Chapter 7
Learning Management Systems in the Era of E-Learning

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ABSTRACT

The twenty-first century has seen a paradigm shift occasioned by the onset and rapid spread of the coronavirus pandemic in different perspectives. The lockdowns and other protocols introduced by health authorities globally inhibited the progress of many business sectors of the economy. The education sector for example has been affected significantly with e-learning taking a central position to promote social distancing and minimize the spread of the virus. COVID-19 has made the work from home approach a new normal. LMS systems have become effective tools of delivering online content and been considered highly significant on the advent of the pandemic. This chapter presents LMS systems as a medium of e-learning and explains how different digital tools facilitate both synchronous and asynchronous e-learning. A systematic literature review was adopted to shed light on different functionalities of LMS systems and the associated digital tools used for e-learning. The chapter ends by identifying challenges associated with LMS systems and suggesting possible mitigation strategies.

INTRODUCTION

Enhancing the quality of teaching and learning is the key driver, identified by majority of institutions. Technological developments have revolutionized education by introducing e-learning which has a truly vast perspective and offers a complete,

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composite, and customized e-learning solutions. It is both interactive and collaborative. E-learning is an approach to learning where instructional content is delivered or facilitated by electronic technology (Guha & Samaji 2008). It has revolutionized the basic tenets of learning by making learning individual-based rather than institution-based. This type of learning is conducted through Learning Management Systems (LMS). In the last few years, integrated computer systems which are typically known as Learning Management Systems (LMS) have rapidly emerged and affected university teaching and learning. According to Coates, James and Baldwin (2005) LMS are enterprise-wide and internet-based systems, such as WebCT, Sakai, MOODLE and Blackboard, that integrate a wide range of pedagogical and course administration tools. Through a variety of digital tools, they facilitate both synchronous and asynchronous types of e-learning. Synchronous instruction occurs in real time and requires the simultaneous participation of students and teacher (Romiszowski & Mason, 2004). Examples include test chats, audioconferencing, videoconferencing, white boards, and real time break out rooms. Asynchronous instruction on the other hand occurs in delayed time and does not require the simultaneous participation of students and instructor (Rovy & Essex, 2001). In asynchronous set up learning events are independently experienced by students and learning is not synchronized in time or space. Examples include discussion forums, emails, and surveys.

The purpose of this book chapter is to discuss LMS and the associated digital tools which facilitate e-learning. The chapter is motivated by the need to provide an understanding of LMSs and show how they enhance e-learning. The chapter starts by providing a background and setting the stage of e-learning through literature review, it describes a variety of LMS as mediums of e-learning. The proceeds by discussing different digital tools which facilitate synchronous learning and asynchronous learning drawing insights from the African context. It ends with a conclusion. Compilation of this chapter adopted a two-stage approach. At the first stage a comprehensive systematic review of literature was done. At this stage, several articles from both conceptual, theoretical, and empirical settings were downloaded using key word search from different data bases. They were sorted and codded based on relevance. A critical literature review was done on the articles which were found relevant to the chapter. A purposive structured search of literature was considered appropriate to create a solid theoretical framework of the LMS and the digital tools used in e-learning. At the second stage, practical examples of digital tools which support both synchronous and asynchronous e-learning were identified and discussed drawing from real happenings from the African universities. At this stage both synchronous and asynchronous approaches were linked to different tools showing how e-learning takes place. Possible challenges associated with LMS are recognized and possible mitigation strategies suggested.