i-Learn Portal: UniversitiTeknologi MARA Pahang Student's e-Learning Continuance Intention Level and Influences Factors

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ABSTRACT

Blended Learning (BL) is the teaching and learning technique implemented in Universiti Teknologi MARA (UiTM) for the past few years. BL is the approach that combines the physical classroom learning and electronic learning (e-Learning). UiTM has developed an i-Learn portal as a platform to support e-Learning activities.The users of the i-Learn portal are UiTM students and lecturers.The objectives of this study is to determine an individual usage continuance intention level for the i-Learn portal services in UiTM Pahang. Other objectives are to identify the factors that lead to the agreement or reluctance of continuity in using i-Learn portal services in UiTM. This quantitative research used questionnaire as a tool to gather information from the respondents. Decomposed technology acceptance model proposed by Juan Carlos Roca et. Al (2006) is used as an outline on questionnaire design. This model is used because it is tailored for e-Learning services characteristics. The respondents for this research are Diploma in Computer Science UiTM Pahang students that have the experience using i-Learn portal services in their studies. Most of the subjects taught for Diploma in Computer Science at UiTM Pahang implement the blended learning technique that utilized the i-Learn Portal services. The results of this research on continuance intention towards i-Learn Portal among UiTM Pahang students is undecided. The factors that lead to this result is less perceived on cognitive absorption, flaws on information quality and the system quality.

Keywords: *e-Learning; Continuance Intention;i-Learn Portal*

INTRODUCTION

Universiti Teknologi MARA (UiTM) moves to the new era of teaching and learning method by implementing blended learning approach to upgrade UiTM students and lecturers professionalism and education quality. López-Pérez et al., (2011) said "blended learning is proven has a positive effect in reducing the failure rates and also improve the student's exam marks". Blended learning is defined as the integration of face-to-face physical classroom learning experiences and online or electronic learning (e-Learning) experiences (Garrison &Kanuka, 2004). The interest of this study is on e-Learning experiences that comprises all forms of electronically supported learning and teaching process (Wikipedia Foundation Inc., 2011). UiTM uses the e-Learning service system named i-Learn portal that is initiated and maintained by i-Learn Centre (i-Lec). This portal act as a Learning Management System (i-Learn Centre (i-LeC), 2015) or a platform to support e-Learning activities in UiTM. The success of e-Learning implementation in UiTM gives big impact on the success of blended learning approach proposed in UiTM teaching and learning process.

Based on previous research analysis done by Chao-Min Chiu, Meng-Hsiang Hsu, Szu-Yuan Sun, Tung-Ching Lin and Pei-Chen Sun (2005),it stated that the success of the information technology (IT) depends on user acceptance and their usage continuance intention. The main objective of this research is to determine the user's usage continuance intention level towards i-Learn Portal. Other objectives are to list and discuss the positive and negative factors of i-Learn Portal criteria's that influence the user's continuance intention level. These positive and negative factors will align the future improvement on i-Learn portal and will also increase the success level of e-Learning implementation in UiTM.

LITERATURE REVIEW

The success of IT is determined by the user acceptance level and usage continuance level (Chao-Min Chiu et. al, 2005)quality, and value. Research hypotheses derived from this model are empirically validated using the responses to a survey on e-learning usage among 183 users. The results suggest that users' continuance intention is determined by satisfaction,

which in turn is jointly determined by perceived usability, perceived quality, perceived value, and usability disconfirmation. ?? 2004 Elsevier Ltd. All rights reserved.", "author" : [{ "dropping-particle" : "", "family" : "Chao-Min Chiu", "given" : "", "non-dropping-particle" : "", "parse-names" : false, "suffix" : "" }, { "dropping-particle" : "", "family" : "Meng-Hsiang Hsu", "given" : "", "non-dropping-particle" : "", "parse-names" : false, "suffix" : "" }, { "dropping-particle" : "", "family" : "Szu-Yuan Sun", "given" : "", "non-dropping-particle" : "", "parse-names" : false, "suffix" : "" }, { "dropping-particle" : "", "family" : "Tung-Ching Lin", "given" : "", "non-dropping-particle" : "", "parse-names" : false, "suffix" : "" }, { "dropping-particle" : "", "family" : "Pei -Chen Sun", "given" : "", "non-dropping-particle" : "", "parse-names" : false, "suffix" : "" }], "container-title" : "Computers and Education", "id" : "ITEM-1", "issue" : "4", "issued" : { "date-parts" : [["2005"]] }, "page" : "399-416", "title" : "Usability, quality, value and e-learning continuance decisions", "type" : "article-journal", "volume" : "45" }, "uris" : ["http://www.mendeley.com/documents/?uuid=d80c2172-e92d-4066-82e6-2894b7a570d2"] }], "mendeley" : { "formattedCitation" : "(Chao-Min Chiu, Meng-Hsiang Hsu, Szu-Yuan Sun, Tung-Ching Lin, & Pei -Chen Sun, 2005. Most popular model used for usage continuance model is Decomposed Technology Acceptance Model created by Juan Carlos Roca, Chao Min Chiu, and Francisco José Martínez (2006). This model is the enhancement of Technology Acceptance Model created by Davis (1989) that focuses on e-Learning services. The structure of this section is the evaluation of Technology Acceptance Model or its popular acronym is TAM proposed by Davis and followed by the evaluation of Decomposed Technology Acceptance Model proposed by Juan Carlos Roca et. al (2006). This structure is meant to guide the researcher and reader to have a proper understanding on Decomposed TAM.

Technology Acceptance Model (TAM)

TAM is the model to evaluate the first factor on the success of Information Technology services known as user acceptance factors. Information technology acceptance level stated by TAM model is based on two factors known as perceived on usefulness and perceived on ease of use. Perceived on usefulness is the "the degree to which a person believes that using a particular system would enhance his/her job performance", and perceived ease of use is defined as "the degree to which a person believes

that using a particular system would be free of physical and mental effort" (Davis, 1989). Figure 1 shows the diagram of the Technology Acceptance Model proposed by Davis.

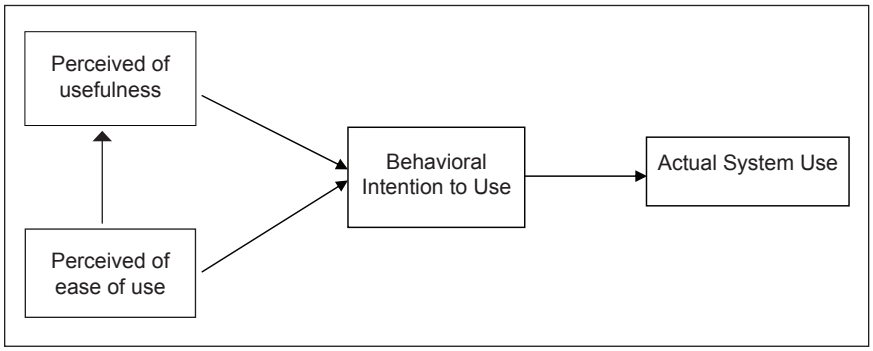

Figure 1: Technology Acceptance Model (Davis, 1989)

The usefulness and ease of use are two main criteria outlined by this model to make sure the Information Technology services is accepted and will be used by the users. This is important because human will use the technology that did not give the burden to their mental and physical (Nor Zalina Ismail et al., 2012). Based on this model and this research perspective, Learning Management System in UiTM named i-Learn Portal should give the benefit on student's result improvement and also the increment on lecturer's job performance.

Decomposed Technology Acceptance Model

Decomposed Technology Acceptance Model is used to evaluate the second factors on IT success factor known as user's usage continuance intention. It uses Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM) and Expectancy Disconfirmation Theory (EDT) as a basic of the proposed Decomposed Technology Acceptance Model (Juan Carlos Roca et. al, 2006). Figure 2 shows the diagram of decomposed Technology AcceptanceModel.

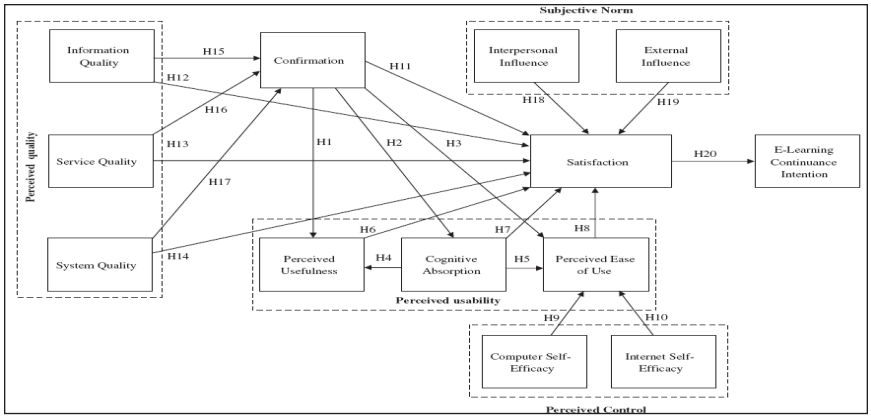

Figure 2: Decomposed Technology Acceptance Model (Juan Carlos Roca et. al, 2006)

Decomposed Technology Acceptance Model outlines twelve factors that lead to the e-Learning continuance intention. The factors are listed as below:

1. Perceived usefulness
2. Perceived cognitive absorption
3. Perceived ease of use
4. Perceived internet self-efficacy
5. Perceived computer self-efficacy
6. Interpersonal influence
7. External influence
8. Information quality
9. Service quality
10. System quality
11. Confirmation
12. Satisfaction

Decomposed Technology Acceptance Model proposed by Juan Carlos Roca et. al (2006) is chosen because this model is specific for e-Learning service compared with other user's usage continuance intention model. In addition, another factor on choosing this model is because it used other established model as a base for their proposed Decomposed Technology Acceptance Model(Nor Zalina Ismail et. al, 2012).

METHODOLOGY

This is a quantitative research based on questionnaire survey. There are two main activities involved in this research, which are data collection and data analysis.

Data Collection

This section described two important elements in this phase which are data collection tools used in this research and the people involved in the data collection phase known as respondents. This research used a questionnaire as a data collection tool. The questions in the questionnaire were created based on the twelve e-Learning Continuance Intention categories or factors listed by decomposed technology acceptance model. The questionnaire adopts Likert scale with five points as a measurement. Table 1 shows the five points Likert scale rating and strength of agreement used in the research questionnaire.

Table 1: Research Questionnaire Rating and Strength of Agreement

Rating	Strength of Agreement
1	Strongly disagree
2	Disagree
3	Undecided
4	Agree
5	Strongly agree

The number of respondents involved in this research is 240 people as proposed by Krejcie and Morgan table that based on 562 population of UiTM Pahang Diploma in Computer Science students. This table used for determining sample size for a finite population used 95% degree of accuracy. The respondents are among first semester until fifth semester of Diploma in Computer Science UiTM Pahang students. This course is chosen because 70% of Computer Science subject is registered for blended learning mode that must implement e-Learning teaching and learning experience thru i-Learn Portal.

Data Analysis

The analysis of data is carried out in order to obtain the continuance intention level in using i-Learn Portal services among UiTM students. This phase is also to determine the influence factors of i-Learn portal usage continuance intention level. These analysis outputs were described in results and discussion section to identify the strengths and weaknesses of i-Learn portal services.

This data analysis phase involves three steps stated as data input, generate the question's mean and standard deviation values and generate category's p-value and Cronbach's α values. Data input activity involve the task to input all the respondents rating in the research questionnaire into SPSS application. The questions rating values are input as different variables. The next step is to generate the mean and standard deviations value for each question in the research questionnaire. Last step is to generate the p-value and Cronbach's α value for each category of questions in the research questionnaire. The generated of mean, standard deviations, p-value and Cronbach's α value is done by using the SPSS data analysis functions.

RESULTS AND DISCUSSION

The results of this study are discussed based on mean value generated in data analysis phase. Table 2 shows the output of mean, standard deviation for each question and Cronbach's α and p-value for each category in the questionnaire distributed to the respondents.

Table 2: Data Analysis Result

No	Category	Questions	Mean	Standard Deviation
1	*Perceived usefulness* (Cronbach's α = 0.132, p-value=0.465)	Using the i-Learn Portal service can improve my learning performance	3.79	0.770
		Using the i-Learn Portal service can increase my learning effectiveness	3.78	0.788
		I find the i-Learn Portal service to be useful to me	4.09	0.677
2	*Perceived cognitive absorption* (Cronbach's α = 0.836, p-value=0.0000)	Time flies when I am using the i-Learn Portal	3.26	0.954
		Most times when I get on to the i-Learn Portal, I end up spending more time than I had planned	3.18	0.971
		When I am using the i-Learn Portal I am able to block out most other distractions	3.14	0.904
		While using the i-Learn Portal, I am absorbed in what I am doing	3.35	0.868
		I have fun interacting with the i-Learn Portal	3.51	0.892
		I enjoy using the i-Learn Portal	3.62	0.850
3	*Perceived ease of use* (Cronbach's α = 0.784, p-value=0.050)	Learning to operate the i-Learn Portal service is easy for me	3.88	0.646
		It is easy for me to become skillful at using the i-Learn Portal service	3.77	0.718
		My interaction with the i-Learn Portal service is clear and understandable	3.79	0.724
4	*Perceived Internet self-efficacy,* (Cronbach's α = 0.904, p-value=0.0000)	I feel confident in navigating the i-learn Portal by following hyperlinks	3.80	0.659
		I feel confident in the i-Learn Portal finding information	3.86	0.669
		I feel confident in the i-Learn Portal posting messages on a bulletin board	3.68	0.752
		I feel confident in the i-Learn Portal exchanging messages with others users in discussion forums	3.61	0.828
		I feel confident in the i-Learn Portal chatting	3.50	0.934

5	*Perceived computer self-efficacy,* (Cronbach's α = 0.843, p-value=0.608)	I could complete my learning activities using the i-Learn Portal if I had never used a system like it before	3.55	0.857
		I could complete my learning activities using the i-Learn Portal if I had only the system manuals for reference	3.49	0.826
		I could complete my learning activities using the i-Learn Portal if I had seen someone else using it before trying it myself	3.51	0.932
		I could complete my learning activities using the i-Learn Portal if I had just the built-in-help facility for assistance	3.55	0.831
		I feel confident in the i-Learn Portal downloading files	3.84	0.850
6	*Interpersonal influence* (Cronbach's α = 0.873, p-value=0.0000)	My family thought I should use the i-Learn Portal	3.32	0.932
		My colleagues thought I should use the i-Learn Portal	3.63	0.831
		My friends thought I should use the i-Learn Portal	3.56	0.850
7	*External influence* (Cronbach's α = 0.875, p-value=0.0000)	I read/saw news reports that using the i-Learn Portal was a good way of learning	3.62	0.884
		Expert opinions depicted a positive sentiment for using the i-Learn Portal	3.58	0.796
		Mass media reports convinced me to use the i-Learn Portal	3.41	0.887
8	*Information quality* (Cronbach's α = 0.880, p-value=0.0000)	The i-Learn Portal provides relevant information for my job	3.59	0.859
		The i-Learn Portal does not provide easy-to-understand information	3.29	0.890
		The output information from the i-Learn Portal is not clear	3.16	0.939
		The i-Learn Portal presents the information in an appropriate format	3.60	0.817
		The information content in the i-Learn Portal is very good	3.63	0.789
		The information from the i-Learn Portal is up-to-date enough for my purposes	3.61	0.846
		The completeness of output information that the i-Learn Portal delivers is not sufficient for my purposes	3.29	0.893
		The reliability of output information from i-Learn Portal is high	3.60	0.806
		The i-Learn Portal provides the information I need in time	3.56	0.845

9	*Service quality* (Cronbach's α = 0.887, p-value=0.0000)	The i-Learn Portal has a modern looking interface	3.42	0.925
		The i-Learn Portal has visually appealing materials	3.51	0.891
		The i-Learn Portal provides the right solution to my request	3.67	0.782
		The i-Learn Portal gives me prompt service	3.63	0.801
		The i-Learn Portal does not give me individual attention	3.44	0.911
		The i-Learn Portal has a good interface to communicate my needs	3.60	0.812
		The i-Learn Portal does not have convenient operating hours	3.43	0.963
10	*System quality,* (Cronbach's α = 0.796, p-value=0.0000)	Number of steps per task in the i-Learn Portal are too many	3.48	0.907
		Steps to complete a task in the i-Learn Portal follow a logic sequence	3.61	0.715
		Performing an operation in the i-Learn Portal always leads to a predicted result	3.56	0.741
		The organisation of information on the i-Learn Portal screens is clear	3.64	0.723
		The i-Learn Portal has natural and predictable screen changes	3.54	0.805
		The i-Learn Portal responds quickly during the busiest hours of the day	3.06	1.193
11	*Confirmation,* (Cronbach's α = 0.906, p-value = 0.241)	My experience with using the i-Learn Portal was better than I expected	3.54	0.817
		The service level provided by the i-Learn Portal was better than I expected	3.50	0.892
		Overall, most of my expectations from using the i-Learn Portal were confirmed	3.57	0.827
12	*Satisfaction,* (Cronbach's α = 0.890, p-value = 0.543)	I am satisfied with the performance of the i-Learn Portal	3.59	0.865
		I am pleased with the experience of using i-Learn Portal	3.63	0.839
		My decision to use the i-Learn Portal service was a wise one	3.58	0.831
13	*Continuance Intention,* (Cronbach's α =0.866, p-value = 0.910)	I will use the i-Learn Portal on a regular basis in the future	3.64	0.742
		I will frequently use the i-Learn Portal in the future	3.62	0.778
		I will strongly recommend others to use it	3.63	0.876

Reliability of the respondents answer is 93.9% reliable based on overall Cronbach's α value generated by SPSS is 0.939 (p-value=0.000). Based on the mean rating that nearly to value 3 which means "undecided" shows that respondent did not fully agree on the perceived cognitive absorption regarding two issues which are "most times respondents get on i-Learn Portal, he/shespend more time than planned and i-Learn Portal did not really block out other distractions when he/she is using the portal". Other categories falls under "undecided" rating scale are related to information quality because respondent is undecided whether the information from i-Learn Portal is clear or not. The last issue falls under "undecided" rating scale which is system quality related to i-Learn Portal respond time during peak hours. It shows that the continuance intention level towards i-Learn portal service among UiTM Pahang students is "undecided" to continue on using it.

CONCLUSION

The result of this research shows that i-Learn Portal continuance intention level among UiTM Pahang students is not in the good score. i-Learn Portal should improve their perceived cognitive absorption issues, information quality and system quality. Solution and action should be taken on how to get better student engagement, increase the information quality and improve the respond time during peak hours. The improvement will increase the user's continuance intention level.

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