

## **Influencing Factor to Use E-hailing Transport for Motorcycle Mode**

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**Abstract:** The increase in population in an area also led to an increase in transport demand. In Malaysia, transport such as the e-Hailing service is gaining ground in the community and is an important mode of connecting people. This study aims to determine the level of consumer acceptance of the idea of implementing e-Hailing motorcycles. The objective of this study is to identify factors that contributes and influence users to use e-Hailing services. The study area is in urban and sub-urban areas, such as at Batu Pahat and Johor Baharu. The questionnaire was conducted and distributed among 200 respondents in the study area. The questionnaire was designed on the Technology Acceptance Model (TAM). The Correlation analysis were used in this study analysis. The results of this study shows that the relationship between variable in technology acceptance model, perceived ease of use and perceived usefulness strongly correlated and there strong relationship between these two variables. Among the suggestions to improve the use of motorcycle services among e-hailing users is that the management company must ensure that their riders are always prudent when sending passengers to their destination safely.

**Keywords:** E-Hailing Motorcycle, Technology Acceptance Model

### **1. Introduction**

The development of a perfect transport system is at the center of the development of a nation. It is one of the most important communication systems that has been practised long ago to facilitate the movement of users from one place to another. Research has been carried out by researchers to develop and improve the existing transportation system so that users feel safe and comfortable when using it. The progress of the transportation system is in line with the development of a country. A country's development and modernization can be seen on the basis of the country's transport infrastructure, whether by land, air or sea Norazlisham [1].

The development of the world today has changed dramatically from all aspects of development, excluding the transportation system. The rapid growth in development has led to an increase in the standard of living, culture and social life among the locals. In peninsular Malaysia, the importance of the transportation system is more focused on the land transport system. This importance is reflected in the increased number of vehicles and road network construction. For this transport, it is divided into two transport, private and public transport. Private transport or vehicles consist of vehicles that are privately owned for personal use. Private vehicles include cars, motorcycles, and bicycles. Ownership of private vehicles is closely linked to improving the living standards of people in this country. Ibrahim Wahab, [2].

Challenges to the transportation system are based on issues such as congestion, accidents, environmental pollution, public transport, pedestrians, parking and so on. Various studies have been carried out by researchers to help solve and reduce problems. The support, cooperation and attention of the government have helped to simplify the solution. Among the solutions that the government has come up with is improving the public service system besides the use of taxis or government buses.

In 2019, the government through its cabinet approved a proposal to establish e-hailing motorcycle service as one of the most important communication systems among consumers. Besides, the e-hailing motorcycle service is one of the government's efforts in creating another employment opportunity for the people, especially for the young. This e-Hailing motorcycle service is also one of the facilities that will make the traffic more manageable as well as save time for users and avoid getting stuck in traffic jams. The introduction of the e-Hailing motorcycle service has generated a great deal of response from various parties. There are many negative responses but there are also positive responses to this service.

Therefore, this study will describe the acceptance of this system among drivers as users of this system who will definitely feel and go through it. The objective of this study is to identify factors that contributes and influence users to use e-hailing services and determine the most dominant factor to use e-hailing services using Technology Acceptance Model (TAM). Acceptance of this system is studied based on the Technology Acceptance Model (TAM) [3]. Through this model, the factor of user acceptance of this system can be known that is whether e-hailing user acceptance is more dominant to Perceived Acceptance or Perceived Easy of Acceptance.

### 1.1 Technology Acceptance Model

TAM, developed by Davis in 1989, is one of the most widely used models in Information Technology research because it is simpler, and easier to apply [3]. TAM is actually adapted from the theory of reasoned action model, the reasoning action theory developed by Fish and Ajzen in 1975, provided that a person's reaction and perception of something, will determine the person's attitude and behavior [4]. The purpose of the behavior is determined by the attitude towards the behavior [5, 3]. Thus, consumer reactions and perceptions will influence his attitude in the acceptance of a particular technology [6].

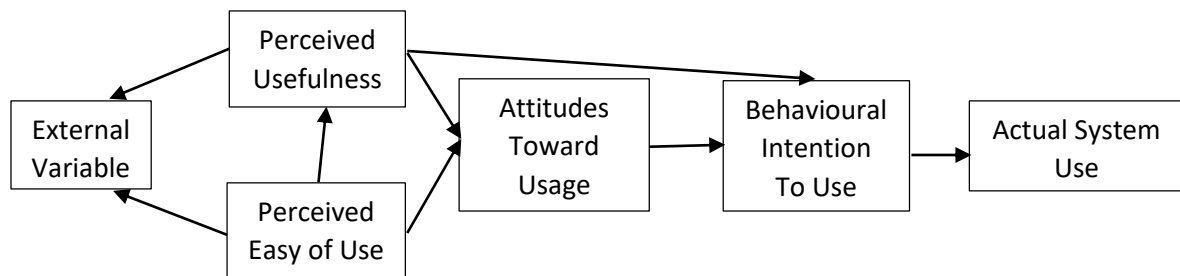
TAM states that the use of an individual's system is determined by his behavioral intentions which are further determined by two beliefs namely:

#### i) Perceived usefulness

The extent to which a person believes that the use of the system will improve his performance [3, 5].

#### ii) Perceived ease of use

The extent to which people believe that using a system will be free from effort [3, 5].



**Figure 1: Technology Acceptance Model (TAM) that came from [3,5]**

## 2. Methods

### 2.1 Questionnaire design

The study focuses on the views and opinions of e-hailing user about e-Hailing motorcycle service. This study uses a questionnaire as a research tool to collect data. The survey form used was designed and formed based on Technology Acceptance Model (TAM) [3]. This questionnaire has been divided into 3 parts; the first part is the information of the respondents, the second part is the respondent experience and the third part is the respondents' opinion of the e-hailing motorcycle service system based on the Technology Acceptance Model (TAM). Likert scale was used for respondents to answer the survey questions. Scale 1 to 5 is a measurement scale for respondents to the questions posed. Distribution of survey forms has been done around Batu Pahat and Johor Baharu areas, among them are in Bus terminal, banks, business premises and shopping malls. The respondents selected were random in terms of race, gender, race, level of education and status of the respondents.

However, the respondents selected are also Malaysian citizens because this system is enforced in Malaysia. The number of respondents for this study was selected based on the population of the state of Batu Pahat and Johor Baharu. The number of respondents or sample size can be determined through formulas, tables and diagrams. Therefore, this study determines the sample size using the method proposed by Krejcie & Morgan [7] through the population of the state of Johor. Therefore, based on [7] for the population of the state of Johor which exceeds 1.0 million is 384 people the sample size. However, this study only selected 200 respondents who are sufficient for this study.

### 2.2 Data Collection

Before the actual study is done, a pilot study should be conducted to ensure that the questionnaire conducted meets the objectives of the study [8]. Mangkau [8] stated, a pilot study is done to see the feasibility or reasonableness of a study to be done. The study of Ambak et al., [5] was used as a reference for this study because the study also used the same survey form and model. Therefore, a total of 20 respondents among the drivers was selected for the pilot study. Cronbach's Alpha score was used as a reference to analyze the internal consistency reliability of the questionnaire items in the pilot study. The level of reliability is to obtain a Cronbach's alpha value of 0.6 and above. For the pilot study conducted on 20 respondents, the result of Cronbach's Alpha value obtained was 0.664. Next, the actual study was done by distributing 200 questionnaires in the study area.

### 2.3 Data Analysis

After collecting the data, the study continued by analyzing the data obtained. For this study, the data is analyzed based on descriptive analysis that can manipulate the data to get a quick overview of the data set to easily and easily summarize the data. In addition, the data obtained were also analyzed

using correlation and regression analysis. This data will also analyze using the Statistical Package for the Social Sciences (SPSS) software version 26.0.

Two essential measurements are frequently used in decision-making by descriptive data analysis - central tendency and dispersion measurement. Central trend calculation includes a number according to Cozby [9] that explains how the total score of a group is general or average. In this analysis, the central tendency to analyse descriptive data, namely Mean, Mod and Median, was selected. The first central tendency is mean. Mean is the sum of scores in a group and divided by the number of scores. The second central tendency is mod, it is the most common score and the last one is median. The median is the score divided into two parts in example 50% is the score above the median and 50% is the score below the median. If the score number is odd, it is easy to choose the score in the middle but if the number is even, the median is the midpoint between the two scores. Based on Cozby, [9] to find the median, two scores in the middle are added and divided into two parts.

The coefficient of correlation is a statistic that describes how strong variables are related to one the other in some way. The coefficient of correlation is used when both variables have the same interval or scale properties. The value of the Pearson correlation coefficient  $r$  is in between -1 and 1, with 1 or -1 show is relation indicating perfect correlation. It was found that  $r$  coefficient are told about the relationship indication whether the relationship is positive or negative between two variables [9]. A positive correlation indicates a positive association increasing values between the variable, while the negative correlation indicates a negative decreasing association between in another variable. It is easy to convert the original score into  $z$  units to get the coefficient between the relations that explain the similarity between two measures and a single number. The variable that use in correlation analysis is perceived usefulness and perceived easy of use.

The regression analysis is statistic process use by one or more variable to build the variable of the behavioral. Regression equation is a calculation using the predicted score in one of the other known variables. Multiple correlations used to combine the predictor variable to improve the accuracy of prediction of the criteria or the results provided by the variables. A regression equation is created from the regression weight for each predictor is tested to see it is significantly different from zero. Based on Oktiani, [10] the beta different from zero that independent variables is a significant predictor of the dependent variable.

### 3. Results and Discussion

#### 3.1 Descriptive Analysis

Based on the study data obtained through 200 respondents, 52.5% of which 105 respondents are female and the remaining 47.5% (95 respondents) are male. Based on Azmie study, [11] the majority of e-Hailing users in Johor Baharu area were female. In addition, respondents are ethnic Malay majority 49% (98 respondents). The highest average age of using e-hailing is between 20 to 30 years with 48% (86 respondents) compared to other ages. As for the level of education, it is 42%, which is 84 respondents with SPM education and followed by diploma holders of 39 respondents (19%). The results of the study also show 37% (74 respondents) are in private sector category is a higher percentage, 24% (48 respondents) are self-employed, and 19% (38 respondent) were students. More than half of the respondents are still single, that is, 102 respondents (51%) and only 49% (98 respondents) are married. More than half of the respondents are still single, that is, 102 respondents (51%) and only 49% (98 respondents) are married. The highest income is between RM1001 to RM2000 per month with 36.5% (73 respondents). This is because the average minimum salary of Malaysians is RM1100 per month. Total respondent's using the e-hailing services are 62.5% and other 32.5% are respondents not use the e-haling services. As show in the illustration the frequency per week user just use one in a week is more than other with 19%. Next, 10.5% are 2 times per week, 10% are 3 times, 8% are 4 times, 7% are 5

times, 4.5% are 7 times, and the lowers percentage is 6 times per week are 3.7%. However, they have 5% data missing.

**Table 1: Respondent Demographic**

<b>Item</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
<b>Gander</b>		
Male	95	47.5
Female	105	52.5
<b>Race</b>		
Malay	98	49
Chinese	47	23.5
Indian	33	16.5
Other	22	11
<b>Age</b>		
Below 20 years old	26	13
20 to 30 years old	86	43
31 to 40 years old	30	15
41 years old and above	20	10
<b>Education Level</b>		
SPM	84	42
STPM	4	2
Diploma	39	19.5
Degree	58	29
Master/PHD	14	7
<b>Occupation</b>		
Government sector	16	8
Private sector	74	37
Self-Employed	48	24
Student	38	19
Not working	24	12
<b>Status</b>		
Married	98	49
Bachelor	102	51
<b>Monthly Income</b>		
None	51	25.5
Below RM1000	18	9
RM1001 to RM2000	73	36.5
RM2001 to RM3000	39	19.5
RM3001 and above	18	9
<b>e-Hailing Users</b>		
Yes	125	62.5
No	65	32.5
<b>Frequency Use The e-Hailing Per Week</b>		
1	38	19
2	21	10.5
3	20	10
4	16	8
5	14	7
6	7	3.5
7	9	4.5

Table 2 shows the respondent experience during using the existing public transport which is around the study area. Based on data collection total 67% (137 respondents) has the e-hailing application and other 29.5% (59 respondents) don't have it. Next, a total of 65% (130 user) have a problem with the travel schedule delays and other 27.5% (55 respondents) don't have any problem with delay travel schedule. As show 53% respondent use a bus as they public transport compare to taxis with 30%. It is because in Batu Pahat and Johor Baharu, bus transport system service is more efficient and easy to access. The result for the last questions in part B shows us the majority respondents choose the unpleasant smell is a first problem with 22%. Second problem with 19.5% is travel schedule delays. Third problem is overcharged with 18.5%, it most happened to taxis passengers. Next, not enough seats for passengers with 17.5% and the other problem with 3.5%. The other problem that respondent state like not friendly driver, dangerous driving and also a lot of foreign immigrants especially at Batu Pahat.

**Table 2: Respondent Experience**

<b>Item</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
<b>e-Hailing Application In Mobile Phone</b>		
Yes	134	67
No	59	29.5
<b>Travel Schedule Delays Problem</b>		
Yes	130	65
No	55	27.5
<b>Public Transport Usually Use</b>		
Bus	106	53
Taxi	60	30
<b>Other Problem While Using Public Transport</b>		
Not enough seats	35	17.5
Unpleasant smell	44	22
Travel time delay	39	19.5
Overcharge	37	18.5
Other	7	3.5

### 3.2 Correlation Analysis

Table 5 below shows the correlation between the variables in the Technology Acceptance Model (TAM). The results of the analysis of the data obtained are that all the independent variables show a linear and significant positive relationship to the dependent variables. Based on the statement of David & Gulford in Said study [12], the value of R between 0.5 to 0.69 indicates a strong correlation between the variables. While the value of R between 0.2 to 0.4 indicates a weak relationship between the variables. While significant values indicate that the two variables are clearly correlated with each other.

In addition, an analysis was also made between the perceived usefulness variables and the perceived easy of use variables is to see whether the variable have a strong influence or not on the perceived usefulness. The beta value obtained indicates that the perceived easy of use has a strong influence on the perceived usefulness in this study that is in other words the perceived easy of use leads to the perceived usefulness of e-Hailing motorcycle services. It was found that the analytical study between these two variable is important where the perceived easy of use has a strong impact on the perceived usefulness, based on Naida study [13]. Ambak et.al., [5] also discussed the perceived easy of use effected the perceived usefulness and confirms the relationship between these two variables.

**Table 4: Pearson Correlation Analysis**

		Perceived Usefulness	Perceived Ease Of Use	Intention To Receive
Perceived Usefulness	Pearson Correlation	1		
Perceived Ease Of Use	Pearson Correlation	.785**	1	
Intention To Receive	Pearson Correlation	.874**	.746**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### 4. Conclusion

The motorcycle based e-Hailing service system is a new form of system that will be implemented by the government to improve the public transport system in the country while creating new job opportunities among teenagers in Malaysia. However, this service proposal has caused a lot of voices and views by users of public services as well as e-Hailing. The results of the study found that the relationship between variable in technology acceptance model, perceived ease of use and perceived usefulness strongly correlated and there strong relationship between these two variables. Also the level of acceptance of e-Hailing motorcycles by consumers is balanced, this is because e-Hailing users in Malaysia are still less confident in their level of safety when using this e-Hailing motorcycle service. However, constraints on traffic congestion, especially in urban areas and this service can save the travel time of users. This shows that consumers believe that accepting these services will not burden them but will benefit them. Therefore, in order to establish a special licence for motorcyclists operating in this operation, the Land Public Transport Commission (SPAD) as well as the Road Transport Department (JPJ) need to take the approach. Among the suggestion to improve the use of motorcycle services among e-hailing users is that the management company must ensure that their riders are always prudent when sending passengers to their destination safely.

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