Exploring Factors Affecting Users' Satisfaction Toward E-Learning Systems

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ABSTRACT

E-learning is emerging as the new phenomenon of modern education. Universities are adopting e-learning as a strategy for the improving the teaching/learning process. The primary question addressed in this paper is related to the factors influencing the adoption of e-learning. An integrated model was used to explore the factors influencing students' satisfaction with e-learning in Jordan. The model adopted five variables from the technology acceptance model, Delone and McLean model and the social cognitive theory to predict students' satisfaction with e-learning. A sample of 386 students was utilized and an instrument with 30 items was used. Results indicated that perceived ease of use, perceived usefulness, system quality, information quality, and computer self-efficacy are major factors influencing students' satisfaction. The coefficient of determination estimated to be 0.498, and yielded a full support of all proposed hypotheses. Conclusions and future work are reported at the end of this study.

KEYWORDS

E-Learning, Information Quality, Jordan, Satisfaction, Self-Efficacy, System Quality, TAM

1. INTRODUCTION

The evolution of information and communication technology (ICT) resulted in a wide transformation regarding the way we do business. Educational Institutions embraced the digital revolution and utilized ICT through e-learning programs and applications. According to Ozkan and Koseler (2009), e-learning refers "…to the use of electronic devices for learning, including the delivery of content via electronic media such as Internet, audio or video, satellite broadcast, interactive TV, CD-ROM, and so on…" E-learning provides flexibility of time and place, which enables higher education organizations and their students to benefit from learning materials in a more flexible manner (Al-Adwan et al., 2013).

Jordanian Universities are providing e-learning services utilizing systems like Moodle and Blackboard to enable students and instructors to encourage online collaboration between/among instructors and student (Almarabeh et al., 2014). Even though e-learning is not a new phenomenon in Jordan, the satisfaction level toward it has not been fully studied (Harb & Abu-Shanab, 2009; Almahamid & Rub, 2011).

E-learning should be a well-designed, interactive, effective and easy to use system. Educational institutions need to focus on some factors that affect e-learning acceptance before implementing such system (Khan, 2000). Some of these factors are linked to the system side such as system quality and quality of contents, while other factors are linked to the human side of the equation like culture and familiarity with information and Internet technologies (Al-Ammari & Hamad, 2008). The technology

acceptance model (TAM, proposed by Davis, 1989) considered the perceived usefulness and perceived ease of use as major constructs to predict the adoption of new technology (Qteishat et al., 2013).

Students' satisfaction with e-learning is one of the important measures that reflects the success of such systems in serving students and faculty members. This paper will integrate the TAM and the Delone and McLean (1992) model with self-efficacy to predict satisfaction. Perceived usefulness, perceived ease of use, system quality, information quality and computer self-efficacy are the major predictors of students' satisfaction toward using e-learning. The following section will review the literature related to e-learning followed by the research method. Section 4 will depict the data analysis and discussion followed by conclusions and future work.

2. LITERATURE REVIEW

The full and effective utilization of e-learning pushed many researchers to focus on investigating the factors influencing users' acceptance and satisfaction (Amer, 2012). Several research studies focused on different factors influencing users' satisfaction levels and their intention to accept and use e-learning platforms. Many of these studies stressed the importance of the following: perceived ease of use, perceived usefulness, computer self-efficacy, information quality, service quality and system quality (Al-Ammari & Hamad, 2008; Almahamid & Rub, 2011; Lee et al., 2014; Qteishat et al., 2013; Tarhini et al., 2014).

2.1 E-learning Acceptance

Knowledge improvement is one of the main objectives of e-learning which is made by utilizing web-based communication, collaboration, knowledge sharing and training without time and space restrictions (Cheng, 2011). E-leaning system is an effective tool to utilize and capture knowledge in university environment (Shehabat et al., 2008). Technological and human factors are the main factors influencing e-learning. The technological factor includes components of infrastructure used to facilitate e-learning processes such as hardware, software, and networks. The human factor includes people who interact with e-learning such as students and instructors (Almahamid & Rub, 2011).

To generate a well-designed, interactive, effective and easy to use system, educational institutions need to focus on the factors affecting e-learning before implementing such systems. Some of these factors are related to system side such as system quality and quality of contents, while other factors are linked to the human side such as culture and familiarity with information and Internet technology (Al-Ammari & Hamad, 2008). The technology acceptance model (TAM), proposed by Davis (1989) with perceived usefulness and perceived ease of use constructs, is considered as one of the robust models to examine the adoption of new technology (Qteishat et al., 2013).

Understanding what users expect from e-learning would improve users' satisfaction as well as improve universities' performance (Shaltoni et al., 2015). TAM extended the Theory of Reasoned Action (TRA). In IS research, many personal, organizational, and technological factors are investigated to understand students' intention to use new technologies. Educational institutions around the world need to evaluate users' satisfaction level and explore the factors influencing their attitude toward e-learning. Such evaluation is important for the improvement and expansion of such systems as well as to enable decision makers to generate mechanisms for improving users' satisfaction of such systems (Grandon, et al., 2005; Umek et al., 2015).

Several studies addressed the major constructs related to e-learning acceptance like computer self-efficacy, information quality, system quality, ease of use and usefulness. Such variables are deemed critical in influencing user's satisfaction and should be investigated to reach the full use of e-learning tools and applications. Table 1 and Table 2 show summaries of previous studies regarding e-learning in Jordanian universities and other world universities respectively.

Most studies utilized the TAM or one of its constructs as the baseline for a model to predict users' satisfaction levels toward using e-learning (Carswell & Venkatesh, 2002). TAM is a major

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