Factors Influencing the Acceptance, Use, and Continued Use of the E-Learning Recommender Systems: Descriptive Statistical Analysis Data Findings

Hadeel Alharbi, University of New England, Armidale, Australia
Kamaljeet Sandhu, University of New England, Armidale, Australia

ABSTRACT

The purpose of this article is to report the descriptive statistics for the responses obtained from the survey of Saudi Arabia students about their experience of using e-learning recommender system during their study. This article utilizes a survey questionnaire as the main instrument for data collection. Hence, a self-completion, well-structured questionnaire was developed based on previous literature and was then distributed to a random sample and participation was completely voluntary. A total sample of 353 university students from various universities in Saudi Arabia participated in this article. Results showed that user experience and service quality factors are significant predictors of students’ adoption and post- adoption of e-learning recommender systems.

KEYWORDS

E-Learning Recommender System, Information Communication Technologies, Saudi Arabia, Universities

INTRODUCTION

The term e-learning refers to the adoption of electronic information, multimedia, and communication technologies (ICT) in education. E-learning is largely inclusive of all forms of educational technology in training, learning, and teaching. Indeed, e-learning has become increasingly more attractive for both educational purposes as well as corporate training. Motivated by such the numerous advantages that it brings as: flexibility and convenience, geographical reach, overcoming the problem of inadequate classroom space and other facilities, and cost effectiveness in course delivery and management, the development of e-learning continues to grow steadily in educational institutions and professional organizations (Al-Gahtani, 2016). However, conventional e-learning systems such as Blackboard and Moodle are not sufficient to support the educational process at schools since they provide no memorable change, less collaboration, and less learner participation than traditional education (Ebner & Holzinger 2007). Thus, there is a need to make e-learning systems more attractive and effective, and this can be accomplished by studying and analysing the contents of students’ comments and posts. This need is one of the main motivation for the e-learning systems providers to develop more innovative tools such the recommender systems that could be integrated to the existing e-learning systems. Recommender system primarily helps students who lack adequate personal experience or competent to evaluate and make better choices from the potentially overwhelming number of alternative items (Kepeghom et al., 2015).

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However, despite the rapid growth in the Saudi ICT market the adoption of ICT applications such as e-learning solutions is still limited (Alenezi et al., 2012; Al-Gahtani, 2016; Asiri et al., 2012). As such Saudi Arabia is still considered as a late adopter in the e-learning field. Therefore, this study explores the factors behind the limited adoption of e-learning technologies in general and recommender systems in particular by learners in Saudi Arabia. Understanding these factors is critical to activities aimed at fostering adoption of such technologies in both this country and the wider Arabian region.

METHODOLOGY

In this research, the survey was designed and organized to ensure the clarity and the accuracy of the questions. Qualtrics survey software was used to develop the web-based survey (see Appendix 1). The questionnaire design was divided into two sections. The first section was designed to capture the respondents’ profiles (i.e. demographics data) using multiple-choice questions. In this section, yes/no questions were also used at the beginning of the questionnaire for the purpose of filtering the participants (e.g. if they are using e-learning recommender systems or not). The second section consists of scale questions which are used to measure the independent and dependent variables related to the research model. The purpose of scale questions was to measure factors that influence students’ acceptance and continued use of e-learning recommender system, concentrating on their experience with such system as well as their perceptions about the quality of the e-learning recommender system, its usefulness and their perceptions about how ease of use the system during their academic study.

Scale questions were close-ended questions using a five-point Likert scale with end points of “strongly agree” and “strongly disagree”. To achieve the clarity of the survey, each type of questions was separated from other types. Thus, the demographic questions and yes/no questions were placed first, followed by the scale questions which were clustered based on the subject.

The link for the web-based questionnaire was distributed via email to a total of 1000 students of a university that implemented an e-learning recommender system before two years. The participation in this survey was completely voluntary. It was available online and accessible to students for the period starting from February 5th, 2016 to March 15th, 2016. In addition, there was a limited use of hard copies for the convenience of some students. A total of 550 questionnaires were randomly distributed by the researcher herself and by three professional survey collectors who were voluntary recruited to distribute and collect the survey data from different locations. A total of 406 surveys were returned from both the Web-based and the self-administered questionnaires. Out of the 406 surveys collected, 53 were considered unusable either because some students indicated that they have never used the e-learning recommender system or some of the collected self-administered surveys had many missing response items. The remaining 353 surveys were used in the analysis.

A descriptive study is undertaken in order to ascertain and to be able to describe the characteristics of the variables of interest in a situation (Sekaran, 2003). Descriptive statistics can be used to describe the basic features of the quantitative data obtained from the survey. They provide simple summaries about the study sample and the measures. Descriptive statistics can also offer useful insights about the role of the study constructs in influencing students’ use and continued us of e-learning recommender systems.

DATA ANALYSIS AND INTERPRETATION

Sample Characteristics

Descriptive statistics of the sample showed that 82.4% of the respondents were females and only 17.6% were males. Respondents aged between 18 and 23 years represented the majority of the sample (i.e. 85.6%). Respondents aged between 24 and 29 years represented about 12.5% of the sample, whilst respondents aged between 30 and 35 years represented about 1.9% of the sample. The majority
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