

Chapter 5

A Multifactorial Analysis of the Acceptance of Recommender System for Saudi Universities the Literature Revisited

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ABSTRACT

Technology for learning is increasingly about enhancing users' interactions with the technology to improve learning outcomes. Of particular importance however to improving educational outcomes is the need to complement the technological advancements with advances in the educational practices of teachers to broaden the uptake of new technologies for learning. Recommender Systems are personalised services that aim to predict a learner's interest in some services or items such as courses, grades, references, links, etc. available in e-learning applications and to provide appropriate recommendations. Such systems can potentially enhance student learning by providing students with a more hands on, interactive and tailored learning experience.

INTRODUCTION

Over the last few years, there has been a great deal of attention in examining users' decisions to continue or discontinue using information technology (IT) and information systems (IS) (Dağhan, and Akkoyunlu, 2016; Mou et al., 2016; Al-Debei et al., 2013; Deng et al., 2010; Bhattacharjee, 2001; Flavian et al., 2006; Thong et al., 2006). This attention highlights the critical role of continuous adoption of IT/IS (i.e. post-adoption) for the long-term viability and eventual success of IT/IS systems (Dağhan, and Akkoyunlu, 2016; Deng et al., 2010; Bhattacharjee, 2001; Thong et al., 2006). The main purpose of this paper is to develop and test a research model on the basis of the Technology Acceptance Model (TAM) that

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investigates the effects of user experience and service quality on students' acceptance and continuance usage intention of e-learning recommender systems. Given that more and more students are now using e-learning systems, and because some of them discontinue using such systems especially in developing countries such as Saudi Arabia, there is an emerging need to understand students' continuance interaction and participation at a deeper level.

Electronic learning (E-learning), also known as web-based learning system, is a new innovation in the educational technology environment which has received a great deal of attention over the last few years. E-learning has become progressively more vital for academia and corporate professional training. The worldwide growth of this technology is due to the increased competition amongst higher educational institutions to attract learners and meet their educational aims and needs (Clark and Mayer, 2011) either face-to-face or remotely without the constraints of time and distance. In conventional adaptive e-learning applications, the release process of learning material is personalized based on the model of the learner and user. The materials inside the application are a priori established by the application's designer. In contrast, with open e-learning applications, learning materials already exist on the Internet and are integrated into the application based on learners' connections with the application. Thus, learners participate in indirect communication with the open Internet, and updated learning materials in the open Internet could enhance their learning experiences through custom-made recommendations (Maâtallah and Seridi, 2012a, 2012b; Tang and McCalla, 2005; Tang and McCalla, 2009). To meet this need, software technologies and solutions known as recommender systems can offer recommendations for items of interest to users. The existing class of recommender approaches and methods are normally categorized into the following: collaborative, content-based, and hybrid recommendation approaches. Recommender systems such as collaborative filtering systems are personalized services that aim to predict learners' interests in some services/items (such as courses, grade, references, links, etc.) available in e-learning applications. However, adopting personalized recommendations in e-learning is more complicated than simply using existing systems (Basu et al., 1998; Melville et al., 2002; Schein et al., 2002).

The motive to conduct this study in Saudi Arabia is that Saudi Arabia represents an ideal market for ICT activities among those countries in the Middle East region (Eid, 2011). It has the largest and fastest growing ICT sector with a strong anticipation for considerable growth in the future (Al-Gahtani, 2011). It also enjoys high financial resources with GDP per Capita of \$52,800 (CIA, 2015). In fact, Saudi Arabia is considered as one of the largest twenty economies in the world (Al-Somali et al., 2015). The Saudi Arabia economy is largely dependent on oil with about 16% of the confirmed petroleum reserve worldwide. About 45% of Saudi Arabia GDP, 80% budget revenues, and 90% of export earnings comes from the petroleum industry (CIA, 2015). Recently Saudi Arabia developed several ICT national strategies, plans and initiatives with the objective of transforming the country into a knowledge-based society and a digital economy (Al-Gahtani, 2011). In 1997, Internet services were officially made available in the Saudi Arabia for business and individuals. Since then the Internet has become a fundamental part of the Saudi Society and economy. According to the Saudi Communications and Information Technology Commission (CITC), the internet penetration rate in Saudi Arabia is rapidly growing and has significantly increased from 5% in 2001, 20% in 2006, 41% in 2010 and to 55% in 2013 (CITC, 2013). In educational institutions, Internet penetration is relatively high, as 75% of them are being connected to the internet (CITC, 2012).

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, explanation of the

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