The Usage Of Microsoft Onedrive Among The Professional College Staff

Saiful Redzuan Mohamad, Norhayati Hussin

Faculty of Information Management,
Universiti Teknologi MARA (UiTM),
Malaysia

Email: saiful@putera.com, yatihussin@uitm.edu.my

Abstract. This research paper is written to provide a hypothetical study on the Unified Theory of Acceptance and Use of Technology (UTAUT) model by Venkatesh et al. (2003); framework on Microsoft OneDrive usage acceptance in one of the established professional college in Malaysia. Questionnaires were distributed to 130 staff and lecturers at one of the branches with 107 returned, an 82.3% return rate. Statistical Package for the Social Sciences (SPSS) version 22 has been used to analyse the data collected. Five variables involved in this study which are Performance Expectancy, Effort Expectancy, Social Norm, Facilitating Conditions and Usage Acceptance. The study recommends future studies should include a bigger scale of the sample that consists of all the professional college branches and add more variables such as trust and security.
Keywords: Information Management, Microsoft OneDrive, UTAUT framework model, cloud computing

1   Introduction

One of the established professional colleges in Malaysia has expressed some interest towards cloud computing services since 2012. Cloud computing services are seen as an option to reduce the dependency towards the internal legacy system and to minimise operational cost, on purchasing and maintaining new software. This professional college has spent millions of money for storage purposes by having dedicated storage server throughout its branches. Hence, implementing cloud computing services, from Microsoft OneDrive, can reduce the operational cost of maintaining storage server. Therefore, the author decided on performing a study on usage acceptance of Microsoft OneDrive among the employees.

Microsoft OneDrive has been introduced to this professional college for the last three years back. It is part of the cloud base subscription service under Office 365. By some estimation, the college already has spent about RM 569.99 per license for Office 365. Hence, for not utilising all the features in Office 365 had to make the college in a

great loss. The college already spent nearly RM 20,000 per year to maintain the storage servers and workforce for managing the servers. By using internal servers, it reduces the effectiveness and efficiency in sharing documents. Besides that, this cloud storage can be access filed from any device, offline access, safely kept and store files and share and collaborate on the file (Microsoft, 2019).

Several methods have been proposed to increase awareness on using Microsoft OneDrive, including training and knowledge sharing; however; users are still not using the tools for their daily task. Managing the information technologies in organizing required wide ranges of competencies (Bakri, Malik and Hussin, 2017). Therefore, this study is to identify the acceptance of the users on using Microsoft OneDrive. Action is needed to overcome this issue to protect the college's investment towards implementing cloud-based computing technology by using Microsoft Office 365 in their organisation and specifically Microsoft OneDrive for this study. The research objective and question of this study are:

RO1: What is the current state of using Microsoft OneDrive in that particular professional college in Malaysia?
RQ1: To examine the current state of using Microsoft OneDrive among their staff at that particular professional college in Malaysia.
RO2: What is the level of the expected performance and effort, the social norm with facilitation condition towards Microsoft OneDrive as perceived by a professional college staff member?
RQ2: To measure the level of the expected performance and effort, the social norm with facilitation condition towards Microsoft OneDrive as perceived by a professional college staff member.
RO3: Do the performance, effort expectancy, social norm and necessary facilitating resources contribute towards the acceptance of Microsoft OneDrive?
RQ3: To identify the performance, effort expectancy, social norm and necessary facilitating resources that contribute towards the acceptance of Microsoft OneDrive.

2   Literature Review

The author researches on a similar case study to find the solutions on issues of user acceptance in technology. The well-known theory which have been posted in MIS Quarterly a highly reputable online database, Venkatesh et al. (2003) in their research has developed a unified model namely Unified Theory of Acceptance and Use of Technology (UTAUT) which has four core variables of intention and usage, and four moderator's variables of key relationships. This model has been used extensively by the researcher to find the explanation of technology acceptance and use. UTAUT model can explain about 70 % of the variance on intention (Martin et al., 2014; Hoque and Sorwar, 2017). Recent study already adopt UTAUT model in identify the acceptance and use of technology in different area such as health system (Yuan et al, 2015; Cimperman et al, 2016), banking (Oliveria et al, 2014; Bhatiasevi, 2016), education (Attuquayefio & Addo, 2014; Oye et al, 2014; Shorfuzzaman & Alhussein, 2016), e-commerce (Awiagah, Kang & Lim, 2016; Kabanda & Brown, 2017) and business (Hou, 2014; Chauhan, S., & Jaiswal, 2016).

UTAUT model has several important variables that will determine the user acceptance and usage behaviour, which are performance expectancy, effort expectancy, social influence, and facilitating conditions. It also has the role of key moderators, which are gender, age, voluntariness, and experience. From the findings, it is a confirm that performance expectancy appears to be the most determinant of intention in adopting new technology were a stronger significant relationship from men and younger workers. This has been supported by Liu et al. (2014), performance expectancy is strongest determine on behavioural intention. While the effect of effort expectancy on the intention to use new technology shows a decline towards women and old workers, including to who have low experience. The social influence on usage intention did have a significant effect on all four moderators, especially to women, older workers, a policy where the conditions are mandatory to use, and with limited experience. Surprisingly there is no significant effect when the moderator is removed. Lastly, the effect of facilitating conditions on usage was only significant towards age and experience as they only matter for older workers in later stages of experience.

The present study has proposed a conceptual framework adapted from the UTAUT model to undergo the research. It includes independent variable are Performance Expectancy, Effort Expectancy, Social Norm Facilitating Condition while the dependent variable is Microsoft OneDrive Usage. See figure 1 below.
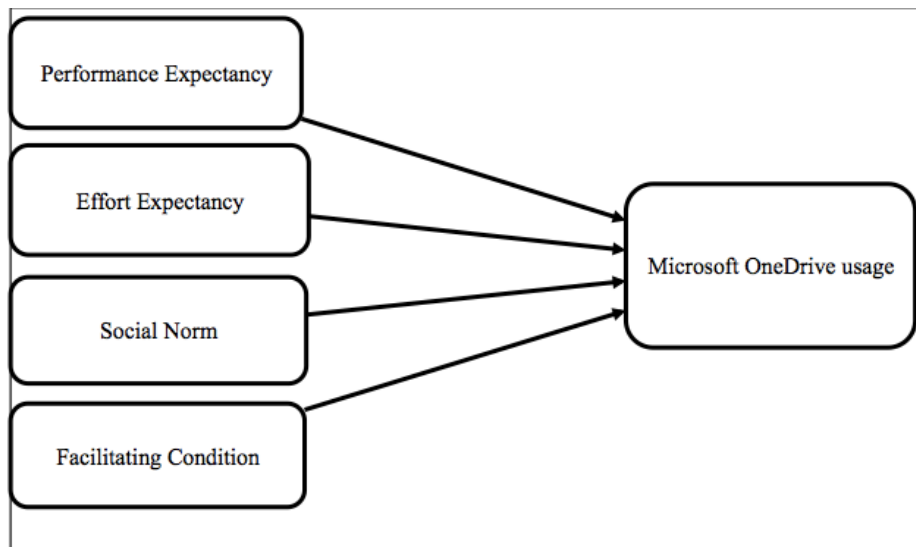

Fig. 1. Proposed Conceptual Model

Performance expectancy is one of the variables of the UTAUT Model, and it serves as one of the critical factors for user adoption to new technology. It is a degree where user believe that using new technology (in this study is Microsoft OneDrive cloud

base service) will help them to improve their job performance. While, performance expectancy based on UTAUT2 is the degree to which using technology will provide benefits to consumers in performing certain activities (Escobar-Rodríguez & Carvajal-Trujillo, 2014). Normally this believes it is based on the user expectation when seeing the new technology will perform well compared to the traditional technology. With support from Microsoft as a provider, they have shown the performance of their product excellently. Many studies have demonstrated empirically that the performance expectancy had affected the behavioural intention of users on adopting new technology in the cloud computing field. (Hashim et al., 2015).

Effort expectancy is one of the important variables in UTAUT. It is a degree of ease associated with the use of the system. Originally effort expectancy is derived from perceived ease of use from Technology Acceptance Model (TAM). The user tends to use new technology when they think the technology is user-friendly. They think with user-friendly software or technology, and less effort will be made to search on the functionality. As Microsoft is a reputable company who develop powerful software, there is a high possibility that the OneDrive is user-friendly to use.

The most crucial role in IT acceptance in the UTAUT model is social influence. Social norm can be considered as social influence or subjective norm from Technology Rational Action (TRA), Technology of Planned Behavior (TPB), and model agreement between the Technology Acceptance Model and the Theory of Planned Behavior (C-TAM-TPB) respectively. The social influence in UTAUT refers to the normative influence where the degree of which peers or coworkers influence or norma contribution on ones' behavioural choice on using the new technology no matter if its either positive or negative. This study is going to perform in a government agency which has traditional technology and old school users who prefer to maintain their preference by using existing software. Despite having much better advantages in Microsoft OneDrive, the normative culture portray a significant impact on the success of acceptance of software.

Boontaring (2012) state facilitating condition positively influence the behavioural intention and use behaviour of using technology. Many organisations encourage the employee on using updated technology as it normally provides better performance. Facilitating condition is the degree to which the users believe that the technology infrastructure and their organisation support on using the software. In this study, Microsoft OneDrive has been subscribed by their headquarters to use in all of their centres and the facility to use the software as provided by the college including the supply of personal computer or laptop and high-speed internet connection. On top of that, the headquarters has provided free training to the users on using Microsoft OneDrive.

Accepting and use a new technology may give huge impact and struggle to users due to changing of activity and preference. However, technology also has constraints in manage, and it depends on how the user used and use in a good manner (Mohamad Ikmal Hamid, Patirah Hanapi & Norhayati Hussin, 2017). When the cloud computing subscription service smartly used as a standard tool, it will provide many benefits directly and indirectly to users and organisation. Implementing cloud computing software such as Microsoft OneDrive will reduce the operational cost of maintaining the traditional storage servers and the support staff.

3   Research Methodology

Based on previous research, most researchers merely focus on using the quantitative method in their study. The reason for the researcher adopts quantitative method because it reduces underlying reality that normally happens in a qualitative method. Hence this study will use the same method, which is quantitative methodology. This study also will use a survey approach as the only procedure to capture data and retrieve information that involves a specific type of field study drawn from a well-defined structured questionnaire. The questionnaire is divided into six parts. The first part consisted of questions relevant for the respondent's demographic profiles and included with performance knowledge questions to test on the respondent's awareness via Yes and No question. The second part contained the questions related to the first variable which is performance expectancy which the first question filled with the frequency of the service that provides five choices; which are Very Frequent, Regularly, Occasionally, Rarely and other. The other three questions are using Likert Scale from Strongly Disagree to Strongly Agree. The third part consisted of the second variable, which is effort expectancy to acknowledge the degree of ease associated with the use of the system. All four questions use Likert Scale for the answer. The fourth part contained items for social norms variable to test on their utilisation among social influence. This part also has four questions, and all of them use the Likert Scale. The fifth part is about facilitating condition variable to see on the respondents' necessity assistant for them on using Microsoft OneDrive. And the last part consisted of usage acceptance dependent variable to test whether all variable has a significant relationship with each other. The results will then be gathered, processed, analysed and interpreted in SPSS software. The output from SPSS will then be taken out to charts and tables for easy understanding, which includes descriptive statistics, response rate, influence statistic, reliability analysis, and hypothesis summary on the test result.

4   Results and Findings

The questionnaires were distributed to 130 administration staff and lecturers in one of the established professional colleges. Based on 130 questionnaires that been distributed, 107 were returned (82.3% response rate), and further analysis will be done. The demographic profiles of the respondents are as follows. A total of 27.1% of the respondents are Male, and in terms of age distribution 26.2% are below 30, 48.6% are between 30 to 40 and 25.2% above 40 years old. Most of them are degree holders, 41.1% with 37.4% have post-degree, which shows only 9.3% and 12.1% are SPM and Diploma holder respectively. From there, 43.9% are administration staff, and 56.1 are lecturers. Finally, only 90.7% of the respondents said that they were aware of using cloud computing, particularly Microsoft OneDrive.

Table 1. Key Demographic Variable

Demographic Variable	Measures	Frequencies	Percentages (%)
Sex	Male	29	27.1
	Female	78	72.9
Age	Below 30	28	26.2
	30 to 40	52	48.6
	Above 40	27	25.2
Education	SPM	10	9.3
	Diploma	13	12.1
	Degree	44	41.1
	Post Degree	40	37.4
Occupation	Admin Staff	47	43.9
	Lecturer	60	56.1
Awareness	Yes	97	90.7
	No	10	9.3

Out of 107 respondents, only 97 (90.7%) said that they aware of the Microsoft OneDrive. From 97 respondent, some respondents still did not familiar with few features of Microsoft OneDrive. Below table 2.0 show cross tabulation on four basic features of Microsoft OneDrive. Based on the findings, it has been identified all the Performance Knowledge as per below table with the total number of respondents that aware of mention features from out of 97 respondents.

Table 2. Cross Tabulation on Performance Knowledge

		PERKNOW1 Online Document Access		PERKNOW2 Upload file sharing with privileged		PERKNOW3 Live update on Words, Excel & etc		PERKNOW4 Public Online Survey	
		Yes	No	Yes	No	Yes	No	Yes	No
Aware	97	88	9	88	9	82	15	68	29

To test the reliability of the variable, we had performed Cronbach's Alpha testing twice. First, during the pilot test, with a total of 50 respondents and a second test with 107 returned respondents. Table 3.0 below shows the result of Cronbach's Alpha value with consistency reference.

Table 3. Cronbach's Alpha

Variable	Number of Items	Cronbach's Alpha Pilot	Cronbach's Alpha Real	Consistency Reference
Independent Variable (IV)				
Performance	3	.920	.903	Excellent

Expectancy				Reliability
Effort Expectancy	4	.907	.911	Excellent Reliability
Social Norm	4	.867	.889	Good Reliability
Facilitating Condition	4	.599	.827	Good Reliability
	Dependent Variable (DV)			
Usage Acceptance	5	.853	.863	Good Reliability

The mean of the item reflects the answer from the majority of the respondent whether they are agreed or disagree towards the questions that reflect the variables. Below table 4.0 show questions with mean that were asked in the questionnaire.

Table 4. Mean of each item

Item	Mean	Majority
Performance Expectancy		
How frequently do you use Microsoft OneDrive	2.52	Frequent
I'm able to utilise Microsoft OneDrive to share file and storing my data	3.56	Agree
I believe in understanding what type of data which are suitable to be stored in Microsoft OneDrive.	3.56	Agree
I'm able to utilise Microsoft OneDrive in performing my daily task better.	3.61	Agree
Effort Expectancy		
It is easy to locate Microsoft OneDrive in NET Office 365 cloud-based service subscription.	3.49	Agree
It is easy to use all features to organise data and files in Microsoft OneDrive.	3.39	Agree
I'm able to access other resources which shared to me.	3.69	Agree
I find Microsoft OneDrive is flexible to use based on our needs.	3.66	Agree
Social Norm		
I'm able to share file and receive a file which shared to me using Microsoft OneDrive.	3.77	Agree
I'm able to utilise Microsoft OneDrive in collaborating with my team/department.	3.61	Agree
I feel comfortable when my colleague uses Microsoft OneDrive in completing the task.	3.65	Agree
My team/department always encourages me to use Microsoft OneDrive.	3.40	Agree
Facilitating Condition		
I have the necessary resources to use Microsoft OneDrive.	3.55	Agree
I have the necessary knowledge to use Microsoft	3.38	Agree

OneDrive.		
I have adequate support from Management of the college on using Microsoft OneDrive.	3.23	Agree
I have support on training to fully understand Microsoft OneDrive features.	3.74	Agree
Usage Acceptance		
I prefer to use Microsoft OneDrive to complete my task.	3.49	Agree
I will continue to use Microsoft OneDrive in future.	3.80	Agree
I believe Microsoft OneDrive can be as a standard tool to minimise the operational cost.	3.78	Agree
I would recommend to other people to use Microsoft OneDrive	3.70	Agree
Despite having Microsoft OneDrive, I prefer to use the traditional method (Shared Folder in college internal storage server or Google drive)	3.34	Agree

The highest mean that being captured from the findings is "I will continue to use Microsoft OneDrive in future" which carry mean of 3.80. It shows that the acceptance of Microsoft OneDrive has been increasing from the day of the introduction. However, the lowest mean goes to Facilitating Condition item which is "I have adequate support from Management of the college on using Microsoft OneDrive" which carry 3.23 perhaps due to internal issue towards the management of the college. Even though it is the lowest mean majority still saying that management does support them on using Microsoft OneDrive.

5   Discussion

From the above findings, hypothesis testing has performed to all independent variable towards the dependent variable. Table 5.0 shows the statement of hypotheses with their sign of a relationship, which supported the usage acceptance of Microsoft OneDrive. It also shows that each of the independent variables has a significant impact on the usage of Microsoft OneDrive. It derived from the result of t value above 1.645. Performance Expectancy with Usage Acceptance of Microsoft OneDrive wherein coefficient the t value is 4.595, t> 1.645) hence, performance expectancy is a significant predictor of usage acceptance of Microsoft OneDrive and significantly accepted in H1. Effort Expectancy with Usage Acceptance of Microsoft OneDrive wherein coefficient the t value is 7.445, t> 1.645) hence, effort expectancy is a significant predictor of usage acceptance of Microsoft OneDrive and significantly accepted in H2. Social Norm with Usage Acceptance of Microsoft OneDrive wherein coefficient the t value is 9.242, t> 1.645) hence the social norm is a significant predictor of usage acceptance of Microsoft OneDrive and significantly accepted in H3. Facilitating Condition with Usage Acceptance of Microsoft OneDrive wherein coefficient the t value is 11.010, t> 1.645) hence facilitating condition is a significant predictor of usage acceptance of Microsoft OneDrive and significantly accepted in H4.

Table 5. Summarize of hypothesis

No	Statement of Hypotheses	Correlations Score (r)	Sign of Relation	Level of Relation	t value	Significant Predictor	Outcome
1	*H1: There is a significant relationship between Performance Expectancy on using Microsoft OneDrive:*	.432**	Positive	Moderate	4.595	Yes	Supported
2	*H2: There is a significant relationship between Effort Expectancy on using Microsoft OneDrive:*	.613**	Positive	Strong	7.445	Yes	Supported
3	*H3: There is a significant relationship between Social Norm on using Microsoft OneDrive:*	.694**	Positive	Strong	9.242	Yes	Supported
4	*H4: There is a significant relationship between Facilitating Condition on using Microsoft OneDrive:*	.754**	Positive	Strong	11.010	Yes	Supported

6   Conclusion

It can be concluded that all performance expectancy, effort expectancy, social norm and facilitating condition have significant positive relationship towards usage acceptance of Microsoft OneDrive that parallel with the UTAUT model research framework. The current study can solve the problem statement to identify why users are still not using Microsoft OneDrive for their daily work. Microsoft OneDrive seems less popular among the staff member, and most of them prefer other services such as Google Drive or internal storage server. However, the awareness and usage acceptance of Microsoft OneDrive is increasing gradually from the day of Microsoft cloud service being introduced. It can be seen from the large percentage of the respondent aware of Microsoft OneDrive. So, the aim of having college staff utilising Microsoft OneDrive as part of this institution mission is appropriately accomplished. For future study, the researcher should consider including other variables such as trust and security as it raises the concern to normal users who have to adopt new technology. Furthermore, the sample size is small due to the specific target of that

institution; hence, further study should consider all branches or other professional college to increase the accuracy of the result.

Acknowledgement

References

Attuquayefio, S., & Addo, H. 2014. Using the UTAUT model to analyze students' ICT adoption. International Journal of Education and Development using ICT, 10(3).

Awiagah, R., Kang, J., & Lim, J. I. 2016. Factors affecting e-commerce adoption among SMEs in Ghana. Information Development, 32(4), 815-836.

Bakri, A. M., Malik, N. H. A., & Hussin, N. 2017. The Competency of Information System Management in an Organization for Better Decision-Making. International Journal of Academic Research in Business and Social Sciences, 7(12), 2222-6990.

Bhatiasevi, V. (2016). An extended UTAUT model to explain the adoption of mobile banking. Information Development, 32(4), 799-814.

Boontarig , W., Chutimaskul, W., Chongsuphajaisiddhi , V., Papasratorn B. 2012. Factors influencing the Thai elderly intention to use smartphone for e-Health services. IEEE Symposium on Humanities, Science and Engineering Research (SHUSER) (2012), pp. 479-483

Chauhan, S., & Jaiswal, M. 2016. Determinants of acceptance of ERP software training in business schools: Empirical investigation using UTAUT model. The International Journal of Management Education, 14(3), 248-262.

Cimperman, M., Brenčič, M. M., & Trkman, P, 2016. Analyzing older users' home telehealth services acceptance behavior—applying an Extended UTAUT model. International journal of medical informatics, 90, 22-31.

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.

Hashim, H. S., & Hassan, Z. 2015. Australian Journal of Basic and Applied Sciences Factors That Influence The Users' Adoption Of Cloud Computing Services At Iraqi Universities: An Empirical Study. Australian Journal of Basic and Applied Sciences Aust. J. Basic & Appl. Sci, 9(927), 379–390. Retrieved from www.ajbasweb.com

Hoque, R & Sorwar, G. 2017. Understanding factors influencing the adoption of mHealth by the elderly: An extension of the UTAUT model. International Journal of Informatics 101, pp 75-84.

Hou, C. K. 2014. Exploring the user acceptance of business intelligence systems in Taiwan's electronics industry: applying the UTAUT model. International Journal of Internet and Enterprise Management, 8(3), 195-226.

Kabanda, S., & Brown, I, 2017. A structuration analysis of Small and Medium Enterprise (SME) adoption of E-Commerce: The case of Tanzania. Telematics and Informatics, 34(4), 118-132.

Liu, L., Miguel Cruz, A., Rios Rincon, A., Buttar, V., Ranson, Q., & Goertzen, D. 2015. What factors determine therapists' acceptance of new technologies for rehabilitation–a study using the Unified Theory of Acceptance and Use of Technology (UTAUT). Disability and rehabilitation, 37(5), 447-455.

Martins, C., Oliveira, T., & Popovič, A. 2014. Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. International Journal of Information Management, 34(1), 1-13.

Mohamad Ikmal Hamid, Patirah Hanapi & Norhayati Hussin. 2017. Technology Trust for Government and Private Sector: Approach Technologies Acceptance Model (TAM). International Journal of Academic Research in Business and Social Sciences 2017, Vol. 7, No. 12 ISSN: 2222-6990

Microsoft, 2019. OneDrive. Retreived May 2019, from: https://onedrive.live.com/about/en-us/

Oliveira, T., Faria, M., Thomas, M. A., & Popovič, A, 2014. Extending the understanding of mobile banking adoption: When UTAUT meets TTF and ITM. International Journal of I information Management, 34(5), 689-703.

Oye, N. D., Iahad, N. A., & Rahim, N. A, 2014. The history of UTAUT model and its impact on ICT acceptance and usage by academicians. Education and Information Technologies, 19(1), 251-270.

Shorfuzzaman, M., & Alhussein, M. 2016. Modeling learners' readiness to adopt mobile learning: A perspective from a GCC higher education institution. Mobile information systems, 2016.

Yuan, S., Ma, W., Kanthawala, S., & Peng, W, 2015. Keep using my health apps: Discover users' perception of health and fitness apps with the UTAUT2 model. Telemedicine and e-Health, 21(9), 735-741.

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