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## **ANALYSIS OF THE WILLINGNESS TO PAY OF ADI SOEMARMO SURAKARTA INTERNATIONAL AIRPORT TRAIN USERS**

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This study examines the magnitude of the probability value of passenger willingness to pay at the Adi Soemarmo International Airport in Surakarta and determines the factors that affect passenger willingness to pay based on the contingent valuation method approach. The results of this study obtained an average value of Willingness To Pay of IDR 13,765, with variables that affect the Willingness to pay for airport train tickets are age, facilities, services and income. These results are based on users' opinions of the Adi Soemarmo International Airport Train by looking at existing facilities and services and the economic situation of each individual. PT. Angkasa Pura I.

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## **1. INTRODUCTION**

Transportation is the movement of passengers or goods from one place to another. Transportation plays an important role in smoothly running a country's economic activities in Indonesia. Indonesia is an archipelagic country; many of its regions are separated and require connecting transportation so that economic activities in the area continue to run smoothly. Selection of the best means of transportation is made to encourage human effort and facilitate economic activity. The choice of means of transportation has grown rapidly due to technological developments that make it easier for humans to travel. Various security guarantees, driver comfort, and orderly regulations in traffic must be given to users of transportation means to support the development of the Indonesian economy and increase knowledge and administration of the state (Law Number 14 of 1992). Compared with other transportation, transportation is based on various aspects; the most important is airplanes. An airplane is air transportation that has a terminal called an airport.

At this time, the airport plays the most important role in facilitating interactions and activities in various regions. The airport is one of the entry points that functions as a liaison between one region to another, both within the national scope or from one province to another as well as in the international sphere or from one country to a different country. The increasing mobility of people individually and in groups is influenced by the increasing means of transportation. This means that it is more likely that they will get a better source of income than before Siregar in Widyaningtyas et al. (2010).

Table 1. Number of Airplane Passengers at Adi Soemarmo International Airport Surakarta in 2013-2019 (In Person Unit)

Year	Domestic		International	
	Come	Leave	Come	Leave
2013	702,566	664,624	65,441	58,575
2014	684,503	656,001	29,295	51,093
2015	708,659	713,259	51,067	52,068
2016	1,057,063	1,051,442	40,231	39,632
2017	1,328,368	1,329,124	62,891	62,378
2018	1,320,095	1,303,570	57,979	60,032
2019	781,260	783,833	77,214	78,186
Total	6,582,514	6,501,853	384,118	401,964

Source: PT. Angkasapura I, 2020

Based on Table 1, the public's enthusiasm for airplane transportation is very high. This can be seen from the number of airplane passengers from 2013-2019, reaching more than 500,000 people. People tend to choose airplanes because the travel time of airplanes is relatively faster than other modes of transportation. In table 1, the highest number of domestic airplane passengers departing and arriving via Adi Soemarmo Surakarta International Airport occurred in 2017, namely 1,328,368 people for arrivals and 1,329,124 people for departures. Whereas for international flights, the highest occurred in 2019, namely 77,214 people for arrivals and 78,186 for departures via Adi Soemarmo Surakarta International Airport. In 2014 the lowest number of arriving and departing domestic airplane passengers reached only 684,503 people and 656,001 people.

Meanwhile, the lowest number of international aircraft occurred in 2014 for arrivals of 29,295 people and 39,632 for departures via Adi Soemarmo Surakarta International Airport. The difference in the number of arriving and departing passengers is quite large and can be caused by passengers choosing other means of transportation, such as trains, buses, or private cars, to be able to return to their place of origin—632 people for departure via Adi Soemarmo Surakarta International Airport. The difference in the number of arriving and departing passengers that is quite large can be caused by passengers choosing other means of transportation, such as trains, buses, or private cars, to be able to return to their place of origin. Six hundred thirty-two people for departure via Adi Soemarmo Surakarta International Airport. The difference in the number of arriving and departing passengers that is quite large can be caused by passengers choosing other means of transportation, such as trains, buses, or private cars, to be able to return to their place of origin.

In choosing a mode of transportation, price plays an important role, because if the price is relatively high, people will think twice about using this transportation, and vice versa, if the price is relatively cheap and affordable, people will be more enthusiastic about using this mode of transportation. With the development of the era and increasing globalization, more and more transportation companies offer various services to support the increasing mobility of the community. The services offered are also varied and transportation companies are trying to attract the attention of the public to use these services. To achieve airport access, fast and affordable transportation is needed for all circles of society.

Many efforts have been made by the Government of Surakarta to realize this. Seeing that the Surakarta City Government has not provided special transportation facilities to Adi Soemarmo International Airport Surakarta and seeing a high opportunity for the quantity and needs of passengers who have an interest in going to the airport, according to Presidential Regulation number 56 of 2018 concerning the Second Amendment to Presidential Regulation number 3 of 2018 2016 concerning the Acceleration of the Implementation of the National Strategic Project for Special Transport, an airport train accessing the Adi Soemarmo Surakarta International Airport was built.

This airport train has a special route to Adi Soemarmo Surakarta International Airport. In addition, the benefits gained by passengers with this special transportation are more affordable and cheaper accommodation costs for passengers. This can make it easier for people who do not have private vehicle facilities. When there is no airport train, these people will tend to choose to use taxis, DAMRI buses and online motorcycle taxis to go to the airport.

Because it was formed as a result of government regulations, trains are basically a means of transportation that has monopoly properties, but this is not in accordance with real conditions which are monopolistic due to competition between other means of transportation such as buses, taxis, online motorcycle taxis and private cars. In general, what influences consumers in choosing the means of transportation to be used is to consider the length of time required for the trip, the distance to be traveled and the fare. Here are some advantages when passengers choose rail transportation (Kamaluddin, 2003): 1) Faster and more efficient in saving travel time. This happens because it is free from traffic jams. On long trips it will be more economical and efficient to use rail transportation because the shorter travel time and affordable costs are the advantages of train compared to other transportation; and 2) The train is suitable and safe transportation to use in all weather. Bad weather and storms will not prevent trains from operating.

Determining train fares requires intervention from parties who have good relations in the operational and non-operational systems, namely train passengers, managers, and the government. When the process of determining the price of train tickets, the government should act as a decision maker. The government, which acts as an intermediary, will later consider all aspects of user needs as consumers and train managers. The price of a train ticket that is sold should be a meeting point between ability and Willingness to pay for a train ticket by looking at the minimum price used by the train operator in the process of operating the train.

The purpose of this study is to see how much the value of the Willingness to pay or the Willingness to pay of consumers using the Adi Soemarmo Surakarta International airport train service. This research is also used to determine what factors will affect Willingness to pay.

## 2. RESEARCH METHODS

Primary data is data that will be used by researchers in this research process. In general, primary data is obtained through the process of collecting data by means of field surveys (Sugiyono, 2017). Researchers obtained primary data by conducting direct interviews with people who were in the research location, both users of the Adi Soemarmo Surakarta International Airport train service.

This primary data was obtained by distributing questionnaires to airport train users. The following are the primary data that researchers need, including: total income, frequency of using the airport train, willingness to pay (WTP), and reasons for choosing the mode of airport train transportation. This secondary data can be obtained from PT. Angkasa Pura I Adi Soemarmo Surakarta International Airport, namely: Data on the number of passengers on the Adi Soemarmo Surakarta International aircraft, the background of the existence of the Adi Soemarmo International airport train. Soemarmo Surakarta, The basis for determining the fare for the Adi Soemarmo Surakarta International airport train.

The population is all research objects to be investigated. The population to be used is the average number of airplane passengers passing through Adi Soemarmo Surakarta International Airport. The selected population is everyone in the waiting room at Adi Soemarmo Surakarta International Airport and Solo Balapan Station, most of whom are airplane passengers. The sample is a small part of the population that can be said to be representative of the research population. The number of samples obtained by the Slovin formula (Julien & Mahalli, 2014), a total of 200 people.

Data collection techniques that researchers do by distributing questionnaires and conducting direct interviews with respondents who fit the criteria. The researcher will help the respondent by conducting the interview process if the respondent experiences difficulties in the process of filling out the questionnaire. To reduce and avoid filling out inappropriate questionnaires, conducting interviews is the most effective way.

The occurrence of filling errors was also due to the lack of understanding of the respondents, interviews were conducted not only with the respondents but also the airport train management to support better information.

The dependent variable or commonly called the dependent variable is a variable that gets influence because of the independent variable. Which is the dependent variable in this study is Willingness to pay (WTP).

The independent variable or independent variable, namely the variable that gives influence that causes changes to the dependent variable. Which are the independent variables in this study are:

X1 : Age

X2 : Gender

X3 : Distance of Residence to Station

X4 : Income

X5 : Facility

X6 : Service

### 3. RESULTS AND DISCUSSION

Solo Balapan Station is the largest train station in Surakarta City, Central Java Province. Almost all classes of trains are served at this station. Apart from Balapan Station, there are other stations such as Solo Jebres Station and Purwosari Station which serve different train tracks. Solo Jebres Station serves train trips that have routes originating from the east to the north (Semarang) and vice versa, and Purwosari Station serves economy class trains that have routes passing through or heading south (Yogyakarta, Bandung, Purwokerto, and Jakarta) and local/commuter (Yogyakarta and Kutoarjo).

Adi Soemarmo International Airport Train or BIAS Airport Train or often called BIAS Train is an airport train transportation service managed by PT Kereta Api Indonesia (Persero) Yogyakarta Operations Region VI to become a connecting facility between Klaten Station and Solo Balapan Station with Adi Airport Station Soemarmo.

Researchers conducted research from January 27 2020 to February 27 2020. The population in this study were people who were at Adi Soemarmo Surakarta International Airport and Solo Balapan Station who used train services or other transportation. The distribution of this questionnaire was 200 respondents, with details of 130 questionnaires taken at the Airport Station, 10 questionnaires at Balapan Station and 60 questionnaires via online. Respondent criteria in this study consisted of:

a. Respondent Age

Most respondents were aged 17 to 23 years as many as 84 people or 42%, followed by ages 24 to 30 years as many as 59 people or 29%. At the age of more than 38 years there were 37 people or 19% and at the age of 31 to 37 years there were the lowest number, namely 20 people or 10%.

b. Gender

Respondent data according to gender were mostly women, 121 people or 61 percent, while respondents with male sex were 79 people or 39 percent.

c. Work

The work of the respondents with the most number was students or university students as many as 73 people or 36.5 percent. Followed by respondents with private employment as many as 57 people or 28.5 percent. Respondents who had self-employed jobs were 40 people or 20% and civil servants were 16 people or 8 percent.

d. Income

Respondents who have an income of around 500,000 to 1,000,000 are the most numerous, namely 89 people or 44.5 percent. Then followed by 60 people or 30 percent of respondents who have an income of more than 2,000,000. Respondents who have an income of around 1,600,000 – 2,000,000 namely as many as 2 people or 1% and the lowest number are respondents with an income of 1,100,000 to 1,500,000 as many as 19 people or 9.5 percent.

- e. Distance between the house and the station  
The distance between the respondent's house and the nearest station (which provides airport train services) based on Figure 7, is at most 1 km – 10 km with 84 people and 42 percent, followed by a distance of 11 km -20 km with 82 people or 41 percent. The distance as far as 21 km – 30 km is the least number, namely 34 people or 17 percent.
- f. Transportation to the Airport  
The transportation used by respondents to get to the airport shows that 131 people (65 percent) use private vehicles. then followed by bus and airport train modes of transportation which have the same percentage of 10 percent or as many as 20 people.
- g. Respondents' Willingness to Pay Willingness To Pay  
The results showed that 91 percent (182 respondents) were willing to pay for airport train tickets, while 9 percent (18 respondents) were not. Further investigation revealed that the primary reasons for unwillingness included dissatisfaction with current services and perceived high ticket prices.
- h. Total Willingness to Pay Respondents  
The amount of WTP that respondents paid for airport train ticket prices showed that the largest nominal was IDR 15,000.00 as many as 89 respondents or 44 percent. Then as many as 39 respondents were willing to pay IDR 10,000.00 and 24 respondents were willing to pay IDR 7,000.00. Respondents who are willing to pay Rp. 20,000.00 for tickets are 15 respondents and 12 respondents who are willing to pay Rp. 30,000.00. Whereas only 2 respondents and 1 respondent were willing to pay IDR 50,000.00 and IDR 100,000.00. As many as 18 respondents or 9 percent of the specified sample were not willing to pay for airport train tickets. The analysis revealed an average Willingness to Pay (WTP) of IDR 13,765, indicating a relatively low allocation of income towards transportation costs. This suggests that even among higher-income respondents, the perceived value of the service does not justify higher expenditures, which could influence pricing strategies for PT. KAI Indonesia and PT. Angkasa Pura I. So it can be concluded that the Willingness to pay for a train ticket to Adi Soemarmo Surakarta International Airport is IDR 13,765.00. Currently the applicable fare is IDR 15,000 for the destination of Solo Balapan Station to the Airport Station per passenger. The results of this study stated that the amount of Willingness to pay for an airport train ticket was Rp. 13,765, which means that it is below the applicable rate. The results of interviews conducted by train users stated that the WTP tariff was lower than the applicable rate, not because of poor service, but based on the income allocated for the user's transportation costs.

### Multiple Linear Regression Test

A model must be tested multiple linear regression to determine whether there is influence between research variables (Gozali, 2018). The results of testing the regression model obtained R2 and the regression equation. The amount of R2 obtained is 0.154. These results explain that the magnitude of the influence of the independent variable on the dependent variable is 15.4%. While the independent variables in this regression model can explain 15.4%. While other variables that are not in this research model explain 84.6%. The results of the regression equation obtained with the Unstandardized Coefficient's values are as follows:

$$Y=3.385 - 0.003 \text{ Age} + 0.013 \text{ Gender} + 0.002 \text{ Distance} + 0.021 \text{ Facility} - 0.014 \text{ Service} + 0.108 \text{ Income}$$

The results of the regression equation can be concluded that the constant coefficient value is 3.385 which means that if the variables are age, gender, distance, facilities, services, and income are zero, then the Wtp (willingness to pay for airport train tickets) is 3.385. The age variable has a negative significance value of 0.003, this explains that when the age variable increases 1%, the WTP value is expected to decrease by 0.003 if it is assumed that the values of other variables are constant. The age variable has a negative value because the older the respondent's age, the lower his income so that the WTP value gets smaller too. The variable Gender or gender has a positive significance



value of 0.013. This explains that when the variable Gender or gender increases by 1%, the WTP value is estimated to increase by 0.013 if it is assumed that the values of other variables are constant. The distance variable has a positive significance value of 0.002. This explains that when the distance variable increases by 1%, the WTP value is estimated to increase by 0.002 if it is assumed that the values of other variables are constant. The facility variable has a positive significance value of 0.021. This explains that when the facility variable increases by 1%, the WTP value is estimated to increase by 0.021 if it is assumed that the values of other variables are constant. The service variable has a positive significance value of 0.014. This explains that when the facility variable increases by 1%, the WTP value is estimated to increase by 0.014 if it is assumed that the values of other variables are constant. The income variable has a positive significance value of 0.108. This explains that when the income variable increases by 1%, the WTP value is estimated to increase by 0.108 if it is assumed that the values of other variables are constant.

#### 4. CONCLUSION

The average result of the data processing shows that the willingness to pay of the respondents is IDR 13,765. This relatively low amount is due to the allocation of the respondents' income for transportation costs being relatively low. Variables that significantly influence the willingness to pay of Adi Soemarmo Surakarta International Airport train service users include age, facilities, service quality, and income. For instance, younger users and those with higher incomes are more willing to pay, while improved facilities and service quality also positively affect their willingness.

Based on the findings, it is recommended that PT. KAI Indonesia and PT. Angkasa Pura I re-evaluate the current airport train fare structure. Despite high-income levels among many respondents, their willingness to pay remains low. This indicates a need for improved service offerings or adjusted pricing to better match customer expectations and perceived value.

Future research should focus on determining airport train tariffs based on a comprehensive analysis of production costs. This approach will ensure that prices are both economically viable and acceptable to consumers. Additionally, researchers should consider factors such as market demand, competitive pricing, and customer satisfaction in their analysis.

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