THE CHALLENGES OF E-LEARNING ADOPTION FOR UNDERGRADUATE STUDENTS IN UTEM

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UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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This thesis is submitted in partial fulfillment of the requirements for the award of

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DECLARATION OF ORIGINAL WORK

I hereby declare that all the work of this thesis entitled "**THE CHALLENGES OF E-LEARNING ADOPTION FOR UNDERGRADUATE STUDENTS IN UTEM**" is original done by myself and summed up that have been appropriately acknowledge.

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DEDICATION

I would like to appreciate the dedication of my beloved family members effort to educated me and motivating me to complete my education to the degree level. Also, I want to express my gratitude Datin Dr. Suraya Binti Ahmad, my lecturer whom is also my supervisor for my final year project, and my fellow friends. Throughout my research, they have provided me fully support and advice. Without their blessing and encouragement, it would be impossible to complete this research on time.

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ABSTRACT

Nowadays, the creation and implementation of E-learning has become critical stages in universities. In Malaysia, the higher education institutions in UTeM have adopted E-learning to achieve the rising demand for university education. Students face a variety of difficulties during E-learning which including a lack of student-lectures contact, Internet connectivity issues, and a lack of information and communication technology resources. Students also lack motivation and interest in completing online courses. The purpose of this study was to investigate the challenges faced by UTeM undergraduate students when conducting online learning. This study adds depth to the literature on E-learning and the challenges faced. The current study provided a research framework to identify the challenges of adopting the E-learning. This study employs quantitative methodologies. A Google Forms questionnaire was used to collect data from 367 UTeM undergraduate students and analyzed using Statistical Packages for Social Sciences (SPSS). The quantitative method with a descriptive analysis, Pearson correlation analysis. The study hypotheses were tested using multiple regression analysis. The result showed that all independent variables which are inadequate ICT infrastructure, a lack of ICT skills, financial constraints, and a loss of motivation have a significant relationship with the adoption of E-learning, which is all accepted. For the recommendation, the researcher made suggestions to improve the future study. The findings of this study are expected to provide undergraduate students with challenges encountered during E-learning.

Keywords: E-learning, Adoption E-learning, Challenges, Inadequate ICT Infrastructure, Lack of ICT Skills, Financial Constraints, Loss of Motivation

ABSTRAK

Pada masa kini, penciptaan dan pelaksanaan E-pembelajaran telah menjadi peringkat kritikal di universiti. Di Malaysia, institusi pengajian tinggi di UTeM telah menerima pakai E-pembelajaran untuk mencapai permintaan yang semakin meningkat untuk pendidikan universiti. Pelajar menghadapi pelbagai kesukaran semasa E-pembelajaran termasuk kekurangan hubungan pelajar-kuliah, isu sambungan Internet, dan kekurangan sumber teknologi maklumat dan komunikasi. Pelajar juga kurang motivasi dan minat untuk menyelesaikan kursus dalam talian. Tujuan kajian ini adalah untuk menyiasat cabaran yang dihadapi oleh pelajar sarjana muda UTeM semasa menjalankan pembelajaran dalam talian. Kajian ini menambah kedalaman literatur tentang E-pembelajaran dan cabaran yang dihadapi. Kajian semasa menyediakan rangka kerja penyelidikan untuk mengenal pasti cabaran penggunaan E-pembelajaran. Kajian ini menggunakan metodologi kuantitatif. Soal selidik Borang Google telah digunakan untuk mengumpul data daripada 367 pelajar sarjana muda UTeM dan dianalisis menggunakan Statistical Packages for Social Sciences (SPSS). Kaedah kuantitatif dengan analisis deskriptif, analisis korelasi Pearson. Hipotesis kajian telah diuji menggunakan analisis regresi berganda. Hasil kajian menunjukkan bahawa semua pembolehubah bebas iaitu infrastruktur ICT yang tidak mencukupi, kekurangan kemahiran ICT, kekangan kewangan, dan kehilangan motivasi mempunyai hubungan yang signifikan dengan penggunaan E-pembelajaran, yang semuanya diterima. Untuk cadangan tersebut, pengkaji mengemukakan cadangan untuk menambah baik kajian akan datang. Dapatan kajian ini diharapkan dapat menyediakan pelajar prasiswazah dengan cabaran yang dihadapi semasa E-pembelajaran.

Kata kunci: E-pembelajaran, Penggunaan E-pembelajaran, Cabaran, Infrastruktur ICT yang Tidak Mencukupi, Kekurangan Kemahiran ICT, Kekangan Kewangan, Hilang Motivasi

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LIST OF ABBREVIATIONS

ABBREVIATION	MEANING
UTEM	University Teknikal Malaysia Melaka
MOOC	Massive Open Online Courses
TAM	Technology Acceptance Model
TRA	Theory of Reasoned Action
ICT	Information and Communications Technology
DV	Dependent Variable
IV	Independent Variable
RO	Research Objectives

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

As we know that Internet-based technologies are becoming increasingly vital. In this chapter will definitely discuss about the E-learning technology adoption in Malaysia higher education which includes the background of study, problem statement, research questions and objectives are proposed, scope and limitation of this study, significant of the study and outline of the thesis in this chapter.

1.2 BACKGROUND OF STUDY

The speedy growth of information and communication technologies (ICTs) has resulted in significant changes in the field of education, ranging from new methods of boosting people's learning and cooperation, such as e-learning tools to altered teaching and learning processes. The advancement of information technology has aided growth in a variety of disciplines, including education. Online schools enable and facilitate the adoption of E-learning in education. Therefore, E-learning combines education and technology, and it has become an essential learning necessity nowadays (Al-Fraihat et al., 2020). If utilised properly, e-Learning technology may promote students' critical thinking, remove geographical obstacles, effectively improve students' IT abilities, and encourage lifelong learning, as well as save expenses and improve high levels of efficiency. The internet is also a fantastic site for students and educators to supplement or replace conventional schooling; this technique is E-learning including the use of resources online to give a variety of techniques to boosting knowledge and effectiveness. (Aloia and Vaporciyan 2019). Apart from that, E-learning technology is a technology that is built on the foundation of the ICT infrastructure. As a result, the technology adoption model may be used to explain the uptake of e-learning technologies.

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There are some of the researchers discover that e-learning programmes at universities, in particular, take several forms; some are totally online, while others are blended learning programmes, in which face-to-face instruction is integrated with the use of ICT to offer courses (Bliuc et al, 2017). Although the development of E technology provides the most cost-effective teaching methodologies, the effectiveness of these advances is primarily dependent on their acceptance (Gergana et al, 2021). The ICT adoption model may be used to explain the uptake of e-learning technologies and there have been several models developed to describe and predict user behaviour and also technology adoption intent.

In this study is to focus on the aspects of E-learning technology adoption in Malaysian higher education which is Universiti Teknikal Malaysia Melaka (UTeM). Malaysia's e-learning environment has been adopted by many higher education universities and continues to be a pioneer in it. The public universities in Malaysia provide comparable E-learning programmes via Massive Open Online Courses (MOOCs) and online learning portals (Ulearn) and so on. Major education institutions in the country have become more open to using high-tech learning. Academics at the university have developed innovative methods of learning and teaching that make use of. As a result of the spread of this E-learning innovation, digital technologies have emerged. Technological improvements in Malaysia's education industry have brought several benefits to educational institutions, such as online exams, quiz and tutoring, livestream video with teaching departments, and other services are available. As a result of the spread of this E-learning innovation, academics at universities use digital technology to experiment with creative learning and teaching approaches (Aloia and Vaporciyan 2019).

It is because that there are many institutions are rapidly approaching the era of the Internet revolution on campus, and universities. E-learning portals have become a must-have for colleges and universities in recent years due to the huge benefits they can provide to college staff, students, and instructors. As a result, UTeM has integrated the E-learning Portal (Ulearn) into their system in every faculty. It has had an e-learning portal (Ulearn) for many years to allow students and faculty connect with one another. The online learning platform also offers extra advantages to students and professors who use it. From a cost standpoint, e-learning portals may

minimise the utilisation of university resources such as lecture space, power use, training personnel, and so on.

An adoption of E-learning has grown commonplace, and colleges are becoming increasingly concerned about it. It is because of conflicting demands and an increasingly digital-savvy student population, investing in technology at universities must be a key concern. Despite the various challenges that researchers face (Donitsa-Schmidt & Ramot, 2020) indicate that research on the acceptance of educational innovations is fascinating to perform. E-learning may help students more comprehend better understanding in the aspect of the processes of learning and evaluation, as well as technical challenges, an excessive task load, and confinement (Fawaz et al, 2021).

1.3 PROBLEM STATEMENT

According to the research, (MIDA, 2021) stated that by using electronic devices at home was one of the most important elements in gauging students' digital literacy growth. It demonstrates that educational universities and suppliers of digital education are increasingly collaborating to supplement their courses with a digitization education capability. According to Adarkwah (2021), some students regard online learning as unproductive since they face various difficulties. These include a lack of student social contact, a lack of ICT resources, poor communication, and poor learning results.

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According to the Malay Mail in Malaysia (Lim, 2020) mentioned that Universities in Malaysia may have embraced online learning to augment lectures prior to the Covid-19 epidemic, but the government's intention to abolish physics sessions entirely and transition to all-digital instruction until the end of the year may not go as easily as predicted. According to Kellin Wong (2020), chairman of the Student Representative Council at Universiti Malaysia Sabah (UMS), while in every semester, online teaching methods are typically in place and employed at public universities, and a complete move to online learning will present some problems. At the same time, Wong noted that there are some of the students may lack the motivation and interest to continue completing online courses. Moreover, this new also mentioned that the most difficult challenge is that some students live in areas

with limited Internet connection. Wong said it was difficult for them to conduct such online assessments and online lectures classes. She confirmed that the issue had nothing to do with device ownership and more to do with the Internet connection.

According to Joshi et al. (2020), the pedagogical consequences of online learning are disputed since it results in less face-to-face interactions between learners and instructors. Moreover, Pham et al., (2020) also highlight some of the challenges that students confront when taking online courses. Anxiety, sadness, bad internet connectivity, poor home learning settings, and other factors contribute to this, which is compounded when students are socially excluded or originate from rural places.

The purpose of this study is to investigate the challenges that faced by UTeM undergraduate students associated with the deployment of E-learning. At the same time, this study is also to examine the types of E-Learning technologies utilized by UTeM undergraduate students. The study also entailed accessing information from critical e-learning in UTeM which students about their perspectives and experiences with the issues on what certain challenges faced by them in E-learning. In addition, alternative recommendations to these difficulties are suggested in the study.

1.4 RESEARCH QUESTIONS

The following research questions are proposed:

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i. What are the types of E-Learning technology is used by UTeM undergraduate students?
ii. What are the challenges faced by UTeM undergraduate students in E-learning adoption?
iii. What is the relationship between the challenges and E-learning adoption?

1.5 RESEARCH OBJECTIVES

The following research objectives are:

i. To determine the types of technology adopted for E-learning in UTeM.
ii. To investigate the challenges faced by UTeM undergraduate students when performing online learning.

iii. To identify the relationship between the challenges and E-learning adoption.

1.6 SCOPE AND LIMITATION OF THE STUDY

The scope of this research is to present the overview of E-learning and also provides a more comprehensive understanding of the variety of challenges that faced by UTeM undergraduate students of E-learning. The survey will be done with undergraduate students in UTeM Melaka. The respondents will be selected at random. The researcher will conduct the study by distributing questionnaires to respondents.

The limitation of this study is that the data about the respondents was erroneous since the investigators chose them at random. The study was conducted in a very limited number of subjects because the target subjects were university students from every department or faculty in UTeM. The results of this study limit our overall understanding of the E-learning in UTeM and also the challenges of adopted E-learning that faced by UTeM undergraduate students. Large-scale studies and surveys are also needed to present and modify survey results for the target population of all undergraduate students in UTeM that involved in the online learning system.

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1.7 SIGNIFICANT OF STUDY

In fact, there are many instructors are increasingly advocating for online learning (UNESCO, 2020). Therefore, acceptance of that online instruction is required nowadays. In this research study is significant to understand and determine the several challenges that faced by UTeM undergraduate students conducting online learning. This current research is also significant to determine the types of technology adopted for E-learning in UTeM. At the same time, the relationship between the challenges and E-learning adoption was be determine in this study. Besides, this study indicates that future significance and the possibility of E-learning as a future suggestion should be addressed.

1.8 OUTLINE OF THE THESIS

In short, the overall of this chapter of this study is to explain about the overview of the study. The background of the study, problem statement, research question, research objectives, scope and limitation of the study, and significance of the study are all covered. The researcher will perform a literature review of the study in the following chapters. The information will be more comprehensive and simpler to comprehend.

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CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter will examine the literature review of this study. The dependent and independent variables were defined by reading the relevant kinds of literature. By the literature studies, appropriate research methodologies, such as qualitative or quantitative research, must be devised. The suggested research framework can define the theory and create hypotheses at the conclusion of this chapter.

2.2 E-LEARNING TECHNOLOGY

Learning is a basic human need and a vital aspect in a country's development. (Hafeez et al., 2020). E-Learning is a useful tool and flexible platform that allowing learners and teachers to be more empowered (J. C. Evans, et al., 2020). Knowledge may be communicated among the public using technologies and platforms such as the Internet and discussion groups with the adoption of e-learning. Learners and teachers have opportunities to learn about and interact with educational technology tools such as mobile-based learning, computer-based learning, and web-based learning. (Mahyoob 2020). There are many universities implemented the e-learning tools such as Ulearn, Webex, MOOC in order to facilitate and improve the efficiency of learning quality (M. T. Alshurideh, et al., 2019). Online learning and teaching is regarded as a way that can improve the learning-teaching process by employing a variety of student-centered and even Internet-based devices that provide more access to current or asynchronous scenarios (Yang & Li, 2018). Other digital technologies such as computers, the Internet, the World Wide Web, Intranet and Wi-Fi networks, extranets and software applications are also included (Ukut & Krairit, 2019). Modern education provides several possibilities for social connection (Basilaia & Kvavadze, 2020). The below are some of the technologies adopted in the most commonly used for E-learning:

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2.2.1 Webex

Webex is a video conferencing technology that many Malaysian colleges utilise. Breakout meetings are an interesting feature of WebEx. The purpose of breakout sessions is to offer students with relevant and interesting dialogues. During synchronous learning, teachers can experiment with integrating various digital tools while keeping students in groups. As a result, the purpose of this research is to investigate learning activities and techniques for increasing learner engagement in remote learning using WebEx breakout sessions. It is appropriate to investigate how learning continues throughout the pandemic, if learning channels are employed to fit students' learning styles, and mitigation techniques as contingency plans for continuing learning during and after the epidemic (Jimola & Ofodu, 2021).

2.2.2 Ulearn

It aids educators in the planning, implementation, and evaluation of learning processes. The system allows users to create content, track student participation, performance, and deliver educational courses. This is a student-centered system that streamlines the learning process by allowing students to assess and improve their classroom or distance learning performance. Ulearn LMS eLearning allows for full online facilitation, administration, and reporting of any programme or course (Ulearn Education Ltd., 2017).

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2.2.3 Zoom Meeting

participants to share video, collaborate on a whiteboard, and record. Zoom video communication software is established in the United States. Through a cloud-based peer-to-peer software platform for distant learning, social networking, teleconferencing, and telecommunications, it offers video telephony, online learning, and chat services. Zoom's conferencing software business surged dramatically internationally in early 2020, following the Covid-19 epidemic and the proximity of schools, colleges, and institutions (Muls, et al., 2020). ZOOM meetings are commonly employed at institutions at both the undergraduate and graduate levels,

particularly during the COVID-19 epidemic. Many college students and professors use ZOOM meetings for online learning, online teaching, and online master's students. PhD defence and crime are here to stay. Attending online seminars and training courses also makes use of Zoom meeting software.

2.2.4 Massive Open Online Courses (MOOC)

MOOCs equip learners with powerful self-directed learning abilities (e.g., time management and effort control) to aid learning, particularly self-directed learning (Kizilcec, et al., 2017). This results in a high level of self-regulation, which leads to more engagement in learning through the MOOC, increasing students' chances of success in their studies (Kizilcec et al., 2017). Learning interest may promote overall general interest in the setting of MOOCs, which in most circumstances can boost motivation in order to meet the needs of individual autonomy in e-learning systems. MOOCs are said to be impacted by participants' learning interests prior to or during the usage of course resources (Tsai et al., 2018).

2.2.5 Microsoft Teams

Users may use Microsoft Teams to instant chat, meet, intercom, share documents, edit, and collaborate on numerous files all in one centralised, and provide a secure area. (Digital Health, 2020). Microsoft Teams enables employees to collaborate from any place via chat, audio, or video calls/conferences (Khalili, 2020). Between March and October 2020, the NHS used isolation teams to send more than 65 million communications and have more than 850,000 virtual meetings (NHS Digital, 2020). Mehta et al. (2020) highlight the growing need for digital communications, noting that it provides for quick adoption at a cheap resource cost.

2.3 ADOPTION OF E-LEARNING IN HIGHER EDUCATION

Rapid improvements information technology has brought new opportunities and innovations in the university learning environment. The rise in digital learning in higher education will continue, and schools will work more methodically to pursue