International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Analysis of Selection of Taxi Transportation Modes at Mutiara Sis Aljufri Airport in Palu City

Suhartini

Civil Engineering Masters Study Program, Tadulako University, Palu

Abstract: ***Overtime, with the emergence of several online-based transportation service providers, making customers (service users) in Palu City choose the mode of transportation based on several factors or facilities provided by the online transportation service provider, especially in choosing the mode to and from Mutiara Sis Aljufri Airport.. The purpose of this study was to determine user characteristics, travel characteristics, and determine the behavior model for selecting online-based transportation modes at Mutiara Sis Aljufri Airport. This research is a quantitative descriptive study, with analytical methods using descriptive techniques and multinomial logistic regression. The results showed that regarding the characteristics of online-based transportation service users, there were as many as 58 men and 20 women using online transportation modes, most of them were over the age of 30 years with an education level of SMA to S2,they worked as private employees and civil servants, with an income level of Rp.3,100,000-Rp. 4,000,000. Most of the respondents admitted that they prefer online taxis, with short and long distances. The online- based model of transportation mode selection behavior at Mutiara Sis Aljufri Airport shows that there are many users of this mode of transportation who are people who live far from the airport, and most of them are people who want to leave the airport.***

Keywords: Selection, Mode, Transportation

1. Background

Transportation is a major component of living systems, government systems, and social systems. In urban areas, the trend that occurs is a high population increase due to birth rates and urbanization. Public transportation is all means of transportation when passengers do not travel using their own vehicles. Urban public transportation generally includes buses and taxis. The increasing demand for people's mobility, of course, requires transportation facilities that can provide movement from one place to another quickly, even though the distance is long.

Rapid progress in the field of information technology has had a major impact on various aspects, one of which is transportation. GOCAR and GRAB, namely online application-based transportation innovations, are a combination of transportation services and human technology. The presence of online application-based transportation services that use the internet is very influential for the community in all activities quickly and efficiently. One of the businesses that is currently developing is the transportation service business, namely Grab, Gojek, and Maxim.

The choice of online-based land transportation modes, which can be ordered at any time via a smartphone, is the most popular choice for the public, especially smartphone users. In their development, online-based modes of transportation have become a place for competition for companies providing online-based transportation services, which were also present and used by urban communities in Palu City at the end of 2017 with the entry of Grab for the first time in Palu City. Over time, with the emergence of several online-based transportation service providers, customers (service users) in Palu City choose a mode of transportation based on several factors or the facilities provided by these online transportation service providers, especially the choice of modes to and from Mutiara Sis Aljufri Airport.

2. Research Method

In this study, the authors conducted an analysis of the trip attraction model at Mutiara Sis Aljufri Airport according to the activity flowchart below.

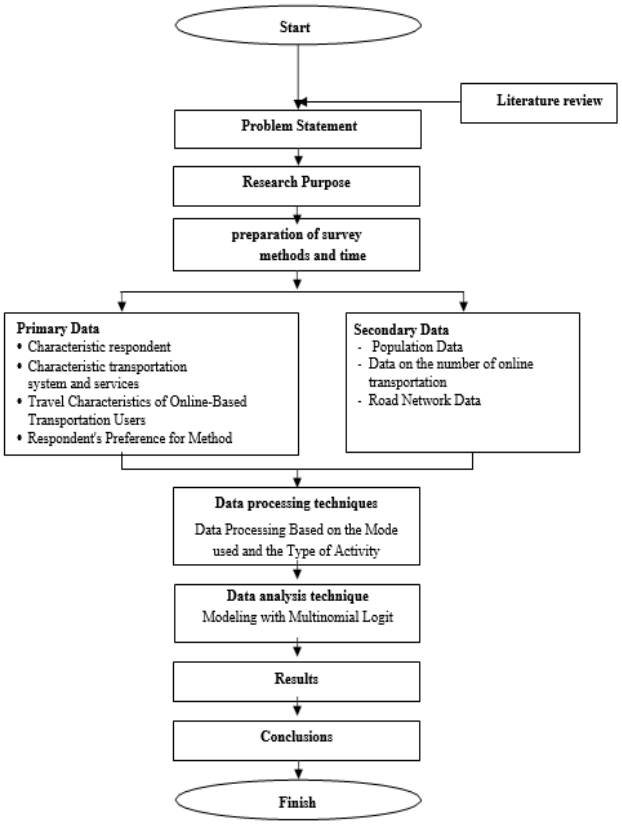

Figure 2.1: Activity flowchart

2.1 Research Object

The object of this research is to identify online-based transportation users at Mutiara Sis Aljufri Airport. In this case, what is analyzed are the characteristics of users and

characteristics of online-based transportation trips, as well as payment preferences and mode selection at Mutiara Sis Aljufri Airport.

Figure 2.2: Research Location

2.2 Population and Sample

2.2.1 Population

In this study, the population was all passengers arriving and departing at Mutiara Sis Aljufri Airport, Palu, based on arrival and departure data for the last five years at the airport, totaling 1,329,761 people (source: BPS, 2022).

2.2.2 Sample

In this study, the sampling technique used the Slovin formula in Sugiyono (2016), which is as follows:

$$n = \frac{N}{1 + Ne^2}$$

Notes:
n = Sample size
N = Population size
e = Critical Value (Accuracy Limit) (percent allowance for inaccuracy due to sampling error)

With a 90% degree of confidence, the critical value in this study is 10%. So that researchers can determine the minimum sample limit that can meet the requirements for a margin of error of 10% or 0.10 by entering the margin of error into the Slovin formula or formula. So to find out the research sample, make the following calculations:

$$n = \frac{1.329.761}{1 + 1.329.761(10\%)}$$

$$= \frac{1.329.761}{1 + 1.329.761(0.01)}$$

$$= \frac{1.329.761}{1 + 13297.61}$$

$$= \frac{1.329.761}{13298.61}$$

$$= 99.99$$

The results of calculations using the Slovin formula above show that n = 99.99 is rounded up to 100 people, who are visitors to Mutiara Sis Aljufri Airport, Palu. Meanwhile, the technique used to determine the sample in this research is purposive sampling to 100 people, who are visitors to Mutiara Sis Aljufri Airport, Palu. Meanwhile, the technique used to determine the sample in this research is purposive sampling. Purposive sampling is a sampling technique with certain considerations (Sugiyono, 2016). The sample in this study includes users of both conventional and online-based transportation services. This was done to compare the reasons for choosing online-based transportation services with other conventional public transportation modes.

2.3 Data processing techniques

The data processing method describes the processing procedure in accordance with the approach taken. Because this research uses quantitative methods, the data processing method is carried out in a way that is used to answer research problems related to data in the form of numbers and statistical programs.

The data analysis and modeling methods used in relation to the objectives of this study are described as follows:

1) Analysis of user characteristics and service user journey

An analysis of service user characteristics starting from demographic characteristics (age, occupation, income, and education) and service user travel characteristics (origin, destination, purpose, and cost) will be carried out using a descriptive statistical approach

2) Mode selection modeling

For modeling modes of transportation, researchers use a multinomial logistic regression approach, which is a logistic regression that is used when the dependent variable has a scale that is polychotomous or multinomial. The method used in this study is logistic regression with a nominal scale response variable with more than two categories. Referring to Hosmer's and Lemeshow's trichotomous logistic regression, in Field (2005), for the regression model with a four-category nominal scale dependent variable, the Y outcome variable category is coded 1, 2, 3, and 3. The Y variable is parameterized into three logit functions. The logistic model is a logarithmic comparison of the probability of an event occurring with the probability of an event not occurring, and in this analysis process, the researcher uses the SPSS program.

3. Research Result

3.1 Descriptive analysis results

The questionnaires distributed in this study were 100 questionnaires, according to the number of respondents involved in this study who were customers of modes of transportation both going to and returning from Sis Aljufri Airport, Palu City, from the data obtained currently using online modes of transportation at the airport. Sis Aljufri is very high; in fact, most of the samples in this study admit to using online transportation services both to and from the airport. For more details regarding this, see the following table:

Table 3.1: Number of users of transportation services at Sis Aljufri Airport

Types of online transportation modes	Frequency	Percent
Conventional motorcycle taxi	0	0
Conventional Taxi	22	22.0
Online Taxi	78	78.0
Online motorcycle taxi	0	0.0
Total	100	100.0

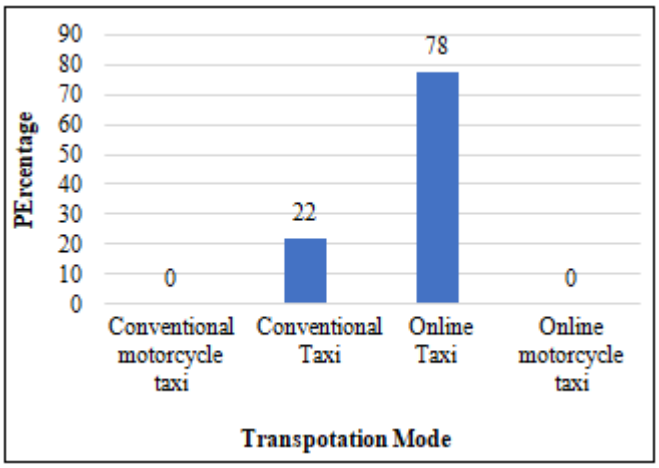

Figure 3.1: Number of users of transportation modes at Sis Aljufri Airport

The data above shows that the majority of the respondents studied chose to use online modes of transportation in the form of online taxis (78%), and the rest chose conventional taxis. As for motorcycle taxis, which are a form of motorcycle transportation service, none of the respondents chose this mode of transportation either online or conventionally. This shows that four-wheeled modes of transportation are very important in supporting people's mobility to Mutiara Sis Aljufri Airport in Palu. The correlation between the selection of these two modes of transportation services and the characteristics of the respondents or users of these transportation services, the characteristics of the journey, and the transportation system, both qualitatively and quantitatively, can be seen in the following descriptions:

3.1.1 Based on the characteristics of the respondents

1) Characteristics of users based on gender

To find out more details about the characteristics of users of modes of transportation at Sis Aljufri Airport based on gender in this study, see the table below:

Table 3.2: Characteristics of users of transportation modes based on gender

Gender	Frequency	Percent
Man	74	74.0
Woman	26	26.0
Total	100	100.0

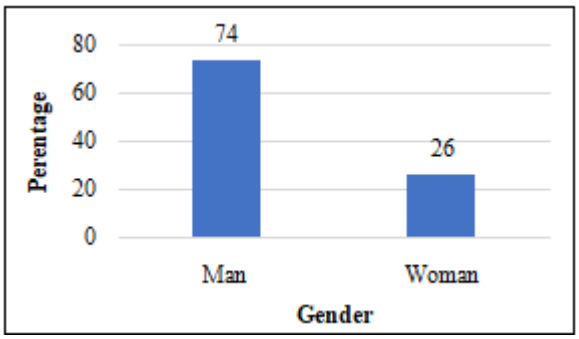

Figure 3.2: Characteristics of users of transportation modes based on gender

Then, to find out the users of the types of modes of transportation at Sis Aljufri Airport, it can be seen from the results of the analysis through cross-tabulations between genders on the selection of types of modes of transportation described as follows:

Table 3.3: Cross tabulation between the gender characteristics of users of transportation modes and the choice of transportation modes

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Gender	Man	16	58
	Woman	6	20
Total	Count	22	78
	% within Gender	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

2) Characteristics of users based on Age

To find out more details about the characteristics of users of transportation services at Sis Aljufri Airport based on the age group in this study, see the table below:

Table 3.4: Characteristics of users of transportation modes by age group

Age (Year)	Frequency	Percent
17-20	11	11.0
21-25	9	9.0
26-30	14	14.0
>30	66	66.0
Total	**100**	**100.0**

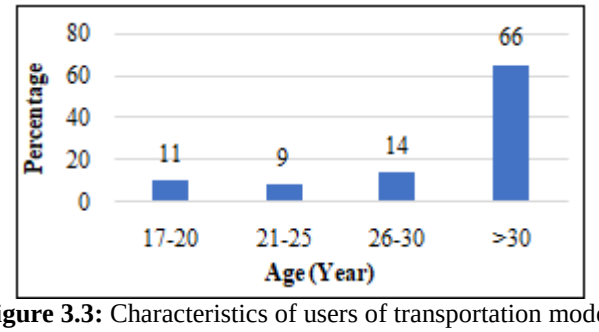

Figure 3.3: Characteristics of users of transportation modes by age group

In addition, to find out the use of modes of transportation by each respondent based on their age group, it can be seen from the results of the analysis through cross-tabulations between age and the choice of mode of transportation

described as follows:

Table 3.5: Cross tabulation between the age characteristics of users of transportation modes and the choice of transportation modes

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Age	17-20 years	4	7
	21-25 years	2	7
	26-30 years	4	10
	>30 years	12	54
Total	Count	22	78
	% within Age	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

3) Characteristics of users based on education level

Regarding the characteristics of users of transportation services at Sis Aljufri Airport based on educational level, they can be seen in the table below:

Table 3.6: Characteristics of users of transportation modes based on education level

Educational level	Frequency	Percent
High School	17	17.0
Diploma	2	2.0
Undergraduate	62	62.0
Graduate	19	19.0
Total	**100**	**100.0**

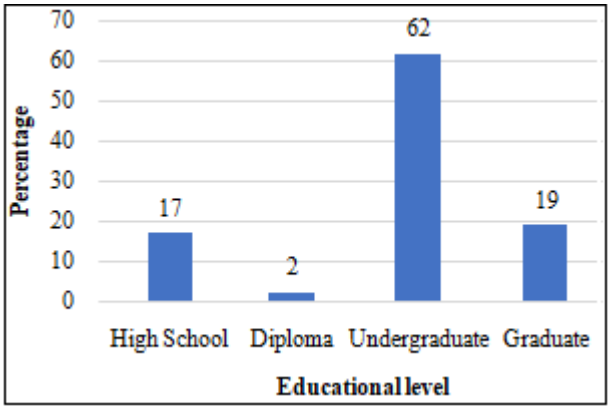

Figure 3.4: Characteristics of users of transportation modes based on education level

Then, to find out the use of modes of transportation by each respondent based on their level of education, it can be seen from the results of the analysis through cross-tabulations between the level of education and the choice of modes of transportation described as follows:

Table 3.7: Cross tabulation between the education level characteristics of users of transportation mode services on the choice of transportation mode

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Educational Level	High School	7	10
	Diploma	0	2
	Undergraduate	12	50
	Graduate	3	16
Total	Count	22	78
	% within Educational Level	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

4) Characteristics of users based on the type of profession

Regarding the characteristics of users of transportation services at Sis Aljufri Airport based on the type of profession, it can be seen in the table below:

Table 3.8: Characteristics of users of transportation modes by type of work

Profession	Frequency	Percent
Student	10	10.0
Entrepreneur	25	25.0
Private sector employee	33	33.0
Government employees	32	32.0
Total	100	100.0

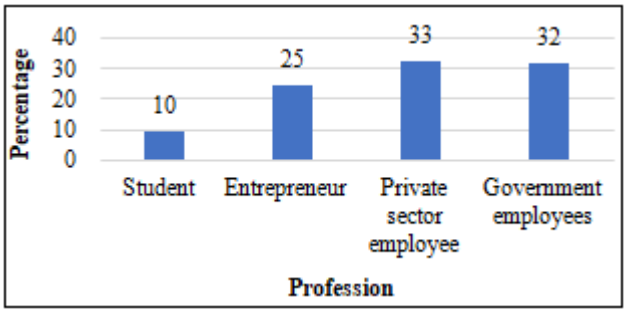

Figure 3.5: Characteristics of users of transportation modes by type of work

Furthermore, to find out the use of modes of transportation by each respondent based on the type of work, it can be seen from the results of the analysis through cross-tabulations between types of work and the selection of modes of transportation described as follows:

Table 3.9: Cross tabulation between the characteristics of the types of work of users of transportation modes and the selection of modes of transportation

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Profession	Student	4	6
	Entrepreneur	7	18
	Private Sector Employee	5	28
	Government Employee	6	26
Total	Count	22	78
	% within Profession	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

5) Characteristics of users based on income

With respect to the characteristics of users of transportation services at Sis Aljufri Airport based on their income, it can be seen in the table below:

Table 3.10: Characteristics of service users based on income

Income	Frequency	Percent
<Rp.1.500.000	12	12.0
Rp.1.500.000-Rp.2.500.000	9	9.0
Rp.2.600.000-Rp.5.000.000	16	16.0
Rp.3.100.000-Rp.4.000.000	40	40.0
>Rp.4.000.000	23	23.0
Total	100	100.0

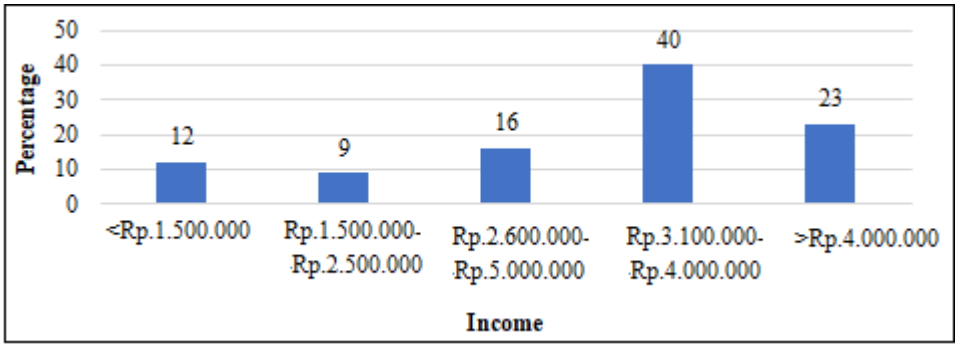

Figure 3.6: Characteristics of users of transportation modes based on income

Then further, related to the use of modes of transportation by each respondent based on their income level, can be seen from the results of the analysis through cross-tabulation between income and the choice of online transportation modes described as follows:

Table 3.11: Cross tabulation between the income characteristics of users of transportation modes and the choice of transportation modes

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Income	<Rp.1.500.000	5	7
	Rp.1.500.000-Rp.2.500.000	2	7
	Rp.2.600.000-Rp.5.000.000	4	12
	Rp.3.100.000-Rp.4.000.000	10	30
	>Rp.4.000.000	1	22
Total	Count	22	78
	% within Income	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

3.1.2 Based on the characteristics of the trip

1) Distance

To find out more details about the characteristics of the trip seen from the aspect of the distance traveled by users of transportation modes at Sis Aljufri Airport, see the table below:

Table 3.12: Travel characteristics of users of transportation modes based on distance traveled

Distance	Frequency	Percent
2-5km	41	41.0
5-10km	55	55.0
10-15km	4	4.0
Total	**100**	**100.0**

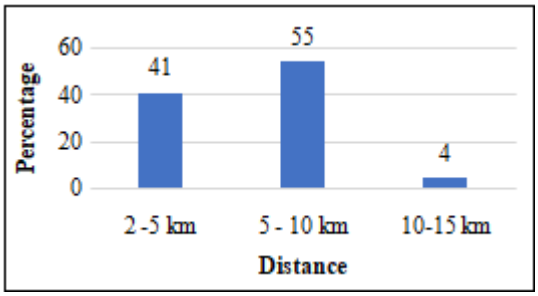

Figure 3.7: Travel characteristics of users of transportation modes based on distance traveled

Then, to find out the users of the types of modes of transportation at Sis Aljufri Airport, it can be seen from the results of the analysis through cross-tabulations between the distance traveled and the selection of types of modes of transportation described as follows:

Table 3.13: Cross tabulation between the distance traveled by users of transportation modes and the choice of transportation modes

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Distance	2-5 km	13	28
	5- 10 km	8	47
	10- 15 km	1	3
Total	Count	22	78
	% within Distance	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

2) Type of trip

To find out more details about the characteristics of the trip seen from the aspect of the type of trip for users of transportation services at Sis Aljufri Airport, it can be seen in the table below:

Table 3.14: Travel characteristics of users of transportation modes based on the type of trip

Type of trip	Frequency	Percent
Headed to the airport	19	19.0
Leaving the airport	81	81.0
Total	**100**	**100**

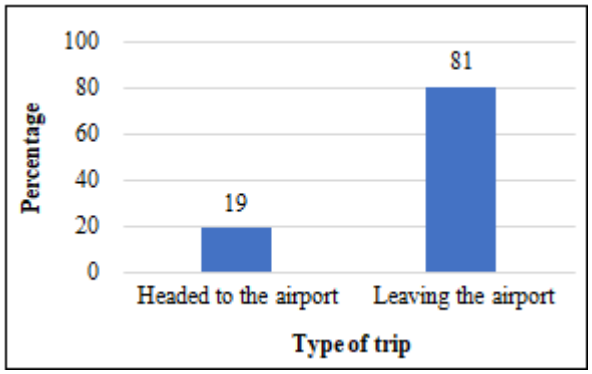

Figure 3.8: Travel characteristics of users of transportation modes based on the type of trip

Then, to find out the users of the types of modes of transportation at Sis Aljufri Airport, it can be seen from the results of the analysis through cross-tabulations between types of trips that the selection of types of modes of transportation is described as follows:

Table 3.15: Cross tabulation between types of trips by users of transportation modes on the choice of transportation modes

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Type of Trip	Headed to the airport	3	16
	Leaving the airport	19	62
Total	Count	22	78
	% within Type of Trip	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

3.1.3 Based on the characteristics of the transportation system

1) Convenience

To find out more details about the characteristics of the transportation system seen from the aspect of convenience at Sis Aljufri Airport, see the table below:

Table 3.16: Characteristics of the transportation system based on convenience aspects

Answer	Frequency	Percent
Disagree	4	4.0
Normal	11	11.0
Agree	41	41.0
Strongly Agree	44	44.0
Total	100	100.0

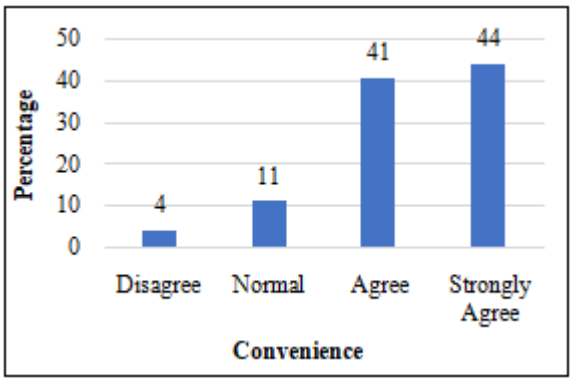

Figure 3.9: Characteristics of the transportation system based on convenience aspects

Then, to find out the user's response to each mode of transportation they use at Sis Aljufri Airport, it can be seen from the results of the analysis through cross-tabulation between the responses related to the convenience obtained by selecting the type of transportation mode described as follows:

Table 3.17: Cross tabulation between the convenience of users of transportation modes and the selection of modes of transportation

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Convenience	Disagree	0	4
	Normal	2	9
	Agree	10	31
	Strongly Agree	10	34
Total	Count	22	78
	% within Convenience	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

2) Security

To find out more details about the characteristics of the transportation system from a security perspective at Sis Aljufri Airport, see the table below:

Table 3.18: Characteristics of the transportation system based on security aspects

Answer	Frequency	Percent
Normal	11	11.0
Agree	63	63.0
Strongly Agree	26	26.0
Total	**100**	**100.0**

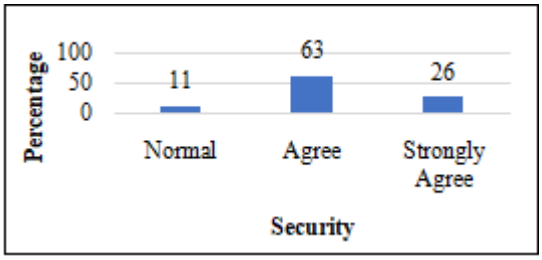

Figure 3.10: Characteristics of the transportation system based on security aspects

To find out the user's response to each mode of transportation they use at Sis Aljufri Airport, it can be seen from the results of the analysis through the cross-tabulation of responses related to security obtained in the selection of the type of transportation mode described below:

Table 3.19: Cross tabulation between the safety of users of transportation modes and the selection of modes of transportation

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Trust	Normal	3	8
	Agree	10	53
	Disagree	9	17
Total	Count	22	78
	% within Trust	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

3) Tariff certainty

To find out more details about the characteristics of the transportation system seen from the aspect of tariff certainty at Sis Aljufri Airport, see the table below:

Table 3.20: Characteristics of the transportation system based on tariff certainty

Answer	Frequency	Percent
Disagree	1	1.0
Normal	21	21.0
Agree	60	60.0
Strongly Agree	18	18.0
Total	**100**	**100.0**

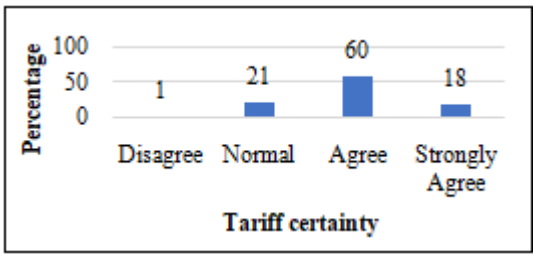

Figure 3.11: Characteristics of the transportation system based on the aspect of tariff certainty

To find out the user's response to each mode of transportation they use at Sis Aljufri Airport, it can be seen from the results of the analysis through the cross-tabulation of responses related to tariff certainty in selecting the type of transportation mode, described as follows:

Table 3.21: Cross tabulation between tariff certainty obtained by users of transportation modes and the choice of transportation modes

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Tariff Certainty	Disagree	1	0
	Normal	6	15
	Agree	10	50
	Strongly Agree	5	13
Total	Count	22	78
	% within Tariff Certainty	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

4) Travel expense

To find out more details about the characteristics of the transportation system seen from the aspect of travel costs at Sis Aljufri Airport, see the table below:

Table 3.22: Characteristics of the transportation system based on travel costs

Travel Expense	Frequency	Percent
>Rp.60.000	1	1.0
Rp.51.000-Rp.60.000	4	4.0
Rp.31.000-Rp.50.000	20	20.0
Rp.10.000-Rp.30.000	75	75.0
Total	**100**	**100.0**

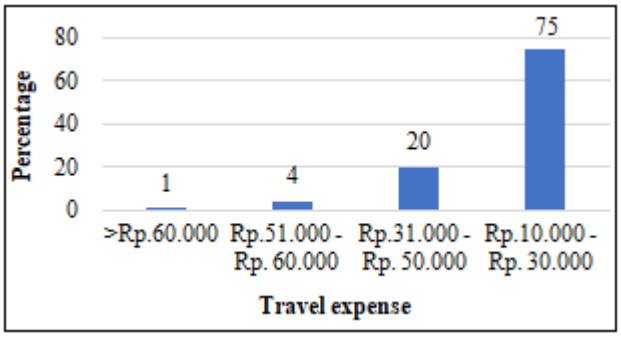

Figure 3.12: Characteristics of the transportation system based on the aspect of travel costs

Then, to find out the cost of travel for each mode of transportation they use at Sis Aljufri Airport, it can be seen from the results of the analysis through cross-tabulations related to travel costs in selecting the type of transportation mode described as follows:

Table 3.23: Cross tabulation between travel costs for users of transportation modes and the choice of transportation modes

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Travel Expenses	>Rp.60.000	1	0
	Rp.51.000-Rp.60.000	1	3
	Rp.31.000-Rp.50.000	20	0
	Rp.10.000-Rp.30.000	0	75
Total	Count	22	78
	% within Travel Expenses	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

5) Pick-up time

To find out more details about the characteristics of the transportation system seen from the aspect of pick-up time both to and from Sis Aljufri Airport, see the table below:

Table 3.2 4: Characteristics of the transportation system based on pick-up time

Travel Time	Frequency	Percent
9-11minutes	1	1.0
6-8minutes	35	35.0
3-5minutes	59	59.0
<3minutes	5	5.0
Total	**100**	**100.0**

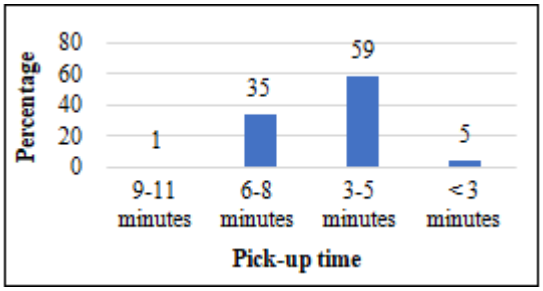

Figure 3.13: Characteristics of the transportation system based on the aspect of pick-up time

Then, to find out the pick-up time for each mode of transportation that they use at Sis Aljufri Airport, it can be seen from the results of the analysis through cross-tabulations related to travel pick-up times in selecting the type of transportation mode described as follows:

Table 3.25: Cross tabulation between pick-up time and choice of transportation mode

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Travel Time	9-11minutes	0	1
	6-8minutes	3	32
	3-5minutes	18	41
	<3minutes	1	4
Total	Count	22	78
	% within Travel time	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

6) Vehicle brand

To find out more details about the characteristics of the transportation system seen from the appearance aspect of the vehicle at Sis Aljufri Airport, see the table below:

Table 3.26: Characteristics of the transportation system based on vehicle appearance

Answer	Frequency	Percent
Disagree	6	6.0
Normal	24	24.0
Agree	57	57.0
Strongly Agree	13	13.0
Total	100	100.0

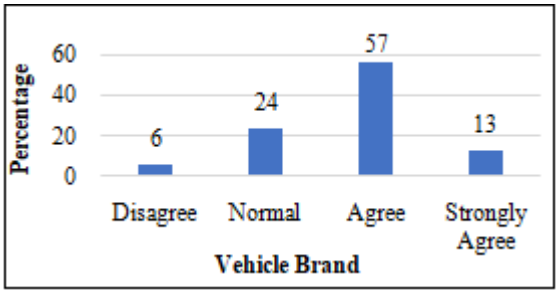

Figure 3.14: Characteristics of the transportation system based on vehicle appearance

Then, to find out the user's response to each mode of transportation they use at Sis Aljufri Airport, it can be seen from the results of the analysis through the cross-tabulation of responses related to the appearance of the vehicle in the selection of the type of transportation mode described as follows:

Table 4.27: Cross tabulation between vehicle display and mode of transportation selection

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Vehicle Brand	Disagree	1	5
	Normal	6	8
	Agree	11	46
	Strongly Agree	4	9
Total	Count	22	78
	% within Vehicle Brand	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

7) Payment transaction time

To find out more details about the characteristics of the transportation system seen from the aspect of payment transaction time both to and from Sis Aljufri Airport, all respondents answered that it only takes 1–5 minutes.

Then, to find out the time for payment by each mode of transportation they use at Sis Aljufri Airport, it can be seen from the results of the analysis through cross-tabulations regarding the time of travel pick-up in selecting the type of transportation mode described as follows:

Table 3.28: Cross tabulation between the time of the payment transaction and the selection of the mode of transportation

		Type of transportation modes	
		Conventional Taxi	Online Taxi
Payment Transaction Time	1- 5Menit	1	5
Total	Count	22	78
	% within Payment Transaction Time	22. 0%	78.0%
	% within type of transportation modes	100.0%	100.0%

3.1.4 Multinomial logistic regression

Linear regression cannot solve cases where the dependent variable is dichotomous or categorical with two or more possibilities. Logistic regression generally involves a variety of predictor variables, both numerical and categorical. Logistic regression forms an equation or function with the maximum likelihood approach, which maximizes the probability of classifying the observed object into the appropriate category.

Table 3.29: Logistic Regression Test Results

Variable	Description	β
	Constant	154.505
X1	Gender	6.659
X2	Age	-0.044
X3	Education level	4.310
X4	Profession	1.398
X5	Income	-0.954
X6	Distance	27.539
X7	Type of trip	6.710
X8	Convenience	5.729
X9	Security	5.004
X10	Tariff certainty	4.143
X11	Travel expense	33.342

X12	Pick-up Time	-1.853
X13	Vehicle Brand	4.705
X14	Payment transaction time	0.974

From these data, the best model is obtained, seen from the value of the parameter β in Table 3.29 as follows:

$Y=\beta 0+\beta 1X1+\beta 2X2+\beta 3X3+\ldots\ldots+\beta 13X13$

Y=154.505+33.342+27.539+6.710+5.729+5.004+4.705+4.143

Based on the results of the logistic regression analysis, it shows that there is a positive and negative relationship between the independent variables above and the variable types of online transportation modes, meaning that the independent variables above can determine customer perceptions in determining which online transportation mode is desired.

3.1.5 Hypothesis Test

The hypothesis test used is a simultaneous test and partial test which will be described as follows:

3.1.5.1 Partial Test

This test was conducted to determine the effect of each variable (age, gender, education level, employment, income, convenience, safety, reliability, fare certainty, travel costs, pick-up time, vehicle appearance, payment transaction time, travel distance, and type of travel) on the decision to choose online transportation modes. With the number of observations (n = 100) and the number of independent and dependent variables (k = 15), the degree of freedom (df) is n-k = 100-15 = 85, where the significant level is = 0.10. Then the table can be calculated using the MS Excel formula with the insert function formula as follows:

t_{tabel} = TINV(*Probability,deg_freedom*)
t_{tabel} = TINV(0.10,85)
t_{tabel} = 1,663

The hypothesis is: H0 is rejected if the test statistic value W ≥ Zα/2 = 1.663 and if the p-value ≤ 0.10 which means it has a significant effect on the decision to choose online transportation modes at Sis Aljufri Airport, Palu. By using SPSS 23 Software, the W values obtained are:

Table 3.30: Wald Test

Variable	Description	SE	W	P
X1	Gender	8.704	0.585	0.444
X2	Age	0.215	0.043	0.836
X3	Education level	4.250	1.028	0.311
X4	Profession	2.078	0.453	0.501
X5	Income	2.485	0.147	0.701
X6	Distance	4.352	40.042	0.000
X7	Type of trip	4.061	12.000	0.002
X8	Convenience	14.287	6.102	0.050
X9	Security	26.953	8.706	0.006
X10	Tariff certainty	1.168	8.015	0.025
X11	Travel expense	4.217	38.110	0.000
X12	Pick-up Time	2.234	0.688	0.407
X13	Vehicle Brand	3.888	23.033	0.056
X14	Payment transaction time	1.207	0.616	0.971

Based on the results of the analysis presented by the researchers in Table 3.30, it can be concluded:

1) The gender variable has no significant effect on the decision to choose an online mode of transportation compared to the decision to choose a conventional mode of transportation.
2) The age variable has no significant effect on the decision to choose an online mode of transportation compared to the decision to choose a conventional mode of transportation.
3) The variable level of education has no significant effect on the decision to choose an online mode of transportation compared to the decision to choose a conventional mode of transportation.
4) The job variable has no significant effect on the decision to choose an online mode of transportation compared to the decision to choose a conventional mode of transportation.
5) The income variable has no significant effect on the decision to choose an online transportation mode compared to the decision to choose a conventional transportation mode.
6) The travel distance variable has a significant effect on the decision to choose an online transportation mode compared to the decision to choose a conventional transportation mode.
7) The type of trip variable has a significant effect on the decision to choose an online transportation mode compared to the decision to choose a conventional transportation mode.
8) The convenience variable has a significant effect on the decision to choose an online transportation mode compared to the decision to choose a conventional transportation mode.
9) The security variable has a significant effect on the decision to choose an online mode of transportation compared to the decision to choose a conventional mode of transportation.
10) The variable fare certainty has a significant effect on the decision to choose an online transportation mode compared to the decision to choose a conventional transportation mode.
11) The travel cost variable has a significant effect on the decision to choose an online transportation mode compared to the decision to choose a conventional transportation mode.
12) The pick-up time variable has no significant effect on the decision to choose an online transportation mode compared to the decision to choose a conventional transportation mode.
13) The vehicle appearance variable has a significant effect on the decision to choose an online transportation mode compared to the decision to choose a conventional transportation mode.
14) The payment transaction time variable has no significant effect on the decision to choose an online transportation mode compared to the decision to choose a conventional transportation mode.

3.1.5.2 Concurrent test

This test serves to determine whether the explanatory variable has a significant influence on the decision to choose an online transportation mode. The way to test the

Likelihood Ratio (LR) is to compare the $f_{count}$and the significance level is 10% or 0.10. With the number of observations (n=100) and the number of independent and dependent variables (k=15), then the degree of freedom (df1) = k-1 = 11-1 = 14 and (df2) = n-k = 100-14 = 86, where the significant level is α = 0.10. Then f_{table} can be calculated using the Ms Excel formula with the insert function formula as follows:

f_{tabel}=FINV(*Probability,deg_freedom1,deg_freedom2*)
f_{tabel} =FINV(0.10,14,86)
f_{tabel} = 1,584

The hypothesis is: H0 is rejected if the statistical value of the f_{table}test = 1.584 and if the significance value is ≤ 0.10 which means it has a significant effect on the decision to choose online transportation modes at Sis Aljufri Airport, Palu.

Table 3.31: Likelihood Ratio Test

Model	Model Fitting Criteria	Likelihood RatioTests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only Final	105.382 15.704	89.677	13	0.000

From Table 3.31 it is obtained that the Chi-Square value is 89.677 and the significance value is 0.000, where the Chi-Square value ≥ f_{table} (1.584) or a significance value ≤ 0.10, it can be concluded that H0 is rejected. It can be concluded that together the explanatory variables influence the decision to choose online transportation modes.

4. Conclusion

From the results of the research that has been done, the following conclusions can be drawn:

1) Regarding the characteristics of users of online-based transportation services at Mutiara Sis Aljufri Airport, from the results of a survey of 100 samples of users of public transportation modes at Sis Aljufri Airport, Palu, there were 58 men and 20 women using online modes of transportation; most of them are over 30 years old with high school to master's level education levels; they work as private employees and civil servants with an income level of IDR 3,100,000–IDR 4,000,000.
2) With respect to the characteristics of their travels, most of the respondents said they preferred online taxis, with a percentage reaching 78%, while the remaining 22% chose conventional taxi services for short or long distances, and judging from their trips, most users of this mode of transportation are those who are customers who want to leave the airport, with a percentage of 81%.
3) The online-based mode of transportation behavior model at Mutiara Sis Aljufri Airport shows that there are many users of this mode of transportation who live far from the airport, and most of them are people who want to leave the airport. Through this mode of transportation, they get convenience in both ordering and payment mechanisms. It is shown that as many as 65% of respondents who use online taxis feel that it is easy to use the services of this mode of transportation, and they consider this mode of transportation to be safer. The fare is clear and cheaper, and besides that, the appearance of the vehicle is also more attractive.

References

[1] Aminah, Siti. 2018. Transport asi Publikdan Aksesibilitas Masyarakat Perkotaan .Jurnal Teknik Sipil UBL, Volume 9, Nomor 1.
[2] A Samuelson. Pauldan William D Nordhaus.1999.*Mikro Ekonomi*.Jakarta:Erlangga.
[3] Field, Andy. 2005. Discovering Statistics Using SPSS. Second Edition. New Delhi: SAGE Publication India Pvt Ltd.
[4] Hendryanti, 2018. Pengaruh Angkutan Online terhadap Angkutan Umumdi Daerah Istimewa Yogya karta. UniversitasAtmaJayaYogyakarta.
[5] Joesron, Tati Suhartatidan Fathorrozi. 2003. Teori Ekonomi Mikro Dilengkapi Beberapa Bentuk Fungsi. Jakarta: Salemba Empat.
[6] Manheim, Marvin, L.1979, Fundamental of Transportation System Analysis, Cambridge. Massachusetts, London; The MIT Press.
[7] Sugiyono. 2016. Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung: PT Alfabeta.
[8] Supit, dkk, 2019. Model Pemilihan Moda Transportasi Online di Kota Manado.Jurnal Sipil Statik Vol.7 No.1 Januari 2019 (35-48).
[9] Tamin, OZ., 2008. Perencanaan,Pemodelan, & Rekayasa Transportasi:Teori,Contoh Soal, dan Aplikasi. Bandung: ITB.
[10] Wulansari, 2005. Analisis Pemilihan Moda Angkutan Penumpang MenujuBandara (Studi Kasus: BandaraUdara Internasional Soekarno –Hatta). Jurnal Kajian Teknik Sipil Vol. 1 No.2. Universitas 17 Agustus 1945 Jakarta.