Unveiling Issues and Challenges: A Review of Learning Management Systems (LMS) in Higher Education

Priyanka Shukla*, Dr. Yogendra Pandey**

Abstract

E-learning is very essential in today's information era. The Learning Management System (LMS) is a device that acts as a platform for the deployment of e-learning. It provides an easy and effective tool for organizing, controlling, and disseminating academic material and resources, as well as a supplement to their traditional teaching techniques. LMS is increasingly necessary at universities since it improves the environment for teaching and learning. Many universities understand the need to employ Learning Management Systems (LMSs) to boost learner motivation, stimulate engagement, give feedback, and assist throughout the learning process. For more than a decade, higher education institutions throughout the world have widely used Learning Management Systems (LMS). Although universities have LMSs with a plethora of features, the success of those systems is closely related to a thorough understanding of the difficulties and variables influencing how their users use the systems. Because of their pedagogically beneficial features and functionalities, many educational institutions have adopted learning management systems (LMSs). Universities have been urged to use LMS to foster student collaboration with one another and with their instructors. The learning management system facilitates the learning and teaching processes in higher learning institutions (HLIs) that use the Internet (LMS). Even though having these LMS in institutions has benefits, usage remains a challenge. This paper discusses the different issues, and challenges with the different LMS platforms in the context of online instruction for higher education and also focuses on, the most significant barriers to LMS adoption are inadequate technical support offered by institutions, a dislike for technology, and insufficient training regarding LMS platforms.

***Keywords**: Learning management system (LMS), Course Management System (CMS), online learning, Higher education, e-learning, Information Communication Technology (ICT), Moodle.*

*Senior Research Fellow, Faculty of Education, Banaras Hindu University, Varanasi
**Associate Professor, Faculty of Education, Banaras Hindu University, Varanasi

Introduction

Computers have been used in educational systems since the "information revolution" a few decades ago (Alenezi, 2018). In the nineteenth century, students were instructed to use the "teaching machine," a specialized electromechanical device (Xin et al., 2021). Electronic media displayed instructional materials for the students, facilitating and improving information perception (Alenezi, 2018).The widely spread use of electronic technologies in education encapsulates the digital age society and has the potential to improve information-age learning (UNESCO, 2023). E-learning is designing a learning environment using electronic technologies while allowing users to choose from various tools based on their preferences(Caputi,2015; El-Sabagh, 2021; Arkorful, 2014). An e-learning platform encourages a student-centered model because it promotes student engagement (Coman, 2020; Islam et al., 2021). Academics must now take on the roles of mentors, E-moderators, and facilitators instead of passively transmitting knowledge through verbal communication (Dlalisa,2020; Islam, 2021).

The advancement of information and communication technology (ICT) has had an impact on a variety of industries, including education (Sharma, 2020; Mohammadi, 2021). In other words, the LMS application is also known as the Course Management System (CMS) in the higher education industry (Bradley, 2021). Educational technology and its applications in higher education have influenced the development of LMS (Sharma et al.,2020). Since the introduction of the first learning management system (LMS) in the higher education sector in the 1990s, it has evolved into an essential component of institutional communication plans, lecturers' instruction, and students' learning experiences(Sharifov, 2020; Waheed,2019). A learning management system (LMS) is used to deliver and manage e-learning, as well as to support and improve in-person instruction (Sharifov,2020; Sharma et al., 2020). As higher education institutions adopt e-learning, it is critical to understand how an LMS can be used to meet the needs of today's learners and how it can facilitate learning and teaching (Bradley, 2021). In theory, an LMS can enable highly interactive, personalized, and learner-centric online learning experiences, but the LMS's effects whether positive or negative depend on a variety of factors rooted in online instruction (Sharifov, 2020). There are numerous advantages to using an LMS for e-learning (Oluwayimika, 2022). Because it is a comprehensive tool that organizes and stores course materials, interactions, and assessments, an LMS allows students to focus on their understanding

process (Sharifov, 2020). Instructors can easily distribute content while managing and tracking learner progress and assisting them in furthering their engagement with the course materials (El-Sabagh, 2021). Furthermore, e-learning environments are thought to improve students' and teachers' self-regulation abilities, particularly their meta-cognitive abilities (Bradley, 2021; Czerkawski**,** 2014; Sharifov, 2020). LMSs establish a standard connection between students or learners and learning content by using software and programs designed specifically for student learning (Bradley, 2021). They manage learning events, contents, and learners as well as administer and manage learning processes and learner performance by documenting activities on computers and displaying statistics and plans(Hunaiyyan,2020). The terms "learning management system" and "course management system" are frequently used synonymously (Mohammadi, 2021; Bradley, 2021; Berking et al., 2013). The development of learning resources, the distribution of content to students, the tracking of student participation, and the evaluation of student performance are all processes that heavily rely on LMSs (Coman, 2020; Oluwayimika, 2022; Veluvali, 2021; Radif, 2015). LMSs have to be implemented as a result in many educational facilities (Veluvali, et al., 2021). These software programs' new directions include the educational emphasis on economic goals rather than social goals and the discussion of free market competition (Alenezi,2018).Even though the LMS is essential for lecturer-student interaction at HEIs, the disparities, the disarray in managing the technical resources, and the lack of integration are some of the major issues (Radif, 2015; Rhode, 2017). HEIs must give priority to and make one of their core businesses the coordination, organization, integration, and interoperability of the LMS and the aiding technologies for teaching and learning (Waheed, 2019 & Liu, 2022).

Background and LMS Characteristics

E-learning refers to a method of exchanging information and interacting online for educational reasons (El-Sabagh, 2021). The phrase "e-learning system" refers to customized software that supports educational and learning activities by utilizing the Internet as a medium (Rashida,2018).Professors and students can connect more easily outside of the classroom through online forums and dialogues than they can in a physical classroom (Wut,2021). LMSs are e-learning systems that enable students and lecturers to perform or collaborate on numerous classroom tasks through the Internet (Coman, 2020; Adzharuddin, 2013). Because of advances in

information and technology, the world has shrunk to the size of a small, interconnected hamlet, and India has not trailed behind (Xin et al., 2021). The ease with which students and teachers may now access the internet encourages LMS adoption (Al-Mamary, 2022). Because of the Internet and intranet, there have been substantial changes in how teachers and students communicate (Arkorful, 2014). The communication strategy has evolved because the instructor no longer needs to connect with the pupils just in the classroom (Wahab, 2022; Bradley, 2021; Coman, 2020). LMSs are used in institutions with good infrastructure, which is most common in developed countries (Bradley, 2021).

LMS tools and components include tools and functions for students and teachers, tools for communication, and tools for learning resources, as shown below:

1. There are text-based, video-based, and image-based instructional options accessible. Teachers provide them to students, who may access, download, and use them to engage with one another (Coman, 2020; Fu, 2003).

2. Collaboration and effective communication between teachers and their students are critical to LMS success. Systems can communicate in either synchronous or asynchronous modes (Wahab, 2022; Singh, 2021). Asynchronous communication does not include simultaneous involvement; examples include e-mail and discussion boards (Wahab, 2022; Sharma, 2020; Wut, 2021). Synchronous communication occurs when two or more people are involved at the same time (Alenezi,2018).

3. Teachers can post course announcements, quizzes, and learning resources using the course administration tools that the instructor utilizes (Bradley, 2021). The instructor can prepare the work for the entire course and provide it to the students to analyze the topic before class, where they can instead chat and ask questions about what they do not understand (Alenezi,2018).

4. To boost their online presence, government institutions use the LMS, a compilation of numerous information technology tools (Singh, 2021). It may be used to run online courses as the primary communication medium or to supplement traditional courses (Francisco, 2020). It is constructed with the use of group collaboration tools and course management software (Coman, 2020). Information technology is used to support,

maintain, and improve this program. The provision of instructional support and training is required for the successful implementation of this LMS (Rashida, 2018).

Issues and Challenges of LMS

Nowadays, everyone interested in e-learning must be able to use and adapt to various Learning Management Systems (LMS) (Xin et al., 2021). According to recent surveys, one of the often-reported impediments to employing LMS features to boost productivity is a lack of integration and inflexible reporting capabilities (Mohammadi et al., 2021). Without these, it is difficult to determine the impact of training on the teaching-learning process. Before purchasing an LMS, think about the following typical implementation concerns and obstacles:

Unreliable Internet Connectivity The study revealed that one of the most significant barriers to academic staff and students utilizing LMS is a lack of internet connectivity (Alenezi, 2018; Mohammadi, 2021). According to various studies, the sporadic nature of internet access can disrupt the flow of virtual classrooms, impede the timely submission of assignments, and hinder real-time interactions between students and educators (Egorov,2021; Basar, 2021). Addressing this challenge necessitates innovative solutions, such as offline functionalities or alternative access methods, to ensure that the transformative potential of LMS is not hindered by the unpredictable currents of digital connectivity (Muries, 2017; Mohammadi, 2021).

Awareness of LMS

As per review I find the vast majority of academic staff members at universities have no idea what an LMS is and they are confused with the exact knowledge of the LMS. Bhalalusesa (2019) and Holmes(2021) also said that one barrier to academic staff and students adopting the system is a lack of awareness of the numerous platforms. This is especially true for newly hired academic personnel who have not had LMS training. This meant that those academic staff members would be unable to use the E-LMS unless they were not aware of its availability and benefits.

Lack of Training

Muries (2017) said that it is tough to develop technical skills, and many professors quit because it is too much work to create online courses without them. The primary barrier to implementing the LMS, according to many college lecturers, is a lack of training.

As, Mohammadi (2021) and Bradley (2021) recommended that more instructors be dispersed around the country, it is more difficult for the institution to train them all to use the LMS, resulting in staff members who are unable to use the systems and connect with students. This issue has been raised in various studies, including this one, which attempted to use the LMS to motivate and construct course curricula in collaboration with teachers.

Lack of Learning Materials Moodle

Moodle is free and open-source; so many universities promote this, for teaching-learning purposes (Rachel, 2016; Bhatia, 2012). Moodle E-LMS isn't completely utilized by teachers to engage with students since there aren't enough excellent learning materials (Mehrabi, 2012; Bhatia, 2012). If Moodle has enough learning resources, teachers may always utilize it as the first place to gather content for their students (Egorov et al., 2021). In this strategy, they would always direct students to the Moodle E-LMS for learning resources (Caputi,2015). One of the most significant obstacles in deploying LMS like Moodle is a lack of rich multimedia material because other universities should pay for subscriptions (Caputi,2015; Bhalalusesa, 2019).

High Cost and Lack of Funding

Implementing ICT infrastructure for e-learning and educating academic professionals in its use are both costly operations (Sharma, 2020; Maatuk, 2021). Because the bulk of the LMS professionals are located at the headquarters, providing staff training from the centers would require using the Internet because the lecturers live in centers across the country (Turnbull, 2022; Bradley, 2021). When it comes to the price of increasing network bandwidth so that the LMS may be accessed faster outside of the university, higher education institutions and universities face substantial financial challenges (Mishra, 2020). According to studies, management is extremely difficult in India. Since the government has not begun to subsidize mainstream activities at most colleges, LMS adoption is costly and institutions lack enough financing (Bhalalusesa et al., 2019).

Traditional Paperwork Culture

Teachers worldwide are completely new to the culture of utilizing ICT to offer instructional materials during the pandemic (Berrocoso, 2021). Few instructors advocate for using ICT in course development since most of them have a traditional teaching culture and feel that learning must be done on paper (Hennessy, 2005). Even though India is realizing the potential of ICT in

daily operations, many academic staff members are still unaccustomed to employing ICT (Ghavifekr, 2015). We won't be able to fully comprehend the impact of different LMSs unless everyone in the profession embraces a culture of harnessing ICT to develop learning materials (John, 2015; Bradley, 2021; Turnbull, 2022). Furthermore, it has been observed that traditional learning is a barrier to adopting innovative teaching approaches (Bhalalusesa et al., 2019).

After reviewing the related works these are the few challenges faced by educational institutions in Indian colleges and their teaching staff and students.

Conclusion

In conclusion, the journey towards integrating Learning Management Systems (LMS) into higher education is both a voyage of promise and a terrain of challenges. While LMS holds the key to unlocking unparalleled efficiencies and enriching educational experiences, the path is laden with intricacies demanding thoughtful navigation. As we reflect on the issues surrounding LMS in higher education, it is imperative to recognize that overcoming these challenges requires a concerted effort from educators, administrators, and technology experts. The canvas of learning is vast, and the brushstroke of LMS, though at times intricate, has the potential to paint a masterpiece of enriched education. However, with challenges come opportunities. By understanding and addressing these issues head-on, we pave the way for a brighter educational future. It's not just about technology; it's about creating a space where learning is seamless, inclusive, and effective. With thoughtful solutions and collaborative efforts, we can turn these challenges into stepping stones toward a more engaging and adaptive learning environment for all. In the face of resistance, there is an opportunity for understanding; within technical complexities, a chance for innovation; and amidst concerns, a call for comprehensive solutions. Through collaborative efforts and a commitment to addressing these challenges head-on, higher education institutions can not only embrace the transformative power of LMS but also sculpt a future where learning knows no bounds. In essence, the challenges of LMS in higher education are not roadblocks but rather stepping stones toward a more dynamic, inclusive, and technologically advanced educational landscape. It is in the resolution of these challenges that we pave the way for a harmonious integration of technology and education, ensuring that the symphony of learning continues to resonate beautifully in the corridors of academia.

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