

STUDENTS' ACCEPTANCE OF LEARNING MANAGEMENT SYSTEMS: i-Learn**V3**

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ABSTRACT

The rapid changes in technology simultaneously has upgraded the previous e-learning to more advanced software of LMS. This study was an advanced study from the previous to identify the new factors that contributed to the students' acceptance of a new version of i-Learn as a medium of LMS. The study adapted the instruments to measure the students' acceptance of LMS by investigating the factors that influence the students' acceptance of LMS. The simple random sampling technique has been used by distributing questionnaire to students via online survey. A total of 260 completed questionnaires were used to analyze the adapted variables including new variables. As a result, there were six hypotheses were tested and all hypotheses were supported in this study. To conclude, new variables in LMS were significantly connected in this study among users of LMS.

Keywords: learning management systems; e-learning; i-Learn; technology acceptance model.

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1. INTRODUCTION**1.1. Learning Management Systems**

The response to recent technology advances and the trend toward flexible learning in



education in Malaysia have been increased. The positive perceptions of students toward technology changes resulted more advance technology applied in their daily learning process. An up to date information can be accessed by the learners via the Internet without any limitation [1]. Besides, students can also interact with one another without any boundaries with no limitation of distances. Technology has been integrated into the learning process where it provides more lean, supportive and flexible system to the students. For that reason, Universiti Teknologi MARA (UiTM) has launched Learning Management System (LMS) portal known as i-Learn V3 in 2017. The creation of this LMS was to provide the advance software to allow the academicians to plan, create and distribute information to the students as well as to monitor the students' participation in group discussion or assessment.

1.2. Dimensions of Technology Acceptance Model (TAM)

In order to come out with the proposed framework of the students' acceptance of LMS, the researchers used the dimensions of TAM that included the perceived usefulness (PU), perceived ease of use (PEOU), attitude toward use (ATU) and behavioral intention to use (BIU). TAM can be used to determine their beliefs regarding the consequences of the usage and acceptance of technology. He stated that PU as the degree to which individual believes that using a particular system will enhance job performance. In addition, PEOU defined as the degree to which individual believes that particular system would be free from physical and mental efforts [2-3]. Hence, it implied that high perception positively influences the PU and PEOU in online education. It was suggested that online learning should be supported both individually and institutionally [4]. These findings explained why the higher learning institution allocated additional resources in every aspect such as trained service coordinators and skillful technical service to assist the students during online learning process.

1.3. Internal Factors

There are three internal factors applied in this study that related to users themselves that includes the academicians factor, coursework factor and technology factor. These factors were selected based on the findings of the previous study [5-6, 8] that might have potential significant to the LMS of i-Learn V3.

1.3.1. Academician Factor

Previous study [8] found out that the lecturer play major significant influences to the students to use i-Learn portal, but did not have significant relationship to the dimensions of TAM. Therefore, researchers constructed advanced items to identify the influence factor of academician to the users of i-Learn V3.

1.3.2. Coursework Factor

Based on the previous study [8], task completion was the main factor for the users to use i-Learn portal whereby the users significantly related to the BIU. Bring into line with the learning purposes, the researchers constructed four items to investigate to the influence factor of coursework to the users of i-Learn V3.

1.3.3. Technology Factor

The technology or information systems for this study were related to the accessibility of the LMS to the users that include the internet connection, accessibility through other devices at anywhere anytime. Previous study found out that the technology factor was found to be significantly related to the PU that subsequently affected the ATU [5-8].

1.4. External Factor

External factor for this study was the university itself as the provider of the LMS in higher learning institution. For this study, UiTMCTKD provides i-Learn V3 as a medium of LMS to its students. Previous study found out that an organization indirectly influence the use of technology in teaching and learning [8] in higher learning institution aligned with the internal factors that directly related to the user themselves such as academician and technology.

1.5. Purpose/Problem Statement of the Study

Previous study was conducted to investigate the factors that influence the users of i-Learn portal version two [8]. It was found that the dimensions of TAM were significantly related to each other and supported the hypotheses [7-8]. However, the additional variables of task influence and individual influence were rejected the hypotheses but yet still the task influence significantly related to the BIU [8]. Hence, this study was conducted to investigate the students' acceptance of LMS. Two new variables were added in this study that consisted of internal factors (academician factor, coursework factor, technology factor) and external factor (university factor). In order to investigate the accessibility of the new version of i-Learn and

identify the factors that might influence the users to use i-Learn V3, the study was conducted among Universiti Teknologi MARA of Terengganu branch, Dungun campus (UiTMCTKD) students as a user who used i-Learn V3 as a medium of LMS. In order to answer the stated objectives, this study tested the following hypotheses:

H₁: Internal factors considerably connected with the perceived usefulness of LMS.

H₂: Internal factors considerably connected with the perceived ease of use LMS.

H₃: Internal factor considerably connected with the behavioral intention to use LMS.

H₄: External factor considerably connected with the perceived usefulness of LMS.

H₅: External factors considerably connected with the perceived ease of use LMS.

H₆: External factor considerably connected with the behavioral intention to use LMS.

2. METHODOLOGY

2.1. Sample and Data Collection Procedure

The study was conducted among students in UiTMCTKD as a user of i-Learn V3, studying full time for diploma and degree student. The sample for this study was collected through convenience sampling technique that allow researchers to select sample subjects from the targeted population based on their willing and easily accessible to be recruited in the study. As a result, the samples for this study consisted of 260 respondents were gathered through online survey questionnaire. Data collected were analyzed by using SPSS and AMOS version 20.

2.2. Instruments

The variables were adapted from Technology Acceptance Model (TAM) by [2-3] that consists of 20 items utilizing five Likert scale started from strongly disagree to strongly agree. There were four dimensions of TAM [9] that includes PU, PEOU, ATU and BIU. In additional, there were two variables were added that consists of internal factors (academician's factor, coursework factor and technology factor) and external factor (university factor). Therefore, the research framework was constructed and shown as Fig. 1.

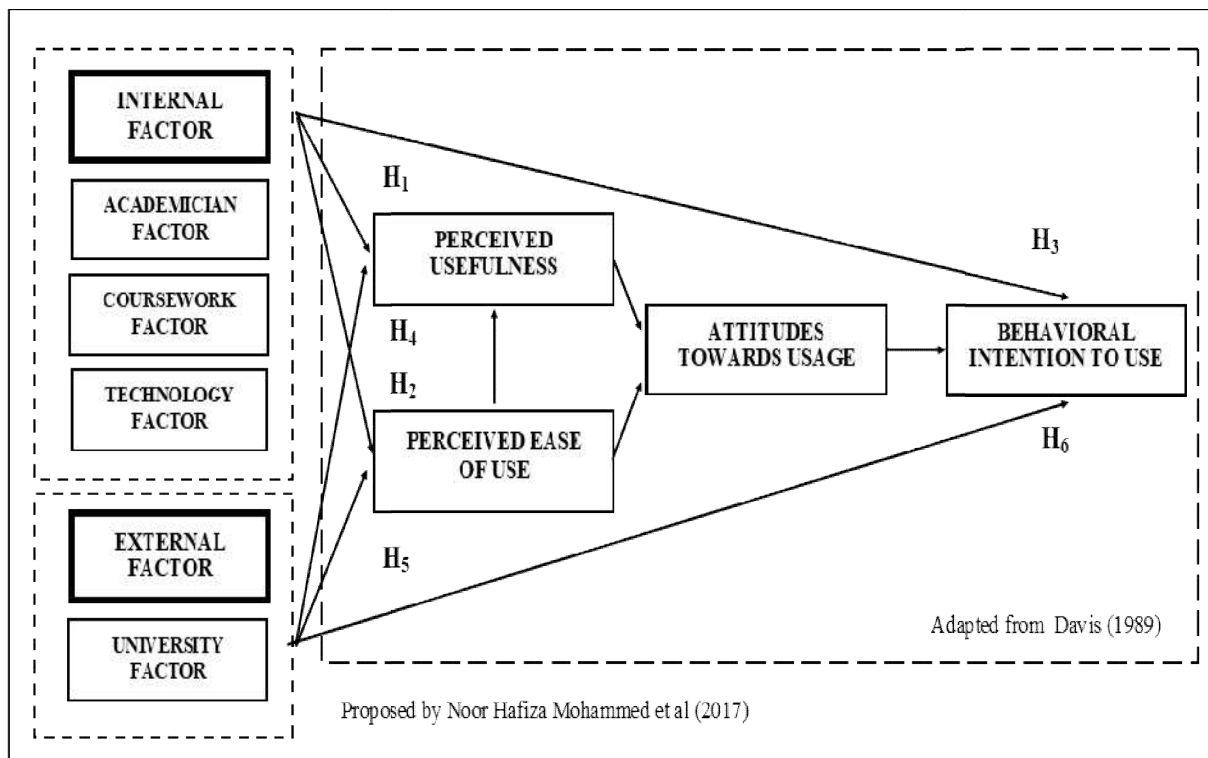


Fig.1. Research framework of students’ acceptance of LMS: i-Learn V3

3. RESULTS AND DISCUSSION

3.1. Descriptive Analysis

Table 1 presented the demographic background of the respondents of this study.

Table 1. Profile of respondents

Demographic Variable	Category	N	%
Gender	Male	204	78.5%
	Female	56	21.5%
	Total	260	100%
Faculty	Faculty of Business and Management	179	68.8%
	Faculty of Engineering Electrical	29	11.2%
	Faculty of Hotel Management and Tourism	52	20%
	Total	260	100%

Diploma	Diploma	201	77.3%
	Bachelor Degree	59	22.7%
	Total	260	100%
Semester	Semester 1	92	35.4%
	Semester 2	32	12.3%
	Semester 3	35	13.5%
	Semester 4	43	16.5%
	Semester 5	49	18.8%
	Semester 6	9	3.5%
	Total	260	100%
How often have you interacted with i-Learn V3	Not at all	15	5.8%
	Once a month	34	13.1%
	A few times a month	128	49.2%
	Once a week	67	25.8%
	Once a day	16	6.2%
	Total	260	100%
Self-assessment about using i-Learn V3	Low user/low experience	30	11.5%
	Moderate user/Moderate experience	204	78.5%
	High user/High experience	26	10%
	Total	260	100%

According to Table 1, results showed that majority of the respondents were female students with 78.4% (204 respondents). The respondents of this study were from the Faculty of Business and Management with 68.8% (179 respondents). The findings showed that majority of the semester one students with 35.4% (92 respondents) as a user of i-Learn V3. Generally, these students rate themselves as moderate user/moderate experience with 78.5% (204 respondents) that access to i-Learn V3 a few times a month during a semester with 49.2% (128 respondents).

3.2. Pearson Correlation

Table 2. Pearson correlations of LMS

	BIU	ATU	PU	PEOU	Internal Factors	A Factor	C Factor	T Factor
Attitudes toward Usage	.815**							
Perceive Usefulness	.794**	.883**						
Perceived Ease of Use	.759**	.879**	.864**					
Internal Factors	.707**	.698**	.761**	.714**				
▪ Academician Factor	.602**	.568**	.625**	.596**	.861**			
▪ Coursework Factor	.597**	.520**	.609**	.542**	.889**	.767**		
▪ Technology Factor	.585**	.667**	.682**	.661**	.777**	.438**	.490**	
External Factor	.710**	.726**	.777**	.699**	.827**	.663**	.712**	.709**

** Correlation is significant at the 0.01 level (2-tailed).

Table 2 presented that all the variables in students' acceptance of LMS were positively related to each other. However, the internal factors (academician, coursework, technology) had strong relationship among PU, PEOU and BIU with $r = 0.761^{**}$, $r = 0.714^{**}$, $r = 0.707^{**}$. On the other hand, external factor (university factor) surprisingly had strong positive relationship to PU, PEOU and BIU with $r = 0.777^{**}$, $r = 0.699^{**}$, $r = 0.710^{**}$. In addition, all the internal factors variables shown the positive relationship to PU, PEOU and BIU.

3.3. Structural Model Analysis and Hypotheses Testing

Structural equation modeling was used to test all the hypothesized relationship (Table 3). The estimated values of fit indices showed the good structural model fit to the data for the proposed research framework for this study (Fig. 2).

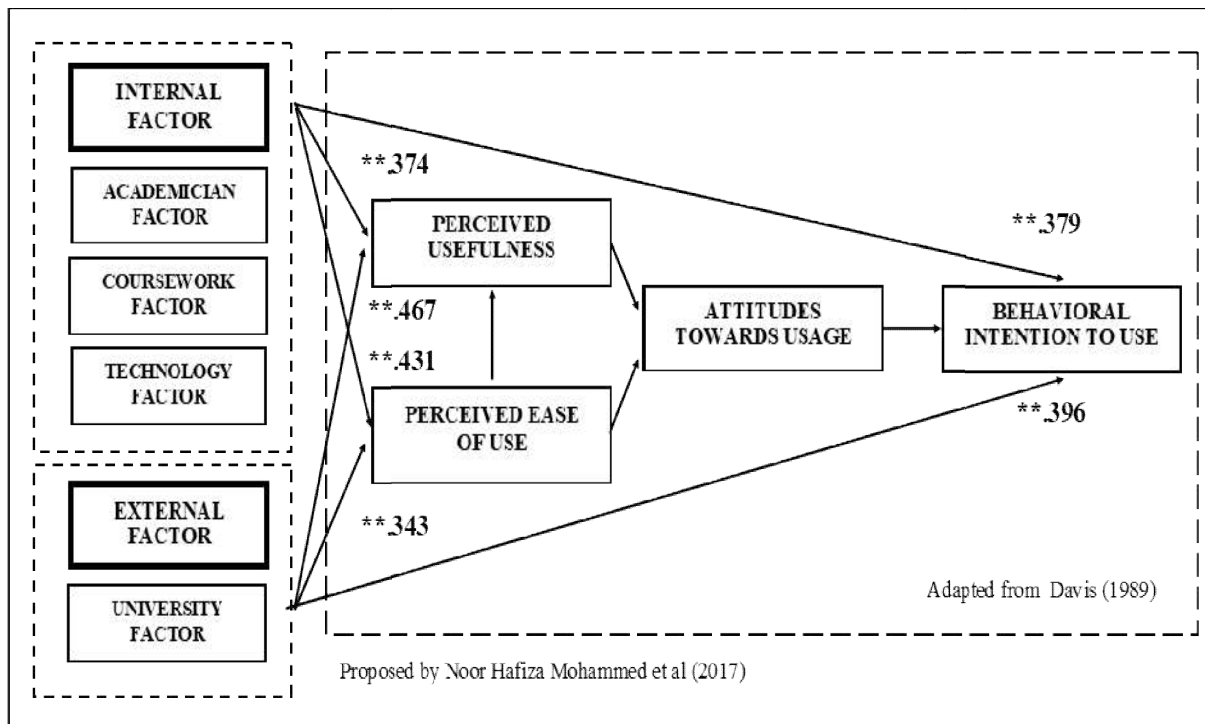


Fig.2. Regression analysis of students' acceptance of LMS (**p < 0.01, *p < 0.05)

Fig. 2 presented that all hypotheses were supported. Internal factors ($\beta = **0.374, p < 0.01$) and external factor ($\beta = **0.467, p < 0.01$) were found considerably connected to PU, supported H₁ and H₄. Besides, internal factors ($\beta = **0.431, p < 0.01$) and external factor ($\beta = **0.343, p < 0.01$) supported the H₂ and H₅ that considerably connected to PEOU. Whereas, both new variables were supported the H₃ and H₆ that considerably connected to BIU.

Table 3. Summary of direct hypothesized results

#H	Proposed Relationship	Path Coefficient	Study Results
H ₁	Internal factors → PU	**0.374	Supported
H ₂	Internal factors → PEOU	**0.431	Supported
H ₃	Internal factors → BIU	**0.379	Supported
H ₄	External factor → PU	**0.467	Supported
H ₅	External factor → PEOU	**0.343	Supported
H ₆	External factor → BIU	**0.396	Supported

4. CONCLUSION

In conclusion, the results of this study revealed new findings that new variables of internal

factors (academician, coursework, technology) and external factor (university factor) had very strong positive relationship with PU, PEOU and BIU and supported all the hypotheses that tested these new variables on students' acceptance of LMS: i-Learn V3. The findings for this study were found to be beneficiary for the researcher to upgrade and make some advancement to the current new variables by conducting the study to broad number of students from higher learning institutions in Malaysia.

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