

FACTORS THAT INFLUENCE PUBLIC USING RIDESHARING SERVICES IN  
MALAYSIA

EMILIA BINTI MD. SUMAN

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**DECLARATION OF ORIGINAL WORK**

“I hereby declare that this thesis is the result of my independent work except the summary and excerpts that have been specifically acknowledgement”

Signature :

Name : EMILIA BINTI MD. SUMAN

Date :

## DEDICATION

I would like to dedicate this thesis to my supporting supervisor, Madam Adilah binti Mohd. Din who has guide me in completing this research project from the beginning until it has been completed. This research project also dedicated to my beloved husband who gives me valuable supports during completing this project. Lastly, I would like to dedicates this research project to friends and those who has spent precious time in answering my questionnaire.

## ACKNOWLEDGEMENT

In the name of ALLAH, Most Beneficent and Most Merciful. Alhamdulillah, praise to ALLAH S.W.T for the heavenly blessing and for providing me with great inner and healthy strength and also emotional support in completing this research study title “Factors that Influence Public using Ridesharing Services in Malaysia.

A Final Year Project (FYP) is an assessment of one’s great attitude and skills. By completing this great task, it such a compilation of rewarding outcome of true efforts which has required immense patience, time and brains in thinking style development.

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## ABSTRACT

Accordingly, government takes serious efforts and very emphasis on public transport such as Taxi, LRT, KTM and Monorail due to the increasing number of population in Malaysia and the excessive travel demands (BERNAMA, 2016). Furthermore, long-existence complaints regarding current taxi issues and the emergence of Internet of Things (IoT) have seen a momentum in public switch to the new transportation alternative which called as UBER and Grab Car. Since ridesharing services such as UBER and Grab Car is fairly new in Malaysia public transportation market, factors that influence public using ridesharing services have not yet been studied in dept. So, this study present important insights about factors that influenced public using ridesharing services and the researcher was focus more on Kuala Lumpur and Johor Bahru as the sample of populations because ridesharing services are familiar in these two states. Importantly, the objective of this study was specifically; (1) to study the range of age of rider who using IoT as their trip alternative, (2) to identify the factors that influence public using ridesharing services and (3) to makes comparison common preferences factors that influence public using ridesharing services in Kuala Lumpur and Johor Bahru. A descriptive survey research was conducted through distribution of questionnaires in order to get the primary data. Based on the result obtained in demographic analysis, it was found that majority ridesharing users was in the range of age 22 to 25 years old. Next, multiple linear regression analysis demonstrate that accessibility, safety, environmental factors, trustworthiness and transaction cost were the factors that influence public using ridesharing services. Lastly, two sample t-test shown that public in Kuala Lumpur seems more likely to use ridesharing services due to accessibility factors, on the other hand, ridesharing users in Johor Bahru were most influenced by trustworthiness factors. Finally, it is recommended for future researcher to study factors that influence public with car ownership using ridesharing services, to investigate causes that makes safety and environmental factors were less influencing public in using ridesharing services and to study the most significant factors that influence public in Sungai Petani, Batu Pahat and Malacca in using ridesharing services.

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## CHAPTER 1

### INTRODUCTION

#### 1.1 Introduction

This chapter contains of the background of study, introduction and importance of public transport, government efforts, Internet of Things (IoT), Uber as the ridesharing service, problem statements, research questions, research objectives and scope of the study.

#### 1.2 Background of Study

(Belk, 2014) pointed out that “You are what you can access: Sharing and collaborative consumption online”, he highlights that, collaborative consumption and the sharing economy are phenomena born of the Internet age, while sharing is a phenomenon that exists a long time ago since humankind exists in this world. Besides, there are so many best innovation and creative applications (Apps) was invented in smart phone which has change the ways of life in many ways as highlighted by (Ngo, 2015).

In Malaysia, ridesharing services such as Uber and Grab Car got attention from rider since the problem of taxis services exists in transportation market. However, the existence of Uber and Grab Car in Malaysia are not well accepted by taxi drivers and

they criticize and humiliate this ridesharing service by claiming and complaint that Uber and Grab Car are illegal and has disrupt their livelihood.

Furthermore, in Malaysia, Uber was entered transportation market in 2014, the existence of Uber got positive feedback from rider. But unfortunately, taxi drivers established protest demonstration by issuing the status of Uber in the eye of law. Besides, taxi drivers label Uber and Grab Car services as an unauthorized and illegal transportation services since these two ridesharing services has not registered with any legal company in Malaysia like Taxi company. This circumstance attracts attention of Land Public Transport Malaysia (SPAD) to conduct a survey regarding public acceptance towards services provided by Uber and Grab Car. As the results from the survey, SPAD found that 80% from the respondents prefer Uber and Grab Car than a regular conventional taxi. In addition, one of the factors that influence public preferences was in terms of their accessibility where rider is able to find a driver faster without waiting for a long time at the road for taxi arrive. At the same time, SPAD gives advises to the conventional taxi to upgrade their service standards in order to improves comfortability for passengers. According to the positive feedback and public acceptance from the survey conducted, Land Public Transport Commission (SPAD) has submitted a proposal to the government, to enable service Uber and Grab Car operate legally in Malaysia (Amanz, 2016).

Uber and Grab Car is not a taxi company although both supply riding services, it is a transportation network company. Uber and Grab Car is based on network technology by using smartphone apps which connect rider and driver for riding deal purpose. When rider request a ride, Uber app will contact nearest driver to deal and confirming the trip (Ketema et. al, 2015). Moreover, Uber driver is using private car which provide on-demand transportation alternative for rider. Furthermore, ridesharing services has become the largest and fastest growing transportation network business which has reported from the studies carried out by (Ngo, 2015).

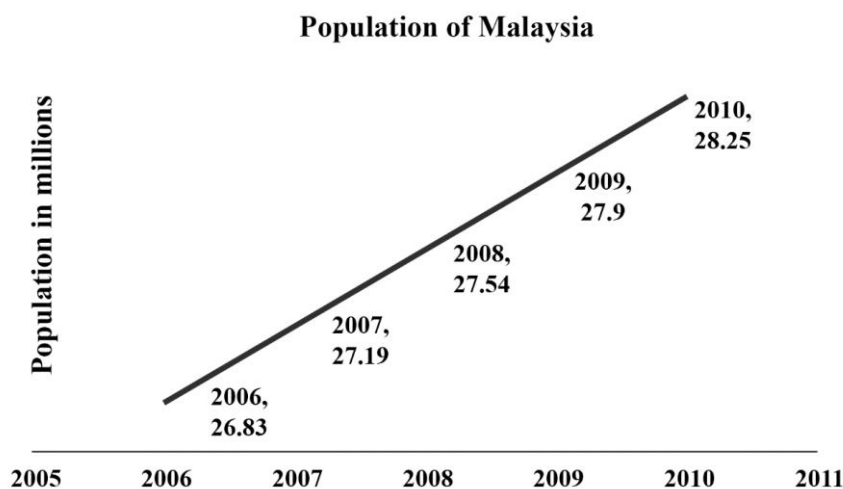
Worldwide, Uber company now facilitates 1 million rides per day, adding 50,000 new drivers per month. As of March 26, 2015, the ridesharing service was available in 56 countries and more than 200 cities worldwide (Uber, 2015). This is very fastest growing in transportation market, they got positive acceptance from so

many riders. This paper discussed further on factors that influence public using ridesharing services and public acceptance regarding the operations of services.

### **1.2.1 Introduction of Public Transport**

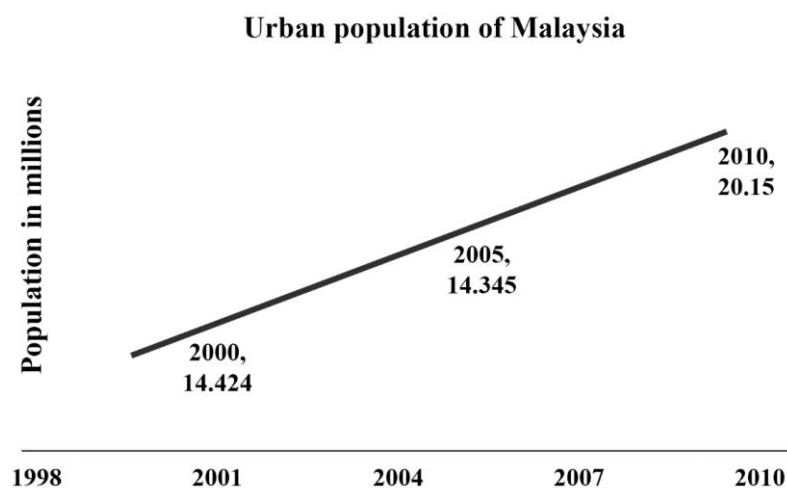
Every person or family members have to go out every day to carry out daily activities such as working to earn money to support living cost, go to market to buy groceries, school or college for education purpose, shopping, getting rest to recreation center with family members or friends during weekends or holiday and so many other activities. To done all of those activities, most of them needs transport to arrive at destinations except place which near to house such as grocery store. Malaysia is one of the developing countries in which some groups of the population is under the low-income level's group compared to developed countries. According to this situation, not everyone has the ability in possessing own car. So, this lead to increasing demand in public transport services (Illes, 2005).

In Malaysia, citizens are provided with so many upgraded and improved quality of public transport from time to time. Long time ago we have buses and taxis as the ride alternative and nowadays so many other public transports such as Light Rail Transit (LRT), Mass Rail Transport (MRT), and Monorail where these transports based on electric sources which helps to reduce air pollution and traffic congestion (MStar, 2016). The improvement and development of public transport is important to satisfied and meets the needs of increasing number of population in Malaysia.



Source: (Department of Statistic, 2010)

Figure 1.1: Population of Malaysia between 2005 and 2010



Source: (World Bank, 2008)

Figure 1.2: Urban population of Malaysia between 2000 and 2010

When populations are steady increase, it will cause traffic congestion. Traffic congestion occurs when so many cars in the road while the supply of road is limited so it is a barrier for the free movement in the road space. As shown in Fig. 1.2, we can see statistic from (Department of Statistics, 2010) where the urban population in Malaysia is about 49.9%. In Fig. 1.2, observed by (World Bank, 2008), 32 persons per 1000 people have access to car while about 78% of the urban population has improved sanitation facilities. The percentage of urban population will reach to 68.2% that is about 18.8 million people based on National Physical Plan Malaysia. Based on Fig. 1.1, as the evident of increasing number of population in Malaysia, it shows that by



2010 itself, the population have exceeded 20 million. So, it can be concluded that the urban population will increase for more than the estimate. Sabah and Sarawak is less urbanized than Peninsular Malaysia as mentioned by the work of (Almselati et. al 2011).

### **1.2.2 Importance of Public Transport**

According to the increasing number of urban population in Malaysia, public transport is most needed and important to country in order to avoid and overcome traffic congestion and some other problem occurred such as air pollution. Moreover, traffic congestion problem can be addressed by promoting public transport where it can reduce the number of car in the road because there are so many people riding by using their own car although they ride alone, so it causes so many cars in the road and reduce movement space in the roads and also it may increase the possibility of accident (Almselati et. al 2011). Furthermore, public transport helps in handling air pollution by reducing oil and gas consumption. Next, public transport also needed by those who doesn't have skill in driving. Jabatan Pengangkutan Jalan (JPJ) was detect as many as 1.2 million people in Malaysia who are eligible for a driver's licenses, has no license. This scenario maybe related to people's low-income level, where some people are not available to take driving class for driving license and not affordable in possessing own car because of money factor-said General Director, Datuk Nadzri Siron (NST, 2016).

(Mjhool et. al 2015) has mentioned that, the effects from rapid population growth in urban city contribute to the increase in car traffic in the city center. Furthermore, the effect of the increase in population in Malaysia was encourage and associated with an increase in the number of registered cars in Malaysia which indirectly contributes to the shortage of parking space. Finding for parking space is so difficult and may disturb emotion of driver especially during peak hour as posited by (Idris et. al, 2009). In addition, some situation that makes extra traffic delays is because the driver does not found a free parking lot and at the same time it will cause complication for other divers (Mjhool et al., 2015).

Statistic provided by the Malaysian Ministry of Transport, a significant increase in the number of new registered vehicles was shown clearly in the statistic which indicates the registered vehicles from 2007 until the latest in 2016. In 2015, alone around 614,664 vehicles were registered in Malaysia of which 563,883 were passenger cars. According to the statistic of new registered cars in Malaysia, from 2011, the number of new registered cars began to rise at kept almost steady rate until 2015 and it will continue in the subsequent years (Malaysian Automative Association, 2015).

Idris and Prabuwono (2008) was stated that some of the reasons resulted in increasing number of vehicles ownership are changes of certain lifestyle, high income and the public services such as trains and buses provided are poor. Therefore, it is clear and has proved that provides public transport services to the community is very crucial and be able to overcome some problems such as the lack of parking space, the increasing number of new registered cars, reduce traffic congestion and air pollution.

Table 1.1: Number of registered vehicles in Malaysia

<b>Year</b>	<b>Passenger Cars</b>	<b>Commercial Vehicles</b>	<b>Total Vehicles</b>
<b>2007</b>	403,245	38,433	441,678
<b>2008</b>	484,512	46,298	530,810
<b>2009</b>	447,002	42,267	489,269
<b>2010</b>	522,568	45,147	567,715
<b>2011</b>	488,261	45,254	533,515
<b>2012</b>	509,621	59,999	569,620
<b>2013</b>	543,892	57,515	601,407
<b>2014</b>	545,122	51,296	596,418
<b>2015</b>	563,883	50,781	614,664
<b>SEPTEMBER 2016</b>	354,771	32,194	386,965

### **1.2.3 Government Efforts**

Since transportation has an important role in handling many problems in the road, there are so many efforts and actions was established and taken by government to make sure public transport in Malaysia are able to accommodate demand and fulfill citizen's needs and wants. In 2016 Independence Message by Prime Minister Datuk Seri Najib Tun Razak in the Dewan Merdeka, Putra World Trade Center (PWTC), he says, he wants serious effort of the government that he leads in the implementation of the best public transport network, to meets the demand of rapid now and the future will be created and etched in history. One of the efforts taken are government is so committed to a number of public transport projects, medium and mega-scale, such as connection LRT Ampang and Kelana Jaya which will be beneficial to at least 300 thousand people each day. He also said that recently he was launched a new alignment project LRT 3 for Bandar Utama, Klang covering 36km, 25 stations are expected to be completed in 2020. Dr. Sri Najib also said, he and majority citizens are very excited waiting and looking forward the operating range of the first phase of the MRT Sungai Buloh-Kajang which will be launch on 15 December 2016 (MStar, 2016).

### **1.2.4 Internet of Things (IoT)**

Nowadays, Internet has become one of the most important things that people must have to easily access and upgrade their living style and also has become needs for majority group of populations not excluded private and government sector, students, and others where they need Internet to perform activity in daily life for working purposes or social network activities. Besides, the Era of Internet also has promoted technological advance where Internet of Things (IOT) has been created to satisfied customer needs and wants. In addition, the Global Standards Initiative in 2013 has defined IoT as the information society infrastructure.

The IoT allows objects to be sensed and/or controlled remotely across existing network infrastructure, build opportunities for more direct integration of the physical

world into computer-based systems, and encourage advantages such as improvement of efficiency, economic benefit and accuracy. Furthermore, (Rifkin, 2014) believe that Communications Internet, Energy Internet and Logistic Internet has been facilitate each other and together generate a single operating platform which these three parts constitute by IoT. In addition, throughout the value chain of the economy, it has been attached by sensors to supply into this three Internets in a way to connect appliances and things with human beings. Moreover, the task of these sensors is to collect big data and expected to grow. Next, a form of energy to power a society and a form of mobility to move economic activity, and a form of communication are the three elements contained in this economic platform and all these are present in each period form of the First Industrial Revolution which has affirms by (Rifkin, 2014). The latter was characterized by printing telegraph and steam power, coal and steam power, locomotive and train.

Other than that, The Second Industrial Revolution: centralized electric and telephone, and later radio and television; oil; the internal combustion engine. Finally, the Third Industrial Revolution: Internet; distributed renewable energy; Unmanned automated vehicles, logistics and automated drones. According to (Rifkin, 2014), IoT allows people, small businesses small cooperatives, and large corporations, have the same possibilities and to have the same access as in the initial phase of the Internet.

### **1.2.5 Ridesharing Services**

Increasing fuel costs due to oil shortage in US is the phenomena which makes the idea of car sharing born in the 1970s where at the moment, some people are encouraged to start share their rides with friends or neighbors (Jonuschat and Handke, 2013). Besides, ridesharing services can be defined as sharing of transportation or ride alternative especially among commuters by usually private owned car as a driver where this agency was set up to draw up a program sharing of trip. This type of service allows a person uses a smartphone app to arrange a trip.

Moreover, ridesharing services can be defined as online marketplace that allows qualified drivers to use their own cars to drive ride-hailing passengers (Pham et. al, 2016). The authors were discussed and agreed that by relying on smartphone application and mobile, ridesharing services bring substantial improvements to the riding experience, complimented with ease demand, the paying for and rating the trip.

Furthermore, according to (Ngo, 2015), ride sourcing colloquially known as ridesharing is a form of shared mobility which provides sharing of vehicle services based on consumer demand, where rider can use their mobile application on smartphones to book a ride from a pool of private owned car that willing to share their car in return for money. Other point is ridesharing offer a large number of benefits, such as minimized costs, reduce traffic congestion, less pollution and so on. Besides, there are several challenges that have limited the widespread of use which has mentioned and identified by (Furuhata et al., 2013). Moreover, (Chaube et. al,2010) published a paper in which they described ridesharing as a private vehicle sharing method to other passengers for the purpose of traveling from one place to another place. The ridesharing arrangement may involve a payment of fuel costs to the vehicle owner. Since ridesharing involved in providing services to the public, it can also be categorized as a public transport while public transport is an alternative way of commuting available to the public.

Moreover, passengers are encouraged to rate drivers and their private vehicle in each trip. This evaluation system can cause the driver being discontinued to provide the ride services through the apps if there are complaints by the riders against the quality of service provided as highlighted by (Feeney, 2015). This ensure the ridesharing services are safe to use by rider without any risk of criminal danger involving driver. In addition, (Chaube et. al, 2010) mentioned that, additional features such as direct mapping, user profiles, and evaluation of the driver and rider are provided in the application to improve the user experience. User profile features is included to provide basic information of the driver and rider and a rating system to further improve the reliability to the user rating to be done based on the driving skills of the driver, vehicle interior environment such as music, the smell of cigarette smoke and passenger behavior. Next, previous studies by (Jonuschat and Handke, 2013) points out that, other than gives convenient transportation to the rider, Uber also

indirectly reduces traffic congestion with an increasing number of passenger per vehicle and resulting in environmental benefits. Moreover, they also have mentioned that in future, due to increasing prices of fossil fuels, as well as technical improvement and the growing availability of mobile internet, ridesharing will certainly gain further attention.

### **1.2.6 Uber as the Ridesharing Services**

Uber is the largest and fastest sharing economy. According to (Lubian, 2015), one of the reasons that makes and brought Uber become the most successful among enterprise of Sharing Economy world is because of the absolutely innovative and effective business model and strategy they developed and currently has achieved an actual market value of 51 billion US Dollars and with a commercial existence in nearly 58 countries and 312 cities around the world.

Last year, (Rogers, 2015) on his studies about “The Social Cost of Uber”, describe Uber as riding alternative which based on smartphone app that connects nearer driver who offerings ride to rider. Besides, Uber fares is based on mileage and paid by rider through credit cards that Uber company keeps on file, then the driver got 20% from the payment. In addition, (Lubian, 2015) gives broad meaning of Uber in the perspective of consumer which called as rider in this paper. He describes Uber as the transportation provider (driver, vehicle) where the Uber App and the website are provided to enables rider to obtain transportation services offered by third party to book a safe ride.

Furthermore, Uber company connect rider with drivers of vehicle for trip purposes and it relies on a mobile app. The term "ridesharing" often used to describe services like Uber, but the term may be somewhat misleading. The basic model you pay a company to move from point A to point B still applies. However, unlike a taxicab, Uber using their personal vehicle to drive passengers. Instead of communicating with shipping to arrange for a pickup, passengers are asked to pick-up directly through the app. Furthermore, from the observation on the weaknesses of

current conventional taxi, Uber apply smart technologies and come up with the apps which provides more effective and efficient of rides alternative for their customers. This statement supported by (Almselati et al., 2011) which said that, implement smart technology could reduce travel time and cost.

Uber has defined its mission and business model by mentions that they open up more possibilities for riders and more business for drivers in which at the same time makes the cities more accessibilities by seamlessly connects riders to drivers through one app. On the other side, Uber's rapidly expands in global presence which continues bring people and their cities closer from their founding in 2009 until Uber's launces in hundreds of cities today (Lubian, 2015). Similarly, he also has said by his own view that Uber can be defined in 4 main aspects. Firstly, Uber directly connects supply and demand of transportation on an online market as the introduction of an efficient technological application by using the App. Secondly, the person who makes his vehicle available which called as Uber driver to others that request a ride to moves from one place to another place by using the app which called as Uber Users (rider), that will pay for the service received and it is based on the concept of sharing the use of vehicle. Thirdly, the company's ability to achieve international fame in the historical evolution of quality in the transport domain with a rapidly expanding presence and reputation throughout the world through a strong community of users and drivers.

### **1.2.7 Characteristics of Principal Operational of Uber App**

To set the pick-up location of Uber passenger, the App will automatically use GPS and Wi-Fi once the passenger has downloaded and acceded to the App and by tapping the pickup location bar, Uber passenger also available to enter an exact address or search for a venue name. In addition, by using the slider at the bottom of the map, it will display options for types of vehicles which available for the passenger to choose one and at the same the rate for that specific options will be shown too.

For request a ride, the Uber passenger can next tap on “Set Pickup Location’ button once the location is set together with the vehicle options. After the requested ride was accepted by Uber driver, the Uber Apps will display information about the Uber driver includes driver’s name, photo, vehicle model, and the plate number. Other than that, the Apps also shows the fare for the trip before the Uber passenger book the trip and it also displays the ways of payment will be made by the passenger whether in cash or credit card.

### **1.2.8 Pricing Method and Price Surge**

Furthermore, Uber company handle all hiring and payment session from their Apps and Uber driver doesn’t have any power to collect additional payment form Uber passenger. For example, the price is calculated on a distance basis and on a time basis if the Uber car is travelling at a speed greater than 11mph (18 km/h) and the calculated formula is depends on each cities (Lubian, 2015).

Moreover, (Lubian, 2015) also has mentioned that, the fares may be changed and adjusted by way of an automated algorithm which increases prices depends on certain cases like supply and demand in the market are changes rapidly and this phenomenon is called as price surging. The number of Uber drivers are limited at times of high demand and this price surging makes more driver become available as the prices increase in order to ensure the reliability to meets all the demands in market. Besides, Uber also take care about the current price seriously by giving a notification for both Uber driver and Uber passenger when there is price surging on that moment and connect Uber passenger with Uber driver if only the passenger agreed with the price surge as mentioned in (Uber, 2015).

In addition, previous study by (Lubian, 2015) has pointed out that, price surging is providing an incentive for new drivers to hit the roads, it will create a new supply or in two other ways where the price become higher, people who want a car turns to become less and automatically may reduce the excessive demand in market. The other ways are by shifting the supply where it pushing Uber driver that currently