An Implementation of the UTAUT Model for Understanding Students’ Perceptions of Learning Management Systems: A Study Within Tertiary Institutions in Saudi Arabia

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ABSTRACT
The rapid growth of e-learning around the globe is inspiring various academic institutions to adopt it. Uptake is motivated by convincing benefits such as flexibility, accessibility and the management of course delivery. In fact, academic institutions place great emphasis on e-learning and are investing significantly in information technology infrastructures. However, in spite of this effort and investment, it seems that instructors and students do not always fully benefit from the learning technology and more often learning management systems (LMSs) remain underutilized. Thus, this study adopts the Unified Theory of Acceptance and Use of Technology (UTAUT) to study how people accept and use the Blackboard system. The data were analysed using Structural Equation Modelling (SEM) techniques to test the hypothesized research model. The empirical results found that technical support is fundamental in determining the acceptance and use of e-learning systems. The findings of the study may help to provide insights into a better approach to promote e-learning acceptance.

KEYWORDS
Acceptance, Developing Countries, Higher Education, Learning Management System Evaluation, Structural Equation Modelling, UTAUT

1. INTRODUCTION
The Learning Management System (LMS) has become a prevalent tool in higher education institutions (Kakasevski, Mihajlov, Arsenovski, & Chungurski, 2008). Many educational institutions have implemented LMS not only to offer course management and delivery but also to facilitate the interaction between instructors and students. E-learning is motivated by a number of benefits such as flexibility, accessibility and management of course delivery and educational materials. In some cases, academic institutions have reduced the cost of provision and consequently increased their revenues by incorporating e-learning services into their pedagogical strategies (Ho & Dzeng, 2010).

Since the ultimate goal of using LMS is the improvement of effective learning, its benefits cannot be achieved if student’s adoption rate is low. Therefore, understanding why students decide to use or reject an LMS can create a more favourable environment for greater adoption, as well as helping to design strategies to promote acceptance. Difficulties arise, however, when an attempt is made to
implement learning technologies in an academic setting. Many scholars hold the view that students play an indispensable role in determining the effectiveness, efficiency and adoption of an LMS. Therefore, predicting the learners’ behavioural intention to utilize the proposed system is fundamental to its adoption (Šumak, Polančič, & Heričko, 2010).

In fact, educational institutions place a great emphasis on technology-enhanced learning development and invest significantly in information technology infrastructure. However, in spite of this effort and investment, it seems that instructors and students do not fully benefit from the learning technology and often LMSs remain underutilized (Baker, Al-Gahtani, & Hubona, 2010; Dahlstrom, Brooks, & Bichsel, 2014). Recent evidence showed that students and instructors are less satisfied with LMS’s functionalities, especially those of fostering collaboration and engagement (Dahlstrom et al., 2014). Still, reluctance to adopt the LMSs among students, academics and executives is a common problem (Dahlstrom et al., 2014). In Saudi universities, the majority of students are still unwilling to use LMSs (Alenezi, Abdul Karim, & Veloo, 2011). Thus, academic institutions would benefit more from these technologies if they could examine the use and acceptance of an LMS from the students’ perspective (Alenezi et al., 2011).

According to Saudi Communications and Information Technology Commission report, Internet users have increased from 7.7 million in 2008 to 21.6 million in 2015 with more than 53 million online mobile services subscribers (CITC, 2015). A recent report showed that the Saudi e-learning market is the largest in the Middle East (Research and Markets, 2017). The Saudi size of the online education and e-learning industry is anticipated to reach 273 million US dollars by 2023 (Research and Markets, 2017). The Saudi e-learning market development is driven by massive government financial support and the rapid spread of online education. This is particularly important as the government is keen to promote education and computer literacy among the population. Such a demand will continue to rise as it is anticipated that Internet users will increase in the coming years due to the proliferation of handheld smart devices and the availability of high speed services throughout the country. Hence, the incorporation of technology acceptance model variables such as UTAUT (Unified Theory of Acceptance and Use of Technology) in a Saudi context is expected to reveal the drivers of student adoption of the Blackboard system.

Most studies in the field of technology acceptance research have only focused on developed countries (Tarhini, Hone, & Liu, 2014). The evidence presented thus far supports the idea that as yet, Saudi Arabian education still operates under traditional pedagogy and the new proposed innovations such as LMSs lack acceptance and utilization. There is a dearth of academic research on Saudi higher education to examine the acceptance of LMSs, so significant issues have not yet been examined (Al-Asmari & Rabb Khan, 2014; Al-Gahtani, Hubona, & Wang, 2007; Al-Harbi, 2011; Al-Qahtani & Higgins, 2013; Al-Shehri, 2010; Alhareth, 2014; Yamani, 2014).

To overcome these challenges and enhance user acceptance, it is important to recognise the underlying reasons for people to accept or reject technology (Davis, Bagozzi, & Warshaw, 1989). This paper describes a study that investigates and explains the Saudi Arabian students’ intention and use behaviour of the Blackboard system using an extended version of the UTAUT model. The aim of this endeavour is to explore the factors that influence a student’s acceptance and use of an LMS in Saudi higher education using SEM (Structural Equation Modelling) techniques for analysing the data. The study provides evidence of an association of UTAUT model variables in the Saudi educational environment. The questions that this research addresses are:

1. What is the impact of UTAUT variables in the students’ acceptance and use of Blackboard in Saudi higher education?
2. What is the effect of the external factor Technical Support (TS) in the acceptance and use of Blackboard in Saudi higher education?

This study has modified UTAUT to determine the acceptance of the Blackboard LMS in Saudi higher education. The extended model is used to elicit students’ perceptions of the Blackboard
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