**CHAPTER II**

**REVIEW OF RELATED LITERATURE**

**Definition of a Learning Management System**

The definition of a Learning Management System (LMS) has varied from time to time, and Altınpulluk, H., & Kesım, M. (2021) states that has changed in parallel to the developments of Information and Communication Technology (ICT). [Nguyen, N (2021)](https://www.sciencedirect.com/science/article/pii/S1029313221000336) states that a Learning Management System (LMS) can be considered as an important means of knowledge acquisition and learning management in the digital era. A Learning Management System is also defined as a software application or website that is designed to deliver courses, acquire knowledge and control learning ([Nguyen, N 2021](https://www.sciencedirect.com/science/article/pii/S1029313221000336)).

According to Albert et.al. (2021), Learning Management Systems promote the distribution of instructional resources to students by educational institutions. Though there are various definitions for Learning Management Systems (LMS), they all ultimately come to the same conclusion—that Learning Management Systems (LMS) are technological instruments that provide support in education.

**E-Learning and its prominence in modern era**

Distance-learning, online learning, and virtual learning are all different terminologies of E-learning which is short for Electronic Learning. It is defined as learning which is supported by technology. According to Muhammad, A. et.al. (2016) E-learning is defined as "the use of various technological tools that are web-based, web distributed, or web capable

for education" and E-learning materials as the wide set of applications and processes that use available electronic media and tools to deliver education and training. The materials that

fall under this category are E-books, Educational Videos, Learning Management Systems (LMS), Online Courses and reviewers.

The popularity and usage of E-learning materials have been growing year after as effect of the advantages it provides, such as flexibility, internet accessibility, and cost-effectiveness (Naveed, Q.N. et.al. 2017). This growth is also driven by the increasing availability of digital devices and the expansion of high-speed internet, which facilitates easier access to online learning platforms.

Rabiman, R. et.al. (2020) state that E-Learning shifts the role of traditional learning to be improved more effectively by taking advantage of students’ current habits and that E-Learning can improve teaching and learning activities to be more efficient. They also state that the development of E-learning technology is very rapid and that it is one of the reasons why it is important to be implemented and developed.

The study of Alqahtani AY and Rajkhan AA. (2020) concluded that the educational process worldwide has been interrupted due to the COVID-19 pandemic. E-learning is becoming much more necessary and is very important in education. They also found that educational institutions during COVID-19 faced the unique challenges of smoothly maintaining the process of learning. Therefore, a need for educational institutions to implement such things.

**Usage of LMS and its potential from perception**

Prestoza, M. J. (2024) has found that public school teachers in the Isabela Province of the Philippines frequently use cloud-based Learning Management Systems such as Google Classroom to integrate with their teaching. It is shown that public school teachers blended Google Classroom in their teaching methods and most of the time it is used for transferring their lessons, distributing assignments, facilitating class discussions, class announcements and posting reminders. This widespread adoption of Google Classroom demonstrates how technology can streamline administrative tasks and enhance the learning experience. By utilizing such platforms, teachers are able to provide more immediate feedback, support diverse learning styles, and create a more organized and interactive educational environment.

It is found that the acknowledgement of the importance of technologically-enhanced or Information and Communication Technology (ICT) based learning media are widely accepted by students (Wiratomo, Y. & Mulyatna, F. 2020). This acceptance highlights a growing recognition of the role that digital tools play in enhancing educational experiences and outcomes. The integration of Information and Communication Technology (ICT) in learning environments also prepares students for a digitalized world by developing their technological competencies.

According to research by Panergayo (2021), students’ perceptions regarding the usefulness and ease of use of Learning Management Systems could predict their intentions to use them. When students find Learning Management Systems to be both beneficial and user-friendly, they are more likely to integrate these tools into their learning practices.

According to the study by Garcia, M.B (2017), it is revealed that internet connectivity experience has a positive relationship with perceived ease of use to Learning Management

Systems (LMS) and E-Learning as a whole. Additionally, students are more likely to adopt and use the system given the high-speed internet.

**School Implementation of a Learning Management System**

**A. Challenges in Implementation**

In accordance with the studies of Al-Hunaiyyan, A. et, al. (2020), Instructors and students often do not use the more advanced features of Learning Management Systems (LMS). They find that the elements that foster interaction, cooperation, and engagement are the most effective at encouraging user involvement. With the rise in the use of mobile devices, it is important for learning environments to be mobile-friendly. This means LMS platforms should support mobile access to course materials and collaboration. To encourage users to take full advantage of all LMS features, it's crucial to pay more attention to mobile user interface design.

Additionally, the COVID-19 pandemic brought exceptional challenges to Afghan universities, especially with the accommodation of Learning Management Systems (LMS) like Higher Education Learning Management Systems (HELMS) occurring for the first time. As organizations shifted to distance learning, they faced major challenges across faculty, students, and administration. This novel fulfillment of Higher Education Learning Management Systems (HELMS) highlighted a crucial gap: the lack of prior research on its effectiveness and challenges in the Afghan context. Previous investigations on Learning

Management Systems (LMS) usage in Afghanistan (Mohammad, M. et.al. 2021), when anything too general or exclusively targeted, fails to address its own specific problems and their causes that are related with Higher Education Learning Management Systems

(HELMS) during the pandemic. Thus, there is a pressing need for directed research to understand and improve the use of Higher Education Learning Management Systems

(HELMS) in Afghan universities, ensuring better support and adaption for all stakeholders involved.

The findings of Dlalisa, S. and Govender, D. W. (2020) reveal a significant gap between the intended and actual use of the Blackboard LMS by academics. Although there is a clear intention among academics to use the authorized LMS, the actual utilization is minimal, especially in student-centered educational activities. This discrepancy is largely attributed to varying levels of computer proficiency and limited expertise with the LMS among academics. The results suggest a need for more comprehensive training and upskilling for all educators responsible for teaching. By enhancing their skills in using LMS systems, academics would be better equipped to integrate these tools effectively into their teaching practices, thereby improving both acceptance and usage of the technology.

Moreover, as stated by Fahad, T. et.al. (2024), Learning Management Systems (LMS) are designed to facilitate effective course setup and administration, offering clear benefits for teaching. Despite these advantages, many faculty members and university staff remain reluctant to fully embrace LMSs in their teaching practices. The underuse of LMS technology in higher education settings is influenced by various factors, including teachers' self-efficacy, instructional goals, and perceptions of the system. Additionally, the availability of time, support services, and resources plays a significant role. Educators are pivotal in integrating new technologies into the classroom, making it crucial to identify and

address the factors that motivate and drive them. Understanding these elements is essential for fostering an environment where technology is effectively encouraged and utilized to enhance student learning.

**B. Benefits in Implementation**

Learning Management Systems (LMS) play a crucial role in enhancing the efficiency and accessibility of education by streamlining processes and making educational resources more accessible. To fully realize their potential in the evolving field of E-Learning Software Development Services in 2024, LMS platforms need to adapt to new technologies, implement a well-rounded strategy, and address various technical issues (Saranya Kannan 2024). This means integrating advanced technologies to keep pace with innovation, ensuring a comprehensive approach that balances various needs and challenges, and resolving technical problems to provide a seamless and effective learning experience.