Exploring Uum Student Participation in Service Learning Based on Usefulness Factor under Technology Acceptance Model (TAM)

Abd Rahim Romle, Siti Zahirah Mohd Zahid, Rohayu Awaluddin,
Siti Nursharida Shaari, Noor Mazidah Mohd Khir and Mohd Soffie Che Rose

School of Government, Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia

Abstract: The influence and impact of the technology in all aspects towards learning life are rapidly changing in our world nowadays. Within this changing, our education system also being influenced, that's, most of universities in Malaysia were implement Internet-based learning systems for various reasons. Higher Education institutions believe that these developments offer rich opportunities to embed technological innovations within the learning environment. It is obvious that the number of e-learning opportunities provided by higher educational institutes continues to grow in our country, Malaysia. Currently, the system in the firm stage but their adoption requires a solid understanding of the user acceptance processes. There is still little research has been done to explore the process on how university students participate and understanding the e-learning. The general structural model, technology acceptance model (TAM) were used which focus on the one variable, perceived usefulness. The results were proved that TAM to be a good theoretical tool to help understanding the system, due to its give usefulness when using and participation in the service learning.

Key words: Service Learning · Technology Acceptance Model (TAM) · Perceived usefulness

INTRODUCTION

Service Learning: Technology is revolutionizing education just as it is doing with all aspects of human life. The Internet is helping people learn informally by sharing information and facilitating communication by connecting people [1, 2, 3]. Besides, service-learning is consistent with other current trends in higher education including an emphasis on student learning rather than teaching; interdisciplinary work; identity of colleges/universities as communities of learners in partnership with civic society [4]. Web-based learning, online learning, and distance learning are widely used as interchangeable terms. However, these terms represent concepts with subtle, yet consequential differences eLearning is the latest term added to this list and have mostly replaced all other terms. E-Learning is mostly associated with activities involving computers and interactive networks simultaneously [5]. [6] refers e-learning as a learning activities involving computer networks as e-Learning and stresses that e-Learning is not merely distance learning.

Technology Acceptance Model (TAM): In the last three decades, researchers have given much attention to identifying the conditions or factors that could facilitate technology integration into businesses [7]. Arising from this motivation, models were developed and tested to help in predicting technology acceptance. Among these models, the Technology Acceptance Model [8] is arguably the most popular in technology acceptance studies [9]. Overall, the TAM has been empirically proven successful in predicting about 40% of a system use [7, 10].

The origins of the TAM came from [11] Theory of Reasoned Action (TRA). It posits that beliefs and attitudes are related to individuals' intentions to perform. According to TRA, attitude toward a behavior is determined by behavioral beliefs about the consequences of the behavior (based on the information available or presented to the individual) and the affective evaluation of those consequences on the part of the individual. Beliefs are defined as the individual's estimated probability that performing a given behavior will result in a given consequence.

Corresponding Author: Abd Rahim Romle, School of Government, Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia.
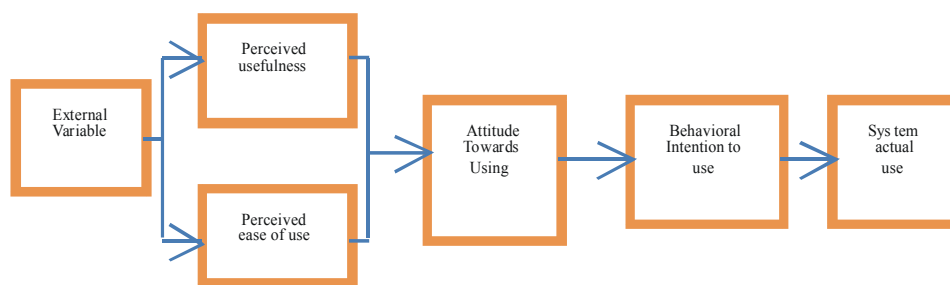
Fig. 1: Technology Acceptance Model (TAM)

A number of theoretical models explain behavioral intentions as well as future behavior, example, the Theory of Reasoned Action (TRA) [11, 12], the Theory of Planned Behavior (TPB) [13], and the Technology Acceptance Model (TAM) [8, 14]. As the starting point in our theory development we will use the TAM, which was developed to explain individual acceptance of information technology.

Furthermore, TAM provides a basis with which on the traces how external variables influence belief, attitude, and intention to use. Two cognitive beliefs are posited by TAM: perceived usefulness and perceived ease of use. According to TAM, one's actual use of a technology system is influenced directly or indirectly by the user's behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of the system [10, 15].

Moreover, TAM also proposes that external factors affect intention and actual use through mediated effects on perceived usefulness and perceived ease of use. Figure 1 depicts the original TAM [14].

Literature Review: E-learning offers flexibility of time and place which allows higher education institutions and their student to deliver or receive learning materials in a more flexible manner [16, 17, 18] stated that the increased demand of integrating ICT into the educational process due to the change of students demography places higher education institutions under pressure to utilize information and communication technologies at universities [19, 20, 21, 22]. Additionally, universities through effective implementation of e-learning could attract and engage larger numbers of students [23, 24, 25].

Despite many advantages offered by e-learning systems, the transformation of the educational style presents various challenges that would significantly affect culture and the continuing need for the development of technological skills of students and staff [26, 27, 28].

Therefore, students' involvement and acceptance must be considered; otherwise advanced systems will most likely fail. Many universities that offer e-learning services encounter various difficulties in terms of adopting successful strategies including the acceptance and effectiveness of delivering courses [29].

One of the well-known models related to technology acceptance and use is the technology acceptance model (TAM), originally proposed by Davis in 1986. TAM has proven to be a theoretical model in helping to explain and predict user behavior of information technology [7].

TAM appears to be able to account for 40 percent to 50 percent of user acceptance [7]. Perceived usefulness can be defined as the extent to which a university student believes using e-learning will boost his or her learning. Perceived usefulness in the technology acceptance model is an example of extrinsic motivation [31]. Extrinsic motivation is a construct that pertains whenever an activity is done in order to attain some separable outcome [32]. Extrinsic motivation emphasizes performing a behavior to achieve specific goals or rewards [33].

[34] has concluded that the model fit the collected data and that the usefulness and ease of use turned out to be good determinants of the acceptance and use of a course website as an effective and efficient learning technology [35] also insisted that university students' participation and involvement were important to successful e-learning systems and therefore students' acceptance behavior should be assessed. They suggested that TAM was a solid theoretical model where its validity can extend to the multimedia and e-learning context.

MATERIALS AND METHODS

The study is quantitative in nature and employs an questionnaire survey for data collection which involved students at a medium-size with 210 students from 3faculty,

there are, College of Art & Science, College of Business and College of Law, Government & International Studies at University Utara Malaysia. The research instrument consists of two main sections.

The first section incorporates a nominal scale to identify respondents' demographic information. The second section uses 5-point Likert response scale where 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, and 5: Strongly agree. The measured items include perceived usefulness (6 items). The Statistical Package for Social Sciences (SPSS) version 20 for Windows was used to generate descriptive statistics.

RESULTS AND DISCUSSION

The percentage of respondents were 31.0% for male, and female is 69.0%. About 94.3% is single and the 5.7% are from students that are married, and mostly the married students are PHD respondents. %. It was recorded that most of the respondents, 62.9% are students from age 25 years old below, this because, most of them are familiar with the systems. 31.9 % are in the age of 26 – 35 years old, 4.8% for age 36 – 45 years old, and 0.5% for age 46 and above. Thus, The level o education also play the main role in participation in the system; their percentage are in average level, 1st year degree is 31.9%, 2nd years degree is 21.0%, 3rd years degree is 48%, and Master is 23.3%, and lastly, PHD is 1.0%.Meanwhile, 36.2% respondents were from College of Art & Science, 44.8% from College of Business and 19.0% from College of Law, Government & International Studies.

Table 2 had indicated both the mean and standard deviations of easiness in student participation in service learning. The ranking of importance as suggested by [36] and [37] were used as a reference in determining the level of the perceived ease of use. The authors suggest the following four categories based on rank of importance: mean value of 2.59 and below is indicating as *less important*, mean value between 2.60 to 3.40 is indicated as *moderate importance*, mean value ranging from 3.41 to 4.20 is indicated as *high importance*, and mean value of 4.21 and above is indicating as *great importance*.

Hence, based on the findings, all the 6 items; Participation in service learning will give me better understanding of my course, Participation in service learning will enhance my effectiveness in my study, Participation in service learning will improve my knowledge, Participation in service learning will improve

Table 1: Profile Of Respondents

Respondent Profile		Frequency	Percentage (%)
Gender	Male	65	31.0
	Female	145	69.0
Marital Status	Married	12	5.7
	Single	198	94.3
Age	Under 25 years old	132	62.9
	26 – 35 years old	67	31.9
	36 – 45 years old	10	4.8
	Above 46 years old	1	0.5
Education	1st Year Degree	67	31.9
	2nd Years Degree	44	21.0
	3rd Years Degree	48	22.9
	Master	49	23.3
	PHD	2	1.0
College	College of Art & Science	76	36.2
	College of Business	94	44.8
	College of Law, Government & International Studies	40	19

Table 2: Descriptive statistics on perceived usefulness in participation and using service learning

Items	N	Mean	Std. Deviation
Participation in service learning will give me better understanding of my course	210	3.8714	0.73050
Participation in service learning will enhance my effectiveness in my study	210	3.8429	0.73143
Participation in service learning will improve my knowledge.	210	3.8143	0.62545
Participation in service learning will improve student ability to apply what they have learned in "the real world ".	210	3.7381	0.65838
Participation in service learning will support student course goal at reducing thinking and facilitating cultural and racial	210	3.7000	0.64925
Participation in service learning will give a positive effect on interpersonal		3.7381	0.61323

student ability to apply what they have learned in " the real world ", Participation in service learning will support student course goal at reducing thinking and facilitating cultural and racial, Participation in service learning will give a positive effect on interpersonal, were in the range 3.41 – 4.20 that are highly importance. These means that, the easiness of using service learning are in moderate range (neutral).

Besides that, the variability of the rating exhibited to be relatively high with the standard deviation range of 0.594 to 0.710, suggesting some inconsistencies on easiness participation the service learning.

Consequently, judging from the score, which showed that, a strong mean concentration, probably may be assumed that, participate in service learning are usefulness in their study. E-Learning provides the students the flexibility of learning from anywhere at any time at one's own convenience.

Thus, it enables students to learn at their own pace. E-Learning set the stage for people who are geographically apart to come together to learn, collaborate, and share knowledge. Those who find eLearning to be useful are more likely to use it as a mode of learning.

CONCLUSION

Generally, in this study the original TAM were used in order to measure the perceived usefulness of participation and using service learning. Therefore, this study confirms the empirical evidence and findings based on TAM. Further, the study successfully confirms the applicability of TAM in the students' participation in service learning that are specifically focus on the perceived usefulness.

The results provide important issues to be considered to ensure increased use of service learning system by the students. Based on the study results, we would offer the following recommendations to increase student's perceptions that the technical system are useful for them, that's, we need to make them understand what is e-learning and how to use it by giving them training [38] about the system (increase perceptions that the technical system is easy to use) [39, 40, 41]. Significantly, the easiness of the system, are correlated with the usefulness in using the system.

Secondly, the university should increase the individual's confidence in their ability to use computer technology in diverse situations [42, 43, 44]. Increase positive perceptions [45, 46, 47, 48]of e-Learning among close associates of potential e-Learning students, that focus on pay increased attention in order to promote e-Learning to those who are organized, self-disciplined, and careful to make them easier to do their job even out of class.

Pay increased attention to promote e-Learning to those who are enthusiastic, energetic, fun loving, and enjoy using computers. The determinants of behavioral intention to engage in e-Learning for this purpose could be different from that of the more general educational sector [49, 50, 51]. On the other hands, cognitive traits significantly mediate the impact of perceived usefulness on attitudes while using online learning tool [52].

REFERENCES

1. Punnoose, A.C., 2012. Determinants of Intention to Use eLearning Based on the Technology. Journal of Information Technology Education: Research, 11: 301-338.

2. Abidin, A.H.Z. and A.R. Romle, 2007. Emerging technology for enhancing service quality: PDA's as your devices in mobile internet banking environment, The Journal of Global Business Management, 2(3): 75-82.

3. Zainol, A.Z. and A.R. Romle, 2007. The truths of service quality (passenger handing) in airlines industry: A descriptive exploration between Malaysia Airlines and Air Asia, The Journal of Global Business Management, 3(1): 1-7.

4. Walshok, M.L., 1999. Strategies for building the infrastructure that supports the engaged campus. *In* R. G. Bringle, R. Games, & E. A. Malloy (Eds.), *Colleges and universities as citizens* (pp: 29- 44). Boston: Allyn & Bacon.

5. Tsai, S. and P. Machado, 2002. July. E-Learning basics: Essay. E-learning, online learning, web-based learning, or distance learning: Unveiling the ambiguity in current terminology. eLearn Magazine. Retrieved September 12: 2012.

6. Schank, R.C., 2001. Designing world-class e-learning. McGraw-Hill.

7. Legris, P., J. Ingham and P. Collerette, 2003. Why do people use information technology? A critical review of the technology acceptance model. Information & Management, 40: 191-204

8. Davis, F.D., R.P. Bagozzi and P.R. Warshaw, 1989. User acceptance of computer technology: A comparison of two theoretical models. Management Science, 35(8): 982-1003.

9. McCoy, S., D.F. Galletta and W.R. King, 2007. Applying TAM across cultures: the need for caution, European Journal of Information Systems, 16(1): (81-90).

10. Zahid, S.Z.M., A.H.Z. Abidin, A.R. Romle and N.H.M. Isa, 2015. Applications of TAM on students participation in service learning at UUM, Journal of Applied Sciences Research, 11(18): 14-18.

11. Ajzen, I. and M. Fishbein, 1980. Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice-Hall

12. Fishbein, M. and I. Ajzen, 1975. Belief, attitude, intention, and behavior. Reading, MA: Addison-Wesley.

13. Ajzen, I., 1985. From intentions to actions: A theory of planned behavior. *In* J. Kuhl & J. Beckman (Eds.), Action-control: From Cognition to Behavior, (pp: 11-39). Heidelberg: Springer.

14. Davis, F.D., 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3): 319-339.

15. Zahid, S.Z.M., H. Abdul-Jabbar, A.R. Romle, N.H.M. Isa and M.S.C. Embi, 2015. Exploring UUM student's intention towards participation in service learning for academic purpose based on Technology Acceptance Model (TAM), Australian Journal of Basic and Applied Sciences, 9(34):, 217-221.

16. Concannon, F., A. Flynn and M. Campbell, 2005. "What campus-based students think about the quality and benefits off e-learning". British Journal of Educational Technology, 36(3): 501-512.

17. Ismail, S., A.R. Romle and N.A. Azmar, 2015. The Impact of organizational culture on job satisfaction in higher education institution, International Journal of Administration and Governance, 1(4): 14-19.

18. Nasri, P.A.N., S. Ghazali and A.R. Romle, 2015. Exploring the level of creativity among students: A case of public universities, International Journal of Administration and Government, 1(14): 68-72.

19. Yusof, N.A., A.R. Romle, M.K.A.M. Kamal, S. Othman, M.S.M. Yusof and S.S. Azidin, 2015. An exploratory study of marketing in social networking sites Facebook and the advantages to the business, International Journal of Administration and Governance, 1(14): 130-134.

20. Mustapha, R., A.R. Romle, N.J.A. Seman, M.H. Mansor, A.I. Roslan and A.M.M. Idris, 2015. The level of e-service quality on attitude toward online shopping, International Journal of Administration and Governance, 1(14): 105-109.

21. Mohamed, Z., A.R. Romle, P.A.N. Nasri, A. Hassan and M.A.H.M. Zabri, 2015. The level of information technology in enhancing in study life of post graduate students in Malaysia public universities, International Journal of Administration and Governance, 1(14): 78-82.

22. Manzuma-Ndaaba, Harada, Y., A.R. Romle and A.S. Shamsudin, 2016. Impact of globalization on Nigeria education system: Challenges in the new millennium, Mediterranean Journal of Social Sciences, 7(1): 89-96.

23. Ahmad, N.H.A., A.R. Romle and M.H. Mansor, 2015. Exploring service quality and customer satisfaction at library in Malaysia university, International Journal of Administration and Governance, 1(4): 98-105.

24. Shagari, A.U., A.R. Romle and M.M. Qader, 2015. Examining the relationships between quality assurance, training need and choice of study destination: A study of Nigerian students in UUM, International Journal of Economics and Financial Issues, 5(1): 1-6.

25. Manzuma-Ndaaba, N.M., Y. Harada, A.R. Romle and M.K.R.S. Abdullah, 2015. The drivers of service loyalty in homogeneous market: Conceptualizing brand loyalty in Malaysia public universities, Australian Journal of Basic and Applied Sciences, 9(30): 67-73.

26. Al-Adwan, A. and J.K. Smedley, 2012. Implementing e-learning in the Jordanian higher education systems: Factors affecting impact. International Journal of Education and Development using Information and Communication, International Journal of Education and Development using Information and Communication Technology, 8(1): 121-135.

27. Manzuma-Ndaaba, N.M., Y. Harada, A.R. Romle and K. Olanrewaju, 2015. International education as tourism product: The Malaysia experience, International Journal of Administration and Governance, 1(4): 74-81.

28. Zain, M.M., F.M. Hanafiah, A.R. Romle, N.S.S. Shahuri and N.Z.C. Halim, 2015. The Effects of organizational culture on employee empowerment and job satisfaction: A proposed framework, Australian Journal of Basic and Applied Sciences, 9(34): 202-208.

29. Al-Adwan, A. and J.K. Smedley, 2013. Exploring students acceptance of e-learning using technology acceptance. International Journal of Education and Development using Information and Communication Technology, 9(2): 4-15.

30. Park, S.Y., 2009. An analysis of the Technology Acceptance Model in understanding university students' behavioral intention to use e-learning. Educational Technology & Society, 12(3): 150-162.

31. Davis, F.D., .RP. Bagozzi and P.R. Warshaw, 1992. Extinsic and intrinsic motivation to use computers in the workplace. Journal of Applied Social Psychology, 22(14): 1111-1132.

32. Deci, E.L. and R.M. Ryan, 1985. Intrinsic motivation and self-determinaton in human behaviour. New York: Plenum.

33. Vallerand, R.J., 1997. Toward a hierarchical model of intrinsic and extrinsic motivation. Advances in Experimental Social Psychology, 29: 271-360.

34. Selim, H.M., 2003. An empirical investigation of student acceptance of course web sites. Computers & Education, 40: 343-360.

35. Saadé, R.G., F. Nebebe and W. Tan, 2007. Viability of the technology acceptance model in multimedia learning environments: Comparative study. Interdisciplinary Journal of Knowledge and Learning Objects, 37: 175-184.

36. Rosli Mahmood, 2005. Ethical perceptions of small business owners in Malaysia, International Journal of Management and Entrepreneurship, 1(2): 138-145.

37. Rosli, M. and A.R. Ghazali, 2007. How bank managers assess small business borrowers?, Malaysian Management Review, 42(1): 43-53.

38. Zakaria, M.F., A.R. Romle, S.M. Rodzi, N.A. Othman and P.A.N. Nasri, 2015. Personality traits: Does influence training transfer?, Australian Journal of Basic and Applied Sciences, 9(34): 146-153.

39. Shamsudin, A.S., H.A. Rahman and A.R. Romle, 2015. The moderating effect of Islamic work ethic on relationship of emotional intelligence and leadership practice: A proposed framework, International Journal of Innovation, Management and Technology, 6(2): 140-143.

40. Hamid, S.N.I.A., A.R. Romle and M.H. Mansor, 2015. Realistic agendas for future of e-government implementation in Malaysia, Research Journal of Social Sciences, 8(5): 9-13.

41. Husin, N.K.M., A.R. Romle and M.S.M. Yusof, 2015. Toward a greater understanding of how service quality drives students satisfaction in higher learning institutions, International Journal of Administration and Governance, 1(4): 9-13.

42. Romle, A.R. and A.S. Shamsudin, 2006. The relationship between management practices and job satisfaction: The case of assistant registrar at public institutions of higher learning in Northern Region Malaysia, The Journal of Human Resource and Adult Learning, 2(2): 72-80.

43. Azmar, N.A. and A.R. Romle, 2015. New Prospect on the impact of training program towards work motivation amongst public service servants, Australian Journal of Basic and Applied Sciences, 9(4): 74-77.

44. Kamal, M.K.A. and A.R. Romle, 2015. Framing on leadership styles and job performance in Malaysia: A new direction, Australian Journal of Basic and Applied Sciences, 9(4): 69-73.

45. Azidin, S.S., A.R. Romle and M.H. Mansor, 2015. Overarching Unified Theory of Acceptance and Use of Technology (UTAUT) Model on the factors effecting behavioral intention towards e-government adoption in Malaysia, International Journal of Administration and Governance, 1(10): 106-110.

46. Saberi, N., A.R. Romle and S.N.I. Hamid, 2015. Proposing the relationship between TQM and service quality in public university: A framework, International Journal of Administration and Governance, 1(4): 111-115.

47. Husin, N.K.M., A.R. Romle, S. Pohyae, Z.N.M. Husin, N. Saberi and M.S. Abdullah, 2015. The level of understanding on corporate image among university students: A case of Malaysian public university, International Journal of Administration and Governance, 1(14): 68-72.

48. Saberi, N., A.R. Romle, S.A. Romli, N.K.M. Husin, Z.N.M. Husin and M.S. Abdullah, 2015. Applying TQM practices and service quality in higher education, International Journal of Administration and Governance, 1(14): 50-56.

49. Saberi, N. and A.R. Romle, 2015. The implementation of TQM with service quality from students perspective in Malaysian public university, Australian Journal of Basic and Applied Sciences, 9(4): 50-56.

50. Jin, L.Y., A. Osman and A.R. Romle, 2015. Attitude towards online shopping activities in Malaysia public university, Mediterranean Journal of Social Sciences, *6*(2): 456-462.

51. Nasir, A.M., A.R. Romle and N. Shuib, 2015. The effect of customer acceptance on Islamic banking products and services, International Journal of Administration and Governance, 1(4): 26-30.

52. Saadé, R.G., D. Kira and F. Nebebe, 2012. Understanding the role of personality traits on beliefs in online learning. Proceedings of Informing Science & IT Education Conference (InSITE). Montreal, Canada. eptance Model. Journal of Information Technology Education: Research.