Chapter 3
LMS Implementation in Startup Institutions: Case Study of Three Projects

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ABSTRACT
The main goal of this chapter is to share experience on implementing LMS in startup institutions in developing, emerging, and developed countries. The chapter is specifically focused on startups: institutions with developing academic culture, evolving IT infrastructure and with no legacy LMS. The chapter will begin by examining current developments in LMS selection criteria and implementation success factors, highlighting the specific needs of young schools. The paper will then consider project expectations grounded to three separate cases in Nigeria, Russia, and South Korea. It will describe project dynamics for those three implementations as well as outline lessons learned. This experience can help practitioners in higher education to streamline LMS selection and implementation, to improve the sustainability of LMS projects, and to avoid common project misdirection.

INTRODUCTION
On-line technologies such as the Internet and Intranet have brought about extensive changes in the student-teacher communication process. The evolution of online learning tools has led to the development of a new class of web based information systems in education – Learning Management Systems (LMS). LMS has become popular around the world especially in developed countries, especially those already supported by well-developed infrastructure. A report published by IMC (UK) Learning Ltd. indicated that LMS has been implemented by at least 66% of survey respondents.

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respondents in the UK with another 13% looking to adopt the technology (IMC Learning, 2010). Another study of 115 American universities shows that 89% of students take courses which used LMS (Smith, Salaway, & Caruso, 2009). A study at the University of Michigan shows that 99% of students have used LMS in 2009 at that school (Lonn & Teasley, 2009). Such surveys clearly indicate that LMS has become a ‘must-have’ part of IT infrastructure in higher education. Moreover, most of the largest LMS projects have emerged from home grown university systems to become success stories for technology commercialization (Severance, 2011).

An established market for LMS exists with a number of reputable vendors offering many products known by educators around the globe. Piña lists more than twenty vendors in one of the latest LMS overviews (Piña, 2010), and this list could be extended to numerous companies working in local markets in different countries. For example, e-Learning EXPO Korea usually attracts more than four hundred companies working within the E-learning paradigm with many of them providing localized LMS-like solutions.

Such an established class of systems has a well defined scope and functionality that makes LMS distinct from other information systems used in education. Piña lists four major LMS features as examples of what sets it apart from other systems (Piña, 2010):

- Content creation
- Communication
- Assessment
- Administration

This core functionality can be extended with interfaces to administrative functions (Piotrowski, 2010), plagiarism detection tools (Butakov & Shcherbinin, 2010), learning style adaptive modules (Graf & Kinshuk, 2009), e-portfolio (Perennes & Duhaut, 2009), along with many other add-ons. Modules and Plug-in database for Moodle LMS includes hundreds of extra modules aimed at a variety of improvements for Moodle’s core functionality. What defines LMS is one centralized management point for system and user administration. Although user administration is included in the core functionality, LMS is more concerned with the administration of the learning process rather than other typical student management functions such as faculty management, admissions, accounting, room scheduling, etc. One of the major trends in LMS development is moving towards more intelligent system components based on proactive rather than reactive agents (Butakov, Smoline, Samuel, & Samuel, 2012). However, such a change does not affect the main LMS functionality since proactive agents maintain the same four major features discussed above.

A literature review on LMS selection and implementation reveals no shortage of studies including a number of studies on LMS perception by stakeholders, most notably students, faculty, and administration (Mahlow, 2010). In the literature related to corporate education, these groups could be named as employees, trainers and management. Additional groups may include technical support staff, prospective students, parents, the university board, alumni, etc. The major studies in the area cover most of the topics related to LMS implementation. Such studies vary from LMS selection criteria (Mahlow, 2010) to handling LMS transition projects (Baylen, Hancock, Mullen, & Coleman, M. A., 2010), or to improving student experience in blended learning environment (Tello & Motiwalla, 2010; Douglas, 2010).

This chapter is premised upon the experience of LMS implementation in startup institutions. It extends the existing literature with unique practical observations on developing schools. Startup institutions differ from the mature learning organizations in the following aspects: developing academic culture, no (or almost no) legacy LMS to take care of during the transition period, varied faculty backgrounds, experience and expectations in terms of LMS usage, and rapidly developing IT
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