



Learning Management System (LMS) and it's perception among the stakeholder's of educational institutes: A comprehensive review

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Abstract

Learning management system (LMS) used for delivering education has become one of the most important innovative tools. It is widely used and implemented by educational institutes and universities all over the world. This paper reports on a literature review focusing on behavioural intentions of the stakeholders to adopt learning Management Systems in a multinational context. The authors examined 35 publications on the subject from 2018 to 2021, making critical analysis of theories adopted in the study, the research approach, adoption factors, barriers, constructs used and research context. The primary focus is to shed light on these contradictive objectives unfolding in this context and identify research areas that need more attention in future LMS implementation research in the educational institutes.

Keywords: LMS, Stakeholders, Online study approach, Using Technology in LMS.

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1. Introduction

Over the few decades it has been observed that rapid technological developments have increased society's dependence on information technology. One of them is the online learning technology, which is defined as "the use of the Internet to access learning materials; to interact with the content, instructor, and other learners; and to obtain support during the learning process, in order to acquire knowledge, to construct personal meaning, and to grow from the learning experience" (Ally, 2004). Nowadays, it has been a popular trend in getting new information and communication technology among students. Thus there is a special type of web based content management systems developed which is Learning Management System (LMS). The Learning Management System which also known as LMS in the community of higher institution is an online portal which is used to connect between lecturers and students. It is a place where class material and activities can be shared easily. It is also a portal where lecturers and students can communicate and have interaction aside from classroom. In this modern era provided with information technology internet is easily accessible in urban areas, which is located at the area where it has most universities. Higher educational institutions of have increasingly embraced online learning worldwide in order to realize different educational benefits such as: facilitating information exchange and collaborative learning, improving the quality of teaching and learning, improving access to education and training, realizing flexibility for time and place, responding to labor market conditions and to innovation technology itself, preparation for lifelong and self-paced learning while at the same time reducing costs and improving the overall cost-effectiveness of educational services. A Learning Management System (LMS) is an educational framework used to plan, implement and assess a specific learning process which is specifically used for e-learning education courses or training programs. In continuation with the concept of LMS this paper elaborates the details of past researches with brief outcomes of each and every research which has been presented in summarized form.

2. Literature review

LMSs are defined as software applications that support the administration, documentation, internal review and tracking, reporting, and delivery of educational and training course-related materials, allowing communication between students and faculty in virtual spaces (Sanga, 2016; Walker & Lindner, 2015; Watson & Watson, 2007). These platforms changed the manner in which higher education institutions, as well as businesses, provided educational opportunities to their students and employees, offering easily accessible online options of learning interaction to substitute for face-to-face components. While LMSs have been widely adopted throughout different educational institutions due to their accessibility, cost-effectiveness, and quality, they have encountered challenges and failure, and therefore, the adoption process of LMSs requires further investigation (Findık-Coşkunçay et al., 2018). While multiple LMS options exist and functions are improving, many LMS platforms remain generic in what options and abilities, such as collaborative tools, schedulers, and discussion forums, they offer to students (Black et al., 2007; Mkhize, Mtsweni, & Buthelezi, 2016). The research method used in the proposal is searching for relevant literature. The databases used to search for journals and articles are searched in Google Scholar, JGATE and JSTOR. The keywords used in searching the topic are learning management system, LMS, use of learning management system, advantages of LMS, online study approach, using Technology in LMS, learning management system for stakeholders. The main objective is to make the reader aware of the latest available literature regarding LMS and build the basis for achieving another objective, such as the need and justification for carrying out further researches in the field of LMS. This

study aims to review past few years published articles that used Learning Management System (LMS) into the Teaching-Learning pedagogy. The search process resulted in more than 35 publications, which of only 10 are chosen as these papers were falling within the scope of the topic. By carrying out in-depth reading of the papers, combined with notes and discussions on LMS, those are mainly influencing mechanisms on the usage and acceptance of LMS is summarized. The next section will present the results of the review, and will be followed by the exploration of research gaps with discussions, conclusion & future scope.

Table 1

No	Year	Author/s	Purpose of the Research
1	2021	Fernando José De Aires Angelino, Sandra Maria Correia Loureiro and Ricardo Godinho Bilro	To explore how students' engagement can be promoted through transmedia using a set of activities within the Moodle learning management system for a syllabus topic about innovation, during a full semester. The results achieved reveal that students' engagement tends to increase by participating in the online forum and by performing some of the proposed tasks which required extensive information search from various media sources.
2	2021	Syed A. Raza, Wasim Qazi, Komal Akram Khan, Javeria Salam	To explore the Unified Theory of Acceptance and Use of Technology (UTAUT) through the expansion of the model. Also, make it relevant to investigate the influence of social isolation, and the moderating role of Corona fear on Behavioral Intention of the Learning Management System and its Use Behavior of Learning Management System among students.
3	2021	Ahmad Almufarreh, Muhammad Arshad and Hassan Mohammed	To explore the successful utilization and assessment of Blackboard Ally among academics in the Jazan University, Kingdom of Saudi Arabia. The key purpose of this study was to examine how administrators, faculty members, and students use Ally for Blackboard LMS's functionality across online classes to analyze both the learning process and the success of the individual.
4	2021	Rashid Khan, Akash Dania and Diaeldin Osman	To investigate the barriers and motivators in LMS adoption among emerging market economy HEIs and to propose a technology adoption model based on the Unified Theory of Acceptance and Use of Technology. The results of this study suggest implementing a dynamic feedback mechanism of technology adoption by instructors, and the need for HEIs to articulate strategic plan goals that focus on faculty professional development in the use of technology to build confidence among instructor group to enable the adoption of technology for instruction.

No	Year	Author/s	Purpose of the Research
5	2020	Y. Vijaya Lakshmi, Jaishree Das, Ishfaq Majid	The research study based on cross sectional analysis to assess the e-learning readiness of the stakeholders. During the research it had been observed that majority of the students had positive perception towards concept of e-learning and believe that e-learning had many benefits.
6	2020	Wala Qutechate, Jannat Falah, Tasneem Aalfalah, Salsabeel F. M, Alfalah	To analyze the patterns the teachers and student's usage of LMS and SNS to identify the gaps in the currently used LMS along with to investigate the perceptions of user towards educational value of integrating social networking features into Moodle.
7	2019	Özkurkudis, Mary Jane	To examine students' perceptions of completing practice and production tasks through a learning management system. Results of the survey indicate students prefer doing tasks in a traditional way although their intension of using LMS is positive.
8	2018	Abida Ellahi	To investigate the extent to which social networking sites can affect learning effectiveness and to what amount this technology can be used as supplementary elements for existing pedagogy methods prevailing in a developing country.
9	2018	Duygu Findik Coşkunçay, Nurcan Alkış, Sevgi Özkan-Yıldırım	The study was based on Structural Model for Students' Adoption of Learning Management Systems. The research focused to identify the underlying factors which certainly affecting the higher education student's behavioral intention towards the use of LMS.
10	2018	Kassim, Umi Kalsom and Phuah, Kit Teng	To perceive the effectiveness of E-learning focused on assessment for learning & how the management could implement E-learning as the medium of delivering in higher education institutions.

3. Exploration of Research Gap

The various potential gaps of the Learning Management System are addressed below:

Lack of Version Control:

The first gap of LMS is the lack of version control for the training content, which can result in two major issues. The first and foremost is the increased rate of human error. Because of the higher human error rate, the collected content can be deemed unreliable. This can increase the risk of wrong information being transverse. The other one is an absence of automation for version training and reviewing. This can lead to considerable in-efficiencies for the administrative department.

Managerial and Administration Consent:

Another gap of LMS is that all managerial and administration consent should be performed physically, outside the LMS if the preparation design endorsement processibility is inadequate. Administration unequipped for surveying singular preparing plans against worker sets of expectations with a specific end goal to guarantee precision when enlisted and refreshed when there is an adjustment in part. With expanding occurrence of difficult work fundamental to

make up for the absence of electronic forms, the margin for the human mistake would likewise increment. Therefore, extra work-force must be sent to carry out a manual audit of the preparation program.

No Automated Role-Based Training Management Features:

As the highlights of LMS and coordinating usefulness that represents the part based preparing process are inadequate, the staff engaged with the quality framework can't be assembled into automated parts relying on their activity capacities. Development, evaluation, approval, and assignment of individual training plans have to be done manually when there are no automated role-based training management features. This raises the issue of human mistakes and can give the supervisors the impression that the education plans are assigned inconsistently. It can indicate that the employees are not adequately trained before performing the activity.

4. Discussion

The gaps mentioned above of the LMS platform can be corrected by carrying out the following processes. Acquiring adaptation control capacities can dispose of manual compromises for a developing volume of different material forms. It ensures the organization against the issuance of warning letters, and other review remediation orders. It improves the working efficiency of both the system and quality organization. Limit and minimize the reliance on manual and administrative actions. It can be adjusted to coordinate the interior preparing record maintenance disciplines that will boost responsibility, oversight, and control of preparing plan surveys. Moreover, Full automation of the critical preparing plans from representative on-boarding to progressing capability for those staff engaged with GxP activities. It guarantees making of steady preparing records for similar courses, and reliable reporting and tracking. It empowers the staff to satisfy the preparation objective necessary to get to access system or conduct operations and guarantees the opportune individuals are prepared at the ideal time on the correct material. Further from the above reviews, few researchers identified and worked on a particular proposed model namely TAM (Technology Acceptance Model) which was established by Davis et. al in 1989 and extended version of the same model namely UTAUT model (Unified theory of acceptance and use of technology) where the researchers tried to determine the consumer behaviour pattern and cognitive nature to adopt the LMS. Most developing countries did not experience a successful implementation of the LMS system; hence the system could not apply its complete potential in these countries and resulted in partial or full failure. On the other hand, there were institutes implemented LMS in developed countries and successfully enjoyed its enormous advantages.

5. Conclusion

Learning management system is playing a vital role in the learning and development process of any organization. If applied accurately, the rectifications offered by this research paper will help the organizations to respond to evolving requirements that comes with training new professionals. It is of utmost importance that the recruits are trained as best as possible. The LMS platform created after correcting all the variety of issues mentioned above can help an organization to provide a well-organized experience. This paper has performed an end-to-end review on the literatures and revealed a shifting trend towards the investigation of the factors that may influence the usage and acceptance of LMS. Part of the study, it was found that LMS provides its users, irrespective of students or instructors, with numerous benefits. However, those benefits cannot be gained without the maximum utilization and involvement with LMS, which inherently requires understanding and investigation into the factors that may influence the usage and acceptance of LMS among its users. The future application of the proposed

drawbacks and their improvement can help the organizations to make an informed decision about the various drawbacks present in LMS platforms and have to be avoided.

6. Future Scope

It is clear that even though LMS is implemented in some developing countries to support the learning and teaching activities, the utilization of LMS is still below the satisfactory level. Therefore, there is a move towards investigating into the factors that may prevent or decrease the utilization of LMS among its users. Furthermore, it is a fact that some of these factors have been investigated individually or with other factors (self-efficacy and technical support). Therefore, there is a need to empirically probe into these factors to provide a better understanding about its influences on LMS usage and acceptance. In general, this review has provided researchers and even developers of LMS with many gaps that have not been empirically examined, and also revealed the factors that influenced the usage and acceptance of LMS.

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