

## Chapter 32

# Users' Acceptance and Use of Moodle: The Community Influence

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### ABSTRACT

*The open source course management system Moodle, which a great number of organizations worldwide have adopted, is designed to help instructors deliver course materials to their students from a social constructivist perspective. The aim of this research is evaluate the acceptance and use of Moodle as an open source application from the viewpoint of both professors and students at the American University of Beirut. The theoretical framework for this study is drawn from the Unified Theory of Acceptance and Use of Technology (UTAUT) to investigate user intentions toward Moodle. The participants were 189 professors and 1,867 students who completed an online survey, evaluating a set of 30 items on a scale of five that reflected the UTAUT constructs applied to Moodle. An exploratory factor analysis was employed and generated five factors: community influence, satisfaction, service quality, learnability and technical quality. Repeated measures ANOVA showed community influence as the highest rated by participants, followed by satisfaction, service quality, learnability and technical quality. Also, two open-ended questions were included to solicit comments from users about various features that should be integrated into this free open source application.*

### INTRODUCTION

Information technology has become a vital component of professors' and students' lives in academic institutions. In today's electronic society, using computer applications is no longer a choice, but a necessity. However, with the abundance and variety of applications, it is not easy for academic institutions to determine what applications to adopt

on campus such as a primary operating system, an Internet browser, or an office suite. Some institutions may decide to implement proprietary software and choose between Windows and Mac as the operating system, Internet Explorer or Safari as the Internet browser and Microsoft Office as the office suite. Other institutions might choose to implement Free Open Source Software (FOSS) such as Unix/Linux, Firefox or OpenOffice.

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In addition, other essential applications are expected to be implemented on campus for academic use such as a Course Management System (CMS). In this regard, an academic institution can choose among several competing CMSs from both proprietary manufacturers and open source projects. CMS is a software application that provides specific features to assist professors in delivering learning materials to students while meeting pedagogical goals. The primary competitor is the commercial application Blackboard, especially after its acquisition of WebCT, where more than 20% of higher education institutions in the United States use it as their official CMS (O'Hara, 2005).

Among CMS products, Free Open Source Software (FOSS) are widely used because they can be obtained free of charge. These applications can also be configured to run on most operating systems. Open source software are developed by contributors worldwide, driven mostly by altruistic values (Baytiyeh & Pfaffman, 2010a). FOSS developers' aspirations are to ensure that education is available to everyone, regardless of financial ability, and provide the applications necessary for people to gain the life-long skills they need to succeed (Baytiyeh & Pfaffman, 2010b).

Moodle, the most popular free open source CMS, was developed from a social constructivist perspective by Martin Dougmias in Australia (Dougmias & Taylor, 2003). This free application provides instructors with useful features such as the ability to embed resources, activities that are centred on a topic of study and a variety of modes of operation. As such, in December 2006, the University of California at Los Angeles (UCLA) announced that they would converge on Moodle as the single open source platform for its learning environment (UCLA, 2006).

The main advantage of integrating FOSS such as Moodle on campus is the discharge of license costs. In addition, system administrators have the ability to modify and customize the product. On the other hand, adopting FOSS can be a challenging procedure because no guaranteed maintenance is

offered, whereas with proprietary applications the software manufacturers provide support. In the absence of manufacturers' support, institutions have to establish a team to maintain the free application. This team should have adequate knowledge to implement, upgrade and sustain the software; therefore, administration and maintenance costs must be considered (Bremer & Bryant, 2005). Still, Blackboard is certainly much more expensive to maintain because it incurs an annual licensing cost.

Developing learning systems with good educational models on the Web to provide successful learning experience has been addressed at the system level in today's Web-based learning paradigm (Wang, Li, & Chang, 2006). Several studies have discussed the benefits and risks of adopting an open source application versus a commercial one. Most of these studies have compared the existing CMS, mainly to explore the advantages and disadvantages of both Moodle and Blackboard. As such, Bremer and Bryant (2005) reported that 80% of students preferred Moodle over Blackboard. In Hong Kong, Kennedy (2005) reported that 49% respondents had no preference, while 45% preferred Moodle over Blackboard. Further, Beatty and Ulasewicz (2006), professors at San Francisco State University, shared their experience after moving from Blackboard to Moodle, providing factors to consider if an institution is considering a transition from a commercial software provider to an open source application. Both professors agreed that Moodle possesses adequate features for more effective teaching and guarantees successful student learning. Also, Machado and Tao (2007) showed that Moodle was rated higher than Blackboard regarding the organization of course material and communication. Recently, Carvalho, Areal and Silva (2010) showed that 46.5% of Portuguese students preferred Blackboard over Moodle, while 34.7% preferred Moodle. Interestingly, nearly 20% had no preference.

This study does not aim to compare Moodle with another CMS, but investigates the use and acceptance of the system from the users' point of

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