

# Effect of Online Transportation on Open Unemployment and Employment Opportunities

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**Abstract**—Malang is one of the cities in East Java that is classified as advanced and there are many online transportation. The presence of online transportation in Indonesia's major cities is driven by the growing use of Internet and smartphones by the local community. The greater demand for online transportation services will lead to increased demand for online transportation drivers. The demand for online transportation drivers is included in the conditions of unemployment in Indonesia. This study aims to determine the significant relationship between variables of online transportation to open poverty variables. This study uses explanatory research with a quantitative approach. Data analysis in this study uses multiple linear regression data analysis techniques. The results showed that the online purchase of losses obtained was 4.670, then it was obtained that  $4.670 > 1.65787$  or  $t_{count} > t_{table}$ . Therefore, it can be concluded that online transportation affects unemployment. Online testing results on work tax simple linear regression analysis obtained was 3.605, then obtained that  $3.605 > 1.65787$  or  $t_{count} > t_{table}$ . Therefore, it can be concluded that online transportation affects employment opportunities.

**Keywords**—online transportation; driver; unemployment

## I. INTRODUCTION

Indonesia is a developing country, in which there are various problems that are difficult to overcome especially socio-economic problems. One of the Problems that arise is related to the rapid growth of the population, such as the imbalance between the growth of employment and the increasing labor force each year. This will lead to an overload amount of labors rather than available jobs, which eventually rise the phenomenon of unemployment. Unemployment shows the difference between demand (demand for labor) and supply (supply of labor) in an economy [1].

Open unemployment is the most crucial employment problem in Indonesia today. Unemployment in developing countries is generally dominated by young age unemployed and educated unemployed [2]. This problem should get serious attention since the problem of open unemployment and education has a deteriorating impact on people's purchasing power, as well as declining productivity of the community. In addition, the improvement of unemployment can affect serious social and political conditions, such as increased crime and disruption to the country's political stability. One of the most

important factors affecting the level of open unemployment in this era of globalization is technology or more specifically communication and information technology.

According to the report of the Indonesian Internet Service Providers Association (APJII) that cited by Liputan 6, 85% of Indonesian people in 2014 accessed the Internet through mobile smartphones or experienced an increase from 2013 which was only 65% [3]. The development of internet technology has now changed the lifestyle of Indonesian people into technology-based. The presence of internet technology facilitates the work of the Indonesian people in many ways, including travel mobility. The growth of internet access via smartphones among the Indonesian people creates the presence of online transportation in Indonesia.

Online transportation is a service that facilitates Indonesians to travel. Online transportation is now available in Indonesia, such as online taxis and online motorcycle taxis that only exist exclusively in Indonesia including what is called as Transportation Network Companies (TNC). The TNC concept originated from America which provides online car/taxi transportation services. However, in Indonesia online transportation is more varied.

The increasing demand for online transportation services has caused an increase in demand of labor transportation online drivers. The demand for online transportation drivers has an effect on the conditions of unemployment in Indonesia. The presence of online transportation in major cities in Indonesia is driven by the rapid use of the internet and smartphones of the local community. The increasing population, congestion, tourists and trade can be influential factors for the presence of online transportation in big cities including Malang. Malang City is one of the most developed cities in East Java with many online transportation drivers. In addition, the number of open unemployment in Malang City is the second highest in East Java compared to other cities [4]. Based on that reason, the researcher took the title "The Effect of Online Transportation toward Open Unemployment and Job Opportunities."

## II. LITERATURE REVIEW

### A. Online Transportation

Transportation infrastructure has two main roles, they are: (1) as a tool to direct development in urban areas; and (2) as infrastructure for the movement of people and/or goods that arise from activities in these urban areas [5]. In addition to understand the role of transportation that mentioned before, the important aspect of the transportation sector is accessibility, since the need for transportation is to support the two roles that presented before therefore it will facilitate the accessibility of people and goods. Transportation has enormous benefits in overcoming the problems of a city or region, such as:

- Operational cost savings
- Time saving
- Reducing accidents
- Benefits due to economic development
- Indirect benefits
  - a. Transportation Network Company
  - b. Ride-Sharing [6]

Transportation Network Companies (TNC) implements the sharing economy in business operations. However, TNC also applies ride sharing in their business operations. Sharing economy and ride sharing is a theory used in TNC's business operations to form TNC's business platform. "A single, or recurring trip with a trip to the city, with a small number of times, a little minutes before departure or as far as advance as it is scheduled to take place [7]."

Ride sharing is a single or recurring trip with an irregular schedule, which is held in one time, by confirming the trip a few minutes before departure or how long before the scheduled trip. TNC in Indonesia, such as Gojek, Grab Indonesia and Uber comes from the concept of ride sharing. The technology that supports ride sharing consists of several features such as:

- Smartphone
- Constant Network Connectivity.
- Global Positioning System (GPS).
- Consumer Data Storage.
- Driver Data Storage.
- Integrated with Social Networks.
- Driver Evaluation.
- Automatic Financial Transactions.
- Bonuses that are connected to the driver.

### B. Unemployment

Unemployment is a situation where someone who is included in the workforce wanted to get a job but he/she hasn't got it [8]. Someone who does not work but does not actively seek a job is not classified as unemployed. The main factor that

causes unemployment is the lack of aggregate expenditure. Entrepreneurs produce goods and services with the intention of gaining profits, but these benefits will be obtained if the entrepreneur can sell the goods and services they produce. The greater the demand, the greater the goods and services they make. The increase in production will increase the use of labor.

Unemployment is a macroeconomic problem that affects human life directly. For most people losing a job is a decrease in a standard of living. So it is not surprising if unemployment is a topic that is often discussed in political debates by politicians who often examine that the policies they offer will help to create jobs [9].

### C. Workforce

Workforce is part of the employment who is actually involved or trying to be involved in the production of goods and services so that the workforce is the population whose main activities during the past week are worked (K) and people who are looking for job (MP). The workforce is categorized as working if the minimum work is 1 hour during the past week for productive activities before enumeration is carried out. A job seeker is someone whose main activity is looking for a job or while looking for a job and has not worked at least 1 hour during the past week. So the labor force can be formulated through the identity equation as follows:  $AK = K + MP$ . The sum of the labor force numbers in economic language is referred to as the labor supply. Whereas the population who is a worker or labor is included in the demand side (labor demand).

## III. RESEARCH METHODS

### A. Type of Research

The research uses a quantitative approach, with the type of research is explanatory research. Explanatory research is research that aims to explain the relationship between two or more symptoms or variables [10]. This study explains the relationship and the influence that occurs between the independent variables which is online transportation and the dependent variable, such as unemployment and employment.

### B. Location and Research Site

The research locations that chosen in this research is Malang City. Malang City is one of the most developed cities in East Java with many online transportations. While the sites chosen in this study were drivers or online transportation drivers both taxis and online motorcycle.

### C. Data Collection Techniques

The technique used in collecting data is by distributing research instruments in the form of questionnaires. The questionnaire consists of written questions to respondents which later will be processed by the researcher.

### D. Population and Sample

Populations can be in the form of organisms, people or groups of people, community organizations, things, objects of events or reports that all have characteristics and must be

specifically defined and not ambiguous [11]. The population in this study are online transportation drivers or drivers. The number of population that is not known then in this study the number of samples is determined using the Malhotra formula.

The Malhotra formula can be calculated, for example:

$$\begin{aligned}
 N &= 4 \times \text{total item} \\
 &= 4 \times 30 \\
 &= 120
 \end{aligned}$$

So the number of respondents in this study is 120.

*E. Research Instrument*

The statistical analysis used in this study was a simple linear regression analysis with the SPSS 21 program. Simple linear regression analysis is used to calculate the magnitude of the influence quantitatively of a change in events (variable X) to other events (variable Y).

TABLE I. VALIDITY TEST

Variable	Statment	r Table	r count	Result
<i>X</i>	<i>Transportation Online</i>			
X1.1	Online transportation drivers have an adequate smartphone	0,3783	0,459	Valid
X1.2	The network used is smooth and not slow	0,3783	0,522	Valid
X1.3	The network can facilitate consumer pick-up and travel requests	0,3783	0,485	Valid
X1.4	GPS can reach consumer locations	0,3783	0,602	Valid
X1.5	GPS helps drivers determine the pickup location and destination of consumers	0,3783	0,580	Valid
X1.6	The online transportation application contains profiles of prospective customers	0,3783	0,670	Valid
X1.7	Online transportation drivers know the identity of prospective customers before pickup	0,3783	0,623	Valid
X1.8	There are photo drivers in the online transportation application	0,3783	0,604	Valid
X1.9	There is a vehicle driver number in the online transportation application	0,3783	0,655	Valid
X1.10	The online transportation application has other features besides delivering picks to potential customers	0,3783	0,593	Valid
X1.11	Drivers can deliver goods or services	0,3783	0,483	Valid
X1.12	The online transportation application has a rating feature that consumers provide to drivers	0,3783	0,504	Valid
X1.13	Drivers feel motivated to improve service by evaluating	0,3783	0,407	Valid
X1.14	The online transportation application allows for automatic or non-cash financial transactions	0,3783	0,649	Valid
X1.15	There is a bonus to the driver	0,3783	0,754	Valid
X1.16	There is a bonus to consumers	0,3783	0,540	Valid
<i>Y1</i>	<i>Unemployment</i>			
Y1.1	Online transportation drivers are residents who are looking for work	0,3783	0,514	Valid
Y1.2	Online transportation drivers are residents who are in the job selection process	0,3783	0,510	Valid
Y1.3	Online transportation drivers are residents who are preparing business	0,3783	0,573	Valid
Y1.4	Online transportation drivers are residents who are looking for additional business capital	0,3783	0,675	Valid
Y1.5	Online transportation drivers are residents who feel they cannot get another job	0,3783	0,754	Valid
Y1.6	Online transportation drivers are residents who do not want to find another job	0,3783	0,695	Valid
Y1.7	Online transportation drivers are residents who already have other jobs	0,3783	0,683	Valid
Y1.8	Online transportation drivers are residents who are waiting for work calls	0,3783	0,836	Valid
Y1.9	Online transportation drivers are layoffs from previous jobs	0,3783	0,644	Valid
Y1.10	Online transportation drivers are residents who are unable to operate technology at work	0,3783	0,385	Valid
<i>Y2</i>	<i>Employment Opportunity</i>			
Y2.1	Online transportation drivers have private vehicles	0,3783	0,638	Valid
Y2.2	Online transportation drivers do not pay deposits or levies to other parties	0,3783	0,417	Valid
Y2.3	Online transportation drivers pay vehicle tax regularly	0,3783	0,502	Valid
Y2.4	Online transportation drivers receive wages from the services provided	0,3783	0,428	Valid

Source: researcher calculation,2018.

TABLE II. RELIABILITY

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0,746	0,932	37

Source: Olahan SPSS,2018

The table shows that the questionnaire is reliable with the value of Cronbach's Alpha Based on Standardized Items amounting to 0.932, which means that the coefficient value is greater than 0.6.

*F. Data Analysis Techniques*

This research uses descriptive analysis and inferential analysis data analysis techniques. Descriptive statistics are

techniques for recording, organizing, and summarizing information from numerical data to other forms that can be used and can be communicated or understood [10].

#### IV. RESULTS AND DISCUSSION

Transportation Network Companies (TNC) implements sharing economy in their business operations. However, TNC also applies ride sharing to their business operations. Sharing economy and ride sharing is a theory used in TNC's business operations to form the TNC business platform [7]. Ride sharing is a single or recurring trip with an irregular schedule, which is held at one time, by confirming the trip several minutes before departure or before the scheduled trip. TNC in Indonesia, such as Gojek, Grab Indonesia and Uber comes from the concept of ride sharing. To run ride sharing, the operation is supported by technology. Online transportation is growing rapidly in major cities of Indonesia. The presence of online transportation in Indonesia's big cities is driven by the growing use of the internet and mobile smartphones by the local community. Increasing population, congestion, tourists and trade can be influential factors for the presence of online transportation in big cities including Malang. According to the statement of the Head of BPS and Republika, online transportation has an effect on unemployment in Indonesia. The increasing demand for online transportation services has resulted in an increase in the demand for labor transportation drivers online. The demand for drivers of online transportation drivers has an effect on the conditions of unemployment in Indonesia.

The calculation results of the Online Transportation effect on Unemployment and Job Opportunities show positive results. The results of testing Online Transportation on Unemployment shows that  $t_{count}$  is obtained at 4,670, then the ratio is  $4,670 > 1,65787$  or  $t_{count} > t$  table. Therefore it can be concluded that Online Transportation Affects Unemployment. The Online Transport variable (X) regression coefficient of 0.325 states that if Online Transportation (X) increases by 1% while unemployment remains, Unemployment (Y1) will increase by 0.325%. The (+) sign indicates a relationship that is proportional to the direction between Online Transportation (X) and Unemployment (Y1). The summary model testing shows the amount of Adjusted R Square is 0.149, this means that 14.9% of the Unemployment variation can be explained by Online Transportation of 14.9%. While the rest (100% -14.9% = 85.1%) is explained by other variables.

While the testing results of Online Transportation on Job Opportunities showed that  $t$  table in 1.65787. Based on the table of results of simple linear regression analysis, it is known that  $t_{count}$  is obtained at 3.605, then the comparison is obtained that  $3.605 > 1.65787$  or  $t_{count} > t$  table. Therefore it can be concluded that Online Transportation Affects Job Opportunities. The Online Transport variable (X) regression coefficient of 0.092 states that if Online Transportation (X) increases by 1% while unemployment remains then Job Opportunity (Y2) will increase by 0.325%. The (+) sign indicates the existence of a comparable relationship between Online Transportation (X) and Job Opportunity (Y2). The summary model testing shows the amount of Adjusted R Square is 0.092, this means 9.2% variation in Job Opportunities

can be explained by Online Transportation of 9.2% While the rest (100% -9.2% = 90.8%) is explained by other variables .

The test results show that Online Transportation affects unemployment, with the assumption that Online Transportation is able to accommodate the workforce who are looking for work or have not got a job. Unemployment is a situation where someone who is included in the workforce wants to get a job but hasn't got it [8]. Whereas employment opportunities relate to available employment or opportunities available to work as a result of economic activity, the definition of employment opportunities includes employment that has already been filled and all employment opportunities that are still open. Online transportation provides other work options that can be entered by the community in economic activity. Job Status, namely Self-employment without the help of others and Job Opportunities according to the Type and Position of Employment, namely Administration and first-level service businesses and intermediate production and transport workers.

#### V. CONCLUSION AND SUGGESTION

##### A. Conclusion

The results of Online Transportation test toward Unemployment shows that  $t_{count}$  is obtained at 4,670, then the ratio is  $4,670 > 1,65787$  or  $t_{count} > t$  table. Therefore it can be concluded that Online Transportation Affects Unemployment. The Online Transport variable (X) regression coefficient of 0.325 states that if Online Transportation (X) increases by 1% while unemployment remains, Unemployment (Y1) will increase by 0.325%. While the summary model testing shows the amount of Adjusted R Square is 0.149, this means that 14.9% of the Unemployment variation can be explained by Online Transportation of 14.9%. While the rest (100% - 14.9% = 85.1%) is explained by other variables.

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##### B. Suggestion

Based on the conclusion, the researcher provide some advice to the government to pay more attention to the creative industry sector such as online transportation so that the unemployment rate could be lowered and employment opportunities could increase. For online transportation entrepreneurs, they need to provide protection or insurance to drivers, given the high enthusiasm of the public for online transportation services.

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