were not distinguished into certain clusters, all Batam people were entitled to fill out the questionnaire on the condition that users / had used Trans Batam. A total of 100 respondents will be taken data as a sample in this study, with the characteristics of respondents as follows:

a. Characteristics of Respondents by Gender

Table 1. Gender of Respondents				
Number	Gender	Total	Percentage	
1.	Male	57	57 %	
2.	Female	43	43 %	
7	Fotal	100	100%	

The results showed that respondents were dominated by men with a male ratio of 57% and women by 43%. This may happen because men are more willing to spend their time filling out questionnaires.

#### b. Characteristics of Respondents by Age

Table 2. Age of Respondents					
Number	Age	Total	Percentage		
1.	11-20 years	55	55 %		
2.	21-30 years	35	35 %		
З.	31-40 years	9	9%		
4.	41-60 years	1	1 %		
	Total	100	100%		

The results showed that Trans Batam users are dominated by the age of 11-20 years by 55%. This may happen because the questionnaire is distributed online, where many active users of the device are teenagers. As for the offline questionnaire, Trans Batam users are reluctant to take their time to fill out the questionnaire.

c. Characteristics of Respondents by Job Type

Table 3. Job of Respondents					
Number	Type of Work	Total	Percentage		
1.	Student	61	61%		
2.	Entrepreneur	9	9%		
3.	Private Employees	21	21%		

4.	Housewife	7	7%
5.	Civil Servant	2	2%
	Total	100	100%

The results showed that respondents' work was dominated by students, namely 61%. This can happen because most respondents' ages are also dominated by the age group of 11-20 years, which is the age of activity as a student.

### d. Characteristics of Respondents Based on Personal Vehicle Ownership

Table 4. Private Vehicle Ownership					
Nu mb er	Personal Transportation	T c t c l	Perce ntage		
1.	Car	2 (	20 %		
2.	Motorcycle	Ć 4	64 %		
3.	Bicycle	7	7%		
4.	Do not have	2 8	28%		

The results showed that as many as 64 out of 100 respondents had at least one private vehicle, namely a
motorbike. Nevertheless, Batam residents still want to use Trans Batam as an alternative mode of transportation
in many ways.

#### e. Characteristics of Respondents Based on Travel Destinations

Table	5.	Destination	of Res	pondents
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Number	Travel Needs	Total	Percentage
1.	Work	7	7%
2.	School	15	15%
3.	Shop	15	15%
4.	Meeting Friends/ Family	18	18%
5.	Recreation	36	36%

	6.		Other	6	6%	
		Total		100	100%	
Source: Personal Processed R	esults 2022					-

Source: Personal Processed Results, 2022.

The results showed that recreation was the most preferred travel destination by respondents, which was 36%. This may happen because many respondents are students who use Trans Batam only as an alternative mode of transportation.

#### **C. Research Results**

After obtaining 100 respondents to the questionnaire with a total of 10 parameters of the statement. Then the results of the answer data from 100 respondents were obtained in the form of the number of data distributions and gaps in each parameter as can be seen in the following table:

Number	Parameters	Before	After	Gap
1.	Cost	3,83	4,07	0,24
2.	Timeliness	3,55	3,57	0,02
3.	Quality of Service	3,52	3,72	0,20
4.	Information Availability	3,47	3,53	0,06
5.	Safety	3,54	3,59	0,05
6.	Comfort	3,59	3,54	0,05
7.	Cleanly	3,43	3,37	0,06
8.	Facilities	3,70	3,87	0,17
9.	Route Availability	3,60	3,53	0,07
10.	The demand of Trans Batam Usage	3,66	3,84	0,18
	Average	3,59	3,66	0,07

Table 6. Survey Result of Questionnaire

Based on the results of the questionnaire that has been distributed, the results of the comparison of variables that have been determined between pre and post fuel increase against Trans Batam are obtained in the following chart:

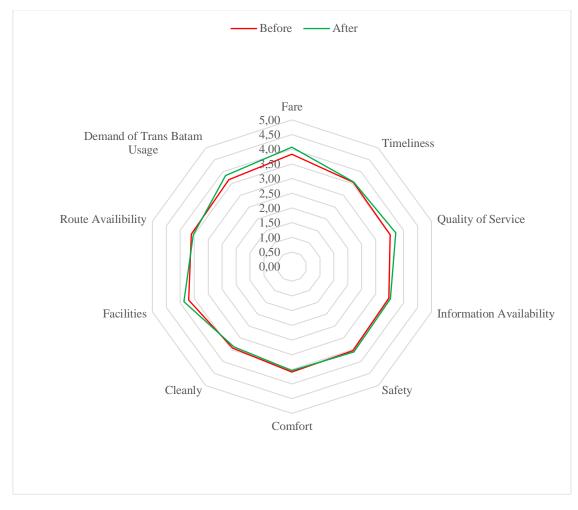


Figure 3. Radar Chart of Questionnaire

## 1. Cost

Fares are one of the important keys for people in determining public transportation options. Tariffs are the most significant variable in changes before and after the fuel increase, which is 0.24. This can happen because although there is an increase in fuel prices, especially diesel by 32.03% which is used as fuel for these vehicles, the tariff set by Trans Batam has not increased, which is still the same at IDR 6,000.00 (six thousand rupiahs) if paid in cash and IDR 5,000.00 (five thousand rupiahs) if paid non-cash.

#### 2. Timeliness

Punctuality is one of the spearheads for public transportation in attracting consumers. There is not much change in performance in the punctuality variable due to the increase in fuel. This may happen because the increase in fuel does not affect the punctuality of Trans Batam's operations or travel. The difference in punctuality performance before and after the fuel increase is very small, which is 0.02.

#### 3. Quality of Service

Every company will certainly compete to improve the quality of its services to get good reviews from consumers. Service is the main priority which is used as a benchmark in competitive advantages and facilities are factors that affect the services provided by the transport company. Trans Batam has an increase in service quality performance in line with the increase in Trans Batam users, this is evidenced by the increase in performance in the research results, which is 0.20. (Rifai & Fajriliani, 2020).

#### 4.Information Availability

Information will of course always be needed for potential customers. But when you have become a regular consumer, the availability of information is not a significant problem because you often get this variable. The variable availability of information can also be obtained by asking the relevant officers or looking at the posters

that have been provided, where the increase in fuel does not affect this variable. This is evidenced by the lack of improvement in the variable, which is only 0.06.

#### 5. Safety

Safety is one of the keys for customers in choosing public transportation. Public transportation with an adequate track record of Safety will tend to be chosen by customers. In this case, Trans Batam has an adequate track record in terms of safety, as evidenced by the minimal number of accidents and pickpocketing cases in Trans Batam. It was recorded that the last accident case caused by Trans Batam was in 2019. Meanwhile, the safety variable was also not affected by the increase in fuel. This is evidenced by the results of research that show a slight increase in performance in the variable, which is 0.05.

#### 6. Comfort

Although comfort is not the main key for a person in choosing to use public transportation, this variable is still important for public transportation managers to consider. It was found that there was a decrease in performance in the comfort variable based on the survey results, which was -0.05. This may happen due to the increase in Trans Batam users along with the increase in fuel which causes the atmosphere in the vehicle to be no longer the same.

#### 7. Cleanly

Basically, cleanliness is not entirely the responsibility of public transportation managers, but also the responsibility of every consumer. However, some people still care about cleanliness when riding public transportation. This has caused a decrease in the performance of hygiene variables which may also be caused by the increase in Trans Batam users so that there are more and more of these individuals. The magnitude of the decrease in the performance of the hygiene variable is -0.06.

#### 8. Facilities

Facilities are a supporting facility for public transportation managers in attracting consumers. Adequate facilities will certainly have a positive impact on consumer satisfaction, which later will also affect other variables such as comfort and service quality. The facility at Trans Batam has a performance increase of 0.17. This can be proven by the addition of free Wi-Fi facilities for consumers who are waiting for the next bus trip at the terminal.

#### 9. Route Availability

The availability of routes owned by Trans Batam can be said to be quite limited, not all points in the city of Batam can be reached by Trans Batam. Moreover, Trans Batam has reduced the route taken from 40 trips to 20 trips a day to avoid an increase in tariffs. This can lead to a decrease in performance in these variables. The route availability variable was found to have decreased performance by -0.07. This makes this variable the variable with the most significant performance decline in this study.

#### **10. The demand of Trans Batam Usage**

Buying interest is the stage of consumer interest in a product and buying interest arises after the consumer's awareness and perception of a particular product (Nurfauziah & Hamdani, 2021). This interest in buying is followed by an action in the form of purchase behavior. Consumer interest in a purchase arises automatically when the consumer is interested in or responds positively to the seller's offer. There was an increase in interest in the use of Trans Batam after the increase in fuel based on the results of this study, which was 0.18.

## **IV. CONCLUSION**

The variables above will ultimately influence consumers to choose to use Trans Batam. Although there are several variables that have decreased performance, this does not have a significant effect on the interest in using Trans Batam. This is because there are many other variables that have improved performance after the increase in fuel. These variables ultimately determine the preferences of the people of Batam in determining Trans Batam as an alternative mode of transportation. The most influential variable is tariffs, this is evidenced by the results of surveys that show that tariffs have the highest increase. Meanwhile, other supporting variables such as the quality of services and facilities also affect people's preferences to choose Trans Batam. So, in the end it was proven that there was an increase in interest of Batam residents in Trans Batam due to the increase in fuel.

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