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Influencing Factors to Use E-Hailing Transport for Food Delivery Service

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Abstract: E-Hailing services are considered as on-demand vehicles that affect the efficiency of food delivery. This system improves the process of collecting and sending orders from customers in a short period of time. This study aims to determine the level of consumer acceptance or satisfaction with food delivery services using the e-Hailing system. The objective of this study is to identify the factors that influence the community to use e-Hailing food delivery services and to determine the most dominant factor in e-Hailing services according to Technology Acceptance Model (TAM). The location of the study is in the urban area and also semi-urban in the districts of Johor. A self-administrated online questionnaire was distributed among 258 respondents in the study area. Part of the questionnaire was constructed based on the TAM. Correlation and regression analysis were used in the analysis of this study. The results of this study show that the relationship between variables TAM ($\beta = 0.443$), perceived ease of use, and perceived usefulness are strongly correlated based on significant values ($p < 0.001$) showed the independent variable (Intention to Use) influenced the acceptance of user behaviour towards e-Hailing. Among the suggestions to increase consumers of food delivery services among e-Hailing users is to reduce delivery charges for nearby areas so that consumers can buy food at various stores. This can help other vendors and riders in this e-Hailing food delivery service.

Keywords: E-Hailing, food delivery, Technology Acceptance Model (TAM)

1. Introduction

During the Covid-19 pandemic outbreak, there was a surge in demand for food and grocery deliveries because of movement restrictions and social distance awareness. The most crucial factor influencing consumers' decisions to use food ordering apps is the availability of doorstep delivery (Das, 2018). Furthermore, in an ever-changing technology environment food delivery via e-Hailing has grown in popularity a vital aspect of people's daily lives. The rise in food ordering via e-Hailing is convenient and gives more control in ordering meals or snacks and it is easier and saves time (Kimes, 2011). In this day and age, food requesting and delivery administrations are generally growing and moving organizations. Online meal ordering and delivery services, like other internet businesses, are reaping huge rewards.

This is due to urbanisation and the rapid development of family institutions, both of which are complementary in their usage of online services. Furthermore, because of a variety of factors that influence their purchasing decisions, people choose to acquire meals through an online food delivery service. These are discounted offerings that let customers to choose their food whenever they want, as well as quick and easy delivery via websites and mobile devices. Customers will then receive their requests at their doorstep within the estimated time frame. Throughout the course of this cycle, the client experiences many advancements. from deciding on a request to making the final payment (Sandeep, 2018).

Individuals are looking for new ways to buy products without breaking a sweat while maintaining cost adequacy as firms grow quickly. The manual technique of going to their local food deal sources to get food is becoming obsolete and time-consuming (Kimes, 2011). Food can be ordered online and paid for in instalments without having to visit a cafe or a food vendor. As a result, a broad range of publicity is required, as well as the ability to make direct requests, prepare food, and deliver it via an online system. Food delivery is viewed as a service that allows consumers to save time by not having to prepare or buy food and receiving their desired order. Due to the outrageous cost of using services for meal delivery, the majority of Malaysians are against using services for meal delivery as it is their main mode of communication (Teck-Chai Lau, 2019). Malaysians choose e-Hailing food delivery services because they are more convenient. Therefore, the desire to use e-Hailing food delivery services on a regular basis is influenced by user contentment (Gizaw A and Nguyen, 2014).

The introduction of the e-Hailing meal delivery service has sparked a lot of interest from a variety of people. This service has a lot of bad feedback, but it also has a lot of favourable feedback. As a result, this study will describe the acceptability or contentment of this service system among populations who will undoubtedly feel and go through it as users of the system. According to the TAM, the goal of this study is to determine the elements that influence the community's willingness to use e-Hailing food delivery services, as well as the most dominating factor in e-Hailing services TAM. TAM is used to investigate the system's acceptance. The factor of user acceptability of this system may be determined using this model, which is whether e-Hailing user acceptance is dominated by Perceived Usefulness or Perceived Ease of Use (Gizaw A and Nguyen, 2014).

1.1 Technology Acceptance Model (TAM)

Davis (1989) created the TAM (see figure 1) based on the Theory of Reasoned Action (TRA) (Davis, 1989). It is employed in the creation of a consumer behavioural model for information technology acceptance. TAM prioritizes the consumer and analyzes to learn how they adopt technology and how their actions affect their plans to use them. TAM is largely regarded as a commonly implemented theory of individual acceptance of information systems and the most well-known. Two major factors that influence people's attitudes about technology are Perceived Ease of Use (PEOU) and Perceived Utility (PU) (Younghwa L and et al., 2003). Consumer views of information technology, according to TAM, can be altered by their grasp of technology. The two factors that determine attitudes are perceived utility and perceived ease of usage (Szajna, 1996).
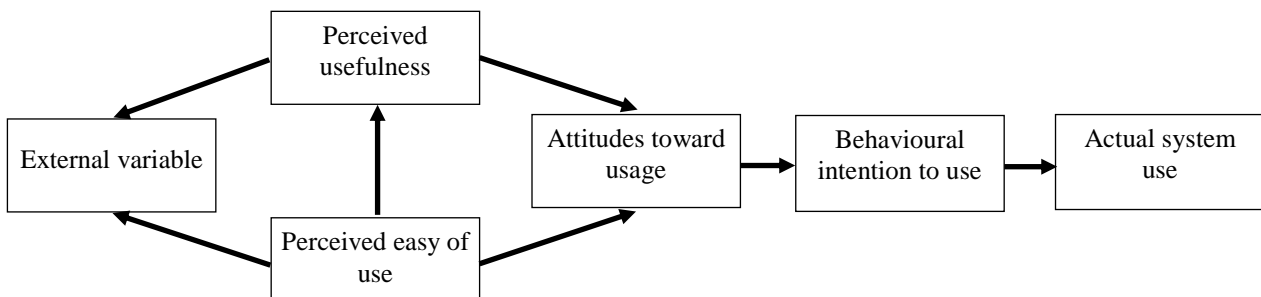
According to TAM, an individual's system use is influenced by his behavioural intentions, which are influenced further by two beliefs.
• Perceived Usefulness
Consumers who believe that technology is valuable and can help them operate more efficiently (Szajna, 1996).
• Ease of Use as Perceived
The user's perception of the device's ease of use.

Fig. 1 - Technology Acceptance Model (TAM) that originated by Davis, 1989 came from materials and methods

2. Materials and Methods

The study focuses on the views and opinions of e-Hailing users about e-Hailing food delivery services. This study uses an online questionnaire form as a research tool to collect data. The survey form used was designed and formed based on TAM (Davis, 1989). The questionnaire was divided into 3 parts, the first part is the respondent's information,

the second part is the respondent's experience and the third part is the respondent's opinion on the system for food delivery by using an e-Hailing service. Respondents answered the survey questions using the Likert Scale. Scales 1 to 5 is measurement scales for respondents to the questions asked. Distribution of survey forms was done in all districts of Johor through online forms. The selected respondents were random in terms of race, gender, ethnicity, occupation level, and status of the respondents.

However, the selected respondents are all residents of Malaysia because the e-Hailing food delivery business is a world-renowned system, including in Malaysia. The number of respondents for this research was selected based on the population in the state of Johor. 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 Nazri et al., 2021 through the population of the state of Johor. Therefore, based on Nazri et al., 2021 for the population of the state of Johor which exceeds 3.0 million is above 385 people the sample size. However, this study only selected 258 respondents who are sufficient for this study.

The initial research is required to see if the method of study and search topic are appropriate (Nazri et al., 2021) Mangkau (Mangkau, 2012) stated, prior to the real study, a pilot study will be done to ensure that the questionnaire utilized meets the study's objectives. Ambak et al., 2011 were used as a reference for this study because this study also used the same survey form and model. Therefore, a total of 30 respondents in the community were selected for the pilot study. The Cronbach's Alpha score was employed as a benchmark for evaluating the internal consistency 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 a pilot study conducted on 30 respondents, the result of the Cronbach's Alpha value obtained was 0.840. These data were analysed using SPSS software version 26.0. Next, the actual study was conducted by distributing the questionnaire form online (Google Form). Lastly, regression analysis is an approach to examine the model of data according to the elements in TAM in the questionnaire survey. Regression analysis was used to analyse questions in Section C of the questionnaire. The equation is based on basic multiple regression formula:

$$Y = \beta_0 + 6\beta_1 X_1 + \beta_2 X_2 + \ldots\ldots + \beta_n X_n \qquad (1)$$

Where;

Y = Dependent variables (Intention and Behavior)

$X_1, X_2 \ldots\ldots X_n$ = Independent variables (Perceived Useful (1ness and Perceived easy to Use)

$\beta_0, \beta_1, \beta_2, \ldots\ldots \beta_n$ = Coefficients or regression of independent variables in the study

3. Results and Discussion

3.1 Descriptive Analysis

Based on table 1, respondent demographic, study data were obtained through 258 respondents, 52.30% of which 135 respondents are female and the remaining 47.70% (123 respondents) are male. In addition, respondents are ethnic Malay majority 83% (215 respondents). The highest average age of using e-Hailing is between 21 to 30 years with 84.60% (218 respondents) compared to other ages. Then, the district with the highest percentage is 45%, which is 116 respondents from Batu Pahat, and the district with the lowest percentage is 2.3% (6 respondents) is Ledang. The results of the study also show 49.2% (127 respondents) are in the student category, which is the highest percentage, 33.70% (87 respondents) are working in the private sector, and 13.60% (35 respondents) are government servants and 3.50% (9 respondents) are not working. More than half of the respondents are still single, that is, 210 respondents (81.40%), 17.40% (45 respondents) are married. More than half of the respondents are still single, that is, 102 respondents (51%) and only 49% (98 respondents) are married and the rest are separate with the 1.20% (3 respondents). The highest income is none with 46.5% (120 respondents). This is because most of the respondents are from the community who still do not have a permanent job such as students and housewives. Total respondent's location of residence from Urban are 65.5% (169 respondents), from rural is 33.7% (87 respondents) and other 0.80% (2 respondents). Based on this study, the majority of responses are female rather than male, however, the difference is not significant. This is because women appear to be more likely than males to use e-Hailing services throughout the data obtained through 258 respondents, 52.30% of which 135 respondents are female and the remaining 47.70% (123 respondents). Besides, other questions were chosen at random, including race, age, marital status, occupation, respondent's district and residence location, and respondents' monthly wage. Respondents' preferences in other areas, on the other hand, are significant and well-balanced. This is because the e-Hailing system is modern. Because of the present technological period, the internet is utilized to let users communicate more easily. With the use of the internet platform, the e-Hailing system is well managed, with users being able to request the location, trip time, and cost for this service (Nazri et al., 2021).

Table 1 - Respondent's demographic

Item	Frequency (n)	Percentage (%)
Gender		
Female	135	52.30
Male	123	47.70
Age		
Below 20 years old	19	7.50
21 to 30 years old	218	84.60
31 to 40 years old	14	5.60
41 years old and above	7	2.80
Race		
Malay	215	83.00
Chinese	20	8.00
Indian	19	7.00
Other	4	2.00
District		
Johor Bahru	49	19.00
Kota Tinggi	16	6.20
Kulaijaya	9	3.50
Mersing	15	5.80
Batu Pahat	116	45.0
Muar	18	7.00
Kluang	9	3.50
Pontian	8	3.10
Segamat	12	4.70
Ledang	6	2.30
Marital Status		
Single	210	81.40
Married	45	17.40
Separate	3	1.20
Occupation		
Student	127	49.20
Government Sector	35	13.60
Private Sector	87	33.70
Not Working Now	9	3.50
Monthly Income		
None	120	46.50
Below RM1000	22	8.50
RM1001 to RM2000	55	21.30
RM2001 to RM3000	37	14.30
RM3001 and above	24	45.00
Location of Residence		
Urban	169	65.50
Rural	87	33.70
Other	2	0.80

Table 2 shows the respondent's experiences in using the e-Hailing food delivery which is around the study area. Based on data collection, a total of 41.10% (106 respondents) use food delivery service once a month and the other 7.40% (19 respondents) use it every day. Next, a total of 65.50% (169 respondents) use e-Hailing at home and the least percentage which is 6.20% (16 respondents) use at tourist spots. As shows in table 2, 94.60% of respondents use a smartphone to download the food ordering service (e-Hailing) compare to others with 0.40%. It is because a smartphone is an easy to handle and more comfortable suit with its size. Next, Foodpanda is the highest ordering service that respondents use with the percentage 74% (191 respondents). Besides, respondents like to use a motorcycle as a transportation e-Hailing service with the percentage 83.70% (216 respondents) compare to the car. The result for the last questions in part B shows most of the respondents facing the problem when using the e-Hailing food delivery, which is the price is expensive and not affordable. Previously, most respondents in this study had used e-Hailing

services with once a month being the most common frequency. Because most of the respondents are students and full-time housewives who do not have a monthly salary and do not have their own money to buy meals, this is the case. The term of "descriptive data" refers to information that describes the qualities of variables (Chua, 2014). As a consequence, the survey was broken into three sections: The first part includes respondents' information, a survey questionnaire on customer attitudes is in the second part, a survey questionnaire on customer satisfaction with meal delivery services based on the Technology Acceptance Model (TAM) is located in the third part.

Table 2 - Respondent's experiences

Item	Frequency (n)	Percentage (%)
Use Food Delivery Services		
Everyday	19	7.40
Once a Week	66	25.60
Several times a week	67	26.00
Once a month	106	41.10
Use Food Delivery Service (e-Hailing)		
Home	169	65.50
Workplace	73	28.30
Tourist Spots	16	6.20
Download the Food Ordering Service Application		
Smartphone		
Laptop or Desktop	244	94.60
Tablet	7	2.70
Other	6	2.30
	1	0.40
The Type of Ordering Service Often Use		
Foodpanda	191	74.00
Grab Food	48	8.60
Halo	8	3.10
Other	11	4.30
The Type of Ordering Service Often Use		
Car	42	16.30
Motorcycle	216	83.70
Problems That Often Exist When Use a Food Ordering Service (can choose more than one)		
The type of order received is incorrect	80	31.00
The price is expensive and not affordable	117	45.30
Unsatisfactory internet access	77	29.80
Delay in receiving orders	100	38.80
Other	7	4.40

3.2 Correlation Analysis

Table 3 displays the correlation analysis of all dependent factors versus independent variables for the first variable, the value correlation between the variables Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) is significant at ($p < 0.01$) and $r = 0.469$. This indicates, there is a linear positive relationship between the two variables.

While the correlation analysis of the last variable is between the dependent variable that is the PU and also the PEOU against the independent variable that is the Intention to Use that is ($r = 0.262$, $p < 0.01$). This shows that there is a positive linear relationship between these two variables against the independent variable. The results of the correlation between the variable of receiving that, r is 0.469 and significant at ($p < 0.01$) which is the variables are Perceived Usefulness and Perceived Ease of Use. Besides, in addition, the value of the correlation analysis coefficient ($r = 0.0262$, $p < 0.01$) is the value of the dependent variable which is the perceived use and also the perceived use of ease versus the independent variable which is intended to use. So, the value of the correlation coefficient between the variables Perceived Usefulness and Perceived Ease of Use indicates the findings of the value correlation between the receiving variables, r is 0.469 and significant at ($p < 0.01$). While the correlation analysis coefficient between the dependent variable, perceived usefulness, and perceived ease of use versus the independent variable, the intention to receive, is ($r = 0.0262$, $p < 0.01$). Gagné, 2014 the correlation analysis's goal is to see how strong the association between independent and dependent factors is in both variables. The correlation is between -1 and +1, with a value of 0

indicating no association. By converting the original score into z units, the coefficient between the relationships that describe how two measurements are related to a single number may be simply determined.

Additionally, Perceived Usefulness is the extent to which the Perceived Ease of Use is the degree to which people believe that utilizing the system will increase their performance, and the Perceived Ease of Use is the degree to which people believe that using the system will be simple (Nazri et al., 2021).

Table 3 - Pearson correlation analysis for each TAM variables

Item	Frequency (n)	Perceived Usefulness	Perceived Ease of Use	Percentage (%)
Perceived Usefulness	Pearson Correlation	1	.469**	.359**
Perceived Ease of Use	Pearson Correlation	.469**	1	.262**
Intention to Use	Pearson Correlation	.359**	.262**	1

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

3.3 Regression Analysis

Changes in two or more components (independent variables) that contribute to the change in the dependent variable were identified using multiple regressions (Chua, 2014).

3.3.1 Multiple Regression for Perceived Utility in Conjunction with Perceived Ease of Use and Intent to Use

The association between intentions to receive, perceived utility, and perceived ease of use was evaluated using multiple regression analysis. A R-squares summary of 0.134 indicates a 10% change in the independent variable (Perceived Usefulness and Perceived Ease of Use) on the dependent variable (Intention to Use). The ANOVA summary shows the dependent variables (intent to use) and the independent factors (perceived usefulness and perceived ease of use). The variance of residuals (or mistakes) is calculated using a mean square error (MSE) = 0.620. The F-statistic is calculated by dividing the Mean Square (Regression) by the Mean Square (Residual), which is 12.908/0.620 = 20.819. The regression analysis demonstrated a statistically significant relationship (p = 0.000b) between the independent variables (perceived usefulness and perceived ease of use) and the dependent variables (intention to use) table 4 depicts the result of multiple regression analysis for the model. Two independents were tested, perceived ease of use and perceived usefulness to predict attitude as the dependent variable. Both of independent variables were significant to predict intention to use e-Hailing food delivery services. The independent variable of perceived usefulness (β = 0.303) has a stronger link with the variable of intention to use than the variable of perceived ease of use (β= 0.120).

Table 4 - Pearson correlation analysis for each TAM variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.945	.328		5.926	.000
	Perceived Usefulness	.349	.076	.303	4.609	.000
	Perceived ease of use	.127	.070	.120	1.825	.069

a Dependent Variable: Intention to use

3.3.2 Multiple Regression for Acceptance of One's Own Behavior with the Intention to Use

Multiple regression analysis was used to look into the relationship between Intention to Use and Behavioral Acceptance which is R squares = 0.193, demonstrating a 10% difference in the independent variable (Intention to use) on the dependent variable (Behavioral Acceptance). The ANOVA summary of the independent variable (Intention to Use) versus (Behavioral Acceptance) which is the dependent variable. The significant value (p<0.000) indicates that the dependent variable (Behavioral Acceptance) has a substantial connection with the variable not lean (Intention to Use). Such significant values, for example, suggest that this model can be used to predict consumer behavioral acceptance of food delivery services via e-Hailing. The result revealed a high correlation between the independent variable (Intention to Use) and the dependent variable (Behavioral Acceptance). The independent variable (Intention to Use) influenced the acceptance of user behavior towards e-Hailing, according to significant values (p<0.01) (table 5).

Table 5 - Multiple regression coefficients of behavioural acceptance with intention to use

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.433	.292		4.912	.000
	Intention to Use	.563	.071	.443	7.909	.000

[a] Dependent Variable: Behavioural Acceptance

From the regression analysis, Perceived Usefulness was the most dominant factor in Intention to Use compared to Perceived Ease of Use. The results also showed a significant relationship between these two variables. As for the relationship between Intention to Use and Behavioural Intention to Use, it was found that Intention to Use significantly affects the behavioural intention to use an e-Hailing food delivery system. Figure 2 shows final structural model TAM for food delivery service to e-Hailing system.
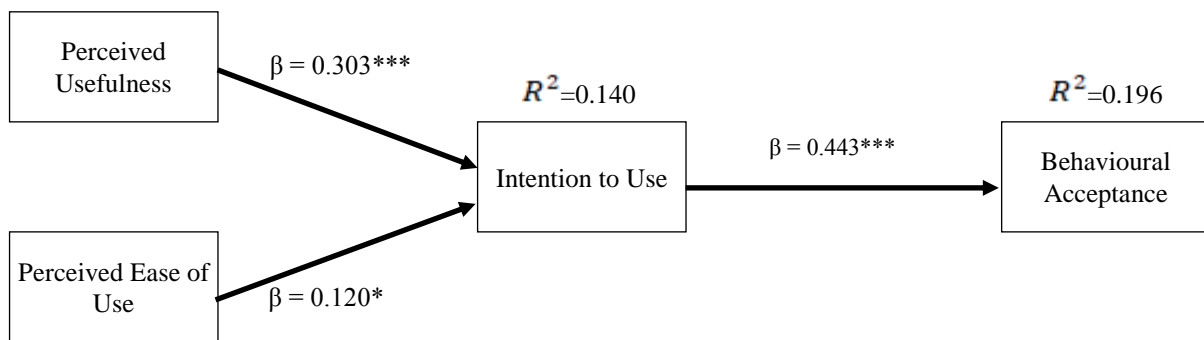
Fig. 2 - Structural Model TAM for food delivery services to use e-Hailing system

4. Conclusion

Overall, the element that encourages and inspires people in the state of Johor to use e-Hailing services is that it saves them time. Other contributing and relevant elements include the fact that the availability of such services can assist individuals in being more focused when accomplishing activities. This is demonstrated in the respondent experience analysis. The final goal is to use the TAM to discover the most important reasons for adopting e-Hailing services, which demonstrates that the Perceived Utility (PU) element is most important compared to the other factors of TAM. The most important aspect that influenced the respondents' decision to use this service was the reasonable charges' delivery in their location and meal prices with a mean of 4.34 and standard deviation of 0.734. Furthermore, the service is easy to use, without having to queue or wait too long in hot weather, therefore, smartphones are used as a medium for ordering. Briefly, it is anticipated that the strongest determinant for predicting customer acceptability is perceived consumption perception (PU). In a multiple regression analysis, the intention is linked to perceived usefulness.

Therefore, to create a special license for motorcycles working in this activity, the Road Transport Department (JPJ) and the Land Public Transport Commission (SPAD) should work together. The management business should also give multiple levels of security gadgets for the benefit of riders in order to make them safer while executing the favour, according to one idea to boost the use of food delivery services among e-Hailing customers.

Acknowledgement

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