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Factors Influencing the Success of E-Learning Implementation: A Study of Afghan-Postgraduate Students at UTM-Malaysia

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Abstract:

Comprehending and utilizing information technology and online platforms are the dire need of todays' educational era. Current research aims at investigating the factors influencing the successful implementation of e-learning use among Afghan-postgraduate student at University Technologi Malaysia. Particularly, centered on identifying students' characteristics, design and content, and technological factors that affect E-learning environment. At total of seventy-two (n=72) postgraduate students from the faculty of education, engineering, science and management at Universiti Technologi Malaysia (UTM) participated in survey questionnaire. The findings resulted that most of the students have positive perception about the E-learning environment. In addition, the most influential factors are (1) students' characteristics that contained motivation, computer skills and attitudes, (2) design & content with professed use of IT and quality of content, while (3) technology with effectiveness of IT and quality of technology have been graded as the lowest influential factors hindered the successful implementation of E-learning use. Specifically, students' motivation, encouragement, and satisfaction are the key elements toward the successful implementation of E-learning and accomplished their learning activities better and easily than the traditional method. However, most of the learners revealed that before initiating into the E-learning environment, they need more assistance and training in E-learning environment than the traditional methods. Besides, using E-learning is more complicated during learning and teaching process. Finally, it is suggested that university authority and policymakers put into their curriculum to initiate some special workshops and seminars to the international students who are newly admitted to their desired field of studies at UTM Malaysia.

Keywords: *implementation of e-learning, technology, content and design, students' characteristics.*

Introduction

The rapid development in information and communication technology has brought progress in different fields, for instance, the economy, business, communication, health, training, and, more specifically, education. E-Learning is introduced in 1990 and has grown rapidly. Education has adopted the e-Learning approach replacing the environments of traditional learning and form a more effective learning environment. By the time when e-learning was introduced people used it with different names such as referenced in the literature of researchers for instance, web-based instructions, web-based learnings, internet based training, distance learning, mobile learning, distributed learning, advanced distributed learning, online learning, roaming, remote learning and off-site learning (Govindasamy, 2002; Khan, 2005; Masrom, 2007).

In some studies, the advantage of e-learning is defined as its ability focuses on the needs of individual students. For instance, Marc (2000) mentioned in his book 'Review On E-Learning Strategies To deliver Information In Digital Era' noted that in education e-learning facilitates the desires of students as an essential aspect in education process which focuses rather than on the trainers', or educational institutions' needs. Also, Smedley (2010) mentioned that when learners and educators adopt e-learning, this will postulate the institutes and the learners much flexibility of time and place to deliver or receive regarding learning information (Atifnigar et al., 2021). Furthermore, E-Learning provides extra prospects for interactivity between learners and teachers while content is delivered (Wagner et al., 2008).

Besides, (Codone, 2001; Algahtani, 2011; Marc, 2002; Klein & Ware, 2003; Urdan & Weggen, 2000;) and Dowling et al. (2003) stated that while students use e-learning self-pacing is provided and every learner is facilitated an asynchronous way where they can study at their own pace and speed. E-learning usage declines the level of tension and anxiety and it give the learners level of satisfactory (Atifnigar et al., 2020). E-learning environment improves the learners learning result (Atifnigar et al., 2022). Mayes (2002) said that electronic-learning is considered as a supportive mean for the presented approaches of education. Young, (1997); Burdman, (1998), added on that learners and instructors avoided significant personnel communication between them. However, postgraduate students who are pursuing their degree at different faculties at Universiti Technologi Malaysia UTM confronting problems at their initial stages of learning for example, the use of e-learning resources, online library, basic and advance information searching for their projects and assignment, and using different online applications. Therefore, this research aims to explore the factors affecting the successful implementation of e-learning among UTM post-graduate students. Particularly, identifying those influential factors which are students' characteristics, technology, and design and content of e-learning in which students' academic performance are hindered via e-learning.

E-learning at UTM

The development and investigation of e-learning begun at Universiti Technologi Malaysia in 1980s. These innovations are supposed to harvest students and human sources and are considered superb in academics and increase the degree of UTM to globalize one (Koharuddin et al., 2003). It was mentioned by (UTM 2005), that e-learning is the implementation of ICT to develop the effectiveness of teaching and learning process. Soyemi, Ogunyinka, & Soyemi (2012), added that if ICT is used inside the classroom the students' motivation in the learning process is increased and it is helpful in independent learning. In UTM Moodle is utilized as software, and the system of e-learning is considered as low interactive and its content can be downloaded at any place and time and known as coordinating E-learning. Moreover, it is a management system of course. It is an open source known as the learning management system/Virtual Learning Environment. The students at UTM mentioned that the main

page/webpage of e-learning, is a virtual place for uploading materials, slides, assignments, and also an interactive environment for sharing knowledge and discussions.

Student's Characteristics Students'

According to Lee (2010), learners have considered costumers, and one of the most important goals of the university is the learners' satisfaction. Universities must first know the quality of e-learning service perceived by students to obtain the students' satisfaction, thereafter required steps are implemented to optimize all e-learning facilities with goal to gain learners satisfaction. Malik (2010) added that if learners' satisfaction is determined, this is a significant construct. Al-Fadhli (2009), mentioned that several scholars had catered proof of the essential impacts of computer skills on learners' satisfaction. Gotthardt et al. (2006) added that currently, the undergraduates are converting to be more diverse, and they demand course, which is based on e-learning. Learners are required to manage their time discipline as well as their computer skills to be independent and more successful in the process of learning. Learners prefer the experiences of IT. For instance, they like to have computers. They show a unique attitude towards e-learning. Jung (2018) emphasized that learner intrinsic and extrinsic motivation is essential to the success of learners in an online coursework environment.

Technology

According to Slevin (2008), the modes of delivery of information to the students has increased with the use of technologies in higher education to make more freely provided and ubiquitous information. Malik (2010), mentioned that technology is considered the main enabler of electronic-learning. For successfully application of virtual learning, there are two key requirements such as information technology effectiveness and the quality of technology. A study conducted by Pituch and Lee (2006), in which they examined the impacts of communication on learners' intentions to utilize virtual-learning. It has been concluded that learners' perceived ease, functionality of the system, and effectiveness are the most influential factors on e-learning for the purpose of complimentary learning. Also, quality of technology is considered very significant factor of e-learning successful application. Liu et al., (2010) stated "A system with useful qualities such as better response time, reliability, and accuracy can deliver better services".

Design and Content

According to FitzPatrick (2012), the features that influence and affect e-learning are the contents. Many researches have been carried out on content, and its impacts on successful implementation of virtual-learning and have indicated, e-learning experience is affected by content quality and students' satisfaction with e-learning setting. Al-Ammary and Hamad (2008), conducted a study on the quality of content that affects the usage of e-learning systems in Bahrain, university students. It was revealed in that results, the remarked ease of use and perceived effectiveness is affected by content quality affects, which, ultimately, affects students' performance. Moreover, Al-Ammary and Hamad (2008), conducted a study among 155 university students in Bahrain. The results revealed that a helpful secondary effect on the learners' interactive intention is through the quality of content to utilize e-learning system.

Methods

The study is based on a quantitative approach. The data is collected to investigate the success of e-learning among Afghan-postgraduate students at Universiti Teknologi Malaysia. The respondents of the study are seventy-two (n=72) students from four (n=4) faculties of UTM, namely: education, engineering, management, and science. The sample included fifty-three (n=53) male and nineteen (n=19) female aging 25 to 35 years. All the subjects are lecturer by profession at different universities of Afghanistan. The data is collected through a questionnaire adopted from Taha (2014). The questionnaire consisted of three parts factors, namely students' characteristics, technology, and content and design, which were further divided by subcategories. The questionnaire was

distributed through Google form the participants, and they were required to fill up all the provided statement. The survey questionnaire was descriptively analysed through using Software Package for Social Science (SPSS) version 26; the result was described in mean, standard deviations, percentages, and tables.

Results

Demographic Information

This section describes the respondents" demographic information obtained from survey questionnaire from seventy-two (n=72) postgraduate student at Universiti Technologi Malaysia. Based on the table below, fifty-two 52 (72.22%) of the participant are male and (n=19, 62.38%) of them are female, most of them are aging from 30-35 (n=39; 54.2%), followed by 25-29 (n=24, 33.3%) and some of them are 36-40 (n=9, 12.5%) years old. Out of (n=72) respondents 69 of them are pursuing their master's degree at four distinctive faculties, namely, Education (n=42, 58.3%), engineering (n=19, 26.4%), Science (n=12, 12%), whilst management are (n=2, 2.8%).

Use of Technology

As shown in Table 1 that all of the respondents possess a computer with 100% (n=72), always use a computer 100% (n=72), and they have available internet with 100% (n=72) while studying at Universiti Technologi Malaysia. 69.4% (n=50) of the participants are using e-learning while 30.6% (n=22) of them respondent that we have never used e-learning before joining to the UTM and such declination in non-usability of E-learning might be from their background or inaccessibility to the technology in their territory.

Table 1. Use of Technology

No	Item	Response	Frequency	Percentage
1	Availability of computer	Yes	72	100%
2	Usability of computer	Always	72	100%
3	Availability of internet	Yes	72	100%
4	Usability of E-learning	Yes	50	69.4%
		No	22	30.6%

Factors Influencing the Effective Implementation of E-learning

This section was aimed to find out postgraduate students' perception of factors affecting the successful implementation of e-learning use at University Technology Malaysia (UTM). In order to identify such factors researcher has analyzed and described the data through mean, standard deviation, and percentage. Following are the ranking of factors affecting successful implementations of e-Learning obtained from the online survey questionnaire.

Table 2. Factors Affecting the Successful Implementation of E-learning Use

No	Factors	N	Mean	Std. Deviation	Percentage	Rank
1	Student Characteristics	72	3.96	.86	79.20%	First
2	Content and Design	72	3.70	.69	74.00%	Second
3	Technology	72	3.53	.52	70.6%	Third

As shown in the table above, the first influential factor toward effective implementation of virtual-learning is the students characteristics with 79.2% (M=3.96; SD=0.86), and the content and design factor ranked as the second one with 74% (M=74; SD=0.69), followed by the technology as the third influential factor in the successful implementations of e-learning among

postgraduate students at UTM with 70.6% (M=3.53; SD=0.52).

Characteristics of the Students

Student characteristics is the very beginning factor that play significant role in boosting effective implementation of e-learning including students' motivation, computer knowledge, and their attitudes. The following table transcribes and interprets the finding of student's characteristics factors in the successful implementation of e-learning

Table 3. Students' Characteristics

No	Sub-Factor	N	Mean	Std. Deviation	Percentage
1	Students' Motivation	72	4.04	1.05	80.00%
2	Students' Computer Skills	72	3.97	0.93	79.4%
3	Students' Attitudes	72	3.87	0.88	77.4%
Total			3.96	0.95	79.20%

As shown in the Table 3, the most influential factors in the e-learning successful application is the characteristics of learners with high percentage of 79.20% (M=3.96; SD=0.95. Among students' characteristics factors, the high influential factor is the learners' motivation with 80% (M=4.04; SD=1.05), followed by learners' computer skills, and their attitudes in heightening the successful implementation of E-learning with 79.4% (3.97; SD=0.93) and (M=3.87; SD=0.88) when studying their postgraduate studies at UTM.

Students' Motivation

Students' motivation has always played a positive role in developing and improving the use of information communication technology (ICT) at any educational institution around the world. The following table represent the findings from the student's point about the implementation of E-learning when pursuing their studies at UTM.

Table 4. Motivation

No	Statements	N	Mean	Std. Deviation	Percentage
1	"The use of E-Learning facilitates learning more than the traditional method."	72	4.02	1.11	80.40%
2	"The use of E-Learning is more encouraging than the traditional method."	72	4.01	1.02	80.20%
3	"The use of E-Learning is more exciting than the traditional method"	72	3.88	1.05	77.60%

As shown in the table 4 that most of the students believed that E-learning is encourage toward e-learnings utility. For the construct students' motivation in e-learning environment the statement "The use of electronic learning facilitates learning more than the traditional method." is with 80.40% (M=4.02; SD=1.11), followed by the statement "The use of E-Learning is more exciting than the traditional method." with 80.20% (M=4.0; SD=1.02), while the statement "The use of E-Learning facilitates learning more than the traditional method." with 77.60% (M=3.88, SD=1.05).

Students' Computer Skills

As student is considered successful when he/she possess enough computer and technological skills before delving into the E-learning environment. The students' computer skills are ranked at the second level in this study E-learning environment. The following table describe the utility of the students' computer.

Table 5. Computer Skills

Statements	N	Mean	Std. Deviation	Percentage
"The use of E-Learning enables students to complete tasks much easier than the traditional method".	72	4.00	1.05	80.00%

Based on the table 5, most of the students believe that the e-learning usage help them to complete activities that are much easier comparing to traditional approaches or attended classroom with a percentage 80% (M= 4.00; SD=1.05).

Students' Attitudes

Students' attitude is the most important factors in implement an effective E-learning environment. Student are advised to be adapted with E-learning environment and satisfied from working in e-learning platforms. However, the following table illustrate the students' perception of successful implementation of electronic learning use.

Table 6. Attitudes

No	Statements	N	Mean	Std. Deviation	Percentage
1	"The use of E-Learning requires more help with application than the traditional method."	72	3.97	0.99	79.40%
2	"The use of E-Learning improves the learning performance."	72	3.93	1.06	78.60%
3	"The use of E-Learning enjoyable than the traditional method."	72	3.88	1.13	77.60%
4	"The use of E-Learning provides more attractive learning environment than the traditional method."	72	3.87	1.16	77.40%
5	"The use of E-Learning provides more opportunities to participate in activities than the traditional method."	72	3.80	1.24	76.00%
6	"The use of E-Learning is more satisfactory than the traditional method."	72	3.80	1.10	76.00%

Based on the table 6, almost most of the learners who are currently pursuing their postgraduate studies in UTM believe that before diving into the E-learning environment, the E-learning use involves more support with application compared to traditional approach with 79.40% (M=3.97; SD=0.99). Such bits of assistance might include the use of online programs such as using e-learning portals, Bigbluetoons, Zoom, WebEx, Google meet, and other related online apps that they use in their daily academic life. Furthermore, for the successful implementation of E-learning, most of the students think that the use of E-learning platforms enhanced their learning performance compared to the traditional one with 78.60% (M=3.93; SD=1.06) and enjoy it a lot rather than going to the classrooms with 77.60% (M=3.88; SD=1.13). Moreover, the utility of E-learning deliver more attractive and impressive learning atmosphere with 77.40% (M=3.87; SD=1.16), provide more opportunities to interact in activities with 76% (M=3.80: SD=1.24), and the e-learning utilization is considered more adequate in comparison to traditional method with 76% (M=3.80; SD=1.10).

Content and Design

Content and design factor have been ranked as the second influential factor in the successful

implementation of e-learning environment. This section is comprising of two sub-factors namely, perceived use of information technology (IT) and quality of content which are discussed below.

Based on the Table 7 nearly all of the student ranked the content and design factor as the second influential factor for the successful implementation of E-learning platforms with overall 75% (M=3.57; SD= 0.81). It has been found that most of the postgraduate students ranked the perceived use of information technology in the first level with 77.40% (M=3.87; SD=0.71) and quality of content in the second level with 72.60% (M=6.63; SD= 0.91).

Perceived Use of IT

The Table 8 describes the perceptions of the participants on the Perceived Use of IT in e-learning environment.

For the perceived use of IT of the respondents in E-leaning environment the statement "E-Learning environment is easy to integrate with learning and teaching process." with 77.40% (M=3.87; SD=0.90), followed by the statement "It is easy to manage and update my e-content." With 76.20% (M=3.81; SD=1.03), while the learners indicated the in e-learning they are more engaged with the content than the traditional method with 64.60% (M=3.23; SD=1.34).

Quality of Content

The quality content is generally related to success. It is used in learning to achieve goals of the learning successfully. Table 9 indicated the perception of the respondents on the quality of the content in e-learning environment.

Table 7. Content and Design

No	Sub-factor	N	Mean	Std. Deviation	Percentage
1	Perceived Use of IT	72	3.87	.71	77.40%
2	Quality of Content	72	3.63	.91	72.60%
Total			3.75	0.81	75.00%

Table 8. Perceived Use of IT

No	Statements	N	Mean	Std. Deviation	Percentage
1	E-Learning environment is easy to integrate with learning and teaching process	72	3.87	0.90	77.40%
2	It is easy to manage and update my e-content	72	3.81	1.03	76.20%
3	In E-Learning the student is more engaged with the content than the traditional method	72	3.23	1.34	64.60%

Table 9. Quality of Content

No	Statements	N	Mean	Std. Deviation	Percentage
1	The use of E-Learning content and materials is time consuming and a waste of efforts	72	4.02	1.06	80.40%

For the quality of content, the subjects believe that e-learning use and its content and materials is considered time consuming and waste of efforts with 80.40% (M=4.02, SD=1.06).

Technology

A rapid development of technology used in the educational sectors has increasingly raised, therefore, the facilities and the quality of technology should be more convenient and easily accessible to the uses at anytime and anywhere. However, the technology factors that

help the successful implementation of E-learning among learners. The following are the discussion fo effectiveness of information technology and quality of technology based on the findings of the study.

As can be shown in Table 10 about the technology used in the effective implementation of E-learning. Most of the students assumed that the effectiveness of information technology has ranked as the first category of technology factor with 78% (M=3.90; SD=0.64) and the quality of technology used by the respondents ranked as a second influential factor with 64.2% (M=3.16; SD=0.76).

Table 10. Technology

No	Sub-Factors	N	Mean	Std. Deviation	Percentage
1	Effectiveness of IT	72	3.90	.64	78.00%
2	Quality of Technology	72	3.16	.76	63.20%

Table 11. Effectiveness of IT

No	Statements	N	Mean	Std. Deviation	Percentage
1	Usually I need assistance or training when using an E-Learning system for the first time.	72	4.01	0.95	80.20%
2	Overall, E-Learning environment infrastructure is effective and efficient.	72	3.91	0.89	78.20%
3	E-Learning environment provides me with the opportunity of participating in Online-Classes.	72	3.69	1.13	73.80%

Table 12. Quality of Technology

No	Statements	N	Mean	Std. Deviation	Percentage
1	Having E-Learning materials online 24/7 is practical for learning and teaching process	72	3.65	.85	73.00%
2	E-Learning is more difficult to use in learning and teaching process	72	2.68	1.07	53.60%

Effectiveness of IT

IT is one of the beneficial and important resources of 21-century learning. It provides authentic material of learning such as articles, books, magazines etc.…for students to promote their learning. The following table shows the respondents' perception of the effectiveness of IT.

The obtained data in the Table 11 indicates that students believed that they usually require help and training using an E-Learning environment for the first time with a high mean 80.20% (M=4.01; SD= 0.95), followed by the statement "Overall, E-Learning environment infrastructure is effective and efficient." With a mean 78.20% (M=3.9; SD=0.89), while the learners think that environment of e-learning facilitate them opportunity of taking part in online-classes with 73.80% (M=3.69; SD=1.13)

Quality of Technology

The quality of technology refers to the facilitation of the information technology services in the e-learning environment. The table below illustrates the responds' view about the quality of technology in the successful implementation of e-learning environment.

Based on the Table 1.2.2, the student's view of the quality of technology in e-learning

environment is ranked at second level among technology factors in this study. The statement "Having E-Learning materials online 24/7 is practical for learning and teaching process." With 73. % (M=3.65, SD=0.85), while the respondents think that e-learning environment is much more complicated to be used in learning and teaching process with 53.60% (M=2.68, SD=1.07).

Discussion

This study was aimed to explore the factors that affect the successful implementation of E-learning use among Afghan postgraduate students at University Technology Malaysia. After analyse, it has been resulted that the students' perception toward E-learning use was positive and satisfactory. Based on the findings the most influential factors that could enhance the implementation of E-learning use among the learners were the student's characteristics entailing motivation, computer skills and their attitudes. Also, the content and design and the technology factors were graded as the subsequent influential factors in the successful implementation of E-learning use.

Students' characteristics was the first influential factor in developing of a successful implementation of E-learning use among Afghan-postgraduate students at UTM. In higher education institutions, the creation of e-learning is relevant with the fact that the use of e-learning can bring numerous advantages to teachers, educators and students, especially for the performance enhancement of students in their learning process (Kew et al., 2018). In line with such results, the finding of this study revealed that most of the Afghan-postgraduate students have played an encouraging, and exciting roles and their learning facilitated more than the traditional method in implementation E-learning platforms. Similarly, a study carried out on UTM students showed that e-learning enhances the academic experience of the happy participants and teachers, and that the teachers also expect to use e-learning (Al-rahmi et al., 2015). Jung (2017) noted that learner's motivation both intrinsic and extrinsic are important to the performance of the learners in an online course work environment.

On the influential factors of the e-learning success. The results indicated that the learners' motivation was significant predictor of successful E-Learning application. However, the researcher concluded from the findings of this study that most of the Afghan-postgraduate students assumed that before plunging into the E-learning environment, they need more helps in working with E-learning environment elements rather than traditional method. Such bits of guidance and assistance might include the use of online programs such as using e-learning portals, Bigbluetoons, Zoom, WebEx, Google meet, and other related online apps that they use in their daily academic life. Also, it has been indicated that most the students' performances have been increased when involved in online programs, E-learning provided them more attractive and impressive learning environment and felt more satisfaction compared to the traditional method. In line with the finding of this study, Tarus and Gichayo (2015) reiterated that the consistency of the course has a positive impact on the satisfaction of the learners with respect to e-learning as well as a positive effect on the use of e-learning. Finally, to derive further value from social networks sites, it is recommended that universities allow faculty members and students to be involved on social networks sites (Singh et al., 2016).

Based on the finding of this study, the content and design factor have been turned as the second influential factors toward the successful implementation of e-learning environment among Afghan-postgraduate students at UTM. The result obtained from the first sub-factor i.e. perceived use of information technology (IT) of the content and design factor, most of the students could easily integrate with learning and teaching process, they managed and updated their e-contents and increasingly engaged with the electronic contents compared to the traditional method of learning. Also, the results revealed that a positive indirect effect on the students' behavioral intention is through the quality of content to use the E-Learning system. Martinez-Arguelles and Batalla-Busquets (2016),

carried a study in Spain among the university students. It was found that the instructional services quality has a statistically significant impact on perceived e-learning quality service, fulfilment, and loyalty. Several studies have indicated that the essential factor that impacts the success of e-learning is the ease of use either directly or indirectly.

Nevertheless, the data achieved from the findings of this study about the effectiveness of IT in the successful implementation of E-learning, most of the afghan-postgraduate students concerned that they usually need assistance and or training when using e-learning platform for the first. As it has been observed that students who initiate their studies at UTM for the first, they may require the basic guidance and introduction to the e-learning environments and related online programs. Also, it has been resulted that all of the students; attitude toward E-learning environment infrastructure was effective and efficient, and ultimately, E-learning atmosphere proved them with opportunity of participation in online classes.

Finally, for quality of technology, a low number of students denoted that E-learning material is available and accessible online 24/7 and practical for learning and teaching process and using E-learning is more complicated to use learning and teaching process. But such assertions are very low in rank among all the influential factor toward successful implementation of E-learning use. In support of this finding, a study revealed that materials they prepare for e-learning are available; materials prepared are useful for teaching and learning, and, materials prepared for e-learning are available. Also students may also log onto available university intranets, learning portals or digital libraries from work or home (Ogbonna et al., 2019)

Conclusion

It has resulted that most of the students had a positive perception of e-learning factors such as their characteristics, including design and content, and a low affective factor of technology use. Mainly, Afghan-postgraduate students believed that the E-learning environment has not only motivated them but also encouraged and facilitated them with the exciting learning environment in cementing their academic performances. Besides, most of the students are well suited to the E-learning environment by completing the given activities easier than the traditional method; such achievements might be due to plenty of exposures to the electronic environment at UTM. Besides, they integrated themselves with the learning and teaching process. They could manage their electronic content by engaging in the electronic content compared to the traditional method or attended the class. However, most of the students assumed that before diving into the E-learning environment, they need more assistance and training in E-learning environment use rather than traditional methods. The training might be limited to some online programs such as using e-learning portals; Bigbluetoons, Zoom, WebEx, and Google meet in their daily academic life. The effectiveness of IT was level as the lower factor toward the successful implementation of the E-learning environment. Most of the students asserted that E-learning is more complicated to use in learning and teaching process with a lower utility toward e-learning implementation. Finally, it is suggested that university authority and policymakers make it possible to conduct special workshops and seminars for newly admitted international students in familiarizing them with the E-learning environment and the technology used for the successful implementation until the end of their studies.

Limitation

This study was aimed to examine the factors that affect the successful implementation of e-learning among postgraduate students at Universiti Technologi Malays UTM. There are some limitations of this study; firstly, this study was based on the quantitative research design, sampled very limited number of postgraduate students, and faculties. Secondly, this study used a limited questionnaire with a few factors namely students' characteristics, technology, and design and content of technology. Thirdly, a specific nation of students was chosen as a sample of this

study, and finally, the result of this study is not generalized due to the limited sample size.

Suggestion

It is suggested, for the future studies, to conduct both a mixed-method research design to explore in-depth data from the respondents or conduct a quantitative inferential research design to record the correlation or variance between different variables. Furthermore, it is suggested that the sample and context of the research should be broaden to both undergraduate and postgraduate students from different nations.

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