STUDENT ACCEPTANCE TOWARDS ONLINE LEARNING MANAGEMENT
SYSTEM BASED ON UTAUT2 MODEL

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For my beloved father, Musa Mohd Yusuf
and my lovely mother, Sofiah Ahmad.
Not forgetting also my baby brother, Muhamad Amiruddin
and the rest of family members.

Thank you for your constant prayer, love and support for me to fulfil my dreams.

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ABSTRACT

The acceptance of the students towards the learning management system are significant where it can give either bad or good responses towards the success of the learning management system especially during this COVID-19 pandemic. However, in UTHM, the study that explore the factors that influencing students' behavioral intention and use behavior of learning management system in UTHM has not been implemented. The goals of this study are to evaluate all of the variables influencing students' behavioral intention and use behavior towards learning management system in Universiti Tun Hussein Onn Malaysia (UTHM) by using the UTAUT2 model, to identify the key factors influencing students' use behavior towards learning management system in UTHM by using the multiple linear regression analysis and to extended UTAUT2 model with online learning value construct to study students' behavioral intention towards learning management system in UTHM. A total number of 396 respondents was participated in this study, however, data preparation was done before analyzing the data which made the final dataset balance into 376 respondents. Survey data were analysed using descriptive statistics, reliability testing, Pearson correlation coefficient and multiple linear regression analysis. The outcome from this research are performance expectancy (β=0.129, p=0.014), hedonic motivation (β=0.221, p=0.000), online learning value (β=0.109, p=0.036) and habit (β=0.513, p=0.000) has influence students intention to use learning management system while effort expectancy, social influence and facilitating conditions does not influence students intention to use learning management system. Besides that, facilitating conditions (β=0.481) is the most important factors on students' use behavior towards learning management system followed by habit (β=0.343) and behavioural intention (β=0.239). The findings from this research can be used as a guideline for the Centre for Global Online Learning (CGOL) and Information Technology Centre (PTM) to improve the online learning management system in UTHM.

ABSTRAK

Penerimaan pelajar terhadap sistem pengurusan pembelajaran adalah penting dimana ia dapat memberikan tindak balas yang baik atau buruk terhadap kejayaan sistem pengurusan pembelajaran terutama semasa pandemic COVID-19. Walaubagaimanapun, di UTHM, kajian yang meneroka faktor-faktor yang mempengaruhi niat pelajar dan tingkah laku pelajar dalam penggunaan sistem pengurusan pembelajaran di UTHM belum dilaksanakan. Matlamat kajian ini adalah untuk menilai semua pemboleh ubah yang mempengaruhi niat dan tingkah laku pelajar dalam penggunaan AUTHOR di UTHM dengan menggunakan model UTAUT2, untuk mengenal pasti faktor utama yang mempengaruhi tingkah laku pelajar dalam penggunaan AUTHOR di UTHM dengan menggunakan regresi linear berganda dan untuk melanjutkan model UTAUT2 dengan konstruk nilai pembelajaran dalam talian untuk mengkaji niat tingkah laku pelajar terhadap sistem pengurusan pembelajaran di UTHM. Sebanyak 396 responden telah mengambil bahagian dalam kajian ini, walaubagaimanapun, penyediaan data telah dilakukan sebelum menganalisis data yang menjadikan baki dataset akhir kepada 376 responden. Data tinjauan dianalisis dengan menggunakan statistik deskriptif, ujian kebolehpercayaan, pekali korelasi Pearson dan regresi linear berganda. Hasil dari penyelidikan ini adalah *performance expectancy* (β=0.129, p=0.014)*, hedonic motivation* (β=0.221, p=0.000)*, online learning value* (β=0.109, p=0.036) dan *habit* (β=0.513, p=0.000) mempengaruhi niat pelajar untuk menggunakan AUTHOR manakala *effort expectancy, social influence* dan *facilitating conditions* tidak mempengaruhi niat pelajar untuk menggunakan AUTHOR. Sementara itu, *facilitating conditions* (β=0.481) merupakan faktor yang paling penting terhadap tingkah laku penggunaan AUTHOR oleh pelajar diikuti oleh *habit* (β=0.343) dan *behavioral intention* (β=0.239). Hasil kajian ini dapat dijadikan sebagai panduan kepada Pusat Pembelajaran Atas Talian Tahap Global (CGOL) dan Pusat Teknologi Maklumat (PTM) untuk meningkatkan sistem pengurusan pembelajaran dalam talian di UTHM.

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Journal:

(i)   Musa, M., Ismail, M. N., & Fudzee, M. F. M. (2021). A survey on smart campus implementation in Malaysia. *International Journal on Informatics Visualization*, *5*(1), 51–56.

(ii)   Musa, M., Ismail, M. N., & Fudzee, M. F. M. (2021). Smart Campus Implementation in Universiti Tun Hussein Onn Malaysia: Towards a Conceptual Framework. Journal of Physics: Conference Series, 1860(1).

CHAPTER 1

INTRODUCTION

1.1 Research background

Campus life, a generation ago, might have the teaching and learning process by listening to the lecturer in front of a class, studying from books, and jotting down on the papers. However, with the advanced technologies today, campus life has more attention to the social networks, along with being mobile and staying connected to lecturers, colleagues, and services provided by the campus anytime and anywhere. This technology helps improve the experience of the campus community and the learning process to provide a better experience and diversification of teaching modes to students and lecturers.

Currently, almost all universities rely on their online learning system to enhance teaching and learning activities. Besides, the online learning has become the best solution for the students and lecturers in the teaching and learning process due to the COVID-19 pandemic. This pandemic has require changes in a new normal process where the institutions has a potential to build their own learning management system (Wiratomo & Mulyatna, 2020). The learning management system is considered as one of the approach towards the online learning (Almaiah *et al*., 2020). This learning management system provides benefits to the students and lecturers where it provide an unlimited access to the materials, can track students progress and performance, organize the sources into same shared data center and also provides students and lecturers with the new experience in the teaching and learning process. Therefore, feedback and acceptance of the students towards the learning management system should be

prioritized so that it can give great significance towards the development of the learning management system.

1.2   Problem statement

During this COVID-19 pandemic, the teaching and learning process is important so that student can adapt with different learning environment and experience. The acceptance of the students towards the learning environment especially by using the learning management system is significant because it can give either bad or good responses to the success of the learning management system.

Additionally, it is important to study the factors influencing student behavioral intention and use behavior of learning management system in order to know the factors that influencing their acceptance towards the learning management system. In UTHM, the adoption of online learning management system is used in the teaching and learning process as mixed or blended learning. What's more during this COVID-19 pandemic, the use of learning management system has been fully adapted by lecturers in the teaching and learning process. This learning management system assist lecturers to provide an adequate resources and knowledge to the students as similar as their face-to-face classes.

However, in UTHM, the study that explore the factors that influencing students' behavioral intention and use behavior of learning management system has not been implemented. Due to the recent increase in the using of learning management system, it is valuable to understand which factors influence student's acceptance towards the learning management system for the successful implementation of learning management system. Therefore, this research will examine the factors influencing students' behavioral intention and use behavior towards learning management system in UTHM.

1.3   Research questions

The following research questions were developed to achieve the research objectives:

  i.   What are the factors influencing students' behavioral intention and use behavior towards learning management system in Universiti Tun Hussein Onn Malaysia (UTHM)?
 ii.   What are the key factors influencing students' use behavior towards learning management system in Universiti Tun Hussein Onn Malaysia (UTHM)?
iii.   Does online learning value construct influence student's behavioral intention towards learning management system in Universiti Tun Hussein Onn Malaysia (UTHM)?

1.4   Research objectives

The main objectives of this study are as follows:

  i.   To evaluate all of the variables influencing students' behavioral intention and use behavior towards learning management system in Universiti Tun Hussein Onn Malaysia (UTHM) by using the UTAUT2 model.
 ii.   To identify the key factors influencing students' use behavior towards learning management system in Universiti Tun Hussein Onn Malaysia (UTHM) by using the multiple linear regression analysis.
iii.   To extended UTAUT2 model with online learning value construct to study student's behavioral intention towards learning management system in Universiti Tun Hussein Onn Malaysia (UTHM).

1.5   Contributions

The acceptance of the students towards the learning management system are significant for the successful of learning management system. This study used the Unified Theory of Acceptance and Usage of Technology (UTAUT2) model and extended a new

construct which is online learning value to examine student acceptance of using learning management system in UTHM. The contributions of this study are as follows:

i. The factors influencing students' behavioral intention to use learning management system in Universiti Tun Hussein Onn Malaysia (UTHM) are identified.

ii. The key factors influencing students' use behavior towards the learning management system in Universiti Tun Hussein Onn Malaysia (UTHM) are identified.

iii. The new construct to study the acceptance of the students towards learning management system is identified.

iv. The outcome of this study can be used as a guideline for the Centre for Global Online Learning (CGOL) and Information Technology Centre (PTM) in UTHM to improve the online learning management system.

1.6   Research scope

This study focuses on student acceptance of online learning management system in Universiti Tun Hussein Onn Malaysia (UTHM). The stakeholders involved in this study are undergraduate students. This study extended the UTAUT2 model with a new construct which is online learning value to study the acceptance of the students towards the learning management system in UTHM. An online survey through a questionnaire was used to gather the data. The questionnaire link was given to the respondents through social media platforms such as WhatsApp, Instagram, and Twitter.

1.7   Thesis organization

This chapter states the research background, problem statement, research questions, research objectives, research contributions, and research scope. The next chapter (Chapter 2) provides the literature review for the research topic. Chapter 2 also explains the learning management system and the technology acceptance theories and model in detail along with previous research to collect information of the related topic. Chapter 3 includes the methodology used in this study; this chapter explains the research

methodology in detail, including the design of the questionnaire and the data collection for this study. This chapter also explains the conceptualisation of the dependent and independent variables in the UTAUT2 model. Meanwhile, Chapter 4 explains the results of this study in detail, while Chapter 5 describes the conclusion, contributions of this study, and future works.

CHAPTER 2

LITERATURE REVIEW

2.1   Introduction

This chapter provides the literature review for better understanding of the research topic, the learning management system, technology acceptance, and the model used to study student acceptance of using online learning management system in UTHM. Research has also been made by reviewing papers and journals of the related research topic.

2.2   Learning management system

Learning management system are known as course management software, knowledge management system and learning environments or virtual education that is used for planning, implement and assess the whole education process (Mohammadi *et al*., 2021). The learning management system provides support to the teaching and learning process, especially to students in enhancing their learning experience during the current COVID-19 pandemic. As the learning management system use an internet as a medium for the students to access the courses material, hence it overcome the time and location constrainst especially during this pandemic (Case, 2020). In other words, the learning management system is focused on students' experiences in the teaching and learning process, communication between lecturers and students, and also the effectiveness of academic resources. The learning management system also provide students an access to the academic resources provided by lecturers, which can be accessed on the same shared data centre.

Furthermore, students recognize that the learning management system is among the most important instructional technologies that bring success to their academic (Rhode *et al*., 2017). The factors that affect the satisfaction students towards the learning management system are the ease of use when using the learning management system, the enhance of the learning performance and also the institutions that provides quality of information, system, services and communication in the learning management system (Ohliati & Abbas, 2019). The success of the implementation in the learning management system will influence the usage of the students towards the learning management system.

According to Kasim & Khalid (2016), there are three types of learning management system which are learning skills tools, communication tools and productivity tools. Figure 2.1 shows the three main types of learning management system tools.
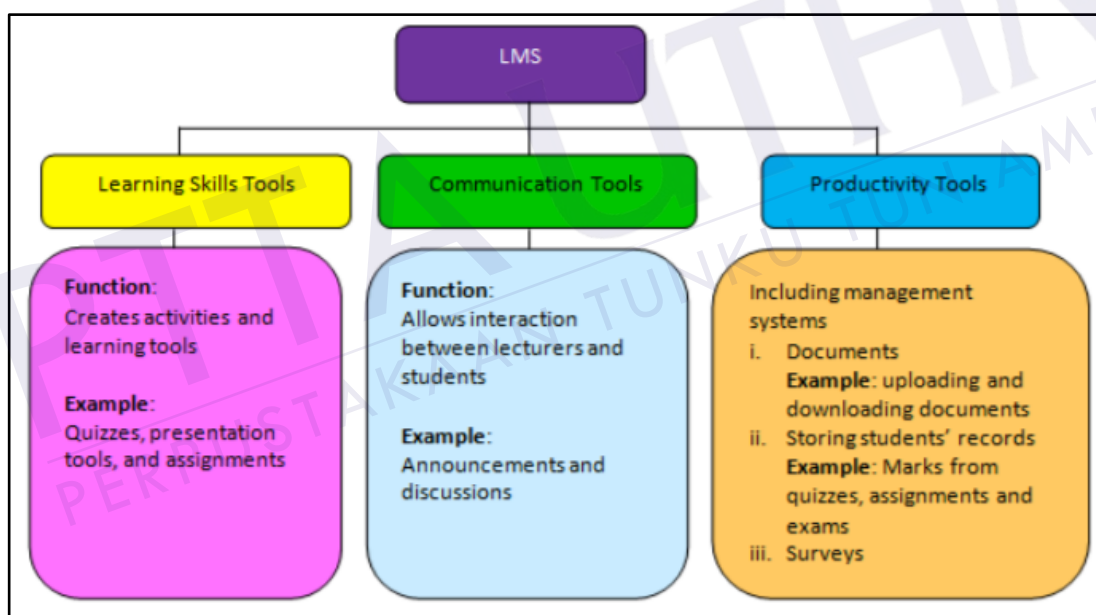
Figure 2.1: Leaning management system tools (Kasim & Khalid., 2016)

Figure above shows the three types of learning management system tools which provide different function in the learning management system. The first category is learning skill tools which provide students with the learning tools and provide academic staff to construct an activities such as quizzes, assignments and presentation tools. This category helps both students and lecturers to have facilitate in the teaching and learning process. Next, the second category is communication tools that acknowledge interaction between students and lecturers where the lecturers can

provide information to the students such as the presentation schedule or upcoming activities that will be held where it provide an up-to-date information to the students and at the same time it will reduce the misleading information between the lecturers and students. This category also helps students and lecturers to enhance their communication as this tools allow the discussion between the lecturers and the students. The third tools is productivity tools which provide the document management systems, access and store student's assessments and also provide survey on students involvement and performance when using the learning management system. This category facilitate students to access their course materials, observed their assessments and also allow academic staff to collect information by doing survey.

There are various of learning management system in different pedagogical and course administration tools such as Learning Care, Moodle, MyGuru2, iLearn System, i-Folio, Claroline, Learning Cube, PutraLMS, MyLMS and Blackboard (Kasim & Khalid, 2016). In UTHM, there are several initiatives have been taken under the teaching and learning process implemented by UTHM, such as UTHM Massive Open Online Courses (MOOCs), UTHM Academic Online Resources (AUTHOR), and also Smart Classroom. Each of this initiatives taken has been used as a medium of the teaching and learning process for the students to gain knowledge and support in their academic. As the use of learning management system has become widely used by the lecturers during this pandemic, the acceptance of the students towards the learning management system will be discuss in order to know the factors that influence their behavioral intention and use behavior when using the learning management system. This research will study the acceptance of the students towards the used of learning management system in UTHM based on the UTAUT2 model.

2.3 Technology acceptance model

Advanced technology has improved day by day as it provides an easier way for users to conduct, operate, control, and use technology with less effort. The technology applied to users' daily life whether in terms of communication, health, productivity, and education such as devices, wearable gadgets, electronics, or any other types of products can be presented to the users.

The technology built or created should be user friendly so that it gives a significant impact on user acceptance of technology, which is crucial for both suppliers and consumers. Although commercial firms and governments usually implement new technologies in workplaces to enhance productivity and efficiency, not all adoptions of technology can run smoothly (Sanakulov *et al*., 2019)

Hence, to obtain fewer risks in the implementation of new technology, many theories and models have been developed by previous researchers according to technology acceptance and usage. The eight models related to user acceptance are the Theory of Reason Action (TRA), Technology Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behaviour (TPB), Combined TAM and TPB (C-TAM-TPB), Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT). The eight models were integrated by Venkatesh *et al*. (2003) into a new model called the Unified Theory of Acceptance and Use of Technology (UTAUT). The following sections explain each of the models.

2.3.1 Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA) was proposed by Fishbein and Azjen in 1975, which determines that personal attitude and subjective norm for a specific behavior can affect someone's behavioral intention that can predict the person's actual behavior (Joo *et al*., 2016). TRA is among the first theories on technology acceptance that provide a basis and fundamental theory for many other theories such as UTAUT and TAM (Alshammari & Rosli, 2020). TRA is one of the most fundamental and influential theories of human behavior. Figure 2.2 shows the TRA model.
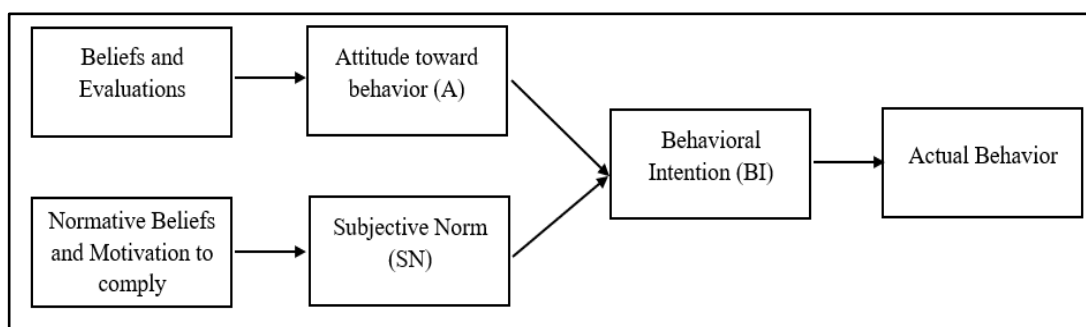
Figure 2.2: Theory of Reasoned Action (TRA) model (Ahmad, 2016)

The TRA model focuses on two constructs as follows:

1) Attitude: Positive or negative feelings of the achievement of the target behavior.

2) Subjective norm: Individual perception that the people important to them think that he or she should perform the behavior in question.

2.3.2 Theory of Planned Behavior (TPB)

The theory of planned behavior (Ajzen, 1991) was extended from the TRA, which introduced a new determinant of perceived behavior control (PCB). This theory is theorized as an additional determinant for behavior and intention (Momani & Jamous, 2017). The TPB is determined by the availability of skills, opportunities, and resources and the perceived importance of those skills, opportunities, and resources. This theory was used to understand the acceptance and use of different technologies by individuals. Figure 2.3 shows the TPB model.

The following three constructs are highlighted in the TPB:

1) Attitude toward behavior: Positive or negative feelings of the achievement of the target behavior.

2) Subjective norm: Individual perception that the people important to them think that he or she should perform the behavior in question.

3) Perceived behavioral control: Perceived ease or difficulty of performing the behavior.

Figure 2.3: Theory of Planned Behavior (TPB) (Ahmad, 2016)

2.3.3 Technology Acceptance Model (TAM)

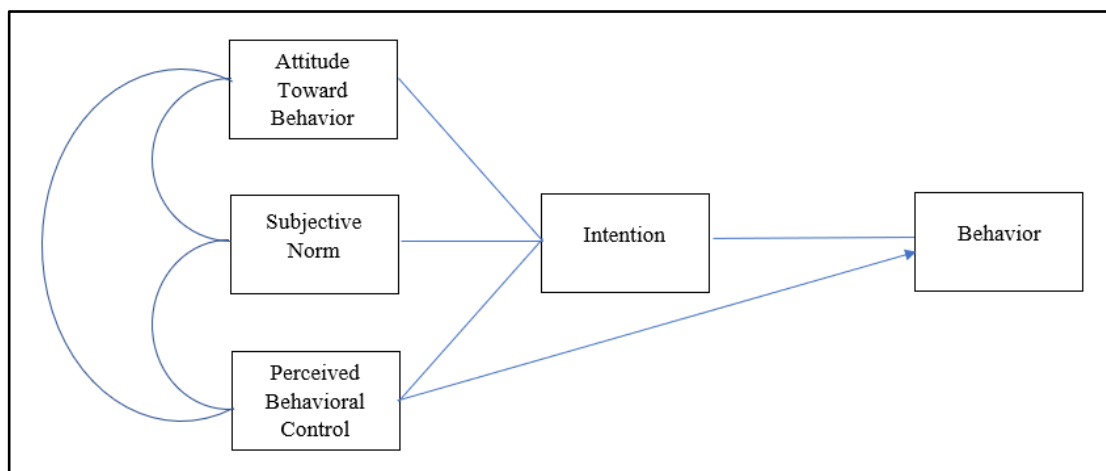The technology acceptance model (TAM) is an adaptation of the TRA model, which was introduced in 1986 by Davis. This model is less general compared to TRA and TPB model because it is developed in information technology field while the TRA and TPB model were developed in psychological field (Momani & Jamous, 2017). According to Binyamin *et al*. (2019) this model presume that when an individual is introduced with a new technology, there are few factors that influenced their individual decision. Figure 2.4 shows the TAM.
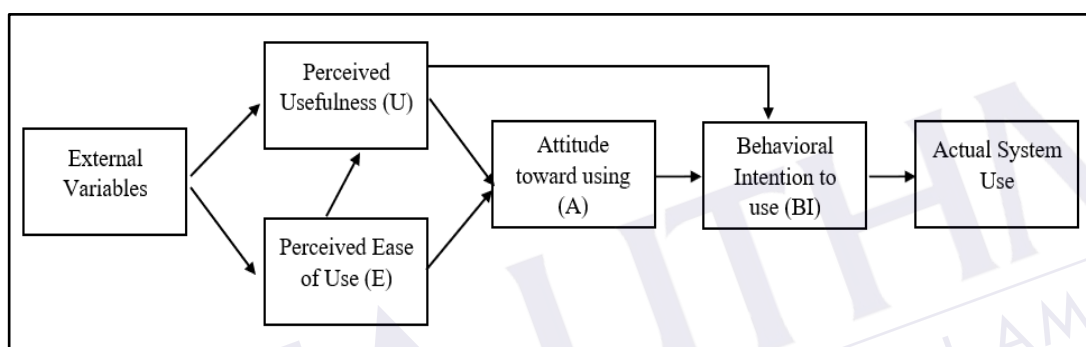
Figure 2.4: Technology Acceptance Model (TAM) (Ahmad, 2016)

Unlike the TRA model, the attitude construct in the TRA model was excluded in the conceptualization of the TAM to give better explanation of intention (Venkatesh *et al*., 2003). The three constructs highlighted in this model are as follows:

1) Perceived usefulness: Individual belief that the use of the system can enhance his or her job performance.

2) Perceived ease of use: Individual belief that the use of the system allows he or she to be free of effort.

3) Subjective norm: Perception of an individual who thinks that the behavior in question is important and should be performed. However, this construct is included in TAM2 only.

2.3.4 Combined TAM and TPB (C-TAM-TPB)

The combined TAM and TPB model are the combination of constructs in the TPB with perceived usefulness in the TAM to provide more complete test of the determinants of

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