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CHARACTERISTICS MOTORCYCLE TAXI AND THE EFFECT ON FARMERS

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Abstract. Agricultural products in Sidenreng Rappang, South Sulawesi, Indonesia were abundant, the road infrastructure was not good and the farmers used existing modes of transportation. The purpose of the study is to determine the characteristics of farmers, operators and motorcycle taxis as well as farmer satisfaction. The survey research uses primary data based on interview surveys in May – June 2021. The analysis was a simple regression using the SPSS application. The results showed farmers: 93% male, main occupation 87% farmer, ownership of land area 63% one to above 5 Ha, education level 31% was the diploma, 63% completed junior high school and school upper middle. Operator: 100% male, 99% side job, 100% own vehicle. Income during harvest season, 77% IDR 200,000 – IDR 300,000/day. The results of the analysis of the service quality variable for motorcycle taxis provide a significant level of satisfaction for farmers.

1. Introduce

Motor taxis have been widely used by people in Indonesia, both in urban and rural areas. Motor taxi services are used primarily for passenger transport, but they can also be used for the transport of goods, as well as to provide courier and delivery services [1]. Motor taxis provide a solution to existing problems by offering timely transportation of people and goods, without waiting time and brought directly to the required destination at an agreed cost [2][3]. Other capabilities of motorcycle taxis include being used to carry agricultural produce to local markets or to shelters [4], motorcycle taxis often reach remote villages and agricultural fields that are connected to feeder roads only by footpath. Motor taxis are created according to the needs and conditions of their operational areas [5].

In South Sulawesi, especially Sidenreng Rappang Regency, it is known as a city of rice or rice granaries with extensive agricultural areas, but road infrastructure is still not good and there are still many road networks that have not been connected. crops are damaged and the price is cheap. Research has ever been done, that plants remain unharvested or become damaged after harvesting due to the unavailability of vehicles during harvest [6]. Mobility in rural areas can be hampered by the lack of transportation facilities and the unavailability of good roads [7]. The poor condition of rural roads in the region has made it difficult for motorized vehicles to operate effectively [8]. The results also suggest that if road quality improves, farmers have lower marketing costs and gain access to a wider market [9].

Other phenomena are low levels of education and skills, lack of employment in both urban and rural areas in developing countries, which causes unemployment and poverty [10]. Becoming a motorcycle taxi operator is an opportunity for the community to be used as a livelihood even though it is still an informal transportation sub-sector to earn additional income [11]. The author conducted a study to determine and analyze the characteristics of farmers, operators motorcycle taxi transportation of grain and determine their effect on farmer satisfaction.

2. Literature review

2.1. Service quality

According to statement [12] that the quality of service in the service will be realized, if the consumer



expectations are in accordance with the performance of the service provider provided and high service quality results in high customer satisfaction as well. If the service received or perceived meets or even exceeds customer expectations, then the service is considered of high quality and satisfies the customer [13]. The basic meaning of service quality is all forms of activities carried out to meet consumer needs. While service is defined as a service provided by the owner in the form of convenience, speed, relationship, ability and friendliness shown by the attitude and nature in providing services for customer satisfaction.

2.2. Customer satisfaction

According to [14], customer satisfaction is a person's feeling of pleasure caused by the perceived performance or results of the service product, compared to his expectations. In other words, customer satisfaction is the customer's perception of expectations that have been met or exceeded. Meanwhile, according to [12], customer satisfaction can be achieved if a service meets or exceeds customer expectations, and feels satisfied. The closer the customer's expectations to the expected service, the more likely it is to achieve satisfaction. Customer satisfaction as a response to the perceived fit between expectations and actual service performance.

3. Methodology and survey

3.1. Study object and location

The objects of study are farmers, operators and motorcycle taxis operating in the area of Sidenreng Rappang Regency, South Sulawesi, Indonesia. Coordinates: 3°43' – 4°09' South Latitude, 119°41' – 120°10' East Longitude. The area is 1,883.25 km², and the population is 264,955 people, while the agricultural area is around 44,958 m², with an area of agricultural land harvested from an area of 80,331.78 Ha, rice production reaching 524,214 tons. According to the 2018 BPS data [15].



Figure 1. Interview and motorcycle taxi activities

3.2. Scope and objectives of the study

Interview survey of farmers, motorcycle taxi operators operating in the Sidenreng Rappang district as well as the activities of transporting agricultural products carried out by operators are shown (Figure 1). A total of 403 farmer respondents and 202 operators have been surveyed. It is carried out

by visiting their place of residence or to a gathering place with their community who are then interviewed according to the question items in the questionnaire in May – June 2021. The survey includes details related to the characteristics of farmers and operators such as: gender, age, education, marital status, land ownership, motorcycle ownership, land area, income per day, job satisfaction and others. This paper discusses the results of data analysis and draws a number of conclusions about the existence of motorcycle taxi transportation, additional employment, aspects of job satisfaction and aspects of operator income per day during the harvest season. The simple regression analysis uses the SPSS v24 applications to determine the effect of the independent variable on the quality of motorcycle taxi service (X) on farmer satisfaction (Y).

4. Questionnaire analysis

The questionnaire was analyzed according to the characteristics of farmers, operators and tested the causal relationship between the independent variable of motorcycle taxi service quality and the dependent variable of farmer satisfaction.

4.1. Characteristics of farmers

Table 1. Results of analysis characteristics of farmers

Characteristics		Frequency (%) 403 Farmers
Gender	Man	93
	Woman	7
Education	Primary school	6
	Junior high school	20
	Senior High School	43
	Diploma	31
Age	<20 years	7
	20 – 35 years	23
	35 – 50 years	36
	>50 years	34
Status	Married	92
	Unmarried	8
Motorcycle Ownership	Ownership	28
	No	72
Work	Main	87
	Side work	13
Land Area	<1 Ha	37
	1 – 3 Ha	45
	3 – 5 Ha	14
	>5 Ha	4

Source: Survey data results 2021

Table 1 shows that farmers are 93% male and 7% female. 43% of education completed at high school and 31% at the diploma level, the rest finished elementary school and junior high school. The large percentage of the level of education that is still relatively low indicates that the community still lacks awareness or attention to higher schools in order to increase the expertise of each individual and

prefer to work as a farmer who can be seen in the percentage of work. The age of farmers is 36% between 35 – 50 years old, 34% over 50 years old, 23% 20 – 35 years old and the rest are under 20 years old. As for the marital status of farmers, 92% are married and 8% are unmarried. Working as a farmer 87% only 13% make farmers a side job from government employees. The land area owned is 45% between 1 – 3 Ha, 14% between 3 – 5 Ha, 4% over 5 Ha and 37% under 1 Ha. The extent of land owned by individuals indicates that they prefer to work as farmers according to the education level of each farmer.

4.2. Characteristics of operators

Table 2. Results of analysis characteristics of operator motorcycle taxi

	Characteristics	Frequency (%) 202 Operators
Gender	Man	100
	Woman	0
Education	Primary school	36
	Junior high school	32
	Senior High School	28
	Diploma	4
Age	<20 years	8
	20 – 35 years	45
	35 – 50 years	34
	>50 years	13
Status	Married	91
	Unmarried	9
Motorcycle Ownership	Ownership	100
	No	0
Income per day	< IDR 200.000	11
	IDR 200.000 – 250.000	42
	IDR 250.000 – 300.000	35
	> IDR 300.000	12
Work	Main	1
	Side work	99
Job Satisfaction	Satisfied	71
	No	29

Source: Survey data results 2021

Table 2 shows that the 100% taxi motorcycle operators are male and there are no women working as operators. The education level is 36% completed at the elementary school level, 32% at the junior secondary level, 28% at the high school level and 4% at the diploma level. The low level of education makes the operation of motorcycle taxis an alternative choice for them. This indicates that formal employment opportunities are still lacking for people with low education. Operating a motorcycle taxi is considered as a temporary solution for unemployment among elementary, junior high and high school graduates. Operator age 45% between 20 – 35 years, 34% 35 – 50 years, 13% over 50 years

and 8% under 20 years. This indicates that the operator is still relatively young and has a strong physique, 91% are married, 9% are unmarried. Not a few farming communities who have two-wheeled vehicles have been converted to taxi motorcycle and show that the ownership of motorcycle taxis is 100% their own. As many as 99% of operators consider it as an additional job because in general, they have a main job, namely as a farmer. The daily income is quite large every harvest season, 42% between IDR 200,000 – IDR 250,000, 35% IDR 250,000 – IDR 300,000, 12% above IDR 300,000, 11% below IDR 200,000, giving satisfaction to motorcycle taxi operators by 71% and only 29% show that they are not satisfied with the work done as an operator transporting agricultural products.

4.3. Validation test results

Validation tests are carried out to determine the accuracy or not of a question and to measure the accuracy of the questions processed in the SPSS application, the results of data processing that have been carried out for the quality of motorcycle taxi services such as aspects of service, cost, speed, ability and income are tabulated as follows.

Table 3. Validation test results

Variable		Question	Correlation result (r _{xy})	r table (5%)	Information
Service quality (X)	X1	Motorcycle taxi (McT) is a good mode of transportation for farmers' agricultural products	0,399	0,092	Valid
	X2	McT quickly distribute agricultural products	0,499	0,092	Valid
	X3	McT have a good service time	0,666	0,092	Valid
	X4	McT operators serve consumers well	0,577	0,092	Valid
	X5	McT operators provide transportation fares according to consumer desires	0,669	0,092	Valid
	X6	McT available when needed	0,231	0,092	Valid
Farmer satisfaction (Y)	Y1	McT transports people's agricultural produce with ease.	0,577	0,092	Valid
	Y2	McT operators provide a fast response to requests for transportation of agricultural products.	0,663	0,092	Valid
	Y3	Agricultural products are transported by McT according to the time that consumers expect.	0,671	0,092	Valid
	Y4	McT operators serve consumers well	0,359	0,092	Valid
	Y5	The McT rate is affordable.	0,215	0,092	Valid
	Y6	Easy to get McT transportation services.	0,135	0,092	Valid

Source: SPSS test results

Table 3 above shows that each of the question item variables has a correlation result of r count greater than r table ($r_{\text{count}} > r_{\text{table}} 0.092$) and is positive. Thus, the question items are stated to be well correlated and valid.

4.4. Reliability test results

The reliability test in table 4 below is to determine the extent to which the measurement results remain consistent, if two or more measurements are made of the same symptoms using the same measuring instrument. The results of the reliability test are as follows:

Table 4. Reliability statistics test results

Cronbach's Alpha	N of Items
,654	12

Source: SPSS test results

The results of the reliability test obtained that Cronbach's Alpha value of 0.654 was greater than 0.6, so the results concluded that the variable was reliable or consistent. The results of the reliability test based on the research variable instrument showed that the results of the independent variable test of the quality of the motorcycle taxi service quality (X) as well as the dependent variable of farmer satisfaction (Y) showed that the data obtained were reliable.

4.5. Data normality test

Table 5. One-Sample Kolmogorov-Smirnov test

N	405
Normal Parameters ^{a,b}	Mean
	Std. Deviation
Most Extreme Differences	Absolute
	Positive
	Negative
Test Statistic	,041
Asymp. Sig. (2-tailed)	,095 ^c

Source: SPSS test results

Based on the output of the Kolmogorof-Smirnov One-Sample normality test in table 5, it was found that the significance value of 0.095 is greater than 0.05 ($0.095 > 0.05$), the results mean that the tested data is normally distributed and the regression model has met the assumption of normality.

4.6. Hypothesis testing

4.6.1. Simple linear regression analysis.

Simple linear regression analysis to predict how much positive relationship data quality motorcycle taxi service (X) to farmer satisfaction (Y). The results of the simple linear regression analysis test are shown in table 6.

Table 6. Simple linear regression analysis and T-test results

Model	B	Beta	t	Sig.
(Constant)	9,428		20,295	,000
Service quality	,593	,711	13,332	,000

Source: SPSS test results

Table 6 shows that the constant value obtained from simple linear regression analysis is 9.428 and the variable value of the service quality variable for motorcycle taxis (X) with a coefficient value of 0.593. These results can be entered and form a simple regression equation as follows:

$$Y = 9,428 + 0,593X$$

The results of the above equation can be translated that the constant is 9.428 which contains the satisfaction variable value of 9.428 and the value of the X regression coefficient is 0.593 which states that the addition of 1% of the value of motorcycle taxi service quality will increase farmer satisfaction by 0.593 and vice versa. The regression coefficient is positive, so it can be said that the direction of the influence of motorcycle taxi service quality on farmer satisfaction is positive. The results with a significance value obtained from table 6 of $0.000 < 0.05$ means that the level of trust given is 100% greater than the required level of confidence of 99% with a value of $\alpha = 5\%$, so it can be concluded that the variable motorcycle service quality taxi (X) has a significant effect on the variable of farmer satisfaction (Y).

The results of the partial hypothesis test or t-test in table 6 show that the t-count value is 13.332 with a significance value of 0.000. It can be concluded that the quality of motorcycle taxi services has a positive and significant effect on farmer satisfaction because the significant value of 0.000 is less than 0.05 or $\alpha = 5\%$. It shows that the existing data on motorcycle taxi service quality (X) has a positive and significant influence on farmer satisfaction (Y) in Sidenreng Rappang Regency, South Sulawesi Province.

4.6.2. F-test result

Table 7. F-test results

Model	df	F	Sig.
Regression	1	411,875	,000 ^b
Residual	403		
Total	404		

Source: SPSS test results

The results of the F test in table 7 are known that F count = 411,875 with a significant level of 0.000 less than 0.05 or $\alpha = 5\%$, the regression model can be used to predict the satisfaction variable or in other words that there is an influence of the motorcycle taxi service quality variable (X) on the variable of farmer satisfaction (Y).

4.7. The result of the coefficient of determination

Determinant coefficients to find out how much influence the quality of motorcycle taxi service quality (X) on farmer satisfaction (Y), statistical calculations were carried out using the coefficient of determination (KD) as obtained in table 8.

Table 8. Results of the coefficient of determination

Model	R	R Square	Adjusted R Square
1	,711 ^a	,505	,504

Source: SPSS test results

The value of the coefficient of determination R Square is 0.505 or 50.1% in table 8. This figure is obtained by squaring the correlation coefficient (0.711 x 0.711) and then multiplied by 100%. Based on this, it can be concluded that the variable quality of motorcycle taxi service quality (X) contributes to the variable of farmer satisfaction (Y) by 51%. While the remaining 49% is influenced by other factors that are not or have not been studied. The calculation of the data above shows that there is a positive and significant relationship between the quality of motorcycle taxi services (X) and farmer satisfaction (Y).

Conclusion

Characteristics of farmers are 93% male and 7% female. Educational level of 43% completed at high school education, 31% at diploma level, the rest at elementary school and junior high school. Age 36% between 35 – 50 years, 34% over 50 years, 23% between 20 – 35 years, the rest under 20 years. The main occupation as a farmer is 87%, 13% is a farmer as a sideline as a government employee. Own 63% of land between 1 Ha to more than 5 Ha. The characteristics of operators are 100% male, 99% used as additional work, 36% education completed at the elementary school level, 32% junior high school, 28% high school and 4% completed diploma level. The age of the operators is 45% between 20 – 35 years, 34% 35 – 50 years, 13% over 50 years and 8% under 20 years, indicating that the operators are still relatively young. 100% own motorcycle ownership, 99% make work as an additional job. Daily income earned during harvest season 42% between IDR 200,000 – IDR 250,000, 35% IDR 250,000 – IDR 300,000, 12% above IDR 300,000, 11% below IDR 200,000. The results of the test using simple linear regression analysis, namely the variable quality of service quality for motorcycle taxis and farmer satisfaction indicate that the variable service quality for motorcycle taxis has a positive and significant effect on farmer satisfaction in Sidenreng Rappang Regency, South Sulawesi Province.

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