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# Differences In Income and Conditions of Drivers Before and After Utilizing Online Transportation Service Applications in The City of Medan

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## Abstract

This study aims to determine how much the difference in income conditions of drivers before and after utilizing online transportation service applications in the city of Medan. The type of research used in this research is quantitative descriptive research. The scope of this research is 4 shopping centers in Medan City. Data collection was carried out using primary data to answer the main problem and describe the research objectives obtained based on the results of interviews directly to respondents to obtain the main research data and complete the discussion in the study, this data was then processed using the Statistical Product for Servicer Solution (SPSS) Program and analyzed using multiple linear data analysis techniques. The results showed that there is a difference between the income of ojek drivers before and after using online transportation service applications in Medan City. There is a significant difference in the increasing income of ojek drivers before and after using online transportation service applications which is caused by the increasing number of passengers, and stable tariff competitiveness conditions.

Keywords: Online Transportation; Motorcycle Taxi Driver; Income

## 1. Introduction

Transportation has an important role in economic development, this is because it is related to the distribution of goods, services and labor and is a core part of economic movement. [1]good transportation can provide a means to achieve important opportunities such as education, employment, business and friendship that can affect quality of life. The demand for transportation that can quickly arrive at the destination in the midst of traffic jams, as well as transportation that can be easily found by the community, allows users to optimize time. Technological developments encourage transformation in the transportation industry around the world including Indonesia. The mode of transportation that is currently developing in Indonesia is network-based transportation (transportation network). The main concept of network-based transportation is to create connectivity between passengers and drivers connected via the internet network [2]. Network-based transportation has been present in Indonesia since 2010 with the operation of several network-based taxi companies (online) such as Go-Jek, Grab and Uber Taxi. This study shows that the application used by "online ojek" is able to minimize the risks that occur in other cities in Indonesia, one of which is in Medan City. The use of Go-Jek by the people of Medan City also arises due to the phenomenon of the people of Medan City who are disappointed as a result of the weak existing mass transportation facilities. It should be noted that there are problems that cannot be separated from mass transportation, including; the absence of a fixed schedule, route patterns that force users to transfer or pass, excessive passengers at peak hours, poor internal and external conditions, and careless driving and endangering safety. The presence of network-based transportation has created new job opportunities in Medan City and improved the lives of many people [3].

## 2. Literature Review

### 2.1. Transportation

Transportation is moving goods (commodity of goods) and passengers from one place to another, to the extent that the carrier produces transportation services or artificial services for people who need to move or expedite their goods [4]. Transportation is the basis for economic development and community development as well as the growth of the industrial sector. Transportation is the activity of moving or transporting cargo (goods and people) from one place to another, from a place of origin (origin) to a destination (destination). A good or commodity has value according to place and time, if the item is moved from one place to another [5]. In this case, using transportation can create a good or commodity that is useful according to time and place. Transportation infrastructure has two main roles, namely as a tool to direct development in urban areas and as infrastructure for the movement of people and / or goods arising from activities in these urban areas and to support the movement of people and goods. Transportation consists of several types as follows: Land Transportation, Water Transportation, Air Transportation [6]

As a means of public transportation, transportation must meet public service criteria. Dagun (2006) revealed that good transportation for public services must meet three basic criteria, namely comfort, safety and speed.

1. Comfort, namely the aspect of comfort must be felt by passengers who use transportation services.
2. Security, namely the aspect of security felt by passengers while getting transportation services.
3. Speed, namely the provision of fulfillment of time to destination quickly and / or precisely

Transportation consists of Online Based Transportation and Conventional Transportation. The definition of conventional transportation is public transportation used by the population [7]. Indonesia knows several conventional transportation, namely buses, taxis, bajaj, becak and ojek. Network-based transportation is a means of conveyance that offers services via the internet network and booking using applications that can be downloaded on PlayStore. Network-based transportation provides the same intermediate services as conventional transportation. The difference lies in the way of booking and determining travel rates. Network-based transportation uses an application system that connects users with drivers [8]. The economic impact related to the existence of network and conventional transportation comes from the economic activities that occur between service providers and users of these transportation services. Transportation can create more efficient product movement and become an important part of the process of determining costs. Relative costs become cheaper if supported by adequate infrastructure and transportation. This encourages the price of a product to be more competitive in the market [9].

Other benefits of the transportation system for the economy serve to expand markets in economic activities, means of production and distribution and as a means of specializing production in accordance with the potential of natural resources and human resources (Nistor and Popa, 2014). The direct economic impact of transportation arises from the economic activities occurring between drivers and passengers. In this context, taxi drivers receive money directly from passengers upon arrival at their destination, including tips given by passengers to drivers and incentives provided by the transportation service company Transportation.

Income is the amount of income earned from work which is usually calculated or accumulated over a month or year. Individual conditions can be measured using the concept of income which shows the total amount of money received by a person or household during a certain period of time [10]. Based on the opinions of experts, it can be concluded that income is the amount of income received by members of society within a certain period of time in return for services or factors of production that have been contributed. Factors that Affect Income including: Capital, Level of Education, Hours of Work, Age, Work Experience. Factors that affect driver income include: The effect of working hours on the level of driver income, The effect of the number of service transactions on driver income, The effect of incentive schemes on driver income.

### 2.2. Disruptive Innovation

The evolution of information and communication technology has changed business models around the world [11]. The integration of technology and business has created a relatively new business model. The development of business-based transportation creates a relatively new business model. The development of network-based transportation is considered a disruptive innovation by conventional transportation that has existed so far.[12],

disruptive innovations are initially unable to compete in the market against existing business actors. But over time, disruptive innovations are able to disrupt the market share of major business actors (incumbents) because they are supported by relatively low prices and then access compared to existing companies.

### 3. Research Method

The type of research used in this research is quantitative descriptive research which aims to analyze data in depth. This research is verification by using primary data to answer the main problem and describe the research objectives obtained based on the results of interviews directly to respondents to obtain the main research data and complete the discussion in the study. This research was conducted for approximately one month with research locations at 4 shopping centers in Medan City which will be the object of this research, including Deli Park Mall, Center Point Mall, Plaza Medan Fair and Sun Plaza. The number of samples in this study were 60 respondents, namely conventional transportation drivers in Medan City. The data collection technique in this study used a questionnaire distributed to respondents. Data analysis conducted in this study used the t-test formula to test the hypothesis in the Statistical Product for Servicer Solution (SPSS) Program.

#### 3.1. Classical Assumption Test

The normality test is used to determine whether the data population is normally distributed or not in a way that is, if the significance value  $> 0.05$ , then the data is normally distributed and if the significance value  $< 0.05$ , then the data is not normally distributed.

#### 3.2. Validity Test

In determining whether or not an item is suitable for use, usually a correlation coefficient significance test is carried out at the 0.05 significance level, meaning that an item is considered valid if it correlates significantly with the total score.

#### 3.3. Reability Test

If the alpha value is  $> 0.7$ , it means sufficient reliability, while if alpha  $> 0.80$ , it implies that all items are reliable and the entire test consistently has strong reliability. Alternatively, some interpret it as follows: If alpha  $> 0.90$  then reliability is perfect. If alpha is between 0.70 - 0.90 then reliability is high. If alpha is 0.50 - 0.70 then reliability is moderate. If alpha  $< 0.50$  then low reliability. If alpha is low, it is likely that one or more items are not reliable.

#### 3.4. Hypotesis Test

As for hypothesis testing using Pairsample T-test with hypothesis testing criteria. If the probability value is  $>$  the significance level (Sig.2-tailed  $> 0.05$ ),  $H_0$  is accepted and  $H_1$  is rejected. Paired sample ttest is a parametric test that can be used on two paired data with the aim of seeing if there is an average difference between two samples that are paired or related.

$H_0$ : There is no significant difference between driver income before and after utilizing the online transportation service application.

$H_a$ : There is a significant difference between the driver's income before and after utilizing the online transportation service application.that the independent variables provide almost all the information needed to predict variations in the dependent variable.

### 4. Results and Discussion

#### 4.1. Classical Assumption Test

Table 1. One-Sample Kolmogorov-Smirnov Test Results

	PRE TEST	POST TEST
Asymp. Sig. (2- tailed) <sup>c</sup>	0.175	.200 <sup>c</sup>

Source: Data processed by researchers, 2024

Based on the test results above, it is known that the significance value is 0.175 and 0.200  $> 0.05$ . So it can be concluded that the data is normally distributed.

4.2. *Classical Assumption Test*

Table 2. Validity Test

Variabel	Correlation Pearson	Kriteria Pengukuran Nilai	Status
Pendapatan	0.684	0.254	Valid
	0.832	0.254	Valid
	0.816	0.254	Valid
	0.710	0.254	Valid
Jumlah Konsumen (Permintaan)	0.796	0.254	Valid
	0.876	0.254	Valid
	0.808	0.254	Valid
	0.736	0.254	Valid
Daya Saing Tarif	0.619	0.254	Valid
	0.875	0.254	Valid
	0.701	0.254	Valid
	0.818	0.254	Valid

Source: Data processed by researchers, 2024

Based on Table 4.2, it is obtained that the test of all statements has a value greater than 0.254. Thus it can be concluded that all questions from income, number of consumers (demand), and tariff competitiveness used are valid and can be used as instruments in research.

4.3. *Reability Test*

Table 3. Reability Test

Variabel	Cronbach Alpha	Kriteria Pengukuran Nilai	Keterangan
Pendapatan	0.742	0.7	Reliabel
Jumlah Konsumen (Permintaan)	0.800	0.7	Reliabel
Daya Saing Tarif	0.751	0.7	Reliabel

Source: Data processed by researchers, 2024

#### 4.4. Reability Test

Table 4. Paired Sample t-Test Results

	Paired Differences					t	df	Sig. (2tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Hasil Driver Ojek	-61250.000	34819.450	4495.172	-70244.818	-52255.182	13.626	59	0.000

Source: Data processed by researchers, 2024

Table 5. Test Statistic Results

		Mean	N	Std. Deviation	Std. Error Mean
		Hasil Driver Ojek	Pendapatan sebelum menggunakan aplikasi jasa transportasi <i>online</i>	97,166.67	60
	Pendapatan setelah menggunakan aplikasi jasa transportasi <i>online</i>	158,416.67	60	50752.738	6552.150

Source: Data processed by researchers, 2024

Based on the test results above, it can be seen that the results of the paired samples statistics test show that the mean value between after and before changes, namely the income of online ojek drivers before using the online transportation service application is 97,166.67 and has increased after ojek drivers use online transportation services, namely 158,416.67. The mean rank number that increases from before and after utilizing the online transportation service application means that the results obtained by ojek drivers also have an increase compared to before utilizing the online transportation service application. In the paired sample test, the significant value is  $0.000 < 0.05$ . Which means that the hypothesis is accepted. That is, there is a difference in income between before and after ojek drivers use online transportation service applications in Medan City.

#### 5. Conclusion

Based on the results of the study, it can be concluded that there are differences in the increase in income of ojek drivers before and after using online transportation service applications in Medan City. There is a significant difference in the increase in ojek drivers' income before and after using online transportation service applications, which is caused by the increasing number of passengers, and stable tariff competitiveness conditions.

#### References

- [1] Al., et al. (2019). "Dampak Keberadaan Transportasi OnLine Terhadap Kondisi Sosial Ekonomi Transportasi Konvensional di Kota Kediri". JIMEK (Jurnal Ilmiah Mahasiswa)
- [2] Duharman., et al. (2022). "Analisis Pendapatan Pengemudi Ojek Online (GrabBike)". Jurnal Pendidikan dan Konseling.
- [3] Frans, J.H., et al. (2017). "Perpindahan Moda Angkutan Umum ke Angkuta Pribadi di Kota Kupang". Jurnal. Teknik Sipil,
- [4] Gu Gay & Diehl. (1992). "Research Methods for Business and Management", (Macmillan Publishing Company, 1992). New York
- [5] Haka., et al. (2019). "Problematika Transportasi di Era Kehadiran Aplikasi Online (Study Kasus Konflik Ojek Online Dan Ojek Konvensional Di Kota Gorontalo)". Jurnal Politico.
- [6] Lexy, J.M., (2008). "Metodologi Penelitian Kualitatif". PT. Remaja Rosdakarya. Bandung
- [7] Mega., et al. (2020). "Analisis Perbandingan Pendapatan Ojek Konvensional Dan Ojek Online Di Kota Manado". Jurnal Berkala Ilmiah Efisiensi
- [8] Soegijatna Tjakra Negara. (2016). "Hukum Pengangkutan Barang dan Penumpang", Rineka Cipta, Jakarta.
- [9] Sugiyono. (2013). "Metode Penelitian Kuantitatif Kualitatif dan R & D". Alfabeta. Jakarta
- [10] Puspita, L., & Taufiqurrahman, E. (2022). " Dampak Keberadaan Transportasi Online Terhadap Pendapatan Transportasi Konvensional". Jurnal Pendidikan Tambusai
- [11] Rahmayanti, N P., & Karsudjono, A J. (2022). "Analisis Perbedaan Pendapatan Gojek Sebelum Dan Sesudah Pandemic Covid-19". Jurnal Media Mahardhika
- [12] Samuelson., et al. (1997). Mikro Ekonomi. Erlangga. Jakarta