Consumer Behavior based on APP use for Food and Beverage Consumption

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Abstract— McDonalds is one of the brands that release the APP on the Smartphone, the APP is called McDonalds McDelivery APP. It suitable for the way of today's society way of life, where people are busy and don't want to line and queue in store to buy foods and beverages for too long. People have a freedom to choose and to order through their Smartphone. The mobile APP offers the advantages, it is easy to operate, easy to use, and doesn't spend a lot of money. In order to understand the consumers behaviour of using APP, this study conduct the descriptive statistical analysis, variance analysis and regression analysis to detect technology acceptance model for perceived usefulness, ease of use, behaviour intention and actual of use. This study conduct the questionnaire through online google forms and obtained 109 valid questionnaires for analysis. We finds that there was no significant effect on degree of the users, and frequencies of using internet. Perceived usefulness and ease of use of behavioural intentions, behavioural intentions and actual of use had significantly difference.

Keywords— Technology Acceptance Model, Consumer Behavior Actual use of Mobile APP.

I. INTRODUCTION

Traditional store of food and beverages provide services directly to the customer, they need to come to the store to buy the foods or beverages serve by the shops. It is then evolve much further since the development of the technology, with the development of the telephone, the way of the consumer behavior changes; the customer has an option to order the foods and beverages through a phone call. The weaknesses of the phone call are that there are no records from the customer order and customer information. User need to give their address every time they order their foods and beverages, it will take more time and the operator could note a wrong address, and easily to make mistakes. The development of Smartphone also makes the behavior of the user changes, the phone call no longer the only option for ordering foods and beverages to the shops, the catering services develop an APP that could be downloaded and then use to order through user's Smartphone. The advantage of the APP is utilized to compete with other competitor.

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is easy to operate, easy to use, and doesn't spend a lot of money. Order by the APP make the cost cheaper than to order by a phone call. The APP also offers the information and viewable about their product, so the users have a lot of option and detail about the product.

According to the statistic center of Indonesia (BPS Indonesia, 2016), the Smartphone use in Indonesia increase significantly from 38.3 million in 2014 to 52.2 million in 2015, this data show that Smartphone is potential market for McDonalds to expand their business through APP on Smartphone. This paper objective to study the use of the APP of McDonalds McDelivery APP on the Smartphone will the user change their behavior about order the foods and beverages to McDonalds through the APP. These studies also focus on the relationship between customer behavior intention with the actual use of the APP, where the customer behavior is affected by easiness, and usefulness of using APP in their Smartphone. The result is expected that the APP is worth using and worth to be developed more further to change the way of customer behavior to order foods and beverages to the McDonalds Company.

II. BACKGROUND

The first part of this study is consumer behaviour, it is objective is to provide products and services linked together and corporate manager and customer could establish long-term relationship. This could help the manager study how the consumer decides to buy their product. Follow up action from the corporate manager later on help the company to compete, it is become an important issue in the business today. With the depth of consumer behaviour research, researchers and business managers are starting to realize the decision making and purchase relationship. Consumer behaviour is just one stage in the process. Thus, whether the consumer, before the purchase until final purchase, and the use of feelings after the purchase are all important topics for discussion. Table 1 is the list of consumer behaviour definition from previous research.

TABEL I
LIST OF RELATED WORK OF CONSUMER BEHAVIOUR

Author	Definition	Year
(Nicosia, 1966)	Consumption, that is for the purchase of non-resale purposes. Thus, as distinction between brokers and manufacturers buying behaviour and consumer purchase behaviour discussed.	1966
(Engel, 1968)	Buying behaviour has two meanings, a narrow customer buying behaviour refers to eligible Obtain and use of economic goods and services, individuals directly into behaviour, which contains the result of these acts and decisions making processes; and generalized. In addition to purchase behaviour of consumer behaviour as well as non-profit organizations, industry group Weaving and various	1968

	middlemen purchasing behaviour.	
(Walter, 1974)	Consumer behaviour refers people to buy and use the product or service, the relevant The decision-making behaviour.	1974
(Pratt, 1974)	Proposed consumer behaviour, refers to purchases decisions, also in cash or check and goods or services exchanged.	1974
(Williams, 1982)	Think of all the customers who bought a product or service process, physiologically relevant, psychological, emotional and other related activities, to react with the impact	1982
(Leon, 1983)	In order to meet consumer demand, the exhibit for the product, service, idea Seek, purchase, use, evaluation and disposal behaviour.	1983
(Engel, 1993)	Consumers in the acquisition, consumption and disposal of the economic and financial goods and services, involving. Activities, and includes decisions that occurred both before and after these events too Away.	1993
(Engel, 2006)	In the acquisition, consumption and disposal of goods and services, the activities carried out by people.	2006
(Kotler, 2009)	Deep discussion in meeting their needs and desires, individuals, groups and organizations how to choose. Selection, purchase, use and disposal of goods, services, ideas or experience.	2009
American Marketing Association	Perception, dynamic, interactive process of cognitive, behavioural and environmental factors, the human. Class transaction performance life line basis functions.	2011

Technology Acceptance Model (TAM) is based on Fishbein and Ajzen's theory (Fishbein, 1980) of reasoned action (Theory of reasoned action, TRA) developed from this theory assumes that the performance of specific acts of human behaviour is subject to the will (Behavioural intention, BI) decisions, and behavioural intent is subject to subjective norms and attitudes influence behaviour both facets of the theory to establish full control in people from their actions.

Known usability (Perceived Ease of Use), the user that the ease of operating a system or interface. The perceived usefulness, will affect the performance of the user. Technology Acceptance Model is the theory that the more streamlined and efficient than rational behavior. The concept About Technology Acceptance Model is shown in Figure 1.

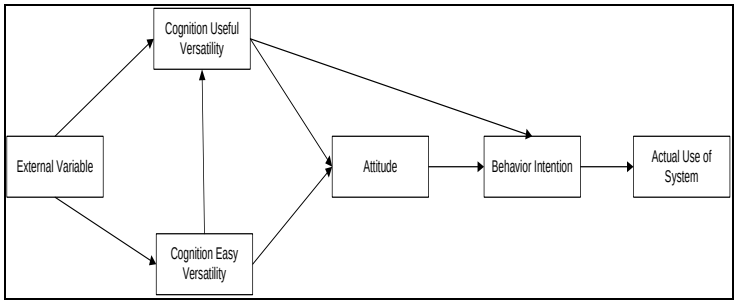

Figure 1. Technology Acceptance Model

The definition of each variable:

1. Cognition Useful Versatility: In the organization's environment, the user for use a system or product can be expected to improve their job performance or the performance of subjective probability study. When the user find that it is useful then the higher of the system is used more positive attitude.
2. Cognition Easy Versatility: Users believe that the use of a system or product, the degree of effort could be saved. When the user feel that the system is easy to learn, less effort is required
3. Attitude: User use of information technology by both cognitive attitude ease of use and usefulness of cognitive effects
4. Behaviour Intention: Individual performance in a particular behaviour exhibited by the will of the intensity or frequency. Use behavioural intentions by both perceived usefulness and attitude toward using impact.
5. Actual Use of System: For measure the actual use made, often used as a measure user satisfaction and system utilization.

III. METHODOLOGY

In this section we will propose our methodology and hypothesis about the consumer behaviour order for foods and beverages through the Smartphone APP. We proposed the Technology Acceptance theory through investigation from ease of use, usefulness, behaviour intention and actual of use from the app. The hypothesis could be list as follows:

H1: There are significant differences between ease of use of the APP and the usefulness of use from the APP.

H2: There are significant differences between usefulness of the APP and the consumer behaviour for using the APP.

H3: There are significant differences between ease of use the APP and the consumer behaviour for using the APP.

H4: There are significant differences between behaviour intention to use the APP and the actual of use the APP.

This study architecture could be seen in Figure 2.

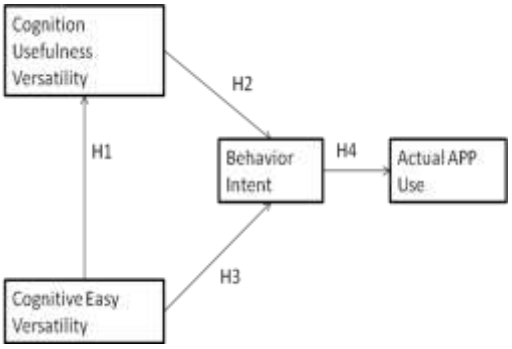

Figure 2. Research's Methodology

To acquire the data we use the online questionnaire from the Indonesian through online questionnaire. We sample 129 student of the university to answer the questionnaire, with valid questionnaire are 109.

Figure 3. User Characteristic Questionnaire

The questionnaire consists of the 2 part, the first part is user characteristics and the other part is likert scale of the variable we want to study. Figure 3 show the user characteristic question from the questionnaire.

Figure 4 a shows the Cognition Usesulness Versality (USF) questionaire. This part are consist of 4 questions to be answered by the respondent about how well they know about the APP. Figure 4 b shows the Cognition Ease of Use (EOU) versatility questionnaire. This part consist of 3 question that respondents need to answer. The questions are aim to get the user perceptive about the APP ease of use.

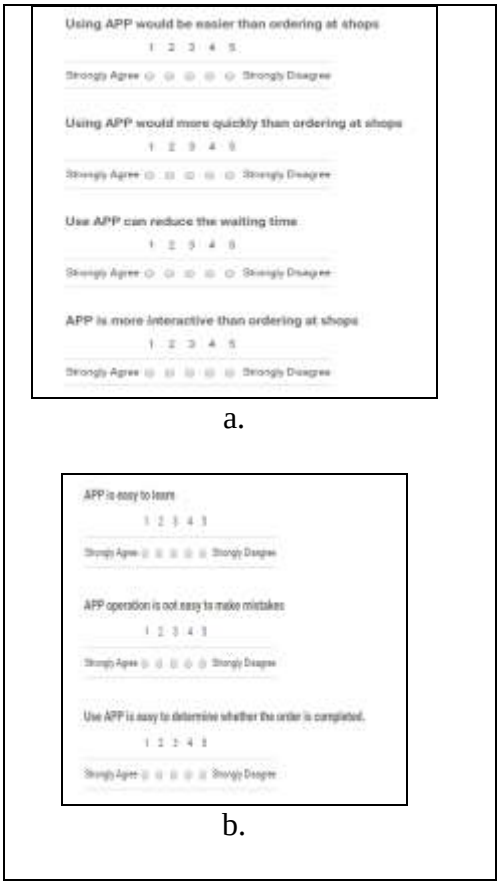

Figure 4. Cognitive Usefulness Versatility and Cognitive Ease of Use Versatility

a.

b.

Figure 5. Behaviour Intention and the Actual of Use Versatility

Figure 5 a. shows 4 questions about Behaviour Intention (BIU) of using APP to order the foods and beverages. Figure 5 b. shows questions for Actual of Use (AOU) versatility of using APP.

A. Research's Tools.

We use google form to do the survey through online internet survey. We use SPSS statistical for system analysis. SPSS was originally statistical package for social science. In recent years because its functional are strengthening, it could be use for full text statistical product and solutions (Bryman, 2011). With newer version the functions of SPSS also become stronger.

B. Data Analysis Menthod

1. Descriptive statistical analysis
   We use statistic to understand the sample demographic characteristics and usage, and show the distribution of the data by percentage. This research was conducted on the subjects of gender, degree and frequencies of using internet. A statistical analysis was performed to understand the structure of the study sampling.

2. Analysis of varianceIf the content of the category variable exceeds two levels, the statistical test of the population more than two, which is research with Z-test and T-test, is not applicable. We use ANOVA to do the analysis of variance between the mean and square test method. We use the factors are cognitive use, behavioural intention and actual use.

IV. EXPERIMENTS

In this section we conduct the experimental test from the data that we collected from sample. We use SPSS as an analyzing tool to provide the result from the analysis.

TABEL II
CASE PROCESSING SUMMARY

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
use	109	100.0%	0	0.0%	109	100.0%
sex	109	100.0%	0	0.0%	109	100.0%
degree	109	100.0%	0	0.0%	109	100.0%
time	109	100.0%	0	0.0%	109	100.0%
USF1	109	100.0%	0	0.0%	109	100.0%
USF2	109	100.0%	0	0.0%	109	100.0%
USF3	109	100.0%	0	0.0%	109	100.0%
USF4	109	100.0%	0	0.0%	109	100.0%
EOU1	109	100.0%	0	0.0%	109	100.0%
EOU2	109	100.0%	0	0.0%	109	100.0%
EOU3	109	100.0%	0	0.0%	109	100.0%
BIU1	109	100.0%	0	0.0%	109	100.0%
BIU2	109	100.0%	0	0.0%	109	100.0%
BIU3	109	100.0%	0	0.0%	109	100.0%
BIU4	109	100.0%	0	0.0%	109	100.0%
AOU1	109	100.0%	0	0.0%	109	100.0%
AOU2	109	100.0%	0	0.0%	109	100.0%
AOU3	109	100.0%	0	0.0%	109	100.0%
AOU4	109	100.0%	0	0.0%	109	100.0%

a. Limited to first 109 cases.

From the table 2 we could look that the entire variable is correct without missing value. The total questionnaires are 109, all the total fill up is 100%.

TABEL III
FACTOR ANALYSIS AND REALIBILITY TEST

Factor	**Measure Variables**	**Factor loadings**	**Eigen values**	**Explained variance%**	**The cumulative variance explained%**	**Cronbach α**
Actual Of Use	AOU1	.802	9.281	61.872	61.872	.892
	AOU2	.678				
	AOU3	.779				
	AOU4	.740				
Ease Of Use	EOU1	.414	.962	6.415	68.287	.811
	EOU2	.758				
	EOU3	.732				
Usefulness of Use	USF1	.854	.768	5.117	73.404	.786
	USF2	.609				
	USF3	.412				
	USF4	.138				
Behavior Intention	BIU1	.237	.684	4.563	77.966	.912
	BIU2	.216				
	BIU3	.452				
	BIU4	.379				

From Table 3, we could see the result of reliability show a good result, all cronbach α value are higher than 0.7. We also want to look for the affected the use of APP with the gender of the user, so we could get the table of individual T-test.

TABEL IV
INDEPENDENT SAMPLES TEST

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
USF1	Equal variances assumed	.659	.419	-1.135	107	.259	-.2329	.2052	-.6397	.1740
	Equal variances not assumed			-1.203	70.101	.233	-.2329	.1935	-.6189	.1531
USF2	Equal variances assumed	.378	.540	-1.218	107	.226	-.2484	.2039	-.6527	.1559
	Equal variances not assumed			-1.255	65.318	.214	-.2484	.1980	-.6437	.1469
USF3	Equal variances assumed	.112	.739	-1.162	107	.248	-.2731	.2351	-.7392	.1930
	Equal variances not assumed			-1.201	65.917	.234	-.2731	.2274	-.7271	.1809
USF4	Equal variances assumed	.169	.682	-.755	107	.452	-.1703	.2254	-.6171	.2766
	Equal variances not assumed			-.742	58.438	.461	-.1703	.2296	-.6298	.2892
EOU1	Equal variances assumed	2.356	.128	-1.861	107	.066	-.4183	.2248	-.8639	.0273
	Equal variances not assumed			-2.016	73.941	.047	-.4183	.2075	-.8317	-.0048
EOU2	Equal variances assumed	.025	.875	-.725	107	.470	-.1571	.2167	-.5867	.2725
	Equal variances not assumed			-.742	64.233	.461	-.1571	.2118	-.5803	.2661
EOU3	Equal variances assumed	2.038	.156	-1.067	107	.288	-.2153	.2017	-.6152	.1845
	Equal variances not assumed			-1.163	75.028	.248	-.2153	.1851	-.5841	.1534
BIU1	Equal variances assumed	2.085	.152	-.936	107	.351	-.2101	.2244	-.6549	.2347
	Equal variances not assumed			-1.019	74.696	.312	-.2101	.2063	-.6211	.2008
BIU2	Equal variances assumed	.984	.323	-1.559	107	.122	-.3178	.2038	-.7218	.0863
	Equal variances not assumed			-1.735	79.074	.087	-.3178	.1832	-.6824	.0469
BIU3	Equal variances assumed	.587	.445	-1.597	107	.113	-.3086	.1932	-.6917	.0744
	Equal variances not assumed			-1.733	74.279	.087	-.3086	.1780	-.6633	.0461
BIU4	Equal variances assumed	.649	.422	-1.926	107	.057	-.4035	.2095	-.8188	.0118
	Equal variances not assumed			-2.099	75.049	.039	-.4035	.1923	-.7865	-.0205
AOU1	Equal variances assumed	1.526	.219	-2.720	107	.008	-.5933	.2181	-1.0257	-.1609
	Equal variances not assumed			-2.924	72.527	.005	-.5933	.2029	-.9977	-.1889
AOU2	Equal variances assumed	.741	.391	-2.998	107	.003	-.5981	.1995	-.9935	-.2026
	Equal variances not assumed			-3.093	65.551	.003	-.5981	.1934	-.9842	-.2120
AOU3	Equal variances assumed	.396	.530	-1.364	107	.176	-.3034	.2225	-.7446	.1377
	Equal variances not assumed			-1.439	69.314	.155	-.3034	.2108	-.7240	.1171
AOU4	Equal variances assumed	.507	.478	-1.147	107	.254	-.2548	.2222	-.6953	.1857
	Equal variances not assumed			-1.191	66.690	.238	-.2548	.2139	-.6817	.1721

From table 4 we could see that AOU2 APP for male and female have the same effect, the other variable male have a bigger effect than a female user. We also conduct the experiment to see the affected between degree and the use of the internet that affected the actual of use of the APP. From table 5 we could see that there is no difference between the degrees of the user in the use of APP.

TABEL V
ANOVA FOR DEGREE

		Sum of Squares	Df	Mean Square	F	Sig.
USF1	Between Groups	4.113	2	2.056	2.162	.120
	Within Groups	100.841	106	.951		
	Total	104.954	108			
USF2	Between Groups	2.225	2	1.112	1.161	.317
	Within Groups	101.592	106	.958		
	Total	103.817	108			
USF3	Between Groups	6.181	2	3.091	2.489	.088
	Within Groups	131.635	106	1.242		
	Total	137.817	108			
USF4	Between Groups	3.952	2	1.976	1.720	.184
	Within Groups	121.791	106	1.149		
	Total	125.743	108			
EOU1	Between Groups	1.462	2	.731	.610	.545
	Within Groups	126.960	106	1.198		
	Total	128.422	108			
EOU2	Between Groups	.529	2	.265	.242	.785
	Within Groups	115.654	106	1.091		
	Total	116.183	108			
EOU3	Between Groups	3.405	2	1.702	1.845	.163
	Within Groups	97.825	106	.923		
	Total	101.229	108			
BIU1	Between Groups	1.273	2	.637	.545	.581
	Within Groups	123.699	106	1.167		
	Total	124.972	108			
BIU2	Between Groups	4.564	2	2.282	2.418	.094
	Within Groups	100.042	106	.944		
	Total	104.606	108			
BIU3	Between Groups	2.080	2	1.040	1.198	.306
	Within Groups	92.030	106	.868		
	Total	94.110	108			
BIU4	Between Groups	2.594	2	1.297	1.259	.288
	Within Groups	109.222	106	1.030		
	Total	111.817	108			
AOU1	Between Groups	.989	2	.495	.422	.657
	Within Groups	124.258	106	1.172		
	Total	125.248	108			
AOU2	Between Groups	1.636	2	.818	.829	.439
	Within Groups	104.565	106	.986		
	Total	106.202	108			
AOU3	Between Groups	1.444	2	.722	.624	.538
	Within Groups	122.592	106	1.157		
	Total	124.037	108			
AOU4	Between Groups	.785	2	.393	.340	.712
	Within Groups	122.279	106	1.154		
	Total	123.064	108			

TABEL VI
ANOVA FOR THE USE OF INTERNET

		Sum of Squares	df	Mean Square	F	Sig.
USF1	Between Groups	2.534	3	.845	.866	.461
	Within Groups	102.420	105	.975		
	Total	104.954	108			
USF2	Between Groups	2.665	3	.888	.922	.433
	Within Groups	101.152	105	.963		
	Total	103.817	108			
USF3	Between Groups	1.218	3	.406	.312	.817
	Within Groups	136.599	105	1.301		
	Total	137.817	108			
USF4	Between Groups	1.290	3	.430	.363	.780
	Within Groups	124.453	105	1.185		
	Total	125.743	108			
EOU1	Between Groups	.635	3	.212	.174	.914
	Within Groups	127.787	105	1.217		
	Total	128.422	108			
EOU2	Between Groups	8.241	3	2.747	2.672	.051
	Within Groups	107.943	105	1.028		
	Total	116.183	108			
EOU3	Between Groups	2.513	3	.838	.891	.448
	Within Groups	98.716	105	.940		
	Total	101.229	108			
BIU1	Between Groups	1.426	3	.475	.404	.750
	Within Groups	123.547	105	1.177		
	Total	124.972	108			
BIU2	Between Groups	1.863	3	.621	.634	.594
	Within Groups	102.743	105	.979		
	Total	104.606	108			
BIU3	Between Groups	2.389	3	.796	.912	.438
	Within Groups	91.721	105	.874		
	Total	94.110	108			
BIU4	Between Groups	4.350	3	1.450	1.417	.242
	Within Groups	107.467	105	1.023		
	Total	111.817	108			
AOU1	Between Groups	2.318	3	.773	.660	.578
	Within Groups	122.930	105	1.171		
	Total	125.248	108			
AOU2	Between Groups	5.002	3	1.667	1.730	.165
	Within Groups	101.200	105	.964		
	Total	106.202	108			
AOU3	Between Groups	2.176	3	.725	.625	.600
	Within Groups	121.861	105	1.161		
	Total	124.037	108			
AOU4	Between Groups	.143	3	.048	.041	.989
	Within Groups	122.921	105	1.171		
	Total	123.064	108			

From table 6 we could see that there is no difference between the frequencies of using internet with the actual use of the APP.

We do the modeling and using the regression analysis to look for the significant differences between the factors, we use SPSS software and SmartPLs to do the experiment.

Figure 6. Modelling Result Using SPSS

From figure 4 we could see that all have the significant effect, for Cognitive Easy Versatility have the effect to Cognition Usefulness Versatility, this is prove the hypothesis H1. The Cognitive Usefulness Versatility has significant effect to Behaviour Intention that proves the hypothesis H2. The Cognitive Easy Versatility has significant effect to Behaviour Intention that proves the hypothesis H3. The Behaviour Intention affected Actual Use APP which is proving the hypothesis H4.

V. CONCLUSIONS

The entire factor have impact to the other factor, they have a significant value. All the Hypothesis H1 through H4 is prove significant. Cognitive easy versatility have impact to Cognitive Usefulness Versatility, behavior intention is affected by Cognitive Easy Versatility and Cognitive Usefulness Versatility. Actual Use of APP is affected by Behavior Intention.

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