

## **Analysis of Factors Influencing the Use of E-Learning Facilities Among Students in Public Universities in Johor**

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**Abstract:** E-learning facilities are a recognized educational practice. It supports a flexible knowledge acquisition model that can effectively support a larger number of audiences for education and training than traditional education models. The purpose of this study is to identify the factors influencing the use of e-learning facilities among student in public universities in Johor. The factors of influence the use of e-facilities among students that used are technology factors, organization factors and environment factors. Quantitative research methods were used in this study by distributing questionnaires to students from UTHM students and UTM students. The data are analyze using the Statistical Packages for Social Science (SPSS) software. The study used a validated online survey questionnaire to collect the data from 300 valid respondents. The results showed that the main factor influencing the use of e-learning among students in public universities in Johor is the technology factors and the least chosen is lecturer factor. In addition, the results show that the platforms that used most by students in public universities in Johor is Google Meet while for the least preferred is Flipgrid. The results of this study are expected to provide valuable insights to institutions and government sector in the educational learning sector.

**Keywords:** E-Learning Facilities, Factors, Platforms.

### **1. Introduction**

Over the last decade, the sector of tertiary education has transformed due to the rapid rise of internet technology and the revolution in computer software (Tayebinik & Puteh, 2012). This has changed the way that people study and teach, especially in rural and remote education. E-learning is an IT-based innovation with a pool of technology-enabled platforms that may give alternative and innovative learning methodologies in comparison to traditional learning techniques in education (Wang, 2009).

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Nowadays, people can update their skills and knowledge to remain relevant (Mason & Rennie, 2006; Eze *et al.*, 2013; Dubé *et al.*, 2017). According to certain study materials and publications, the number of e-learning facilities are growing to meet students' education demands (Wu *et al.*, 2012; Franco and Garcia, 2018). Besides, the e-learning aids in the development human skills. For instance, teachers and students are better trained by use of e-learning resources for lecturers, it becomes more creative (Loogma *et al.*, 2012; Agostini, and Nosella, 2020). Adoption of e-learning provides students with numerous advantage such as flexibility in time and place, enhance opportunities for learning, and expansion of powerful intellectual resources.

There are some issues that arise as online learning is applied to the developing countries (Folorunso *et al.*, 2006; Siritongthaworn *et al.*, 2006). The students need to adapt themselves with the new environment computer-led training in virtual classrooms from traditional classroom, which is a challenging task (Sanchez-Gordon and Luján-Mora, 2014). Many educations institutional experiencing inadequate supply of e-learning equipment necessities, such as high-performance devices and Internet connectivity. Some students lack computer literacy and self-motivation, making it very difficult for them to access online learning (Randy, 2011). According to Bhuasiri (2012) indicated the barriers in online learning for developing countries including investments in technology such as hardware, learning material development, equipment maintenance, software licenses and training. Besides, there are also some issues related to management support.

Since the usage of the e-learning platform requires both individual and organizational participation, the search for effectiveness is a critical component. As a result, the effectiveness of the e-learning portal's application should be assessed, as Lee (2005) also recommends. It stated that without understanding the effectiveness of e-learning methods, it is impossible to determine the importance of their use. Furthermore, Figueira (2003) stated that assessing efficacy can be a useful method for build up a decision about the use of any e-learning facilities implementation. In addition, as technology becomes more prevalent in the teaching and learning world, it is vital to examine the potential of this learning method in order to better understand why students choose e-learning over traditional settings.

Therefore, to achieve the research objectives the factors influencing the use of e-learning facilities among student in public universities in Johor are determined. Consequently, the current e-learning platforms that used in the public universities in Johor is identified.

The research study will target on the public universities which located in Johor. The two universities are Universiti Teknologi Malaysia (UTM) and Universiti Tun Hussein Onn Malaysia (UTHM). In this research study, the respondents would be students from public universities selected. The survey will be conducted using a quantitative research method. A questionnaire will be created and distributed to 380 students who studied in public universities in Johor.

The study could improve understanding of e-learning in terms of use and acceptance. For students and lecturers, e-learning systems can facilitate learning and teaching, as the modality can be implemented anywhere and at any time, as long as the place or location has internet access. This study also provides a clear picture of the administration and management as well as the lecturers on e-learning-related issues so that steps can be taken accordingly. Furthermore, this study encourages lecturers to use e-learning in helping to enhance their teaching process. Apart from that, this study also increased the amount of research in the field of e-learning and provided a source of reference for other researchers to conduct further studies.

## 2. Literature Review

### 2.1 E-learning

Nowadays, e-learning is the most recent evolution of distance learning, which is classified as a learning setting in which instructors and learners are separated by distance, time, or both. (Raab, Ellis & Abdon, 2002). E-learning is a technology trend that allows for lifetime learning and requires a level of digital proficiency. Furthermore, Twig (2002) outlines the e-learning idea as being based on the student and the system's interactive, self-paced configurable character. In addition, it is observed that e-learning is based on electronic networks to allow students to get personalized help and have a unique and flexible learning plan. (Tao *et al.*, 2006).

### 2.2 Delivery Methods of E-learning

Computer-based training (CBT) learners have access to resources on CDs and DVDs. CBT is often performed in the learner's system. WBT, on the other hand, runs on internet platforms. Learning management systems are commonly used in the WBT method. The course is self-directed, uses CBT or WBT, and there is no interaction between the instructor and the student. This distribution scheme is often useful for adult learners looking to learn new techniques (Soni, 2015).

Face-to-face training is combined with training via computers in blended e-learning (Bonk & Graham, 2005). This technology supports face-to-face education using technologies such as collaboration software, web-based software, and communication software. Mixed eLearning, according to Oye (2012) promotes the review of education and information outside the classroom setting. Blended eLearning also facilitates the integration of different learning spaces and provides flexibility when it comes to scheduling learners (Little John and Fegler, 2007). According to Sharples (2000), the availability of high-bandwidth infrastructure and advanced mobile technologies, such as wireless technologies, is also conducive to the expansion of mobile e-learning in e-learning.

Applying the principles of social learning in online learning is called social online learning. As the term implies, social learning involves learning with others. This can occur through face-to-face interactions, social media interactions and direct and indirect interactions such as chat rooms. According to Chetia (2019), social learning occurs when people observe the behavior of others and the consequences of their behavior. According to this framework, social e-learning uses technologies such as video conferencing and social media sites to facilitate interaction between learners. Group discussions and Q & A sessions also contribute to the development of social interactions throughout the learning process (Aubron, 2018). Game-based e-learning is the use of computer game-based methods to provide, support, and enhance teaching, learning, testing, and evaluation. (Connolly and Stansfield, 2006). Online learning games are highly interactive and are built around specific learning goals to promote complete immersion and interaction. Chieta (2019) believes that gamification is different from gamification online learning because gamification uses game mechanics and functions to make learning more attractive, while game-based online courses use formal games to help students achieve their goals.

### 2.3 Benefits of E-learning

Adoption of e-learning offers institutions, as well as their students or learners, with a great deal of options in terms of when and where learning information is delivered or received (Smedley, 2010). In addition, it can give possibilities for learners to build relationships through the usage of discussion forums. Thus, e-learning helps to remove barriers to involvement, such as the fear of speaking with other students. Students are encouraged to communicate with each other through e-learning, as well as to exchange, respect diverse points of view and strengthens the relationships in support learning. E-learning provides additional opportunities for interaction between students and teachers throughout material delivery (Wagner *et al.*, 2008).

Zhang *et al.* (2006) and Judahil *et al.* (2007) observed the beneficial effect of e-learning from the standpoint of students or learners. It also allows for exploration and flexible learning while also reducing the need to travel to classes. Furthermore, e-learning allows learners to follow activities in the classroom via interactive video and, when recorded, to watch and listen to classes as many times as necessary. Based on Brown *et al.* (2008) and Judahil *et al.* (2007), this allows professors to communicate with students and provide them with quick feedback.

#### 2.4 Drawbacks of E-learning

Students may find themselves difficult to work effectively in a team atmosphere due to a lack of face-to-face communication between colleagues, students, and lecturers in an online environment. Even if students have excellent academic knowledge, they may lack the skills essential to convey that knowledge to others. Students will frequently be required to learn tough subject in the comfort of their own homes, without the added pressure that traditional colleges impose. As a result, students lacking strong self-motivation and time management skills may struggle to fulfil regular deadlines when studying online.

Research has been conducted on mental health concerns affecting tertiary students. According to study conducted by Kotera *et al.* (2020), university students' mental health is usually poor, with high rates of depression, anxiety, and stress. The amount of time students spends on digital devices each day has obviously risen because of virtual learning. With excessive screen time can cause a variety of physical and mental health problems, such as bad posture and headaches.

#### 2.5 E-learning during COVID-19 pandemic

The During the COVID-19 crisis, providing and using e-learning resources in the e-learning system has been a major challenge for many universities. Because of its accessibility, reasonable cost, simplicity of use, and interactivity, e-learning systems are an essential source of knowledge. For the time being, it may be more convenient to use this system. For instance, s students can communicate or engage in a learning activity with an instructor on a laptop or mobile device from home by using an e-learning system. Furthermore, their mobile devices may access to a cellular network or a local wireless network, students can simply integrate instructional content into them.

At Malaysia, the higher education institutions have stepped up their initiatives to incorporate e-learning systems, widely called as Open and Distance Learning (ODL) approaches, in accordance to the pandemic situation. ODL has become more popular to gain access to high-quality education, establish lifetime learning opportunities, use flexible learning methods, and provide a welcoming learning atmosphere for students. Online lectures, tutorials, and self-directed online learning are all available to students. In contrast to physical tests, online examinations and assignments may even allow students to evaluate their grades and receive feedback immediately, allowing them to improve their performance in subsequent sessions.

#### 2.6 Previous Study

Abdulhamid *et al.* (2017) investigated the elements of perpetuation intention to use e-learning among students in public universities in Nigeria drawing on Technology Acceptance Model (TAM) and Expectancy Disconfirmation Theory (EDT). The result revealed that accomplishment is a determinant of perpetuation intention to use e-learning, which is based on observed simplicity of use, endorsement of using e-learning, internet self-efficacy and observed excellence. The study found these variables as essential determinants of perpetuation intention of using e-learning.

### 3. Research Methodology

#### 3.1 Research Design

In this research, the quantitative research used to perform the analysis of this study. Quantitative research is a method for generating numerical data and converting it to statistic result. Based on Rahi (2017), the approach will focus on the data collection from large population problems and analyses the data while ignoring the person's emotions and the environment. The data will be collected by using survey methods such as questionnaires, online surveys, mobile surveys, and others. As a result, the emphasis of this study will be on the questionnaires that will be provided to respondents in order, to collect data and achieve the research objectives.

#### 3.2 Population and Sampling

In this research, the target population in this research will be public universities students from Johor. The public universities that located in Johor are Universiti Teknologi Malaysia (UTM) and Universiti Tun Hussein Onn Malaysia (UTHM). The questionnaires were distributed among UTM and UTHM students. Respondent were selected randomly, and this sample chosen because it represents a group of individuals who have experience of using e-learning portal, and the resources to access. The population consist around 47,400 students in the two public universities. The information was gathered from both universities' official websites. The size of the sample in this research will be determined by referring the Krejcie and Morgan table. According to Krejcie & Morgan (1970), the sample size of this study is 380 students from the two universities selected.

#### 3.3 Data Collection

Data collection is an important aspect of research because it ensures that the research process runs smoothly, and the research objectives are achieving. It is the process of gathering data from relevant sources, hypothesis testing, and evaluating the results. There are two types of data used in this study which are primary data and secondary data.

##### (a) *Primary data*

There are three approaches for the researchers in collect primary data which are observation, interviewing and questionnaire. In this research, researcher uses questionnaire to collect data primary data. The questionnaire is distributed to the students in public universities in Johor which are Universiti Teknologi Malaysia (UTM) and Universiti Tun Hussein Onn Malaysia (UTHM). The purpose of questionnaire are to identify the factors that influencing the use of e-learning facilities among students in public universities in Johor and the current e-learning platforms that used in the public universities in Johor.

##### (b) *Secondary data*

Based on this study, secondary data is obtained from the internet and library resources. The sources gained from journal, report, book, official website, and published articles. The implementation of the secondary data is playing main role in research as it enhances the degree of the validity and reliability of research. In this research secondary data will be used to accomplish the objective.

#### 3.4 Pilot Study

The questionnaire used in this study was developed by referring related previous studies and conducting a literature review. As a result, a pilot test will be conducted prior to the distribution of the questionnaires for the purpose of measure the validity and reliability of the questionnaire. It is the final critical step in data collection because it helps to increase the reliability of the survey questionnaire. In pilot test, there will be total 30 questionnaire were used.

### 3.4 Research Instrument

The questionnaire is a research instrument that consists of a series of questions designed to gather information from respondents. The data collected from the questionnaire was used to determine the factors that influence the use of e-learning facilities among students in public universities in Johor and the current e-learning platforms that used in the public universities in Johor. The questionnaire is divided three parts which Part A, Part B and Part C. Part A will be covered the demographic of respondents such as age, gender, ethnic group, education streams while in part B will deal with factors influencing the use of e-learning facilities among students in public universities in Johor. In part C, it will be covered the current e-learning platforms that used in the public universities in Johor.

### 3.5 Data Analysis

The data collected from questionnaire were analyzed by using descriptive statistics. The descriptive analysis is the method that simplifies, summarizes, and organizes the numerical data. The data will be analyzed by using Statistical Package for the Social Sciences (SPSS) version 20.0 based on the frequency and percentage distribution.

## 4. Results and Discussion

### 4.1 Survey Return Rate

The total population of students in Universiti Tun Hussein Onn Malaysia (UTHM) and Universiti Teknologi Malaysia (UTM) is approximately 59,099 in 2021. According to Krejcie and Morgan (1970), 380 students are needed. There are about 380 questionnaires were distributed to the target respondents. A total of 300 questionnaires out of 380 issued were collected with the assistance of the respondents. Therefore, the return rate for the questionnaire survey was 78.95% of those willing to participate in this study. The data was tabulated in Table 1.

**Table 1: Descriptive analysis for job performance**

Population	Sample Size	Questionnaire Distribute	Questionnaire Returned	Percentage
59,099	380	380	300	78.95%

### 4.2 Reliability and Validity Analysis

Reliability and validity analysis in research are the method of verifying the consistency and accuracy of research and results.

#### (a) Reliability and validity of pilot study

Based on Table 2, the Cronbach's Alpha value for the pilot test was 0.880. The number of respondents needed in this test is 30 students. The result shows that the value obtained in the pilot test was acceptable for reliability of the questionnaire research

**Table 2: Reliability test for pilot test**

N of Items	N of Respondents	Cronbach's Alpha ( $\alpha$ )
40	30	0.880

#### (b) Reliability and validity for actual study

Based on Table 3, the Cronbach's Alpha value for the actual test was 0.930. The number of respondents needed in this test is 300 students. The result shows that the value obtained in the pilot test was good for reliability of the questionnaire research.

**Table 3: Reliability test for actual study**

N of Items	N of Respondents	Cronbach's Alpha ( $\alpha$ )
40	300	0.930

#### 4.3 Part A: Demographic Analysis

Descriptive analysis is the method that simplifies, summarizes, and organizes the numerical data. The demographic data and information collected in the questionnaire were analyzed by using descriptive analysis. The demographic information includes gender, age, race, academic background, college education, technology skill level, and number of times students use the Internet for educational purposes will be discussed in the sections below.

(a) *Summary statistics of demographic analysis*

**Table 4: Summary statistics of demographic analysis**

Demographics	Items	Frequency (N)	Percentage (%)
Gender	Male	122	40.7
	Female	178	59.3
Age	18- 22 years old	113	37.7
	23 – 26 years old	162	54.0
	27 – 30 years old	22	7.3
	31 – 34 years old	3	1.0
	35 years old and above	0	0.0
Race	Malay	201	67.0
	Chinese	69	23.0
	Indian	26	8.7
	Others	4	1.3
Institution of Study	Universiti Tun Hussein Onn Malaysia, UTHM	213	71
	Universiti Teknologi Malaysia, UTM	87	29
Academic qualification	Foundation	13	4.3
	Bachelor's degree	243	81.0
	Post-graduate diploma	40	13.3
	Master	4	1.3
Institution of Study	PhD	0	0
	Universiti Tun Hussein Onn Malaysia (UTHM)	178	65.7
	Universiti Teknologi Malaysia (UTM)	93	34.4

Level of technology skill	Beginner	23	7.7
	Competent	171	57.0
	Proficient	97	32.3
	Expert	9	3.0
Number of times students use the internet for educational purposes	1-2 times in a week	8	2.7
	3-4 times in a week	108	36.0
	5-6 times in a week	54	18.0
	More than 7 times in a week	130	43.3

Table 4 showed that there were 178 out of 300 (59.3%) respondents were females. Besides, there were 122 male respondents (40.7%) who took part in the research. The results concluded that female respondents were more than male respondents. Most of the respondent from the results are between the ages of 23 and 26 years old. There are 162 out of 300 respondents with 54%. while the age respondents from the 18 to 22 years old consist of 113 respondents with 37.7%. The number of respondents from 27 to 30 years old is 22 respondents with 7.3% while the age respondents from the 31 to 34 years old is about 3 respondents with 1%. Lastly, there were none of the respondents over the age of 35 answered the questionnaire. Most of the respondents in this study were Malay with the number of 201 respondents (67%). The second followed by Chinese with 69 respondents with the percentage of 23% and 26 of Indian respondents (8.7%). There were 4 respondents from other races such as Arab, Javanese, Indonesian and Punjabis with the percentage of 1.3%. The respondents are from Universiti Tun Hussein Onn Malaysia (UTHM), the number of respondents were 213 out of 300 (71%). Besides, the students from Universiti Teknologi Malaysia (UTM) are 87 respondents (29%).

The highest number of academic qualifications for respondents is bachelor's degree which are 243 respondents, 81%. The number of second highest is Post-graduate Diploma with 13.3% (243 respondents). Meanwhile, 13 respondents with 4.3% are Foundation. Lastly, the number of academic qualifications for respondent are Master with 1.3% (4 respondents) and there was none of PhD respondent answered the questionnaire. Majority of the respondents are competent in technology skill level with a total number of 171 respondents which are about 57%. The second highest group is proficient in technology skill level, which had total of 97 respondents or 32.3%. Meanwhile, 23 respondents or 7.7 % are beginner in technology skill level. The lowest group is expert in technology skill level which are 9 respondents or 3%. Moreover, majority of the respondents have more than 7 times in a week of use Internet for educational purposes with a total number of 130 respondents which are about 43.3%. The second highest group is 3 to 4 times in a week of use Internet for educational purposes, which had total of 108 respondents or 54.0%. Meanwhile, 54 respondents or 18.0 % are 5 to 6 times in a week of use Internet for educational purposes. The lowest group is 1 to 2 times in a week of use Internet for educational purposes which are 8 respondents or 2.7%.

#### 4.4 Part B: Analysis of the Factor Influence the Use of E-Learning Facilities among Students

This section aims to analyse the factors that influence the use of e-learning facilities among students. The research study focuses on students who study at a public university in Johor. There will be part B consists of 30 Likert scale questions, and the method of analysing the results is descriptive analysis. The purpose of descriptive analysis is to summarize and organize vast amounts of data. This data can be divided into two types which are to determine the measure of central tendency and measure of variability.



*(a) Technology***Table 5: Descriptive analysis (Technology)**

	Descriptive Statistics		
	N	Mean	Std. Deviation
E-learning is user-friendly to install and operate	300	4.2067	.7297
E-learning has minimum system requirements and adequate technical support provided.	300	4.1567	.6219
E-learning provides appropriate learning materials so that the content is easy to understand.	300	4.0233	.6960
E-learning enhances critical thinking, analysis, and problem solving towards student.	300	4.1033	.6382
E-learning is easy and quick to adapt to the new technology.	300	4.2767	.7084
E-learning allows the instructor to record the lecture and listen to it again by learner.	300	4.2500	.6651
E-learning material is clear and well structured.	300	4.1167	.7605
E-learning resources assisted learning processes of students.	300	4.2133	.6802
E-learning resources enhances the quality of online learning processes.	300	4.1500	.6446
E-learning resources facilitates the online submission of assignments and projects.	300	4.2200	.7257
Valid N (listwise)	300		

Table 5 indicated the descriptive analysis for the technology of e-learning. The highest mean for the technology is scored by Item 5 with a mean value of 4.2767. The second highest mean for technology is Item 6 with a mean value of 4.2500, while third highest is Item 10 which mean is 4.2200 and followed by Item 8 with mean is 4.2133. In addition, the item has mean with 4.2067 and 4.1567 are Item 1 and Item 2. The technology for Item 9, Item 7 and Item 4 has an average of 4.1500, 4.1167 and 4.1033, respectively. The lowest mean for the technology is Item 3 which is 4.0233. As a result, this research can conclude that the major technology factor is Item 5.

*(b) Institution***Table 6: Descriptive analysis (Institution)**

	Descriptive Statistics		
	N	Mean	Std. Deviation
Institutions provides online portals for accessing textbooks and reference materials.	300	3.9700	.6762
Institutions responds adequately to constructive feedback on e-learning.	300	3.9867	.6009

Institution provides adequate support and encouragement in participating online classes.	300	4.1000	.6517
Institution provides availability of lecturers to provide the needs of learners during discussions.	300	4.1333	.5917
Institutions has sufficient the number of academic staff in improving e-learning system.	300	4.0500	.7041
Institution provides the availability of virtual library in gain the research materials for students.	300	4.1533	.6092
Institution applies the training in information technology (IT) for the academic staff.	300	4.2367	.7135
Institution provides policy for e-learning training coordination and flexible training schedule.	300	4.1433	.6410
Institution provides clear guideline on e-learning policies to the academic staff.	300	4.0533	.6822
Institution monitors the new and existing lecturer's training.	300	4.0900	.6403
Valid N (listwise)	300		

Table 6 showed the descriptive analysis of institution initiatives. The highest mean value is 4.2367 which scored by the Item 7. The second highest mean is Item 6 which scores 4.1533. Moreover, the institutions initiatives for Item 8, Item 4 and Item 3 have an average of 4.1433, 4.1333 and 4.1000, respectively. The Item 10 has mean score which is 4.0900 while Item 9 has mean score, 4.0533. The second lowest of mean value is Item 2 and scores as 3.9867. The lowest mean value is scores 3.9700 by institution which is Item 1. Thus, this research can conclude that the major institution factor are Item 5.

(c) *Lecturer*

**Table 7: Descriptive analysis (Lecturers)**

	Descriptive Statistics		
	N	Mean	Std. Deviation
Lecturers are proactive in their attitude towards e-learning.	300	4.0900	.7347
Lecturers have enough technical skills to carry out online teaching.	300	4.0167	.6566
Lecturers have adequate pedagogical knowledge to carry out online teaching.	300	3.9633	.6808
Lecturers give all tools and resources to carry out the online lessons.	300	4.0567	.6441
Lecturers had high expertise in the implementation of e-learning materials.	300	4.1467	.7025
Lecturers had encouraged students to participate in the class.	300	4.1133	.6444
Lecturers encourage interaction and collaboration among their students.	300	4.0600	.7382

Lecturers interact with their students by monitoring the online presence of them and supplying them continuous feedback.	300	4.1067	.6659
Lecturers construct their learning materials and environment to target their students.	300	4.0900	.7001
Lecturers facilitate the students' interaction with the online material by explaining the goal behind designated tasks.	300	4.0100	.6618
Valid N (listwise)	300		

Table 7 showed the descriptive analysis of lecturer. The highest mean value, 4.1467 is scored by the Item 5. The second highest mean value will be Item 6 and Item 8 which has scores 4.1133 and 4.1067 while for the third highest mean value are Item 1 and 9 with scores 4.0900. Besides, Item 4 and Item 7 scores value mean 4.0567 and 4.0600. The second lowest of mean value are Item 2 and Item 10 with scores 4.0167 and 4.0100. The lowest mean will be Item 3 where the scores is 3.9633. As a result, this research can conclude that the major lecturer factor is Item 5.

#### 4.5 The Current E-Learning Platforms that Used in the Public Universities in Johor

There are ten current e-learning platforms that used in the public universities in Johor in Part C which are Google Meet, Zoom, Microsoft Team, Webex, Skype, Google Classroom, E-learning from university, Youtube, Kahoot and Flipgrid. The scores rated by respondents have been converted into mean. Then, mean values are used to determine the current e-learning platforms that used in the public universities in Johor.

**Table 8: Analysis of current e-learning platforms that used in the public universities in Johor**

Descriptive Statistics			
	N	Mean	Std. Deviation
Google Meet	300	4.8667	.3405
Zoom	300	4.7867	.4566
Microsoft Team	300	4.1200	.7533
Webex	300	4.2267	.6808
Skype	300	4.2333	.7215
Google Classroom	300	4.1667	.6483
E-learning from university	300	4.0233	.5978
Youtube	300	4.1067	.6558
Kahoot	300	4.1400	.5958
Flipgrid	300	4.0133	.6643
Valid N (listwise)	300		

Table 8 showed the mean according to each current e-learning platforms that used in the public universities in Johor. The highest mean for the e-learning platforms which are Item 1 which the mean is 4.87. The second highest mean for the e-learning platforms which is 4.79 (Item 2). The third highest mean for the e-learning platforms is Item 5 which is 4.23 and followed with Item 4 with scores 4.23. The second lowest mean for the e-learning platforms is Item 7 which is 4.02. The lowest mean for the e-learning platforms is Item 10 which is 4.01. Lastly, the e-learning platforms for Item 6, Item 9, Item 3, and Item 8 respectively the mean are 4.17, 4.14, 4.12 and 4.11. As a result, this research can conclude that most current the e-learning platforms that used in the public universities in Johor is Item 1.

## 5. Discussions and Conclusion

### 5.1 Research Objective 1

In this study, questionnaires are utilised to assess the factors impacting the utilisation of e-learning services among students at Johor's public institutions. Part B of the questionnaire has three components where each with 30 items that included with technology, institution initiatives, and lecturer. The respondents assigned a score based on their opinion and experience, which included strongly disagree, disagree, neutral, agree, and highly agree.

According to the findings, one of the efforts that provided for technology is the rapid rise of web-based technologies and the widespread use of the Internet, which has made teaching and learning through the Internet, or e-learning, increasingly viable in recent years. Many institutions and educationally focused industries have developed portals to provide an e-learning environment, either as a teaching tool to supplement conventional teaching methods or as a teaching medium for long-distance or off-campus programmes (Khalid, Yusof, Heng, & Yunus, 2006). With a rise in demand for higher education, several Malaysian institutions have planned for e-learning (Raja Hussain, 2004). Higher education institutions' usage of e-learning opens up several revenue prospects for technology businesses. By the Internet of Things (IoT) and smart technologies quickly growing, more institutions are recognizing their importance in maximizing student and faculty performance. The smart campus method is offered as a collection of ambient learning environments in which physical learning materials are supplemented by digital and social services.

### 5.2 Research Objective 2

According to the findings, most respondents agreed that Google Meet is the current e-learning platforms that used in public universities in Johor by gained a mean value about 4.8667. While for the lowest e-learning platforms that used in public universities in Johor is Flipgrid and the mean value is 4.0133. Generally, Google Meet is a platform that transforms the learning environment into the digital-learning mode and it use widely during the COVID-19 pandemic (Maity, Sahu, & Sen, 2021). On the other hand, Flipgrid is a videos-based discussions board where students post a video response and then can reply to instructor or peer video with their own videos (Lowenthal & Moore, 2020). As a result, Google Meet is one of the most extensive and seamless applications utilized by students in public universities today compared with others e-learning platforms.

### 5.3 Limitation of Research

When doing the research for this study, there were certain limitations. To begin with, the researcher encountered some challenges during the data gathering procedure. This was tough for the researcher to gather the questionnaire from the respondents. Because some respondents were unwilling to complete the questionnaire or believed it was a waste of time, the study collected only 300 questionnaires out of a total of 380. Furthermore, due to time and financial constraints, the research only covers two public institutions in Malaysia rather than all of them. Furthermore, the research is limited to the state of Johor. Hence, limitations should be considered in future research

### 5.5 Recommendations

#### *(a) Recommendations for institutions*

Institutions that provide online courses or programmes should make an effort to convey research on the effectiveness of totally online and blended learning in attaining student learning outcomes to faculty. Many academics are either unaware of study results indicating totally online courses provide learning gains indistinguishable from those obtained in fully face-to-face contexts, or that blended education produces better learning outcomes than either mode alone. The presentation of this information to faculty as part of any training in instructional design or the use of technologies for online teaching

should be a fundamental role of centres for teaching and learning at institutions offering online courses or programmes.

*(b) Recommendation for future researchers*

There are several approaches and recommendations for future study on e-learning facilities to make improvements. Future studies should include a more diversified and larger sample size. For example, future study should include all of Malaysia's public and private institutions. Aside from that, the planned expansion is intended to give fresh ideas or input to other academics who wish to do research in the future. It is suggested that data be gathered in a more methodical manner. For a better outcome, for example, collect data for each and every respondent. Furthermore, the researcher can employ a variety of languages in the questionnaire, such as Malay and Mandarin. Different languages can assist respondents better comprehend and reply to the researcher's query. Future study can be conducted using a mix of the respondents' pre- and post-data.

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