(Research) Article

An Analysis of Semarang City Residents' Interest in Using Trans Jateng

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Abstract: This study aims to analyze the interest of residents of Semarang City in using the Trans Jateng service and to identify the factors that influence this interest. The background of this study is the low proportion of residents switching to public transportation despite the availability of the Trans Jateng service. This research adopts a quantitative approach, utilizing a survey method to collect data, which is then processed using SPSS software. The results of the study indicate that factors such as service quality (including service, comfort, and safety), fare perception, and stop access significantly influence the interest of residents in using Trans Jateng. These findings are valuable for understanding the factors that drive the adoption of public transportation in urban areas. The novelty of this study lies in its specific focus on Semarang City and the integration of resident interest variables with the relatively new Trans Jateng service in the region. The study's implications offer practical recommendations for public transport operators to improve fare policies, enhance promotional strategies, and optimize modal integration to encourage greater use of public transportation.

Keywords: Accessibility; Public Transportation; Resident Interest; Semarang City; Trans Jateng.

1. Introduction

Public transportation has become one of the solutions to address congestion, pollution, and mobility issues in urban areas. In Semarang, the Trans Jateng service has been introduced to enhance public transportation options for residents. However, various studies show that public interest in switching to public transportation is often still low. For example, research indicates that the high usage of motorcycles and private vehicles in Semarang is due to the declining quality of public transportation services. Meanwhile, studies in Central Java show that public interest in using Trans Jateng is still influenced by factors such as fare perceptions, comfort, and the availability of infrastructure. The existing problem is that although the Trans Jateng service is available, the interest of Semarang residents in using it is still not optimal. Another issue is that internal factors (such as service quality, comfort) and external factors (accessibility of bus stops, mode integration) have not been fully understood contextually in Semarang, resulting in a research gap where most studies have not integrated public interest as a key variable in Semarang, nor have they focused specifically on the characteristics of Trans Jateng in Semarang.

Previous studies have largely been conducted in other regions or used general factors without a specific geographic focus on Semarang and without directly linking the Trans Jateng service to public interest. Therefore, this research fills the gap by focusing the analysis on Semarang as a case study, concentrating on public interest as the main variable in using Trans Jateng, and empirically examining the combination of service quality, fare, accessibility, and demographic characteristics using quantitative data and SPSS analysis.

The goal of this study is to measure the level of interest of Semarang residents in using Trans Jateng, analyze the impact of service quality, fare, and bus stop accessibility on public
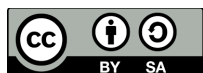
interest in using the service, and provide policy recommendations for public transportation providers in Semarang regarding improving public interest in using Trans Jateng. The novelty of this study lies in its geographic focus on Semarang, which has been relatively under-explored for Trans Jateng, the use of public interest as the primary outcome variable, empirical measurement using SPSS, and the integration of service quality, fare, accessibility, and user characteristics in one analytical model.

2. Literature Review

In the context of public transportation, usage interest can be defined as the tendency or desire of individuals to choose public transportation over private modes of transport (Putri et al. 2023). Interest is attention that contains emotional elements. Interest is also a drive or desire within an individual toward a particular object. For example, interest in lessons, sports, or hobbies. Interest is personal (individual), meaning each person has interests that may differ from others. Interest begins with feelings of pleasure and positive attitudes. Interest is a condition that occurs when someone perceives characteristics or meanings of a situation that connects with their own desires or needs.

It is seen from how well the performance of a service is perceived to match customer expectations, which can lead to feelings of pleasure or disappointment for the customer. This consequence occurs as a result of customer behavior, referred to as re-evaluation after using public transportation. Every customer using public transportation has certain expectations. After the journey, customers compare what they received with what they expected. On the other hand, if the quality does not meet or exceed customer expectations and desires, the customer can be said to be dissatisfied. If a customer is not satisfied with the product or service they received, the customer is likely to seek another mode of public transportation that offers better prices and service quality that satisfies the customer.

Service Quality

Service quality in public transportation includes dimensions such as reliability, comfort, safety, timeliness, and cleanliness. Research shows that good service quality enhances the interest and satisfaction of public transportation users (e.g., Suci 2023). Service quality plays a key role as a predictor in shaping customer interest and loyalty. A positive relationship between service quality and usage interest has been confirmed by various studies in Indonesia. The service quality of Trans Jateng has a significant impact on customer satisfaction and repeat usage interest. Nugraheni (2023) states that aspects such as bus stop accessibility and staff behavior also shape the perception of service quality.

Fare and Cost Perception

Perceptions of cost or fare significantly influence the decision to switch to public transportation. Costs considered expensive or not commensurate with the benefits will reduce public interest (Putri et al. 2023). Fare is one of the most determining factors in people's decisions to use public transportation. In microeconomics theory, fare or price is defined as the exchange value that consumers must pay to obtain a good or service. In the context of public transportation like Trans Jateng, fare functions not only as an economic transaction tool but also as a signal of value perception regarding the service received.

Cost perception is not always directly related to the nominal price but also includes non-monetary sacrifices such as time, effort, and comfort during the journey. Thus, even though Trans Jateng's fare is relatively inexpensive, people may still perceive the service as costly if the waiting time is long or the ride is uncomfortable. If users feel that the fare is in line with the service quality, then the fare is considered reasonable and will encourage usage interest. Conversely, if the fare is perceived as not commensurate with the quality received, public interest will decrease.

In public transportation, cost perception not only includes the bus ticket fare but also additional costs such as travel costs to the bus stop (feeder transportation), waiting time for the bus, and physical comfort during the journey. Tamin's (2020) research emphasizes that the ideal fare for public transportation in Indonesia must consider the public's purchasing power, service levels, and minimal operational costs (Basic Operating Cost) to remain efficient yet affordable.

Previous Research

In 2021, Ayis R conducted a study titled Analysis of the Factors Affecting Customer Interest in Using the BRT Trans Jateng Bus. The results of the study showed that service, fare, and physical facilities significantly affect public interest in using Trans Jateng. However, the travel time variable did not have a significant effect. The implication is the importance of improving service and bus stop facilities.

Another study by Suci R in 2023, titled Analysis of Passenger Interest in Using the SI Anteng Application on the BRT Trans Jateng Route Terminal Bawen–Stasiun Tawang, found that the quality of digital service and the comfort of the app affect users' interest in using Trans Jateng sustainably. The implication is that digital transformation (service apps) can improve user loyalty.

In 2023, a study titled Study of Supporting and Hindering Factors for Expanding the BRT Trans Jateng Service (Corridor 1) was conducted by Nugraheni, which found that bus stop accessibility and mode integration play a large role in increasing passenger numbers. However, weak promotion and route information became the main barriers. The implication is the need to improve the integration of intermodal transportation systems and public information.

3. Research Method

Population

According to Sugiyono (2019), the population is the area of generalization that consists of objects or subjects with certain characteristics, determined by the researcher to be studied and drawn conclusions from. The population in this study is all residents of Semarang City who have the potential to use Trans Jateng services, both those who have used it and those who have not, with an age range of 17 years and older. Based on data from the Central Statistics Agency (BPS) of Semarang City in 2024, the number of productive-age population (17–60 years) is approximately 1,020,000 people. This number serves as the basis for determining the sample size of the study.

Sample

A sample is a part of the population taken as a source of data for the research to represent the characteristics of the population (Arikunto, 2020). In this study, a Non-Probability Sampling technique is used with the Purposive Sampling method, which is the selection of a sample based on certain considerations. The criteria for respondents are as follows: Residents domiciled in Semarang City, Aged 17 years or older, and Have used Trans Jateng at least once or are generally aware of the service.

The sample for this study is determined using Slovin's formula with a margin of error (e) of 10%:

$$n = \frac{N}{1 + N(e)^2}$$

$$N = \frac{1.020.000}{1 + 1.020.000(0,1)^2} = 99,9$$

Thus, the sample size obtained is 99.9 respondents, rounded to 100 respondents. The sampling technique uses proportional random sampling, meaning that the sample is selected proportionally based on work units, so that each group has an equal opportunity to be represented.

Types and Sources of Data

The data used in this study consists of primary and secondary data. Primary data is obtained through questionnaires distributed to respondents at several Trans Jateng bus stops, such as Halte Sukun Banyumanik, Halte UNNES, Halte Simpang Lima, and Halte Mangkang. Secondary data is obtained from documents and official reports, such as data from the Central Statistics Agency (BPS), the Department of Transportation of Central Java, and reports from PT Trans Jateng for the year 2024.

Data collection

Data collection was carried out using the following methods: closed questionnaires using a Likert scale of 1–5 (ranging from strongly disagree to strongly agree), brief interviews with several users to complement data on service quality perceptions and comfort, and field observations at several bus stops to assess the physical conditions and occupancy levels of the buses.

4. Results and Discussion

This study involved 100 respondents from Semarang City who reside near the Trans Jateng service corridor on the Mangkang Terminal – Penggaron Terminal route. The majority of respondents were aged between 21–35 years (45%), had a bachelor's degree (42%), and had an average monthly income of IDR 3,000,000 – IDR 5,000,000 (47%). Around 62% of respondents had used Trans Jateng at least once in the past three months.

Table 1. Research Variables.

Variable	N	Mean	Std. Dev	Description
Service Quality (X_1)	100	3.84	0.66	Good
Fare Perception (X_2)	100	3.52	0.72	Fairly Good
Bus Stop Accessibility (X_3)	100	3.61	0.69	Fairly Good
Usage Interest (Y)	100	3.93	0.63	High

The overall average value above 3.5 indicates that respondents' perceptions of Trans Jateng are generally positive, although there is still room for improvement, particularly in the fare and bus stop accessibility variables.

Validity and Reliability Test

Table 2. Reliability Test Results

Variable	Cronbach's Alpha	Status
Service Quality (X_1)	0.842	Reliable
Fare Perception (X_2)	0.785	Reliable
Bus Stop Accessibility (X_3)	0.801	Reliable
Usage Interest (Y)	0.871	Reliable

The results from Table 2 show that all variables have an α value greater than 0.70, indicating that the instrument is reliable.

Multiple Linear Regression Test

Regression Equation

$Y = 0,512+0,361X1+0,229X2+0,182X3+eY$
$= 0,512 + 0,361X\_1 + 0,229X\_2 + 0,182X\_3 + eY$
$= 0,512+0,361X1+0,229X2+0,182X3+e$

Table 3. Multiple Linear Regression Test Results

Independent Variable	Coefficient (β)	t-value	Sig. (p)	Description
(Constant)	0.512	-	-	-
Service Quality (X_1)	0.361	5.874	0.000	Significant
Fare Perception (X_2)	0.229	3.164	0.002	Significant
Bus Stop Accessibility (X_3)	0.182	2.645	0.009	Significant

R = 0.680
R^2 = 0.462
F-value = 55.27 (p = 0.000)
R^2 = 0.46 (46%): This means the independent variables together explain 46% of the variability in the public's interest in using Trans Jateng.

Interpretation: Service quality has the greatest influence, followed by fare and bus stop accessibility.

Discussion

Service Quality (X_1) has the greatest influence ($\beta = 0.361$, $p < 0.001$) on the public's interest in using Trans Jateng. This means that the better the service (timeliness, comfort, friendliness of bus staff), the higher the public's desire to use Trans Jateng. This result aligns with the research of Suci (2023) and Ayis (2021), which emphasize that excellent service is a key factor in the decision to use public transportation.

Fare Perception (X_2) has a significant effect ($\beta = 0.229$, $p = 0.002$). This indicates that fares that are considered commensurate with the quality and comfort of the service will increase public interest. This is consistent with the findings of Putri (2023), which state that fair prices and simple payment systems enhance the interest of Trans Jateng users.

Bus Stop Accessibility (X_3) also has a significant effect ($\beta = 0.182$, $p = 0.009$). The easier it is to reach bus stops (close distance, safe, and comfortable), the more likely the public will use the service. This is in line with the findings of Nugraheni (2023), which indicate that bus stop accessibility is an important determinant of interest in using Trans Jateng.

The R^2 value of 0.462 means that 46.2% of the variation in the interest to use Trans Jateng can be explained by the three independent variables, while the remaining 53.8% is explained by other factors such as the habit of using private vehicles, promotions, or the image of the Trans Jateng brand.

Service quality is the most influential factor, indicating that operational reliability and bus comfort are key considerations for urban communities in choosing public transportation modes. Overall, the research findings suggest that Trans Jateng already has a positive perception among users, but improvements are still needed in two main areas: bus stop accessibility and route information, so that potential users can easily access them, and fare adjustments and promotions, to make the service more competitive compared to private vehicles.

5. Conclusions

The interest of Semarang residents in using Trans Jateng is relatively high (mean = 3.93). Three main variables service quality, fare perception, and bus stop accessibility have a positive and significant impact on public interest. Service quality is the most dominant factor ($\beta = 0.361$), followed by fare ($\beta = 0.229$) and bus stop accessibility ($\beta = 0.182$). The regression model explains 46.2% of the variation in public interest, while the remaining variation is influenced by other factors such as the habit of using private vehicles, promotions, and the perception of bus stop comfort.

The recommendations include improving service quality by enhancing schedule timeliness, fleet cleanliness, and bus stop comfort, adjusting fare promotions for students and workers to make it more competitive compared to private vehicles, developing transportation mode integration such as shuttle feeders and online motorcycles to improve bus stop accessibility, and utilizing digital media and apps like SI Anteng for promotion, route information, and real-time bus tracking

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