

RESEARCH ARTICLE

EFFECT OF HUMAN FACTOR IN THE SUCCESS OF E-LEARNING WITH THE MODERATING EFFECT OF WEB SELF-EFFICACY IN THE CONTEXT OF MALAYSIA.

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Manuscript Info

Abstract

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*Keywords:*e-learning, motivation, teacher's attitude, human factors, user satisfaction, web self-efficacy, e-learning system success. E-learning has gradually become more dynamic for academia and corporate training and has become one of the most substantial development and applications in Information Technologies (ITs). The base of this study is DeLone & McLean IS success model to find the factors that affect the success of electronic learning (e-learning). The human factor is used as an antecedent of DeLone & McLean IS success model with the moderating effect of web self- efficacy. The human factor (motivation, Teacher's Attitude) has been studied the cause of e-learning system success. The aim of this paper is to find the effect of human factor on user satisfaction with the moderating effect of web self-efficacy that leads to e-learning system success. Limitations of the study and future research descriptions are recommended at the end.

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Introduction:-

The application of electronic learning (e-learning) has been advanced. The e-learning becomes a necessity for every sector as the future world is of technology. The world is becoming a technology world and with the advancement in technology the application of instructional and learning tools such as internet, intranet, Information Communication Technology (ICT) is increasing rapidly. It has been a focus of education sector since decades. In the developed countries it has been implemented successfully. The developing countries are still trying to implement e-learning successfully. Being a developing country Malaysia is still trying to cope up with the challenges faced by the universities in implementing e-learning system successfully. Although it has been implemented in education sector, but the success needs to be measured. The criteria set by the government for public universities is that they have to include 30 % to 70% of the course content online (Embi, 2011).

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E-learning is a popular term in education sector that refers to the delivery of content by using electronic means such as internet, intranet, extranet, ICT, audio/video tapes and many more.

E-learning contains the use of electronic devices such as computer or mobile phone to provide learning material and training. (Davidson-Shivers, Rasmussen, Lowenthal, 2018; Stockley, 2003). Therefore, Malaysian universities should apply e-learning techniques to gain the useful benefits from e-learning. E-learning can bring revolution in learning and teaching. It provisions skills desired in knowledge–based society, such as collecting, analysing and applying information properly and comprises of different methods of teaching. for example, information management, critical thinking and collaborative learning (Osman, Jamaludin, & Mokhtar, 2014; Mohammed, Kasim, & Mohd, 2017).

As a developing country, Malaysia is still having problems to cope up with the ICT evolution due to lack of resources, infrastructure and readiness. A study is required to evaluate potential e-learnings to be implemented in universities (Mohammed, Kasim, & Mohd, 2017). Although it has been implemented in many universities in Malaysia, the success needs to be measured. Therefore, this study will propose a framework to measure the e-learning success in Malaysian higher education institutions. Human factor will be used as an antecedent in DeLone & McLean success model with an addition of moderating factor of web self-efficacy to measure the success of e-learning.

Literature Review

DeLone & McLean Information System Success (ISS) Model

This model is based on DeLone & McLean ISS theory. DeLone & McLean are the pioneers of information system success model. They developed a model in 1992 based on six factors such as system quality, information quality, system use, user satisfaction, individual impact and organizational impact. Later on, many researchers criticized on this model. Following the rapid development of information and communication technology over the years, DeLone and McLean (2003) had enhanced the model by adding the "service quality" and, aggregating "individual impacts" and "organizational impact" as "net benefit". The updated model is based on six criteria that are used to measure success of an information system. The criteria include information quality, system quality, service quality, user satisfaction, system use and net benefits. The ISS model is interrelated rather than independent. The updated model was used by many researchers to measure the success and effectiveness of IS. For example Hasan, Izzuan, Narayana, Maarop, Zainal & Hafizah (2017)developed a success model by using the updated model of DeLone & McLean to measure the success of information management system.

E-Learning System Success

The success of e-learning system is categorised as effective and user friendly if it is useful to learners and instructors. While some striking features that apply to other systems, such as security, standardization and scalability have been stated (Sakaguchi & Frolick, 1997), the success of the online learning system is measured by its instructors and the use of system and satisfaction. This article observes human factors with the moderating role of web self-efficacy between human factors and user satisfaction that affects e-learning system success.

Human Factors

Human factor shows the accessibility and design of the human-support system which states the skills and the knowledge of the employees being the e-learners. Support of e-learning by all sections of an organization, the accessibility of employees with suitable experience and exposure to information and communications technology (ICT) and other skills (such as teaching, relationships), are needed to effectively operate e-Learning initiatives and projects (Molla, 2006). Almusaswi and Abdelraheem (2004) indicated some issues in human factors, through progressive implementation of e-Learning, and predicted these issues and overcoming problems in higher education in Oman.

Mitchell and Honore (2007) stated the importance of human factors such as attitude and motivation of individuals play a key role in online learning success, more than in traditional classroom. Molla (2006) in his study showed that role of human factors is significant in the e-learning success and its benefits. Chapnick (2000) study showed some other elements of human factors like confidence, psychological and motivation factors.

E-learning system success is not affected by system factors only. The human factors also effect the success of elearning. In this paper the human factor is used as antecedent of DeLone & McLean IS success model in this paper. The human factors observed in this study are explained below includes motivation and teachers' attitude

"Motivation is usually defined as an internal state that arouse, directs and maintains behavior" (Woodfine & Nunes 2006, p3). The academicians assume that motivation which supports the performance of all learned responses and behaviour will not be enhanced except it is energized. The query amongst psychologists is whether motivation has a primary or secondary effect on behaviour that also depends on, better principles of environmental/ecological influences, perception, emotion, memory and cognitive development. The consensus is, motivation at least encourages performing more work

Mihhailova (2006) conducted a study on the application of e-leaning from lecturer's perspective and found that there were several problems from e-learning lecturers' perspective such as: lack of time, lack of interest- motivation, and lack of cooperation. Ali (2004), in his study on e-Learning in Malaysia, pointed out that there was still a lack of

awareness amongst teachers in Malaysia towards e-Learning and some authors indicated the importance of considering such variable in any educational field in countries around the world (Agboola, 2005).

Scholars information of attitude and attitude change have constantly revealed that attitude can be built from three classes of information: cognitive information, information concerning past behaviours or behavioural intentions and affective information (Ajzen & Fishbein 2005; Safa, Sookhak, Von Solms, Furnell, Ghani, Herawan, 2015). The evaluative judgement of people about an object relies on their feeling about it (affective evaluation), information about the object (cognitive evaluation), and their actions in the past towards it (behavioral evaluation) (Eagly & Chaiken 2007; Vogel & Wanke, 2016).

However, to implement e-learning successfully depends much on the attitude of teachers towards it (Avidov-Ungar & Eshet-Alkakay 2011; Teo & Ursavas 2012). Kisanga, (2016) argue that "no matter how advanced or capable the technology is, its effective implementation depends upon users having a positive attitude toward it." (Liaw, Huang& Chen, 2007) (p. 1069). Literature on attitude of teachers towards development of the technology, technology implementation, and technology adoption state attitudes towards technology affectiveness or evaluative finding about technology in query (Davis, Bagozzi, & Warshaw, 1989). Therefore, it is a degree to which a person observes technology with the aim to use it (Barki & Hartwick, 1994). Technology, is supposed to be significant and generally related, and more expected to form positive attitude of people towards it (Rogers 2003; Teo 2011). For example, Ferdousi (2009) argues that teachers' attitudes have animportant influence on their decisions "...about if, when, and how they will use e-learning systems" (p. 5).

The study conducted by Kisanga (2016) in Tanzania's higher learning institutions showed that teachers' attitude is an important factor in the e-learning success. The findings of the study showed that 53% teachers have a positive attitude in using e-learning and 47% have a negative attitude. Attitude of teachers towards e-learning is found to be positive where exposure of computers plays a significant role to their attitudes.

Web self-efficacy as a Moderator

The trust to perform actions is termed as self-efficacy (Bandura,1986). Self-efficacy is a belief of the individual that what they can do with the skills they possess as it is not a measure of skill. Researchers have identified over-all attitude of technology (Mauldin & Arunachalam, 2002) and level of skills (Vijayasarathy, 2004) as a critical factor of one's behaviour towards technology. Besides this, the level of IT skills, particularly those associated to the Internet, develops aims to conduct online transactions (Dinev & Hart, 2006).

Web self-efficacy is the reflection of one's confidence to accomplish the web-based action in e-learning such as uploading/downloading, online communication, surfing internet, and Web search. The individuals whose trust is weak in web self-efficacy are not satisfied or are not comfortable in using Web. Ranganathan and Jha (2007) found Web self-efficacy effects the decision of individual in using technology and the determination and the amount of effort place in view when finds difficulties with technology.

Furthermore, web self-efficacy and experience with e-learning has been linked with satisfaction (Arbaugh & Duray, 2002). In addition, there is a support of association namong decisions related to internet use and adoption and web self-efficacy from past studies. A study conducted by (Joo, Bong, Choi, 2000) found that the performance of students in Web-based instructions on search task can be predicted with Web self-efficacy. Another study conducted by (Eastin & LaRose, 2000) in the context of digital world disclosed that there is a positive relation among internet use and Web self-efficacy (whether they have access to internet or not). Hsu and Chiu (2004) found that there is a substantial effect of users' intention to use e-learning services and Web self-efficacy. The study conducted by (Alshare, Freeze, Lane, & Wen, 2011) showed that web self-efficacy has a negative effect on user satisfaction and has no effect on system use.

In this study the researcher will test the moderating effect of web self-efficacy between human factors and user satisfaction that leads to e-learning system success.



Recommendations:-

This research has proposed the model to measure success of e-learning by adding the human factor as an antecedent, web self- efficacy as a moderator, user satisfaction and e-learning system success. There is a need to test this model empirically to better understand the factors that affect the success of e-learning system. Other antecedents or factors can be added in IS success model such as technology perceived ease of use, social factors, educational system quality etc.

Conclusion

In this paper, the researcher tried to look for the factors that affect the success of e-learning by adding human factor and web-self-efficacy as a moderator in the DeLone & McLean IS success model. Although the success has been the subject of past studies but there is still a room for the improvements and extensions (Hassanzadeh, Kanaani, & Elahi, 2012). The validation of model and testing of hypothesis will be the subject of future study.

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