Chapter 12
Learning Management System 2.0: Higher Education

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ABSTRACT

The recent adoption of cloud computing, Web 2.0 (web as a platform), and Big Data technologies have become the main driver of the paradigm shift. For higher education, choosing the right platform for a next generation of Learning Management System (LMS) namely LMS 2.0 is becoming more important than choosing a tool in the new paradigm. This chapter discusses factors for higher institution in determining a future direction for its LMS to take advantage of pervasive knowledge management, efficiency and effectiveness of operations. Literature studies have deployed for this study to portray the state of future LMS initiative. We found that the trends of cloud computing and big data will be predominant factor in viewing future LMS adoption and implementation. LMS 2.0 can be a solution to make learning systems in a higher education is flexible in terms of resources adoption, quality of learning, knowledge management, and implementation.

INTRODUCTION

Higher education institutions encounter challenges to maintain the quality of academic programs and make important changes in their quality of teaching, learning, as well as research (Caret, 2013). The institution needs to adapt strategically and to create new possibilities for learning through the benefits of Information and Communication Technology (ICT) to widen students' choices in the academic process. Universities are taking advantage of the recent development in ICT, especially the social networks, Web 2.0, mobile technology, and embracing Learning Management

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System (LMS) as an integral part of online learning architecture, meaning that the second generation of LMS namely LMS 2.0 extends the recent online learning into more functionalities and features like multi-way user interactions. LMS is a widely used terminology to address online learning in a broader perspective because it covers information systems which include technology, students, and business processes. Recently, LMS has become a critical system for higher institutions in embedding ICT into the learning process. LMS is seen as a promising method for working adults who want to upgrade their education level.

As a system, LMS can be viewed as a strategy to retain existing users and attract new ones. User retention is important for growth and sustainability of the higher education as a service. LMS can also be used to extend other services to the users or customers. In the higher education environment, organizations are challenged not only to retain existing services but also to acquire pervasive knowledge within the LMS. With the growing competition among education providers, managing and providing better services through better LMS is a strategy that needs to be carefully planned to avoid failure. The reasons for failure may vary – users who are not ready for online learning systems, inadequate IT support, a poor interface, presentation and content, many hidden costs from the vendor, a complicated system, lack of support, etc. Future LMS initiatives must be seen as a strategy for significant improvement in services by solidifying satisfaction, loyalty and advocacy through ICT, and most importantly as pervasive knowledge gateway for the students. Consequently, LMS must address the dynamic nature of users' needs and adjustment strategies embedded in LMS.

The objective of this chapter is to lay the foundation in higher education to consider emerging technologies in this case LMS 2.0 to take advantage of pervasive knowledge management, efficiency and effectiveness of operations. This chapter is organized as follows: the next section will discuss in more detail the literature analysis on LMS and cloud computing, Section 3 explains research methodology, the discussion is in Section 4, and Section 5 is the conclusion.

BACKGROUND

Learning Management System (LMS)

How is ICT transforming higher education? Universities show that they are utilizing an advanced ICT to revolutionize the way knowledge and contents are delivered. For instance, social networks provide opportunity for researchers or research groups in universities for collaboration and knowledge sharing. It helps to find collaborators for research and possibility to communicate with other researchers in the same research cluster.

The use of ICT as an educational tool and resources is not a new model. Terms like computer-based instruction, computer-assisted instruction and computer-assisted learning were used to describe earlier applications of electronic instruction. In addition, online learning systems such as Course Management Systems (CMS) or Learning Management Systems (LMS) enhance instructors and students to share instructional materials, make class announcements, submit and return course assignments, and conduct conversations with each other online. LMS is an information system that facilitates e-learning and processes, stores and disseminates educational material and supports administration and communication associated with teaching and learning (McGill et al, 2009). The roles of LMS in managing online learning and improving services to a university have been well recorded in many studies. Higher institutions these days use LMS as a tool to serve stakeholders which include students, lecturers, management, community, etc.

In the last decades, the LMS has been one of the most significant developments of ICT in higher education to support the teaching and