FACTORS AFFECTING THE BEHAVIORAL INTENTION OF USING SEDAYUONE MOBILE APPLICATION

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Abstract **-** This research evaluated the factors influencing the behavioral intention to use a mobile application. The case study used was SedayuOne mobile application. The instrument used in this research was the questionnaires using Unified Theory of Acceptance and Use of Technology (UTAUT2) model. The questionnaires were sent to the 342 members by using email. The result shows that the user habit is the highest factor that influences the user behavioral intention to consume the SedayuOne application. Therefore, to maintain the user behavior, the company must know the user habit and consider promotional strategies to enhance the attractiveness and maintain customer loyalty.

Keywords: mobile application, behavioral intention, user behavior, UTAUT2

I. INTRODUCTION

Nowadays, the development of mobile application is increasing rapidly. This is seen from many emerging mobile applications in the cellular phone. One of the examples is PT Gilkor. PT Gilkor that was established in 2010 as a private Indonesian company domiciled in Jakarta. It is the response to the growing interest in market of mobile applications. Currently, PT Gilkor provides mobile application to support loyalty business in Indonesia.

One of its clients is Agung Sedayu Retail Indonesia (ASRI) which has three shopping centers. Those are Mall of Indonesia (MOI), Grand Galaxy Park (GGP), and PIK Avenue. As a retail company, there is membership card called SedayuOne card for the customers. They must apply for the membership in the malls and will get the rewards from the shopping programs. In general, information about reward, shopping program, tenant, and others are available and accessible in the mobile application. This can attract the customers, so they are interested in using this application. On the contrary, based on data provided by the mobile application team, the total numbers of users who uninstall this application are 673 out of 1016 users. This means 66% of uninstalling occurs. The causes for this issue is not known. Meanwhile, the application has been used since 2016. Therefore, evaluation is required in this case.

There is a traditional model for evaluating the issue such as Technology Acceptance Model (TAM) (Davis, 1989). This model defines new measurement scales for variable of perceived usefulness and perceived ease of use. This model has been used by Kim and Woo (2016) to evaluate consumer acceptance of a Quick Response (QR) for the food traceability system. Meanwhile, the other model is Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh, Morris, Davis, and Davis (2003). The UTAUT model consists of five variables affecting the user acceptance. Those are performance expectancy, effort expectancy, social influence, privacy concern, and facilitating conditions. Similarly, Wang (2016) used the same model to evaluate user usage behavior of e-learning systems in Taiwan public sector. Meanwhile, Hung, Chang, and Kuo (2013) used the model to analyzed user acceptance in mobile e-government mobile service in Taiwan.

In 2012, this model was modified by Venkatesh, Thong, and Xu (2012). The new variables are hedonic motivation, price value, and habit. The extended UTAUT2 model is used by Masa'deh, Tarhini, Mohammed, and Maqableh (2016) to evaluate the student's usage behavior of e-learning system in Lebanon. Moreover, Escobar-Rodríguez and Carvajal-Trujillo (2014) examined the determinants of purchasing flights from low-cost carrier websites using the model.

The evaluation in this research is utilized to determine factors that affect user behavior so that SedayuOne mobile application meets customer's need. Then, it can increase the number of loyal customers. This research focuses on the evaluation of SedayuOne mobile application version 2.6. It can be downloaded from Google Play Store. Then, it must be compatible with the Android phone with minimum version of 4.3 or Jelly Bean.

II. METHODS

This research method is quantitative with the descriptive result. The respondents are SedayuOne card members who have this application on their Android phone. The demographic profile of target respondents such as age, gender, and occupation is described in frequency and percentage using charts. This research consists of collecting adoption factors of the mobile application, formulating a research model of user behavior, and validating the research model.

A conceptual model of user behavioral intention is formulated by adopting UTAUT2 model. UTAUT 2 is extended model from UTAUT conducted by Venkatesh, Morris, Davis, and Davis (2003). Next, Venkatesh, Thong, and Xu (2012) stated that the important roles of hedonic motivation, price value, and habit in influencing technology use and in UTAUT2. It is connected to the context of consumer acceptance and use of technology. This research uses UTAUT2 model with some adjustment to test its influence on behavioral intention to accept this application.

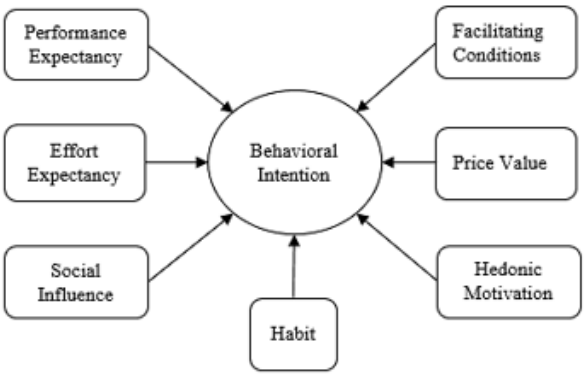

Figure 1 Evaluation Model

Figure 1 shows there are seven variables that influence user behavioral intention to adopt the mobile application. The behavioral intention (BI) is defined as the willingness and main cause of user to utilize this application (Kit, Ni, Badri, & Yee, 2014). Meanwhile, the seven variables are performance expectancy, effort expectancy, social influence, facilitating condition, hedonic motivation, price value, and habit.

Performance expectancy (PE) relates to how the system has utilities that users expect. Then, effort expectancy (EE) is how the system is easy for the users to use it. Moreover, social influence (SI) relates to how the users trust the system, and facilitating condition (FC) is how the resources, knowledge, compatibility of the system support users' activity. Furthermore, hedonic motivation (HM) is how the users are happy to use the application, and price value (PV) means how the perceived benefit of consumers is compared to the spending cost. Last, habit (HA) relates to how the consumers use the application as a part of the activities automatically.

To validate the conceptual model, this research uses a questionnaire to measure each variable of the model using Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree). There are 23 questions adopted and modified from the UTAUT scale. The questionnaire has been reviewed by mobile team at PT Gilkor. The period of the questionnaire is from May 5th to May 14th, 2017. The questionnaire is shown in Table 1. There are 1.246 users who have installed and uninstalled the application. However, this research only asks the users who are members of SedayuOne or about 342 respondents. Questionnaires are sent to the respondents by email.

Table 1 List of Questionnaire

Var	Q	Question
PE	Q1	I feel SedayuOne application provides useful information
PE	Q2	I get promotional information faster by using SedayuOne application
PE	Q3	I know the latest promotion faster by using SedayuOne application
PE	Q4	My complaint is handled faster by using SedayuOne application
EE	Q5	SedayuOne application enables me to gain the knowledge about event and product (promotion, etc.) in the mall
EE	Q6	I find it easier to redeem a voucher or reward
EE	Q7	I can know the point I have easily
EE	Q8	I can know tenants around me easily
SI	Q9	I use SedayuOne application because of the recommendation of family/colleague/ friend
SI	Q10	I will recommend SedayuOne application to my closest person
FC	Q11	My device can run SedayuOne application properly
FC	Q12	My device supports all features (GPS, camera) that are in the SedayuOne application
FC	Q13	I never experience crash or force closing when using SedayuOne application
HM	Q14	I am very happy to use SedayuOne application
HM	Q15	Many special offers make me very interested in using SedayuOne application
PV	Q16	SedayuOne application has more value than the previous traditional membership (example: no need to bring the card)
PV	Q17	I feel the benefit of using SedayuOne application
HA	Q18	I often use SedayuOne application
HA	Q19	I should use SedayuOne application
HA	Q20	I am familiar with every feature of SedayuOne application
BI	Q21	I will use SedayuOne application for one year ahead
BI	Q22	I will follow the development of SedayuOne application
BI	Q23	I will give feedback on the developments

The results of questionnaires are examined regarding its validity and reliability. The validity is tested by calculating Pearson Product-Moment correlations between the measurements of each variable. Besides that, the reliability is conducted by Cronbach's Alpha analysis (Cronbach, 1951). Moreover, the normality test is also done. The normality test by Shapiro and Wilk (1965) is limited for sample size of 3 to 50 (Selcuk Korkmaz, 2014). Thus, normality is tested by adopting Shapiro and Wilk test. Finally, Baird and Bieber (2016) stated that linear regression analysis aimed to examine the effect of one variable to the consequent variable. Linear regression analysis is conducted to prove the effect of the variables towards user behavioral intention on utilizing this application.

III. RESULTS AND DISCUSSIONS

The questionnaires are distributed to 342 respondents, in which 44 respondents, or about 12,87% complete it. In Figure 2, they are 27 of 44 (61,36%) female respondents and 17 of 44 (38,64%) are male respondents. The respondents' ages are between 22-67 years. Moreover, the respondents consist of 52,27% as employee, 25% as housewife, 11,36% as entrepreneur, 9,09% as student, and 2,27% as others. It can be seen in Figure 3. Therefore, it can be said that most of the respondents are female (61%), 26-35 years old (45%), and employee (52,27%).

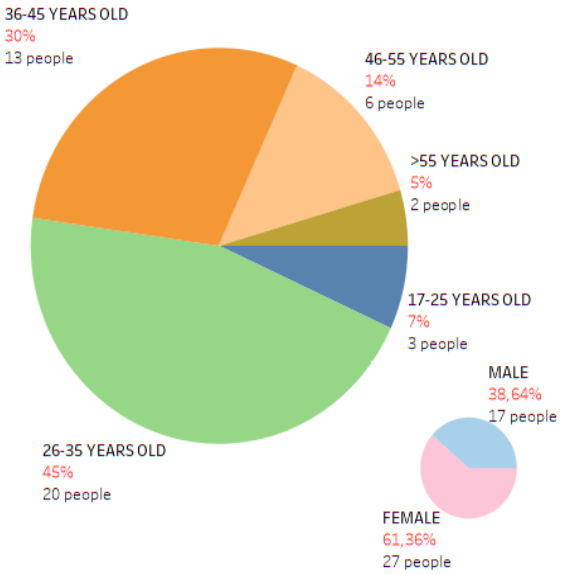

Figure 2 Gender and Age of Respondents

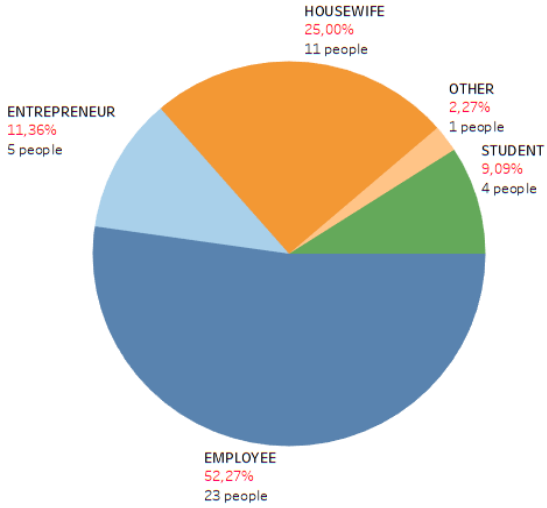

Figure 3 Occupation of Respondents

The first variable which is performance expectancy consists of four questions. In the first question, 45,45% respondent choose Agree followed by 40,91% of Strongly Agree, and 13,64% of Neutral. In the second question, 47,73% respondents answer Agree, 34,09% Strongly Agree, and 18,18% are Neutral. Moreover, in the third question, 43,18% of respondents are Strongly Agree with the statement. It is followed by 38,64% of Agree, 15,91% of Neutral, and 2,27% of Disagree. Finally, the last question has 43,18%, 31,82%, 18,18%, and 6,82% of Neutral, Agree, Strongly Agree, and Disagree answer respectively. The responses on performance expectancy are in Figure 4.

The second variable is effort expectancy consisting of four questions. In the fifth question, about 56,82% of respondents choose Agree. Then, it is followed by 29,55% of Strongly Agree, and 13,64% of Neutral. In the sixth question, 34,09% of respondents answer Agree and Neutral, 27,27% choose Strongly Agree, and 4,55% are Neutral. Moreover, in the seventh question, 56,82% of respondents are Strongly Agree. However, 36,36% are Agree, 4,55% are Neutral, and 2,27% are Disagree. Finally, in the last question of this variable, 43,18% of respondents choose Agree. It is followed by 29,55% of Neutral, 25,00% of Strongly Agree, and 2,27% of Disagree. The responses of effort expectancy can be seen in Figure 5.

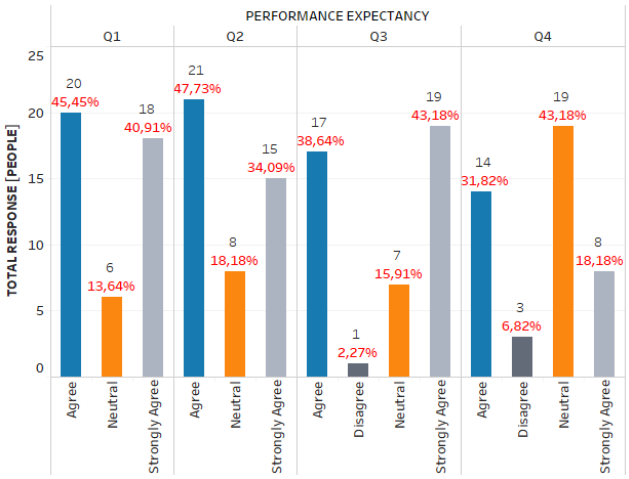

Figure 4 Response of Performance Expectancy

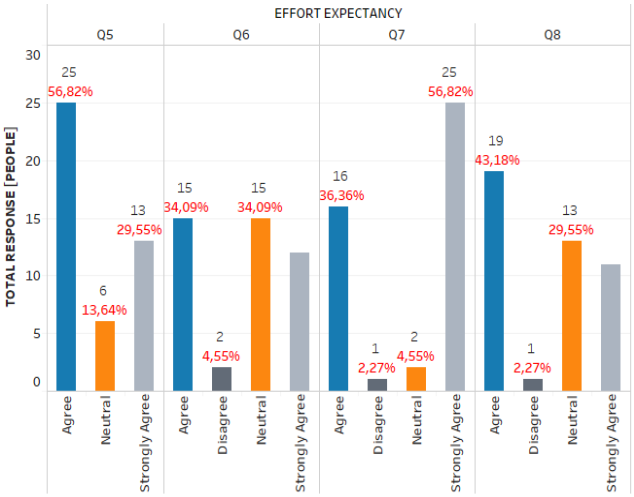

Figure 5 Response of Effort Expectancy

The third variable (social influence) has two questions. In the ninth question, 38,64% of respondents choose Neutral. It is followed by 27,27% of Agree, 20,45% of Disagree, and 13,64% of Strongly Agree. Meanwhile, in the tenth question, 40,91% of respondents are Agree. 36,36% Strongly Agree, and 22,73% is Neutral. It can be seen in Figure 6.

The fourth variable is facilitating condition. It has three questions. In the eleventh question, there are 47,73% of Agree, 40,91% of Strongly Agree, and 11,36% of Neutral. In the twelfth question, the answers consist of 40,91% of Agree, 38,64% of Strongly Agree, and 20,45% of Neutral. Moreover, in the thirteenth question, 38,64% are Agree, and 34,09% are Neutral. Then, 13,64% are Strongly Agree and Disagree. The responses are shown in Figure 7.

The fifth variable is hedonic motivation which consists of two questions. In the fourteenth question, there are 43,18% of Agree, followed by 27,27% of Strongly Agree, and 29,55% of Neutral. Meanwhile, in the fifteenth question, there are 36,36% of Agree, 34,09% of Neutral,

and 29,55% of Strongly Agree. The result can be seen in Figure 8.

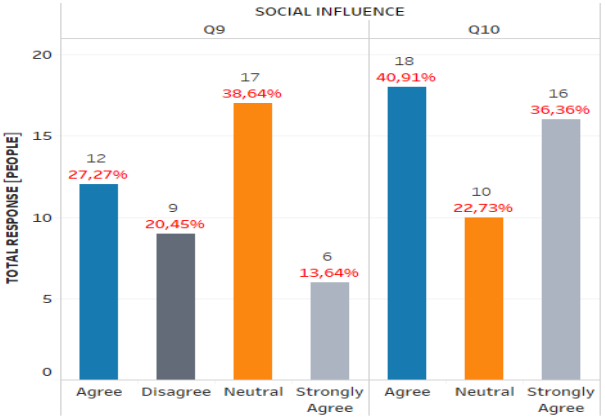

Figure 6 Response of Social Influence

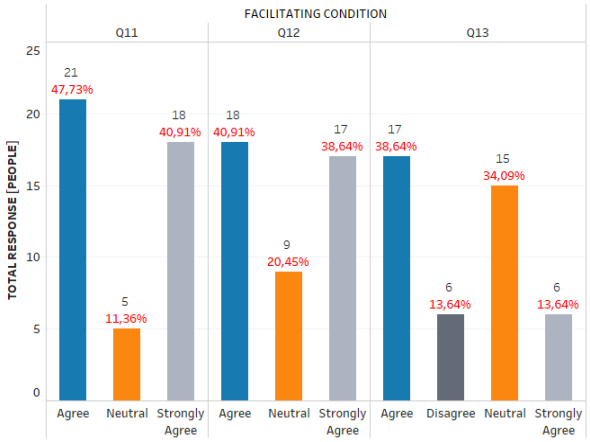

Figure 7 Response of Facilitating Condition

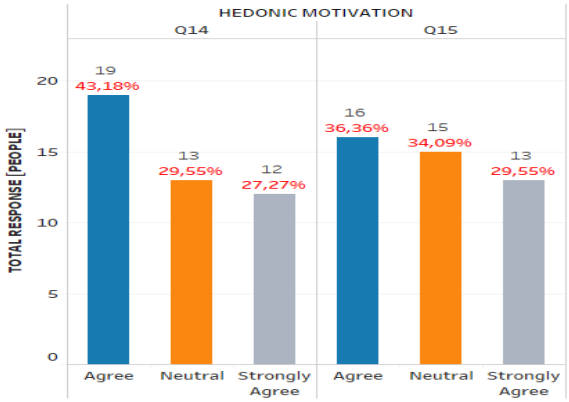

Figure 8 Response of Hedonic Motivation

The sixth variable is price value. It consists of two questions. In the sixteenth question, there are 36,36% of respondents answer Agree. It is followed by 34,09% of Strongly Agree, 25% of Neutral, and 4,55% of Disagree. Moreover, in the seventeenth question, there are 40,91% of Agree, 29,55% of Neutral, 27,27% of Strongly Agree, and 2,27% of Disagree. The response to price value can be seen in Figure 9.

The seventh variable (habit) has three questions. In the eighteenth question, there are 45,45% of respondents answer Neutral. Then, there are 27,27% of Agree, 20,45% of Strongly Agree, and 6,82% of Disagree answered. Moreover, in the nineteenth question, there are 36,36% of neutral, 34,09% of Agree, 22,73% of Strongly Agree, and 6,86% of Disagree. In the twentieth question, 47,73% respondents choose Neutral. It is followed by 29,55% of Agree, 20,45% of Strongly Agree, and 2,27% of Disagree. The result is shown in Figure 10.

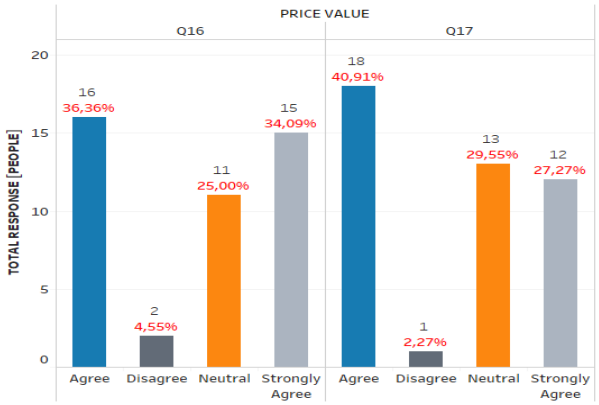

Figure 9 Response of Price Value

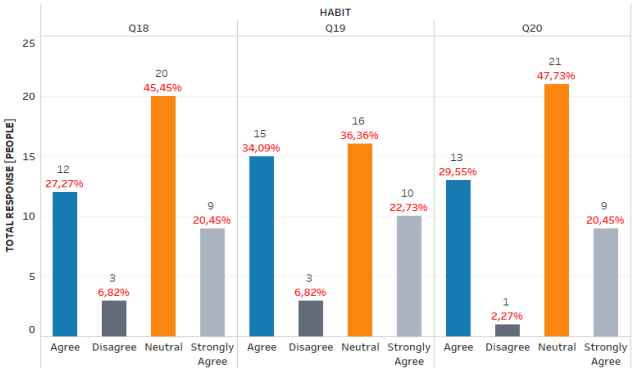

Figure 10 Response of Habit

The last variable is behavioral intention which consists of three questions. In the twenty-first question, there are 47,73% of Agree, 27,27% of Neutral, and 25% of Strongly Agree. Moreover, in the twenty-second question, there are 45,45% of Agree, 31,82% of Strongly Agree, and 22,73% of Neutral. Finally, the last question includes 52,27% of Agree, 27,27% of Neutral, and 20,45% of Strongly Agree. Figure 11 shows the result.

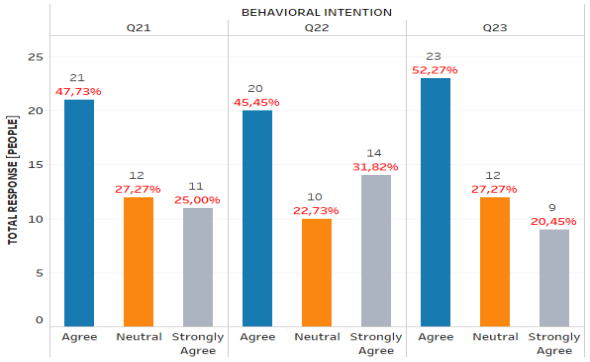

Figure 11 Response of Behavioral Intention

Next, the validity test is conducted by calculating Pearson-Correlation coefficient. It shows the value of 0,786 to 0,999. As in Table 2, effort expectancy (EE), social influence (SI), facilitating condition (FC), hedonic motivation (HM), price value (PV), habit (HA), and behavioral intention (BI) are positively strong toward performance expectancy (PE).

Table 2 Correlation on Performance Expectancy and Effort Expectancy

Variable	PE	EE
Effort Expectancy	0,999	1,000
Social Influence	0,960	0,950
Facilitating Condition	0,995	0,996
Hedonic Motivation	0,972	0,964
Price Value	0,994	0,988
Habit	0,811	0,786
Behavioral Intention	0,951	0,952

Furthermore, Table 2 also shows that social influence (SI), facilitating condition (FC), hedonic motivation (HM), price value (PV), and behavioral intention (BI) are positively strong toward Effort Expectancy (EE). Only habit (HA) is strong enough toward Effort Expectancy (EE).

In Table 3, social influence (SI) influences facilitating condition (FC) strongly and positively. It also has a strong and positive effect on hedonic motivation (HM), price value (PV), habit (HA), and behavioral intention (BI). Meanwhile, in Table 4, the last validation results shows that not only hedonic motivation, but price value and habit also affect behavioral intention (BI) strongly and positively.

Moreover, reliability test uses Cronbach's Alpha. It shows the value of 0,96 which means it is strongly acceptable with 0,04 as the error variance in the research. The diversity of behavioral intention (BI) variables can be strongly explained by the habit (HA), hedonic motivation (HM), and price value (PV). Meanwhile, the remaining is influenced by other variables outside the model. It is shown in Table 5.

Table 3 Correlation on Social Influence and Facilitating Condition

Variable	SI	FC
Social Influence	1,000	
Facilitating Condition	0,964	1,000
Hedonic Motivation	0,992	0,975
Price Value	0,985	0,991
Habit	0,933	0,813
Behavioral Intention	0,956	0,973

Table 4 Correlation on Hedonic Motivation, Price Value, and Habit

Variable	HM	PV	HA
Hedonic Motivation	1,000		
Price Value	0,992	1,000	
Habit	0,918	0,872	1,000
Behavioral Intention	0,971	0,962	0,842

Table 5 Regression Statistics on the Third Highest Variable

Regression Statistics	HA	HM	PV
Multiple R	0,890	0,793	0,784
R Square	0,791	0,629	0,615
Adjusted R Square	0,786	0,620	0,606
Standard Error	0,913	1,219	1,241
Observations	44	44	44

Then, the partial test results are shown in Table 6. Several hypotheses are used by performing ANOVA and partial test with 5% of significant error. The hypotheses are as follows.

Hypothesis 1 (Ha1): Performance expectancy affects the behavioral intention

Performance expectancy allows the user to use the SedayuOne mobile application by providing benefit to perform the activity. Research about Performance expectancy has been investigated by Masa'deh, Tarhini, Mohammed and Maqableh (2016). They noted that it influenced the behavioral intention. By informing the effect of performance expectancy on behavioral intention, the company can recognize that users are willing to use this application because of the decent performance. Consequently, the company should keep providing up-to-date information, and respond to the complaints fast.

Hypothesis 2 (Ha2): Effort expectancy affects the behavioral intention

Effort expectancy is related to easiness to use the application and has influences on behavioral intention as stated by Harsono and Suryana (2014), and Masa'deh, Tarhini, Mohammed, and Maqableh (2016). By notifying the effect of effort expectancy on behavior, the company can know that users want to use this application based on its offered convenience. Therefore, the company should increase the ease in vouchers or rewards redemption, and update information such as tenant and point.

Hypothesis 3 (Ha3): Social influence affects the behavioral intention

Social influence means that the user can encourage relatives or other people to use this application. Masa'deh, Tarhini, Mohammed, and Maqableh, (2016) proved that this influenced user behavior. By knowing the effect of social influence on behavior, the company can recognize that users use this application because of the influence of the environment. The company should create something innovative to attract user's attention. Thus, they are expected to recommend this application to others.

Hypothesis 4 (Ha4): Facilitating condition affects the behavioral intention

Facilitating condition is the support that the application can provide. According to Masa'deh, Tarhini, Mohammed, and Maqableh (2016) and Harsono and Suryana (2014), facilitating condition have influences on the behavioral intention. The company can know that users use this application because of this variable. Therefore, the company should keep robust the technical performance.

Hypothesis 5 (Ha5) Hedonic motivation affects the behavioral intention

Harsono and Suryana (2014) said that hedonic motivation was about users' enjoyment with the application. Masa'deh, Tarhini, Mohammed, and Maqableh (2016) proved that hedonic motivation influenced behavioral aspect in accepting technology and its use. Knowing the effect of hedonic motivation on behavior, the company can recognize that users are willing to use this application because there is a fun thing that motivates them to use the application. Thus, the company should provide more special offers.

Hypothesis 6 (Ha6): Price Value affects the behavioral intention

Kit, Ni, Badri, and Yee (2014) stated that price value referred to users' view whether mobile applications are worth its value. They also said that if the perceived benefits of applications were high, it would influence users to use the applications. The company can recognize that users use this application because of the value of the application. Therefore, the company should deliver more benefit in using the application such as using the virtual card rather than the physical card.

Hypothesis 7 (Ha7): Habit affects the behavioral intention

According to Kit, Ni, Badri, and Yee (2014) and Masa'deh, Tarhini, Mohammed, and Maqableh (2016), the habit has the strongest prediction towards user's trend to use the mobile application. The company should increase the user's habits to use this application every day like sending push notifications periodically, and so on.

P-value and significance F are less than 5% significant level on each hypothesis. It proves that performance expectancy, effort expectancy, social influence, facilitating condition, hedonic motivation, price value, and habit affect the behavioral intention significantly.

Table 6 ANOVA and Partial (T) Results

	Coeff.	P-value	F	Sig. F
PE	0,453	4,3E-06	2,8E+01	4,3E-06
EE	0,597	8,9E-08	4,2E+01	8,9E-08
SI	0,953	4,3E-07	3,6E+01	4,3E-07
FC	0,649	1,9E-06	3,1E+01	1,9E-06
HM	1,067	1,4E-10	7,1E+01	1,4E-10
PV	0,966	3,0E-10	6,7E+01	3,0E-10
HA	0,743	6,9E-16	1,6E+02	6,9E-16

IV. CONCLUSIONS

Based on the result, the responses on the performance expectancy, effort expectancy, facilitating condition, and behavioral variable are in the very good category. Meanwhile, the responses to social influence, hedonic motivation, price value, and habit variable are in a good category. The statement is supported by the average value of each variable. Those are 81,4% for performance, 81,9% for effort expectancy, 74,8% for social influence, 80% for facilitating condition, 79,3% for hedonic motivation, 79,3% for price value, 73,5% for habit and 80% for behavioral intention.

Moreover, almost all variables have the impact on user behavioral intention to use the mobile application. It means the intensity in using SedayuOne mobile application is affected by habit (0,791) as it occupies the highest influence on user's behavioral. It is followed by hedonic motivation (0,629), price value (0,615), effort expectancy (0,498), social influence (0,460), facilitating condition (0,421). The last is performance expectancy (0,399) as the lowest position.

As the habit is in the highest position, it is significantly associated with social influence (0,933) and hedonic motivation (0,918). This means the company should make an interesting innovation to keeps the consumer loyal and accustomed to using this application. The company can also make a daily promotion to attract consumers in using this application every day.

Related to the respondents' satisfaction level, the company should maintain the information of the latest promotion (up-to-date). Besides that, there is a need for improvement in some problems on the technical factor such as crash or force closing, so that consumers feel comfortable and effective in using SedayuOne application. Further study is expected to compare some variables toward user behavioral intention.

REFERENCES

Baird, G. L., & Bieber, S. L. (2016). The Goldilocks dilemma: Impacts of multicollinearity--a comparison of simple linear regression, multiple regression, and ordered variable regression models. *Journal of Modern Applied Statistical Methods, 15*(1), 18.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297-334.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

Escobar-Rodríguez, T., & Carvajal-Trujillo, E. (2014). Online purchasing tickets for low cost carriers: An application of the unified theory of acceptance and use of technology (UTAUT) model. *Tourism Management, 43*, 70-88.

Harsono, L. D., & Suryana, L. A. (2014). Factor affecting the user behavior of social media using UTAUT2 Model. In *Proceedings of the First Asia-Pacific Conference on Global Business, Economics, Finance and Social Sciences.* Singapore.

Hung, S. Y., Chang, C. M., & Kuo, S. R. (2013). User acceptance of mobile e-government services: An empirical study. *Government Information Quarterly, 30*(1), 33-44.

Kim, Y. G., & Woo, E. (2016). Consumer acceptance of a Quick Response (QR) code for the food traceability system: Application of an extended technology acceptance model (TAM). *Food Research International, 85*, 266-272.

Kit, A. K., Ni, A. H., Badri, E. N., & Yee, T. K. (2014). *UTAUT2 influencing the behavioural intention to adopt mobile applications* (Bachelor Thesis). Universiti Tunku Abdul Rahman.

Masa'deh, R., Tarhini, A., Mohammed, A. B., & Maqableh, M. (2016). Modeling factors affecting student's usage behaviour of e-learning systems in Lebanon. *International Journal of Business and Management, 11*(2), 299-312.

Selcuk Korkmaz, D. G. (2014). MVN: An r package for assessing multivariate normality. *The R Journal, 6*(2), 151-162.

Shapiro, S. S., & Wilk, M. B. (1965). An analysis of variance test for normality (complete samples). *Biometrika, 52*(3), 591-611.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, *27*(3), 425-478.

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly, 36*(1), 157-178.

Wang, M. H. (2016). Factors influencing usage of e-learning systems in Taiwan's public sector: Applying the UTAUT model. *Advances in Management and Applied Economics, 6*(6), 63-82.