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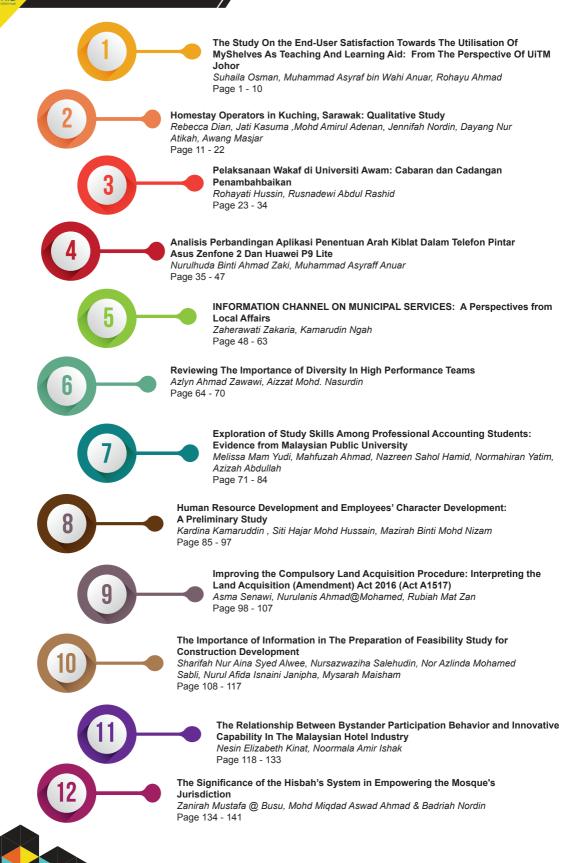
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THE STUDY ON THE END-USER SATISFACTION TOWARDS THE UTILISATION OF MYSHELVES AS TEACHING AND LEARNING AID: FROM THE PERSPECTIVE OF UITM JOHOR

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ABSTRACT

With the evolution of technology nowadays, the learning process has changed. The use of technology gives a big impact towards the transformation of education. Almost all universities have their own Learning Management System (LMS) but unfortunately, some are not properly maintained. Universiti Teknologi MARA (UiTM) has its own LMS but there are some obstacles faced by the users in accessing it. Therefore, a new mechanism needs to be developed in order to support the learning process. This study proposes a new system in learning, known as MySHELVES. Hence, this study was undertaken to determine the effectiveness of and the end-user satisfaction towards the usage of MySHELVES in the learning development process. Some models were used by other studies conducted by a range of authors from different perspectives. However, the researchers in this study used a model by Doll and Torkzadeh (1988) known as the End User Computing Satisfaction (EUCS). ALthough this model consists of 12 instruments, only 5 were selected based on the suitability of this study. A set of a questionnaire was used for data collection and the students from UiTM this study. Specifically, the research was conducted in UiTM Johor and focused on the Diploma students from the Faculty of Information Management. study used Simple Random Sampling as the sampling design. Only 100 respondents were selected and the questionnaires were subsequently distributed to them. Findings show that the respondents were satisfied with the usage of MySHELVES in their learning process. The author recommends the utilisation of MySHELVES by other faculties in UiTM so that the new mechanisms could assist the learning process to be more interactive.

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1. Introduction

Learning is never ending process. With the advancement of technologies nowadays, the process of learning keep on changing from time to time, making it more assessable, creative and



enjoyable. Electronic learning or known as elearning is the use of telecommunication technology to convey information in education and training, (*Katz, 2000; Katz, 2002; Trentin, 1997*). E-learning's characteristics fulfil the requirements for learning in a modern society and this has created a great demand for e-learning from businesses and institutes of higher education. MIT's attempt to offer virtually all of its courses online has sent a signal to institutes on the strategic importance of e-learning (*Wu, Tsai, Chen, & Wu, 2006*).

Through the progress of information and communication technology development, e-learning is emerging as the new paradigm of modern education. Students are currently exposed to the variety of resources available that assist them in their learning development. Rowley's (2000) study ascertained that higher education by nature has long been regarded as a knowledge-intensive organisation since the functions of higher education are always based on the knowledge agenda, that is, knowledge production, codification, and distribution. Tippins (2003), in his study, found that universities have traditionally been utilised as transfer mechanisms by providing students with a knowledge base. This will enable students to function and thrive upon graduation.

The latest transformation in the teaching-learning approach in e-learning is known as learning through Mobile Computational Devices (Quinn, 2000) such as Network-Based Learning Content (Malin En, Kari, & Tiusanen, 2003) and Wireless Network-Learning (Boerner, 2002) or Technology-Based Curriculum (Anderson, 2001). The emergence of a new pedagogical approach which promotes student-centred learning experience using technologies based on e-learning will offer opportunities, convenience, advantages and dynamic environment, enabling students to succeed in their studies.

2. Problem Statement

Universiti Teknologi MARA (UiTM) which is one of the well-known universities in the world has produced many successful graduates. In order to maintain the quality of the products, as an emphasis in the policy, some changes need to be done. In order to support the 11th Malaysia Development Plan, three areas are in focus that consist of Dynamic Graduate, High-Quality Education, and Accessibility. Not only that, one of the pillars in the UiTM Transformation Programme consists of Online Learning Global Level, with the aims to produce a graduate that is globally marketable.

The Deputy Director-General of Education, Datuk Dr. Amin Senin said that the transformation of the curriculum in the Malaysia Education Development Plan (PPPM) 2013-2025 focuses on the Higher Order Thinking Skills (HOTS) concept which aims to produce knowledgeable students who are critical and creative in their thinking and can compete at the international level (*Suhaila Osman, et al., 2014*). In relation to this, Wei (2012) ascertained that students may embrace the mentality of hoarding knowledge with the competitive advantage against other students.

The advantages of e-learning have been discovered, reported and promoted globally since its inception. However, in Malaysia, e-Learning is no longer an option for all the Malaysian Higher Education Institutions (HEIs); public or private (*Lee, 2014*). The implementation of e-learning has started since the 1980s as it was developed and implemented by many institutions worldwide. Due to that, many researchers have investigated this in their studies, focusing on measuring and examining the factors that generate user satisfaction towards the Learning Management System (LMS).



Studies done by Chee Keong et.al (2010) found that the web-based learning environment (WBLE) LMS implemented in a local private university was underutilised. Most of their respondents treated the WBLE as a platform merely for downloading the teaching materials despite the various features made available to them. Albiribi (2006), however, argued that e-learning is more than implanting computers and electronic devices in schools and classes. Supported by studies done by Al-Busaidi (2010), despite the adoption rate worldwide, several issues must be handled in the adoption and diffusion of LMS in any country regardless of how advanced or modest the Information and Technology (ICT) capability is.

In measuring the user satisfaction, the instrument used was the End User Computer Satisfaction (EUCS) Model developed by Doll and Torkzadeh (1988). This model has 12 instruments but only 5 instruments were chosen due to the suitability in conducting this study.

3. Objectives

- 3.1 To determine the effectiveness of MySHELVES utilisation as the instrument in the teaching and learning aid.
- 3.2 To identify the level of end-user satisfaction towards the use of MySHELVES in the learning development process.

4. Literature Review

The end-user satisfaction with an information system is defined as the overall effective evaluation an end-user has regarding his or her experience related to the information system. The proliferation of information technology (IT) and its importance in effective managerial decision making have created a greater need for valid and reliable evaluative instruments (*Mahmood*, 2000). As a result, a significant amount of research has been conducted on user satisfaction over the last two decades (*Aggelidis & Chatzoglou*, 2012).

Therefore, the importance of user satisfaction has been illustrated in a wide variety of research including job satisfaction, consumer behaviour and information system (IS) success, (DeLone, 1992). In information system (IS) research, user satisfaction has often been linked to at least two important outcomes and IS success, (*DeLone, 2003*) and the continued used of IS (*Islam, 2012*).

Sun et.al (2013) in their study found that there are some critical factors that influence e-learner's satisfaction. An integrated model was developed from previous studies and consists of thirteen factors in six dimensions; student dimension, instructor design dimension, technology dimension, environment dimension and course dimension. The results indicated that out of thirteen, only seven variables were proven to have critical relationships with the e-learner satisfaction, namely learner's computer anxiety, instructor perception towards e-learning, e-learning course flexibility, e-learning course quality, and others. Thus, it showed only 66.1% of the variance of user satisfaction.



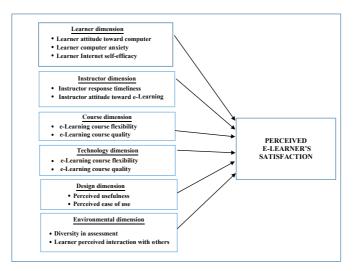


Figure 1: Dimensions and antecedents of perceived e-Learner satisfaction

Doll and Torkzadeh (1988) explicated the meaning of end-user computing satisfaction (EUCS) and subsequently developed twelve (12) items as the instrument to measure it. Thirty-eight (38) specific items were compiled plus two global items to measure the EUCS construct. By using the five-point Likert Scale, the instruments were pre-tested in a pilot study with a sample of 96 end users. To access the construct validity of each item, correlations between corrected item-total scores and item scores were used to eliminate 15 items. In addition, five items were deleted as they represented the same aspects with slightly different wordings. A shorter 18-item instrument was administrated in 44 selected firms, and MIS directors were asked to identify the major users who directly interacted with each application. Using 618 usable responses, factor analysis was employed to extract the five orthogonal factors. The items with loading greater than 3 or more factors were eliminated from the instrument. Consequently, 12 item instruments emerged.

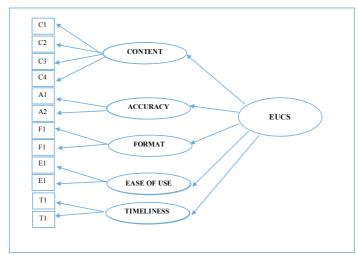


Figure 2: Doll and Torkzadeh (1988) 12 instruments



This research is based on the EUCS instrument by Doll and Torlzadeh (1988) as it is a widely used instrument and has been validated through several confirmatory analyses and constructs validity tests. For instance, Wang et.al (2007) evaluated group decision support systems among undergraduates in China and concluded that the EUCS model was valid and reliable. This is supported by Tojib and Fie (2007), whose study found that the scale comprising usefulness, confidentiality, ease of use, portal design and convenience of access would be appropriate for use in the business employee portal.

From the other perspective, Xiao & Dasgupta (2002) used EUCS to measure users' satisfaction of Web-Based Information Systems at a large mid-Atlantic university. This study has developed and validated an instrument for measuring end-user satisfaction in a web-based environment. This research also tested the validity and reliability of the EUCS instrument on users of Internet portals and it was found that with the exception of one item that measured the sufficiency of information, the rest of the items in the model were valid. Abdinnour-Helm et.al (2005) in their study also adapted the EUCS model to measure the satisfaction of the Website users in the United States. In this study, students were used as the respondents in a lab simulation. It was concluded that the EUCS model was valid and robust although the timeliness sub-factor might require further refinement in the future.

Studies done by Alexader (2008) found that Doll and Torzadeh's instrument is the most widely used and cited instrument, with more than 700 citations on Google Scholar. This is another reason to choose the EUCS model; it is frequently used by many researchers in conducting their studies. Norshidah et.al (2009) in their study sought to measure the users' satisfaction and identify the contributors of satisfaction. They used the EUCS model as the prior model to measure internal end-user satisfaction within Malaysia Electronic Government system. It was confirmed that EUCS model which consists of five first-order factors that are content, accuracy, timeliness, format, and ease of use is valid and reliable for internal end-user of Malaysia.

4.1 Research Framework

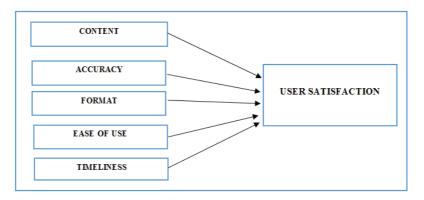


Figure 3: Reseach Framework for modified 5 factors of EUCS Model



5. Methodology

A set of a questionnaire was used for data collection and the Information Management Students were the respondents in this study. This study used the quantitative method in collecting the data. According to Sibanda Nokuthaba (2009), the quantitative research focuses on gathering numerical data and generalising it across groups of people. According to Uma Sekaran (2010), sampling begins with precisely defining the target population. The research was conducted in UiTM Johor and focused on the Diploma students from the Faculty of Information Management. The total population of the Diploma students from the Faculty of Information Management was 631 students. This study used Simple Random Sampling as the sampling design. Only 100 respondents were selected and the questionnaires were subsequently distributed to the selected classes.

6. Finding and Analysis

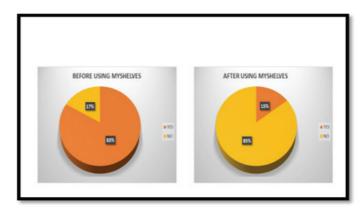


Figure 4: The use of printed teaching and learning aids are complicated

Based on the analysis above, it was found that 83% of the respondents agreed that the use of printed teaching and learning aids are complicated, meanwhile the remaining 17% disagreed before using MySHELVES. However, 15% of the respondents found that the use of printed teaching and learning aids are complicated, while the other 85% found that MySHELVES makes their task easier after using MySHELVES. Overall, it is concluded that more than half of the respondents, 68%, agreed that they are satisfied in using MySHELVES as it stores all the needed documents and respondents are satisfied with it.

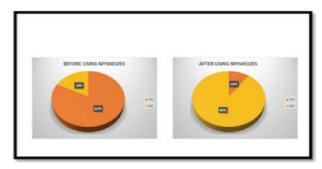


Figure 5: The searching of printed teaching and learning aids are time consuming



Based on the analysis above, it was found that before using MySHELVES, 82% of the respondents agreed that the searching of printed teaching and learning aids are time-consuming, while the rest (18%) disagreed. However, 10% of the respondents agreed that the searching of printed teaching and learning aids via MySHELVES is time-consuming, meanwhile the rest (90%) disagreed with it. Overall, it can be said that majority of the respondents (72%) agreed that MySHELVES helps them better in searching for the needed information and reduce their time in searching for information.

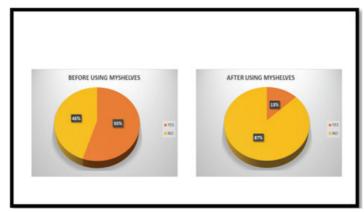


Figure 6: Students prefer to use teaching and learning aids manually

The analysis above indicates that before using MySHELVES, 45% of the respondents agreed that they prefer to use the teaching and learning aids manually while the rest (55%) disagreed with it. Conversely, only 13% of the respondents agreed that they preferred to use the teaching and learning aids manually while the rest (87%) disagreed with it after they used MySHELVES. Overall, it is demonstrated that almost half of the respondents (42%) agreed they prefer to use MySHELVES rather than manually using teaching and learning aids as it makes their work more effective and efficient. Respondents discovered that MySHELVES are accessible and can be used at any time with less constraints.

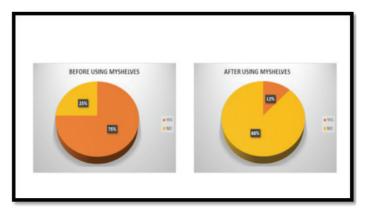


Figure 7: The available online teaching and learning aids offer multiple access

Based on the analysis above, it was found that before using MySHELVES, 75% of the respondents agreed that the available online teaching and learning aids offer multiple access while the rest (25%)



disagreed. However, only 12% of the respondents agreed that they prefer to use teaching and learning aids manually while the rest (88%) disagreed with it after they used MySHELVES. Generally, it is revealed that more than half of the respondents (63%) agreed that using MySHELVES helps them in seeking the information better as it is centralised on one platform and easy to use.

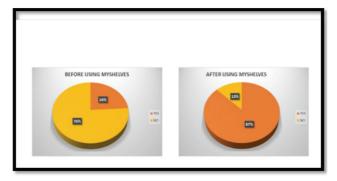


Figure 8: The hub of online teaching and learning references are more integrated

The analysis above indicates that before using MySHELVES, 24% of the respondents agreed that the hub of online teaching and learning references available now are more integrated while the rest (76%) disagreed with it. However, 87% of the respondents agreed MySHELVES as a hub of online teaching and learning references are more integrated while the rest (13%) disagreed with it. Overall, it is shown that almost half of the respondents (42%) agreed they prefer to use MySHELVES as more than half of the respondents (63%) agreed that MySHELVES is a good and integrated platform for storing information.

7. Recommendation

Based on the results and findings of the study, it is recommended that UiTM utilise MySHELVES as an instrument to manage teaching and learning aids among lecturers and students. The study on MySHELVES has proven that most of the respondents agreed that this platform has given a big impact in their education, especially in the context of learning. In this perspective, an integrated platform has been verified as a need towards their education field. Nevertheless, with the exploitation of MySHELVES, it will ensure that the 11th Malaysia Development Plan, which consists of three areas namely Dynamic Graduate, High-Quality Education and Accessibility, is achieved. Not only that, Online Learning Global Level, as one of the pillars in the UiTM Transformation Programme will meet the target when there is an appropriate and applicable platform that assists students in the learning process.

8. Conclusion

This study found that almost all the respondents agreed that a suitable platform is needed to help them in searching information. With the information overload, some of them prefer searching manually as they found that it is difficult for them to choose the exact information they need. This study proposed a new platform for teaching and learning aid in order to make sure that there is a reduction in timing, storing and costing especially, to avoid the information explosion. This would be especially important to the academicians in selecting the appropriate learning approaches to encourage more interaction among students in class. It is hoped that this study can be expanded to



include students from other faculties in UiTM Johor so that the management of UiTM can provide a new mechanism in the learning process.

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