

Student Acceptance Towards Online Learning Management System based on UTAUT2 Model

Masitah Musa¹, Mohd. Norasri Ismail², Suhaidah Tahir³, Mohd. Farhan Md. Fudzee⁴, Muhamad Hanif Jofri⁵

Department of Multimedia, Faculty of Computer Science and Information Technology^{1,2,4}
Universiti Tun Hussein Onn Malaysia, Johor, Malaysia^{1,2,4}

Faculty of Education & Liberal Studies, City University Malaysia, Selangor, Malaysia³

Department of Information Technology, Centre for Diploma Studies, Universiti Tun Hussein Onn Malaysia, Johor, Malaysia⁵

Abstract—Recently, education has changed from physical learning to online and hybrid learning. Furthermore, the outbreak of COVID-19 makes them more significant. An online learning management system (LMS) is one of the most prevalent approaches to online and distance learning. The acceptance of the students towards the LMS is significant and it can give either bad or good responses to ensure the success of LMS. However, the Universiti Tun Hussein Onn Malaysia (UTHM) has not yet implemented any study to examine their LMS. The Unified Theory of Acceptance and Usage of Technology (UTAUT2) model is used in this study to investigate students' Behavioral Intention and Use Behavior when using the LMS in UTHM. This study also introduces a new construct in UTAUT2 named Online Learning Value. 376 respondents took part in this survey. Descriptive Statistics, Reliability Analysis, Pearson Correlation Coefficient, and Multiple Linear Regression analysis were all used to analyze survey data. The outcome of this research is Performance Expectancy ($\beta=0.129$, $p=0.014$), Hedonic Motivation ($\beta=0.221$, $p=0.000$), Online Learning Value ($\beta=0.109$, $p=0.036$) and Habit ($\beta=0.513$, $p=0.000$) has influence on students' intention to use LMS. Besides that, Facilitating Conditions ($\beta=0.481$, $p=0.000$) are the most important factors in students' use behavior toward the LMS followed by Habit ($\beta=0.343$, $p=0.000$) and Behavioral Intention ($\beta=0.239$, $p=0.000$). By utilizing the UTAUT2 model, the constructs of technology acceptance related to students' adoption of LMS have been identified and may become a reference to the stakeholders for future enhancement.

Keywords—Online learning management system; technology acceptance; unified theory of acceptance and usage of technology 2; online learning value

I. INTRODUCTION

Currently, almost all universities in Malaysia rely on their online learning management system (LMS) to support academic activities including teaching and learning. Besides, online learning has become the best solution for students and lecturers in academic activities during the COVID-19 worldwide outbreak. The pandemic has forced changes in new normal academic activities where the institutions have the potential to build their own LMS [1]. The LMS is considered one of the best approaches toward online learning [2], [3] which provides benefits to the students and lecturers where it provides unlimited access to the learning materials, can track student progress and performance from assessment activities, organize the sources into the same shared data center, collaboration and discussion, and provides a different experience for both students and lecturers [4].

The use of LMS also is convenient and can boost students' efficiency throughout the process of teaching and learning because this system is compatible with any device, such as a smartphone or laptop [5]–[7]. Hence, students can gain knowledge and information by joining the learning management system that has been provided by the university at anytime and anywhere. There are many campuses that had been developed and used their own LMS including Universiti Tun Hussein Onn Malaysia (UTHM) [8].

In UTHM, an online LMS named Author has been implemented and was used before the COVID-19 pandemic as a mixed or blended learning tool. This LMS has been the primary tool for instruction and learning throughout recent years. However, the acceptance and usage of LMS in UTHM have not been empirically investigated. Due to the recent increases in the usage of LMS, it is valuable to understand and distinguish the factors that influence students' acceptance of LMS usage. Therefore, this research is important to examine the variables influencing students' Use Behavior as well as their Behavioral Intention of using the LMS. The study's research question is structured as shown in the following Table I.

TABLE I. RESEARCH QUESTIONS

No.	Research Questions
RQ1	What are the factors influencing UTHM students' behavioural intention and use behaviour towards using the LMS?
RQ2	Which main variables influence students' use behaviour towards using the LMS in UTHM?
RQ3	Does online learning value construct influence students' behavioural intention toward using the LMS in UTHM?

This paper is arranged as follows: The subsequent part will go through relevant research, namely the UTAUT2 model used in this study. Afterwards, the following section presents the research method where one new variable of UTAUT2 is proposed. Following that, the research's findings and analyses will be discussed. Finally, we address the conclusion and future works in this study.

II. RELATED WORKS

In order to obtain fewer risks during the adoption of new technology, many theories and models have been developed by previous researchers according to technology acceptance and usage.

A. Models Related to Technology Acceptance and Usage

There are eight user acceptance models: the Theory of Reason Action (TRA), the Technology Acceptance Model (TAM), the Motivational Model (MM), the Theory of Planned Behavior (TPB), the Combined TAM and TPB (C-TAM-TPB), the Model of PC Utilization (MPCU), the Innovation Diffusion Theory (IDT), and the Social Cognitive Theory (SCT). These models were then combined into a new framework called as the Unified Theory of Acceptance and Use of Technology (UTAUT)[9]. The UTAUT model is a well-improved model that can explain the technology acceptance behavior as it combines the eight models (TRA, TAM, MM, TPB, C-TAM-TPB, MPCU, IDT, and SCT) to form the determinants of behavioral intention and use behavior towards technology [10]. In this study, we utilized the UTAUT2 model, an expanded version of UTAUT, to investigate student acceptance of online LMS at UTHM. The UTAUT2 model focuses on the individual perspective of technology adoption compared to the UTAUT model. Therefore, this model will give a better understanding of technology acceptance by users.

The constructs in the UTAUT model are Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions. An expanded edition of the UTAUT model with additional constructs and relationships was proposed to give an effective acceptance model in the consumer use context [11]. The added constructs in the UTAUT2 model are Hedonic Motivation, Price Value, and Habit. We proposed the Online Learning Value construct as an extension of the UTAUT2 in this study. This construct was classified into two types: dependent variables and independent variables. Use Behavior and Behavioral Intention are the dependent variables, whereas the independent variables are Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Online Learning Value, and Habit.

Use Behavior explains the constancy of the technology usage and the degree to which technology may improve a user's knowledge and skills[12]. Use Behavior also is referred to the level of technology use among students such as their use of mobile devices as learning aids [13].

The adherence of the user to keep using the system and how long the user intends to use the system is referred to as Behavioral Intention [12]. Furthermore, Behavioral Intention is the extent to which students expect to utilize technology such as smartphones in their studies and how long they will continue to do so [13]. Also, it can be referred to person's willingness to engage in a specific behavior [14]. Behavioral Intention also is described as individuals' intents to replace traditional methods with the new systems in the future [15].

Performance Expectation is the degree to which an individual believes that their work performance would be improved when utilizing a system [9]. It is also specified as the expectation of performance improvement due to the use of technology [16]. Similarly in education, it is also defined as the extent of a belief that their performance in academics will be improved by using LMS [17].

The level of easiness associated with the application of a system is characterized as Effort Expectancy [9]. Therefore, the student's level of education and information technologies knowledge will not involve any kind of physical or mental exertion in the usage of technologies in their studies [13]. It is also mentioned that the perceived easiness of using LMS is considered Effort Expectancy [18].

The degree to which an individual considers that essential persons think they have to utilize technology is referred to as Social Influence [9]. Furthermore, the degree to which students believe that important persons, such as colleagues, friends, and university lecturers, think they must apply technologies such as smartphones in their studies is also referred to as Social Influence [13]. Next, the social impact is the belief that others' perspectives on utilizing online learning management systems are essential for instructional activities [18].

The amount to which someone believes that the adoption of technology comes with technological and organizational infrastructure is referred to as the Facilitating Conditions [9]. It also refers to the tools and assistance available for using technology [16]. Facilitating Conditions also is defined as students' belief that technology like smartphones can be used by students as supplemental learning tools in their coursework since there is adequate organizational and technical infrastructure [13].

Hedonic Motivation is described as happiness or joy brought on by technology [11]. It is also described as the perceived enjoyment acquired when using LMS in the education sector [18]. Previous studies also stated that within the framework of mobile learning adoption and usage, Hedonic Motivation is referred to envisioned as a sense of enjoyment [16].

Habit is defined as a human action that is repeatable due to knowledge [11]. Habit also is referred to the extent to which the student uses the online learning management system platform automatically [18]. Previous studies also mentioned that the extent to which a user feels their technology usage is automatic or instilled is referred to as habit [16].

Learning Value is referring to an intellectual exchange among the alleged advantages of the applications and the period and effort spent on utilizing them [19]. Learning Value also is related to the student's learning achievement by using a smart campus [20].

B. Students' Acceptance towards Technology Adoption in Campus using UTAUT2

There are many adoptions of technology on campuses to provide better life experiences to the campus community, especially students. As such, research has been made to study student acceptance of technology adoption on campus by using the UTAUT2 model. Table II provides an overview of related studies regarding to the students' acceptance towards technology in campus.

TABLE II. SUMMARY OF RELATED WORKS

Author & Year	Domain of Measure	Variables	Results
Ali et al. (2016) [21]	Factors influencing how well students in hospitality and tourism institutions embrace and use computer-based collaborative classrooms	Performance expectancy, effort expectancy, social influence, facilitating conditions, price value, hedonic motivation, habit	The admission of pupils is significantly influenced by all the elements. The way that students utilize technology is determined by their intention, their habits, and the facilitating conditions that are in place.
Farooq et al. (2017) [22]	Relationship between the UTAUT2's current notions of personal innovativeness (PI), intention, and use behavior regarding lecture capture systems (LCS)	Performance expectancy, effort expectancy, social influence, facilitating conditions, price value, hedonic motivation, habit, personal innovativeness	The acceptability and usage of LCS by students is significantly influenced by all variables.
Arain et al. (2019) [16]	Factors influence mobile learning acceptance in context of higher education	Performance expectancy, hedonic motivation, habit, ubiquity, satisfaction, information quality, system quality, appearance quality, effort expectancy, facilitating conditions, social influence	Performance expectancy, hedonic motivation, habit, ubiquity, satisfaction have the significant impact on students' behavioral intention. Information quality, system quality and appearance quality have significant impact on satisfaction of the students. Effort expectancy, facilitating conditions and social influence does not have significant impact on students' behavioral intention towards mobile learning acceptance.
Samsudeen, & Mohamed (2019) [15]	Factors that affect how university students in Sri Lanka intention and use behavior when using e-learning systems	Performance expectancy, effort expectancy, social influence, hedonic motivation, facilitating conditions, work life quality, internet experience	Students' behavioral intentions are extensively influenced by performance expectancy, effort expectancy, social influence, work life quality, internet experience and hedonic motivation The LMS usage is influenced by behavioral intention and facilitating conditions.
Sharif et al. (2019) [20]	Combining the UTAUT2 and Task Technology Fit (TTF) model to analyze behavioral intention while adopting learning management systems.	Social influence, facilitating conditions, hedonic motivation, learning value, habit, performance expectancy, effort expectancy, task characteristics, technology characteristics.	The acceptance of LMS is significantly influenced by social influence, facilitating conditions, hedonic motivation, learning value and habit. However, the intention to employ a LMS is not significantly impacted by performance expectancy and effort expectancy. TTF will motivate students as well as influences user-friendliness and performance.

Based on the UTAUT2 model, variables influencing hospitality and tourism students' acceptance and use of classroom technology are explained by Ali et al. [21]. According to the study, performance expectancy, effort expectancy, social influence, facilitating conditions, price value, hedonic motivation, and habit all have a substantial impact on student acceptance. Furthermore, students' use behavior differs depending on their intention to use and their habit of using classrooms technology, as well as the facilitating conditions accessible to the students.

Next, pivotal correlation between existing constructs of UTAUT2, personal innovativeness (PI) as the new variables extends in UTAUT2, intention and use behavior towards lecture capture systems (LCS) presented by Farooq et al. [22]. The studies also revealed that student acceptance and usage of LCS are significantly influenced by performance expectancy, effort expectancy, social influence, facilitating conditions, price value, hedonic motivation, and habit. Personal innovativeness, a new variable included to the UTAUT2 model, was also found to have a substantial positive influence on student acceptance and usage of LCS. It has a large

influence on students' intention and use behavior toward the LCS.

Sharif et al. [20] integrate the UTAUT2 and the Task Technology Fit (TTF) model, to describe individuals' behavioral intention to embrace learning management. The findings revealed that social influence, facilitating conditions, hedonic motivation, learning value, and habit had a substantial impact on the acceptability of the LMS in the UTAUT2 model. However, there was no significant influence of performance expectancy or effort expectancy on the desire to use a LMS. Furthermore, the TTF has an impact on user-friendliness and performance in addition to motivating student adoption of the system. Hence, the relationship between UTAUT2 and TTF will provide advanced performance and effort expectancy when students use the technology based on a match between its characteristics and the task's requirements.

III. PROPOSED METHODOLOGY

The UTAUT2 model was used to design a questionnaire in accordance with the recommendations from authors of earlier research [13], [20] to study student acceptance of using the LMS in UTHM. The research model employed in this work is depicted in the following Fig. 1.

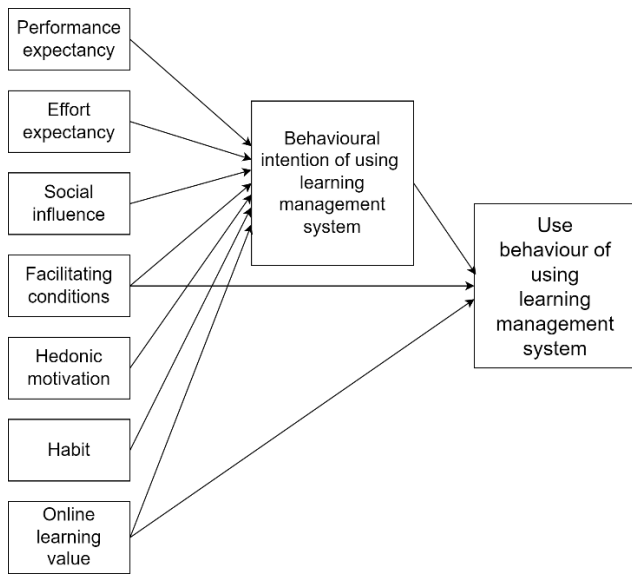


Fig. 1. Extended UTAUT2 Research Model.

A. Questionnaire Design

Generally, this study was conducted by distributing the questionnaire through an online survey to the participants. The respondents for this study are UTHM students as we need to study the acceptance of LMS among UTHM students. The questionnaire consists of two parts comprising the demographic and UTAUT2 variables. An online tool known as Google Forms was used as a mode of survey delivery. These items were measured using a five-point Likert scale, ranging from “strongly agree” to “strongly disagree” [11].

Table III shows the list of measurement items included in the questionnaire which was derived from prior research. The total number of measurement items produced for this study were 30. The measurement item codes of PE1-PE3, EE1-EE4, SI1-SI3, FC1-FC4, HM1-HM3, HT1-HT3, and BI1-BI3 have been modified from Venkatesh et al. [11]. The measurement item codes of OLV1-OLV3 were modified from Ain et al. [23] while the measurement item codes of USE1-USE4 were adapted from Nikolopoulou et al. [13]. Each of these measurement items has been tailored to the perspective of this study.

B. Pilot Study

Table IV shows Cronbach’s alpha results for every construct in Pilot Study from 43 respondents. According to the findings, all of the constructs have Cronbach's alpha values more than 0.70, which is deemed good [24]. Thus, the questionnaire was considered reliable to proceed with the actual study.

C. Data Collection

In order to reach the respondents, a link to the questionnaires was shared with them via social media, including Twitter, Instagram, and WhatsApp. The questionnaire link remained active until the targeted sample size has been reached. The data then were collected and analyzed using SPSS software.

TABLE III. LIST OF MEASUREMENT ITEMS

Item Code	Question
PE1	I find that using a learning management system is beneficial to my learning.
PE2	Using a learning management system allows me to complete tasks faster.
PE3	Using a learning management system improves my understanding of my courses.
EE1	It is simple for me to learn how to use a learning management system.
EE2	My interaction with the learning management system is simple and straightforward.
EE3	I found the learning management system to be simple to use.
EE4	It is easy for me to become skillful at using learning management system.
SI1	People who are significant to me believe that I should use the learning management system.
SI2	People that have an impact on my behavior believe that I should use a learning management system.
SI3	People whose opinions I appreciate advise me to use the learning management system.
FC1	I have the necessary resources to use the learning management system.
FC2	I have the essential knowledge to use the learning management system.
FC3	Other technologies that I use are compatible with the learning management system.
FC4	I can seek support from others once I am having difficulty utilizing the learning management system.
HM1	It is fun to use a learning management system.
HM2	It is enjoyable to use a learning management system.
HM3	It is very entertaining while using learning management system.
OLV1	Learning using a learning management system is more valuable than the time and effort invested.
OLV2	The learning management system enables me to share my knowledge rapidly and easily with others in less time.
OLV3	The learning management system allows me to expand my knowledge and regulate my achievement.
HT1	Using a learning management system has become a habit for me.
HT2	I'm hooked on using the learning management system.
HT3	I must utilize the learning management system.
BI1	In the future, I intend to continue utilizing the learning management system.
BI2	In my daily life, I will continuously attempt to use a learning management system.
BI3	I want to make extensive use of the learning management system.
USE1	I regularly use learning management system in my studies.
USE2	Learning management system usage is a pleasant experience.
USE3	I am now using a learning management system to help me with my academics.
USE4	I spend a lot of time using a learning management system during my studies.

TABLE IV. CRONBACH'S ALPHA COEFFICIENT

Construct	Cronbach's Alpha	Number of Items
Performance expectancy	0.942	3
Effort expectancy	0.974	4
Social influence	0.961	3
Facilitating conditions	0.969	4
Hedonic motivation	0.978	3
Habit	0.927	3
Online Learning value	0.971	3
Behavioral intention	0.972	3
Use behavior	0.977	4

The sample size for this study was obtained by applying Adam's sample size calculation [25]. The calculation is applicable to be used in determining the optimum sample size at all levels of confidence for both continuous and categorical variables. Equation (1) shows the sample size formula by Adam [25].

$$n = \frac{N}{1+N\varepsilon^2} \quad (1)$$

Where.

n is the minimum size of returned samples.

N is the size of population.

ε is the adjust margin of error [$\varepsilon = (\frac{\rho e}{t})$].

e is the degree of precision given as a proportion.

ρ is the number of standard deviations that would encompass all feasible range values.

t is the t-value for the chosen alpha level of confidence.

According to Adam [25], the ρ value recommended for continuous variables is four and for categorical variables is two, whereas according to Krejcie & Morgan [26], the e value recommended for continuous variables is 0.03 and 0.05 for categorical variables. Besides, there are three confidence levels which are 90% confidence level with a 10% chance to be wrong, 95% confidence level with a 5% chance to be wrong, and 99% confidence level. The population size of UTHM students includes 13,895 students. The ρ value calculated in this formula is two, while the e value used in this formula is 0.05. The 95% confidence level was used in this study because the 90% confidence level would be narrower, and the 99% confidence level would be wider. Thus, the t -value calculated in this formula is 1.96. Adam [25] stated that a minimal required sample size for categorical variables for a population size of 10,000 is 370 and for continuous variables is 260. Based on the calculation, the minimum returned sample size required for this study is 374 (2.7%) respondents.

IV. DATA ANALYSIS AND RESULTS

Descriptive Statistics, Pearson's Correlation Coefficient, and Multiple Linear Regression were used to analyze the data in this study. Each of it will be presented in the following sections.

A. Descriptive Statistic

To summarize the data from the demographic section, a descriptive analysis was performed. Table V shows the demographic analysis.

TABLE V. DEMOGRAPHIC ANALYSIS

Items	Category	Frequency	Percentage (%)
Gender	Male	161	48.82
	Female	215	57.18
Age	Below 20	130	34.57
	21-30	246	65.43
	31-40	-	-
	41-50	-	-
	>50	-	-
Faculty	FKAAB	18	4.79
	FKEE	14	3.72
	FKMP	28	7.45
	FPTP	31	8.24
	FPTV	26	6.91
	FSKTM	187	49.73
	FAST	16	4.26
	FTK	10	2.66
	PPD	46	12.23
Last Time Using	A days ago	332	88.30
	A weeks ago	18	4.79
	A months ago	14	3.72
	A years ago	12	3.19
How Often Using	Once every week	8	2.13
	2-3 times each week	60	15.96
	Always	282	75.00
	Rarely	26	6.91

The total number of questionnaires filled by the respondents after the data preparation was 376 consisting of 161 males and 215 females, representing a proportion of 42.82% and 57.18% respectively. Additionally, most responders fall within the age range of 21-30 years old with a percentage of 65.43%, followed by the age below 20 years old with a percentage of 34.57%. The results of this survey, which covered nine faculties, show that the Faculty of Computer Science and Information Technology (FSKTM) provided half of the replies, with a total of 187 respondents. Also, most of the respondents used LMS days ago with a percentage of 88.30%, while the least respondents used LMS years ago with a percentage of 3.19%. Lastly, most of the respondents are always using a LMS with a percentage of 75%, while the minority of the respondents use a LMS once a week with a percentage of 2.13%. In this regard, most of the students often use LMS because it has been fully used by the academic staff as a medium in the teaching and learning process instead of

using other systems or applications related to online learning platforms.

TABLE VI. MEAN AND STANDARD DEVIATION OF MEASUREMENT ITEMS

Construct	Measurement Item	Mean	Std. Deviation
Performance Expectancy	PE1	2.54	1.377
	PE2	2.63	1.283
	PE3	2.81	1.152
Effort Expectancy	EE1	2.46	1.397
	EE2	2.53	1.358
	EE3	2.44	1.441
	EE4	2.53	1.433
Social Influence	SI1	2.76	1.195
	SI2	2.86	1.158
	SI3	2.85	1.166
Facilitating Conditions	FC1	2.62	1.289
	FC2	2.52	1.338
	FC3	2.61	1.338
	FC4	2.67	1.343
Hedonic Motivation	HM1	2.71	1.197
	HM2	2.73	1.167
	HM3	2.81	1.156
Online Learning Value	OLV1	2.78	1.139
	OLV2	2.79	1.187
	OLV3	2.72	1.154
Habit	HT1	2.65	1.383
	HT2	3.16	1.152
	HT3	2.82	1.248
Behavioral Intention	BI1	2.73	1.179
	BI2	2.90	1.119
	BI3	2.83	1.160
Use Behavior	USE1	2.48	1.403
	USE2	2.64	1.214
	USE3	2.58	1.290
	USE4	2.78	1.300

Table VI shows the average and Standard Deviation (SD) for each measurement item. Based on the table, the mean value ranges from 2.44 to 3.16, which indicates that the center of the data is within the range of Likert scale between “agree” and “not sure”. The standard deviation for each measurement item also shows that the data were spread out closely to the mean.

B. Analysis of Pearson Correlation Coefficient

Table VII shows the Pearson correlation coefficient analysis result. The Pearson correlation coefficient was utilized to evaluate the linear relationship between the independent and dependent variables. A value of 0 implies there is no link between the two variables, a value of +1 suggests there is a strong relationship, and a value of -1 indicates there is a weak association [27].

The multicollinearity in the data can be detected by determining the correlation matrix, tolerance value, and variance inflation factor (VIF). If the correlation coefficient in Pearson’s correlation does not exceed 0.90, then the data do not have any multicollinearity problem [28]. Also, Table VII illustrates that all variable’s correlation values do not exceed 0.90; as a result, there is no multicollinearity in the data. Additionally, Multicollinearity in the data may be recognized if the tolerance value is less than 0.10 and the variance inflation factor (VIF) value is more than 10 [29]. According to the study, all tolerance levels above 0.10, and all VIF values were under 10. This shows that the data do not have any multicollinearity problem.

TABLE VII. ANALYSIS RESULT OF PEARSON CORRELATION COEFFICIENT

Var	PE	EE	SI	FC	HM	OLV	HT	BI	UB
PE	1								
EE	0.846	1							
SI	0.766	0.724	1						
FC	0.818	0.876	0.725	1					
HM	0.707	0.611	0.647	0.669	1				
OLV	0.771	0.700	0.714	0.777	0.792	1			
HT	0.638	0.632	0.639	0.636	0.670	0.667	1		
BI	0.707	0.645	0.666	0.671	0.753	0.736	0.810	1	
UB	0.804	0.817	0.724	0.823	0.685	0.764	0.778	0.781	1

C. Analysis of Multiple Linear Regression

Multiple linear regression analysis was conducted to measure the significance of two or more independent variables with the dependent variables. The following equation shows the multiple linear regression formula used in this study.

$$\hat{y} = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_kx_k \tag{2}$$

where,

\hat{y} is the dependent variable.

x_k is the independent variable.

$$\beta_0 = \bar{y} - \beta_1\bar{x}_1 + \beta_2\bar{x}_2$$

$$\beta_1 = \frac{[(\sum x_2^2)(\sum x_1y) - (\sum x_1x_2)(\sum x_2y)]}{[(\sum x_1^2)(\sum x_2^2) - (\sum x_1x_2)^2]}$$

$$\beta_2 = \frac{[(\sum x_1^2)(\sum x_2y) - (\sum x_1x_2)(\sum x_1y)]}{[(\sum x_1^2)(\sum x_2^2) - (\sum x_1x_2)^2]}$$

Using SPSS software, multiple linear regression analysis was conducted to assess the significance of two or more independent variables in relation to the dependent variables of behavioral intention and use behavior.

We changed R Square in the model summary for the first dependent variable, Behavioral Intention, to estimate the total variability proportion in the dependent variable explained by the independent variables [30]. The modified R Square value was 0.752, indicating that the independent factors explain 75.2 percent of the variability in behavioral intention to utilize the LMS. This implies that the research model might be utilized to

explain the variables influencing students' behavioral intention to use the LMS. Table VIII shows an analysis of the multiple linear regression for the Behavioral Intention.

TABLE VIII. MULTIPLE LINEAR REGRESSION : BEHAVIORAL INTENTION

Independent Variable	Coefficient β	p-value
Performance Expectancy	0.129	0.014
Effort Expectancy	-0.032	0.515
Social Influence	0.037	0.369
Facilitating Conditions	0.013	0.812
Hedonic Motivation	0.221	0.000
Online Learning Value	0.109	0.036
Habit	0.513	0.000

The ANOVA table's Sig. column displays the p-value. The dependent variable may be predicted by the model if the p-value is less than 0.05. According to the results of the ANOVA, the p-value was 0.000, which is less than 0.05. As a result, there is significant evidence that the model is beneficial in understanding the factors influencing students' intentions to use LMS and that the independent variables can predict students' Behavioral Intention.

The coefficient β is used to identify the strength of each independent variable towards Behavioral Intention. This means that changes by one unit in the independent variable that keeps other independent variables constant can determine the number of changes in independent variables [31]. Habit has the highest coefficient β value with 0.513. As a result, this factor has the biggest influence on students' Behavioral Intention to use the LMS which means that when students keep using the learning management system, it will influence their habit to use the LMS.

Furthermore, the p-value should be less than 0.05 for the variables to be significant. Evidently, Performance Expectancy, Hedonic Motivation, Online Learning Value, and Habit each has a p-value under 0.05. As a result, each of these variables affects the dependent variable. When the student also enjoy using the learning management system, it will influence their intention to use the LMS as we can see hedonic motivation is the second important factor that influence student's behavioral intention towards LMS. Furthermore, when the students keep using the LMS, they recognize that LMS help them in their learning performance as in this study the performance expectancy is the third important factor. As the LMS assist in their learning performance, they tend to explore more on the benefits of the learning management system. This means that the learning value that is obtain by using the LMS will influence students' intention to use the LMS.

In the meanwhile, the p-values for effort expectancy, social influence, and facilitating conditions were all more than 0.05. This shows that each of these factors does not influence the dependent variable. The facilitating conditions that are provided and the ease of use by using the LMS does not significantly influence their behavioral intention to use the LMS. Students also do not intent to use the LMS by

depending on others opinion. As a result, none of these indicators can predict students' behavioral intention to use the LMS at UTHM.

For the Use Behavior, the output shows that the value of adjusted R Square was 0.798; hence, 79.8% of the variability in the students' Use Behavior towards the learning management system is explained by the independent variables. This also means that the research model may be used to describe the factors influencing students' Use Behavior in the learning management system.

TABLE IX. MULTIPLE LINEAR REGRESSION: USE BEHAVIOR

Independent Variable	Coefficient β	p-value
Facilitating Conditions	0.481	0.000
Habit	0.343	0.000
Behavioural Intention	0.239	0.000

Table IX shows the coefficient β and the p-value for the multiple linear regression analysis of the dependent variable: Use Behavior. Facilitating Conditions yielded a higher coefficient β value of 0.481. This means that this factor has the strongest effect on students' Use Behavior toward the LMS. Furthermore, the p-value should be less than 0.05 for the variables to be significant. Evidently, Facilitating Conditions, Habit, and Behavioral Intention all have p-values of less than 0.05. Hence, each factor influences the dependent variable. The result also shows that behavioral intention has the least coefficient β which means that their intention to use the LMS did not fully influence their use of LMS. However, because the students must continue to use the LMS, it has become a habit for them. As a result, habit has emerged as the second most significant element influencing student LMS usage behavior. Fig. 2 shows the research model after analysis.

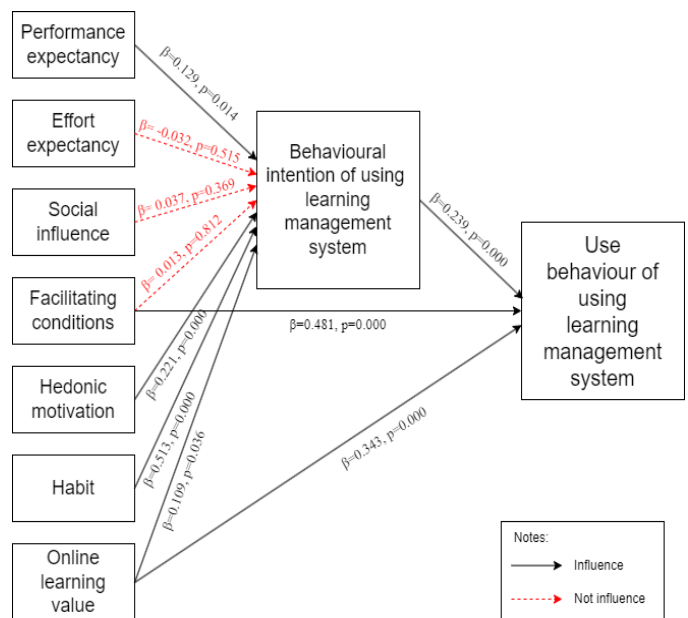


Fig. 2. Research Model after Analysis Result.

Overall, the results have shown that performance expectancy, hedonic motivation, habit, and online learning value are the significant factors that influence students' intention to use LMS, whereas facilitating conditions, habit, and behavioral intention are the significant factors that influence students' use behavior towards LMS.

V. CONCLUSION AND FUTURE WORKS

This study is focused on the acceptance of UTHM students of their online learning management system based on the UTAUT2 model. A detailed explanation on the use of the UTAUT2 model and the background information related to this study has been provided. The proposed methodology also has been discussed. Then the data analysis and results has been presented using Descriptive Analysis, Pearson's Correlation and Multiple Linear Regression. The objectives of this study have been achieved.

Firstly, from the results, the factors that have the most influence on UTHM students' behavioral intentions toward using the LMS are Performance Expectancy, Hedonic Motivation, Online Learning Value, and Habit. Also, we may infer from the results that students think implementing a learning management system would improve their academic achievement. Next, students have fun and joy derived from using the LMS. Furthermore, students dedicated their time and effort to using the LMS and the perceived value that they get from using the LMS. Lastly, students used the LMS automatically and become habitual in their learning process.

Secondly, the outcome also demonstrates that Habit, Behavioral Intention, and Facilitating Conditions are the elements that affect UTHM students' Use Behavior when using LMS. From the results, we conclude that having access to a few sources and assistance boosts students' intention to utilize the LMS, making it the most important factor influencing students' LMS Use Behavior. The next reason why students use the LMS is Habit, and it is the final element that has the least impact on how students use the LMS is whether they want to keep using it to further their education.

Thirdly, Online Learning Value construct was proposed as the new variable in the UTAUT2 model to study students' behavioral intention toward the LMS in UTHM. The result from Table VIII shows that the Online Learning Value construct ($\beta = 0.109$, $p = 0.036$) also is a significant factor in determining students' behavioral intention toward using the LMS in UTHM.

Several recommendations for future works based on the findings of this study can be explored. Currently, this study only focuses on the variables stated in the UTAUT2 model along with the new construct which is Online Learning Value. Other variables may be explored to identify other factors that can influence student acceptance of using LMS in UTHM. This may further give insight to LMS administrator and developer to enhance the LMS in UTHM. Also, choosing other stakeholders such as academic staff and administrators for the acceptance of the LMS also can be done in the future. This work is also important considering that other stakeholders' acceptance may also play an important part in the LMS's success.

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