Humanities and Social Sciences Letters
2026 Vol. 14, No. 1, pp. 126-140
ISSN(e): 2312-4318
ISSN(p): 2312-5659
DOI: 10.18488/73.v14i1.4668

An analytical study on the utilization of learning management systems in higher education institutions: Perspectives from the Philippines

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Article History
Received: 15 May 2025
Revised: 27 October 2025
Accepted: 4 December 2025
Published: 6 January 2026

Keywords
Delivery of instruction
Higher education institution
Interactive platform
Learning management system
Philippines.

ABSTRACT

This study determines the extent of utilization of the Learning Management System (LMS) in terms of curriculum, pedagogy, and evaluation. It also compares the perspectives of administrators and faculty members and identifies the problems and challenges associated with LMS utilization. A descriptive research design was employed, utilizing a researcher-developed questionnaire as the primary data collection tool, supplemented by interviews and focus group discussions. The study involved 182 faculty members and 29 administrators, including Deans, Associate Deans, Department Chairpersons, and ICT Heads/Coordinators from higher education institutions (HEIs). Statistical analysis methods such as weighted mean, frequency, percentage, and t-test were used to interpret the collected data. The findings indicate that the LMS serves as an interactive platform designed to efficiently manage lesson content, allowing teachers and students to access and utilize educational materials via digital devices and the internet. HEIs integrate LMS across various media platforms to create interactive and engaging lesson presentations while maintaining student records. However, common challenges in LMS utilization include insufficient time for teachers to plan technology-integrated lessons and resistance to change. Additionally, accessibility to ICT resources and the sustainability of training in digital literacy and pedagogy remain significant concerns. To address these issues, a proposed management plan has been developed, outlining key activities and strategies aimed at enhancing curriculum, pedagogy, and evaluation for the sustainable use of LMS in HEIs.

Contribution/Originality: This study contributes to the development of a management plan for the utilization of Learning Management Systems. Through this research, the target audience will have a clear plan of action to manage and effectively implement the use of existing LMS platforms to support and enhance the tertiary education teaching and learning process.

1. INTRODUCTION

The rapid advancement of modern technology has revolutionized the way information is shared and accessed worldwide. News, events, and personal stories are now instantly available through smart devices connected to the internet. Social media platforms enable individuals to share content with a global audience, subjecting it to appreciation, critique, or scrutiny. Virtual communication has significantly reduced geographical barriers, making interactions between individuals from different parts of the world feel seamless. These technological advancements, particularly in Information and Communication Technology (ICT), have facilitated the swift transmission, retrieval, and manipulation of data, ultimately enhancing communication and access to information (Siemens, 2014).

Given the continuous evolution of information technology, societies must adapt accordingly to maximize its benefits. Various sectors, including government, business, healthcare, research, aviation, and the military have embraced digital innovations to enhance efficiency and achieve their objectives. Education, in particular, has greatly benefited from technological advancements, as they have improved management, teaching, and learning processes. By integrating information technology into educational settings, institutions can enhance the quality of instruction and provide better learning experiences for students.

Higher education plays a crucial role in shaping individuals, driving social transformation, and fostering economic growth, all of which contribute to national development. In the Philippines, the Commission on Higher Education (CHED) has established policies and guidelines under Republic Act No. 7722, known as the Higher Education Act of 1994, to support Transnational Education (TNE) programs. One of the key components of TNE is online learning, which includes blended and distance learning, all facilitated through Learning Management Systems (LMS). This underscores the significant impact of LMS on modern and effective learning strategies.

The late 1990s saw the emergence of ICT-driven innovations, which reshaped various aspects of society, including education. Experts leveraged technological advancements to develop LMS platforms, which offer a range of digital tools designed to meet the evolving needs of 21st-century learners and educators. The increasing popularity of LMS in universities has been driven by the demand for flexible, accessible, and efficient virtual learning environments. LMS platforms enable institutions to streamline instruction, optimize resource use, and improve student engagement, fostering a more interactive and effective learning experience.

Technological advancements and the globalization of education have led to a paradigm shift in teaching and learning approaches. Institutions worldwide are focusing on quality assurance, instructional transformation, and innovative strategies such as virtual learning. Given its crucial role in pedagogy, accessibility, and efficiency, LMS integration is strongly recommended for higher education institutions (HEIs). LMS facilitates personalized and self-paced learning, fosters lifelong education, and enables convenient access to learning materials, eliminating constraints related to time and location.

Over the years, LMS has been refined to enhance teaching and learning experiences by improving accessibility, facilitating student support, and streamlining administrative processes such as grading and feedback. To remain competitive and effective, HEIs are encouraged to adopt LMS instead of relying solely on traditional teaching methods, which can be less efficient. However, implementing LMS requires financial investments, which institutions must consider when planning their digital transformation.

The benefits of LMS are well-documented. These platforms allow educators, students, and administrators to manage, track, and deliver educational content efficiently. LMS enables institutions to support e-learning through structured documentation, tracking, and training programs. In the United States, LMS platforms are widely used in both primary and higher education institutions, providing digital environments for instructional delivery and resource management. Similarly, Australian universities have long embraced LMS, allowing students to access coursework, learning materials, and collaborative spaces such as discussion boards.

In the Philippines, several higher education institutions (HEIs) have successfully integrated Learning Management Systems (LMS), with the University of the Philippines serving as a leading example. In Batangas, institutions such as Saint Bridget Colleges, Lyceum of the Philippines University-Batangas, STI Batangas, University of Batangas, and De La Salle Lipa have adopted LMS. However, some HEIs continue to face challenges in implementing LMS, particularly due to financial constraints and limited access to ICT resources.

Motivated by these developments, the researcher aims to assess the application of LMS in HEIs in Batangas, analyzing its impact and implications for the academic community. The study seeks to develop a management plan to support the adoption and sustainability of LMS, particularly as Batangas State University prepares to implement this system. As LMS continues to play a pivotal role in modern education, its successful integration is essential for

improving learning outcomes, streamlining e-learning services, and ensuring the continuous enhancement of instructional quality.

2. LITERATURE REVIEW

2.1. Reforms in Higher Education Institutions

Governments worldwide are implementing reforms to align higher education with national development needs by leveraging technology, improving infrastructure, and fostering innovation within academic institutions (Misra, 2012). Higher education must equip students with critical thinking, problem-solving, and adaptability skills to meet the demands of a rapidly evolving global economy (Bottery, 2010). The adoption of open-ended educational systems enabled by information and communication technology (ICT) is necessary to prepare students for lifelong learning and adaptation to changing environments.

While technological integration in education has expanded opportunities for students and teachers, challenges such as poverty, limited access to computers, and insufficient ICT training persist (Findik & Ozkan, 2013). Learning Management Systems (LMS) have been proposed as tools to enhance instructional delivery and academic administration. Garcia (2011) developed an LMS adoption model, highlighting key factors such as perceived usefulness, ease of use, technological complexity, and self-efficacy in encouraging faculty adoption. However, successful implementation requires faculty training and strong institutional support (Hoffer, 2010).

With globalization, many nations have embraced ICT in education, but faculty reluctance to adopt new technologies remains a challenge (Hock, 2018). Some educators primarily use ICT for presentation purposes rather than fostering interactive learning. Effective technology integration requires comprehensive faculty training, investment in ICT infrastructure, and strategic planning (Sweeney, 2018). Despite the increased availability of ICT in universities, financial constraints limit some institutions' ability to fully integrate technology into their academic programs (Lunn, 2011).

Educational reforms emphasize innovation, international collaboration, and curriculum modernization to enhance student competencies (Pribady, 2018). The Philippines must embrace globalization by supporting transnational education and allowing foreign institutions to operate in the country. Deregulating higher education, as seen in other Asian countries, could increase access to quality education and foster global competitiveness (Mizell, 2015). Additionally, internationalizing teacher training programs is essential for preparing globally competent educators. West (2012) emphasized that teacher preparation programs should integrate global awareness, cross-cultural learning, and international research collaborations to produce educators equipped for the modern workforce.

2.2. Online Learning in Higher Education

Online learning has significantly transformed higher education, shifting the traditional classroom into a more dynamic and interactive learning environment. As Braun (2018) noted, online learning requires a different pedagogical approach, as it fundamentally differs from face-to-face instruction. Garrison, Anderson, and Archer (2010) emphasized that designing online courses introduces additional complexity since digital platforms influence not just content delivery but also knowledge acquisition.

The rapid growth of higher education and its associated resource constraints led to the establishment of the National Committee of Inquiry into Higher Education. Their findings highlighted the potential of information and communication technology (ICT) to improve instructional flexibility and cost efficiency (Bach, Haynes, & Lewis Smith, 2016). Similarly, Graf (2017) explored how LMS platforms can be tailored to students' learning styles using the Felder-Silverman model, demonstrating that an automated system could enhance personalized learning experiences.

Blended learning (BL) has emerged as a response to the limitations of traditional lectures by combining face-to-face instruction with online learning, fostering a more interactive and flexible educational approach (Arum & Roksa,

2011). However, Bush (2013) pointed out that many blended learning models fail to fully integrate both components, resulting in passive learners who do not maximize the benefits of either approach. Effective BL implementation requires careful planning to balance synchronous and asynchronous learning experiences.

LMS adoption among faculty is a crucial factor in the success of online education. AlShamary (2016) and Alshorman and Badran (2018) investigated faculty members' perceptions of LMS usage, highlighting both its potential benefits and challenges. Studies by Ellis (2015) and Brink (2011) emphasized that effective LMS utilization should align with traditional higher education goals, enhancing student experiences through accessibility, engagement, and structured learning resources.

The use of digital technologies in education also facilitates personalized learning. According to Watson and Watson (2017) and BECTA (2018), digital tools provide students with greater autonomy, allowing them to control their learning pace and engage with adaptive content. Instructors play a vital role in integrating technology into their curriculum, with Sherbib, Al-Zaabi, and Rashid (2012) and Tondeur et al. (2018) noting that teachers' pedagogical beliefs significantly influence their willingness to adopt LMS platforms.

Assessment and feedback are also enhanced through technology. Timely and constructive feedback are essential for student progress, as noted by Goodwin and Miller (2012) and Walvoord and Anderson (2010). Modern LMS platforms allow for real-time tracking of student performance, reducing administrative burdens while improving assessment accuracy (Andriotis, 2014).

Flipped learning (FL) is a newer blended learning model that has gained popularity. In FL, passive instructional content is moved online, allowing classroom time to focus on active learning activities such as discussions and problem-solving. Bergmann and Sams (2012) argued that this model improves student engagement by leveraging the strengths of both in-person and digital instruction.

Christensen, Horn, and Johnson (2008) emphasized that online education not only improves accessibility but also enhances instructional quality by allowing students to learn at their own pace with continuous feedback. Digital tools support personalized learning pathways, ensuring that students receive targeted support based on their performance and learning preferences.

Ultimately, online learning and LMS platforms continue to revolutionize higher education, offering new ways to enhance learning experiences through digital engagement. The success of these innovations depends on institutional support, faculty readiness, and the effective integration of technology to support student learning outcomes Al-Busaidi and Al-Shihi, 2010).

2.3. Learning Management System

A Learning Management System (LMS) is a software application designed to manage and facilitate educational programs, online learning, and training content. Leinenbach (2010) highlights that LMSs streamline the administration of student records, learning materials, and self-service capabilities. Dellosa (2012) evaluated LMS feasibility in institutional settings, encompassing role management, course administration, and interactive modules such as assignments and quizzes.

LMS platforms serve as central hubs for students, instructors, and administrators, integrating learning tools and content into a user-friendly environment (Clarey, 2017). Cloud-based LMS solutions, as noted by Bhatia (2014), offer flexibility, low-cost maintenance, and mobile accessibility, allowing users to interact seamlessly with educational content. Similarly, Deng, Tavares, and Tang (2015) emphasized the secure, cloud-based storage and distribution of learning materials.

The effectiveness of an LMS is often measured through user satisfaction, system quality, and engagement (Tarigan, 2011; Wang, 2017). Stressed usability improvements are a key factor in increasing adoption rates. Institutions must also provide continuous support, including training and technical assistance, to maximize LMS

effectiveness (Kennedy, 2015; Moskal, Dziuban, & Hartman, 2013) assessed Moodle's usability in Hong Kong schools, concluding that proper implementation enhances both student and faculty experiences.

Moreover, integrating LMS with social media can improve user engagement (Wang, Wang, & Shee, 2007). Lansari, Tubaishat, and Al-Rawi (2010) emphasized the importance of centralized learning resources to foster structured and interactive learning. (Dettmer, 2015) suggested using LMSs for blended learning, incorporating multimedia and interactive learning paths.

Faculty members play a critical role in developing quality LMS content. Unwin et al. (2010) found that institutions often maintain high-quality resources within their LMS. Keats (2013) and Shee and Wang (2008) noted that students value well-organized, interactive, and flexible learning materials. Slade and Prinsloo (2013) introduced the concept of learning analytics, which enhances institutional insights into student engagement and learning behaviors.

Several LMS platforms are widely used. Sakai LMS supports content sharing, collaboration, and online discussion (Sakai, 2012). Moodle provides course customization and student tracking (Rice, 2016; Winter, 2016). Blackboard is a leading commercial LMS with secure access and administrative tools (Lowe, 2003; Munoz & Duzer, 2005). Researchers compare LMS platforms based on usability, security, and scalability (Hall, 2003). Holmes (2018) examined LMS affordances, finding that students prioritize accessibility while instructors focus on interactivity. Google Classroom, a free LMS, facilitates assignment management and feedback. Baculod (2013) confirmed the effectiveness of asynchronous learning tools such as discussion forums in enhancing student engagement.

LMS systems must promote interaction, allowing students to track progress, complete assignments, and engage with instructors. Communication tools such as chat rooms, forums, and email enhance collaborative learning. Ultimately, effective LMS implementation requires user training, quality content, and integration with emerging technologies to optimize learning outcomes.

2.4. Problems and Challenges

The adoption of Learning Management Systems (LMS) in education presents several challenges, requiring educational leaders and technology coordinators to align learning with technological advancements. Information literacy and global awareness are essential for modern education, making it necessary for institutions to prioritize educational reform and technology integration.

Leadership and Institutional Challenges (Whitehead, 2013) emphasize the importance of shared leadership and a strategic vision for technology adoption. Universities increasingly offer flexible learning options, such as online and blended learning, to cater to diverse student populations (Boling, Hough, Krinsky, Saleem, & Stevens, 2012; Napier & Crippen, 2011; Schmidt, 2016). However, there is an ongoing debate regarding the impact of these modalities on pedagogy (Gregory & Salmon, 2013; Kirkwood & Price, 2014).

Instructional Design and Technological Limitations: Technology-based instruction does not follow a universal model (Orlando & Attard, 2015). Many educators attempt to replicate face-to-face teaching methods in an online setting without considering differences in learner needs and digital environments (Kirkwood & Price, 2014). The Open and Distance e-Learning (ODeL) model, developed by the University of the Philippines, Open University, expands online education by incorporating multiple communication methods and interactive learning resources (Alfonso, 2012; Anderson, 2014; Calvert, 2015; Garrison, 2019).

Resistance to LMS adoption: Teachers' reluctance to adopt LMS platforms is a significant barrier. Factors contributing to resistance include a preference for traditional teaching methods, low confidence in e-learning, insufficient ICT skills, and lack of institutional incentives (Glen, 2010; Mnyanyi & Niu, 2010; Rolfe, Brown, & Gough, 2010). Additionally, generational differences affect how educators respond to technology, with younger instructors often being more adaptable than older ones (Pynoo, De Marez, & Síochru, 2012; Teo & Ursavas, 2012).

Assessment and student engagement challenges: online assessment methods introduce difficulties such as technological barriers, activity sequencing, and adapting to new formats (Boyles, 2011; Fahy, 2014; Jaques & Salmon, 2017a). However, LMS platforms can enhance student engagement by providing real-time feedback and fostering collaboration (Anderson, 2014). Institutions can mitigate challenges by offering instructional scaffolding and leveraging the flexibility of online learning (Broadbent & Poon, 2015; Crawford-Ferre & Weist, 2012).

While LMS platforms offer numerous advantages, their effective utilization requires addressing leadership challenges, instructional design limitations, teacher resistance, and assessment difficulties. By fostering institutional support, improving digital literacy, and promoting flexible teaching strategies, educators can maximize the benefits of LMS integration in modern education.

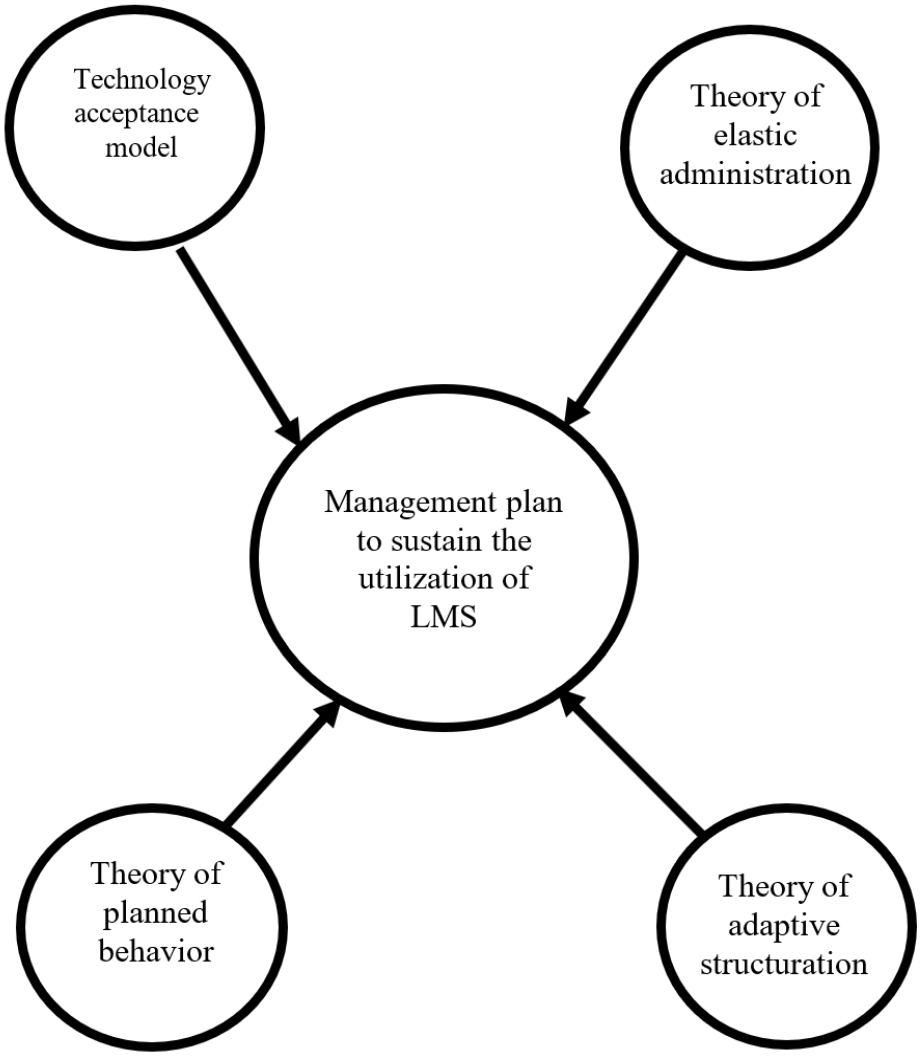

Figure 1. Directional theory indicates the interrelation of theories for a management plan to sustain the utilization of LMS.

Figure 1 reflects those innovations in technology in education are important to catch up with the demands of time in teaching and learning and to facilitate interaction between pedagogy and technology. This is justified by the Theory of Planned Behavior, which emphasizes the adoption of e-learning platforms and a pedagogical shift towards collaboration rather than face-to-face teaching in higher education. This is further supported by the Theory of Adaptive Structuration, which emphasizes the use of innovations in the performance of mandates in educational institutions. The arrow points to the effect of these three theories in HEIs. This figure illustrates how HEIs enhance and sustain the application of LMS by formulating management plans.

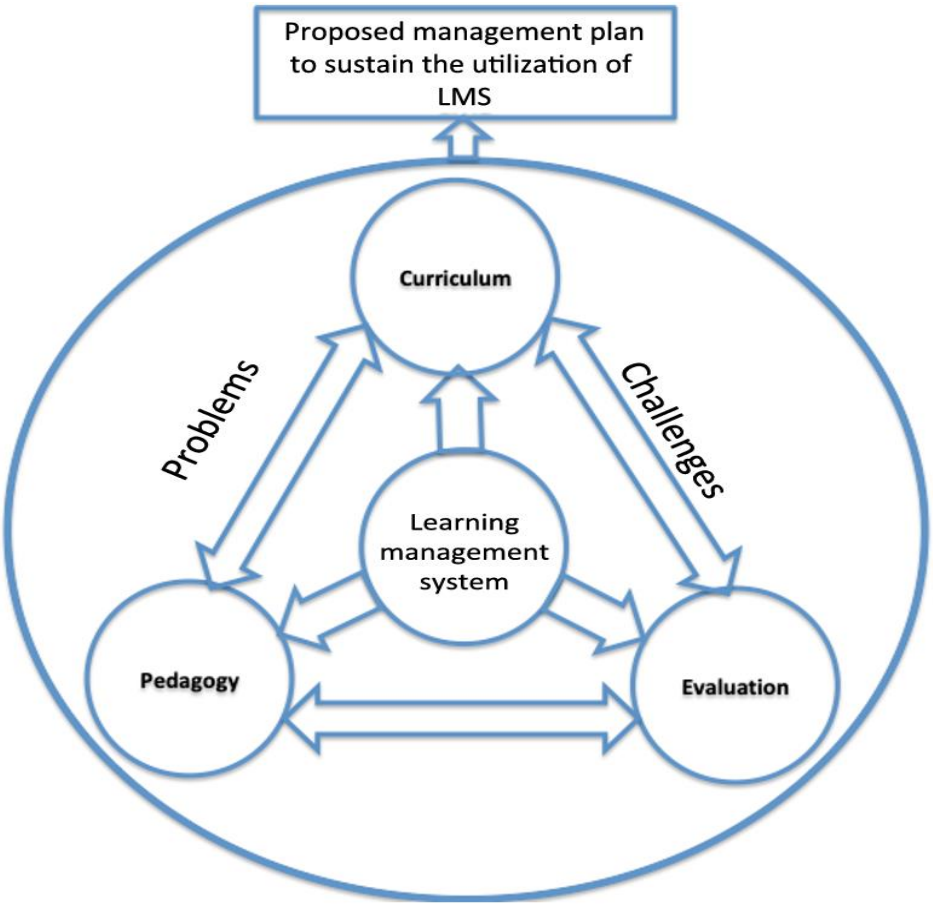

Figure 2. Conceptual paradigm on the application of the learning management system in higher education institutions.

Figure 2 illustrates that the whole structure that constitutes the cycle can be generally analyzed as one interconnected process; hence, they are contained in one big circle. From this circle, an arrow pointing upward is linked with a rectangular structure that comprises the management plan to sustain the utilization of LMS. The management plan is essentially placed on top as it serves as the major component of the framework. The arrow pointing upward to it signifies a progressive path towards affecting a plan that shall cover the efficient management of the application of LMS with full consideration of the curriculum, evaluation, and pedagogy. It also shall serve to systematically solve problems and respond to the challenges.

3. MATERIALS AND METHODS

3.1. Research Design

The descriptive method was used in this study, with a questionnaire serving as the primary data collection tool, supplemented by an interview and a focus group discussion. This method was chosen because it was believed to best capture the study's objectives and serve as the foundation for developing a management plan for an enhanced academic learning process. To do this, a questionnaire was developed in accordance with the study's specific questions and examined statistically using appropriate methods. The qualitative method was employed through interviews and focus group discussions (FGD) with administrators and faculty members.

3.2. Sample

There were two groups of respondents in the study. The first group consisted of 29 administrators, including deans, associate deans, department/program chairpersons, ICT heads, and coordinators from selected public and private higher education institutions in Batangas, Philippines. The second group of respondents consists of 182

faculty members who use LMS as a platform for teaching. No sampling was used in the two groups of respondents since the number is still manageable.

Table 1. Distribution of respondents.

Higher education institutions	Administrators	Faculty
Sta. Teresa College	2	19
Saint Bridget College	3	17
Lemery College	2	10
Rizal College of Taal	2	14
Lipa City College	2	13
FAITH	3	10
STI College	2	11
Alitagtag College	2	19
Tanauan Institute	2	13
College of the City of Batangas	2	14
Batangas State University	7	42
Total	**29**	**182**

3.3. Research Procedure and Implementation

The study described the LMS relative to aim, delivery, and interactivity. It also determined the extent of application of LMS relative to curriculum, pedagogy, and evaluation. Further, the responses of the administrators and faculty members were compared. Likewise, it also identified the problems and challenges in the application of LMS. Significantly, a management plan to sustain the utilization of LMS in HEIs was proposed.

The descriptive method of research was utilized in this study. A research-made questionnaire was the main data-gathering instrument, complemented by interviews and focus group discussions. Respondents included 182 faculty members and 29 administrators, such as Deans, Associate Deans, Department Chairpersons, and ICT Heads/Coordinators in HEIs.

3.4. Research Instrument

The researcher designed a self-constructed questionnaire. This instrument was carefully developed based on the specific objectives of the study, relevant memoranda, personal experiences, and insights drawn from a comprehensive review of related literature. These references included both published and unpublished dissertations, books, and credible internet sources that discussed various aspects of LMS applications. Furthermore, the development of the questionnaire was enhanced through consultations with the research adviser, panelists, and subject-matter experts, whose suggestions were considered vital in ensuring the tool's relevance and accuracy.

The questionnaire consisted of two main parts. The first part aimed to assess the application of LMS in three critical areas: curriculum, pedagogy, and evaluation. The second part focused on identifying the problems and challenges encountered in implementing LMS within higher education institutions. These sections were structured to provide a clear, holistic understanding of both the effectiveness and the limitations of LMS integration in academic settings.

Before finalizing the questionnaire, a rigorous validation process was conducted. The initial draft was submitted to the research adviser and other experts in the field for review. They meticulously evaluated each item in relation to the study's objectives and offered constructive feedback.

A trial run of the second draft was then conducted with three administrators and ten faculty members who were not part of the actual study. Their feedback highlighted minor issues, which were addressed and edited in the final version. Upon completion, the final draft was once again reviewed and approved by the research adviser.

To determine the reliability of the questionnaire, Cronbach's Alpha was employed. The resulting reliability coefficient was 0.976, indicating excellent internal consistency and validating the tool's effectiveness for data collection in the context of the study.

During the focus group discussion (FGD), the researcher began by presenting the objectives of the study to the participants. This set the context for a collaborative exchange. Participants were then encouraged to share their personal experiences and insights regarding the various problems and challenges related to the utilization of the Learning Management System (LMS). The session was participatory, with attendees openly offering their suggestions on how these issues could be addressed. Additionally, they discussed strategies for sustaining and improving the effective utilization of LMS in educational settings.

3.5. Ethics Consideration

Participants were fully informed of what would be asked of them, how the data would be used, and what the potential consequences could be. They were provided with explicit, active, signed consent to participate in the research, including understanding their rights to access their information and the right to withdraw at any point. They were also informed that their individual responses to the questionnaire would not be shared with others but would be used solely for research data. All of their information was kept confidential throughout the entire research process.

4. RESULTS

4.1. Comparison on the Assessment of Respondents in the Application of the Learning Management System

A successful educational program and effective curriculum development must be responsive to the evolving needs of culture, society, and the expectations of its intended population. As such, curriculum development and educational reform are processes that require continuous review, revision, and adaptation. In line with this, Table 1, Table 2 present a comparison of assessments provided by administrators and faculty members regarding the implementation of the Learning Management System (LMS), specifically in the areas of curriculum, pedagogy, and evaluation. This comparison reflects differing perspectives and highlights the importance of collaborative input in shaping and refining digital learning practices.

Table 2. Comparison on the assessment of the application of the learning management system.

Variable	Computed value	p-value	Decision on H_o	Interpretation
Curriculum	2.533	0.015	Reject	Significant
Pedagogy	1.329	0.185	Do not reject	Not significant
Evaluation	1.770	0.078	Do not reject	Not significant
$\alpha = 0.05$				

The study revealed a significant difference in the assessment of LMS applications in the curriculum between administrators and faculty, leading to the rejection of the null hypothesis. Faculty members provided more accurate assessments due to their direct role in implementing the curriculum. Their firsthand experience in applying e-learning tasks and selecting appropriate media for course delivery positions them as key figures in curriculum execution. This finding aligns with insights from the Focus Group Discussion, where both administrators and faculty agreed that teachers play a central role in curriculum development and implementation due to their knowledge and classroom responsibilities. This supports the assertion by AlShamary (2016) that the Learning Management System (LMS) is an effective electronic platform for teaching. It facilitates instructional delivery and supports various academic functions. In line with this, Arriz (2014) emphasized that LMS enhances instructional strategies by placing students at the center of the teaching and learning process, thereby promoting active learning and student engagement. In contrast, no significant differences were found between administrators and faculty in their assessment of the LMS

application in pedagogy and evaluation, resulting in the acceptance of the null hypotheses for these areas. Both groups shared similar perceptions, acknowledging LMS as a valuable tool in instructional delivery and in assessing student performance, reflecting a unified view of LMS's effectiveness in these educational aspects. This is aligns with the perspective of Abbey and Baylis (2011), who emphasized that digital tools, including Learning Management Systems (LMS), support core assessment principles by allowing educators to better identify and manage students' individual needs. These tools provide access to a wide range of interventions, learning materials, and resources, thereby enhancing the ability of teachers to deliver more targeted and effective instruction.

4.2. Problems and Challenges in the Utilization of Learning Management Systems

Navigating an online Learning Management System (LMS) can be challenging for students, regardless of their prior experience with online learning. Each LMS has different levels of accessibility and functionality, which can significantly influence whether a student's learning experience is positive or negative. For students to engage effectively in online classes, they must understand how to use the platform, access course materials, and communicate with instructors and peers. A supportive environment facilitated by IT professionals, staff, and faculty helps ensure students feel confident and well-guided in using the LMS, ultimately enhancing their overall educational experience.

Table 3. Problems in the application of the learning management system.

Items	Administrator		Faculty	
	WM	VI	WM	VI
1. Insufficient time to plan technology lessons, explore different internet sites, or examine various aspects of educational software.	3.28	A	3.05	A
2. Resistance to change concerning the use of new technologies and strategies by teachers	3.17	A	2.99	A
3. Inadequate technical support that impedes the smooth delivery of the lesson or classroom activity (e.g., failure to connect to the internet).	3.07	A	3.04	A
4. Unable to implement automated, personalized, and self-paced learning.	2.76	A	2.85	A
5. Poor choices of hardware and software requirements that are suitable for the LMS	2.83	A	2.76	A
6. Lack of learners' motivation and engagement	2.83	A	2.72	A
7. Inconsistency of the Institution in the Implementation of the E-Learning Environment	2.66	A	2.82	A
8. The bandwidth size of the server cannot support LMS.	2.59	A	2.88	A
9. Lack of administrative support shared and rendered to students using online platforms.	2.62	A	2.79	A
10. Lack of specialists/experts/personnel who can facilitate the use of LMS	2.62	A	2.74	A
11. Inefficiency of the LMS in terms of system, information, and service quality.	2.52	A	2.78	A
Composite mean	2.81	A	2.86	A

Table 3 presents that both administrators and faculty members commonly face the issue of insufficient time to incorporate technology into lesson planning when applying Learning Management Systems (LMS) in higher education institutions. This suggests that, despite the potential benefits of integrating new technologies, many educators stick to their existing lesson plans due to time constraints and satisfaction with their current methods. Since teachers already invest significant time and effort into developing engaging lesson plans, revising them to include LMS tools is often difficult to manage within their busy schedules.

The findings reinforce prior research highlighting the challenges educators face when integrating new technologies into their teaching. Cleaver (2014) introduced the concept of the double innovation problem, where teachers must first learn new technologies before redesigning their lesson plans to incorporate them, an effort-intensive process that adds to their already demanding workload. This difficulty is compounded by psychological resistance to change, as outlined by Pan (2013), who argued that such resistance often stems from fears related to job security, lack of communication, unclear benefits, and the effort needed to acquire new skills. In line with this, Nihuka and Voogt (2012) also pointed out that teachers' reluctance to adopt e-learning is a significant personal barrier, emphasizing the importance of understanding and addressing these concerns for the successful implementation of

educational technology. Table 4 presents that the application of Learning Management Systems (LMS) in Higher Education Institutions (HEIs) presents several challenges, particularly from the learners' perspective. Among these are low motivation, fear of failure, low self-esteem, and a perceived lack of ability to use the system effectively. These issues hinder students' willingness and ability to engage with LMS platforms. Salamone (2010) emphasized that motivation plays a crucial role in regulating behavior, enabling individuals to seek out rewarding stimuli and avoid negative ones, an insight that helps explain students' reluctance when faced with unfamiliar technologies. Additionally, Sutherland and Oswald (2015) argued that student engagement is not merely a response to teaching strategies but is influenced by a complex set of psychological and contextual factors, further complicating the effective use of LMS in academic settings.

Table 4. Challenges in the application of the learning management system.

Items	Administrator		Faculty	
	WM	VI	WM	VI
1. Accessibility to information and communication technology materials and other related resources	3.28	A	3.20	A
2. Sustainability of training in pedagogic and digital literacy	3.24	A	3.22	A
3. Acquisitions and maintenance of technological infrastructures	3.21	A	3.19	A
4. Presence of subject matter experts with no prior instructional design knowledge	3.14	A	3.24	A
5. Greater expectations for a higher level of student engagement	3.14	A	3.21	A
6. Creating among learners a culture of technological advancement	3.07	A	3.29	A
7. Development of efficient and effective knowledge and skills on the use of LMS	3.07	A	3.25	A
8. Maintaining personal and social relationships among students	3.00	A	3.32	A
9. Ability to transform dull subject matter into amazing e-learning experiences	3.07	A	3.18	A
10. Availability of a perfect e-learning authoring tool or learning platform	2.83	A	3.21	A
Composite mean	**3.11**	**A**	**3.23**	**A**

Higher Education Institutions (HEIs) face significant challenges in implementing Learning Management Systems (LMS), with limited access to ICT (Information and Communication Technology) resources emerging as a major barrier. Key issues include the lack of genuine software, insufficient computer availability in classrooms, slow internet connectivity, and low motivation among both teachers and students to utilize ICT tools. Additional obstacles include inadequate training, outdated equipment, a shortage of skilled technical staff, weak administrative support, and poorly designed course curricula. These factors collectively hinder the effective adoption and utilization of LMS in HEIs. The findings emphasize that both administrators and faculty members identify the sustainability of training in pedagogic and digital literacy as a major challenge in implementing Learning Management Systems (LMS). This aligns with Boyles (2011); Fahy (2014) and Jaques and Salmon (2017b), who identified technical issues, the complexity of systems, sequencing of activities, and the challenge of learning new media as obstacles to integrating multimedia in educational environments. Interview responses from administrators support this by highlighting the need for continuous professional development to help teachers adopt new pedagogies and tools. Furthermore, it is suggested that teacher trainers and policymakers should understand the barriers and assess the cost-effectiveness of various training strategies to ensure feasible and sustainable implementation for all stakeholders.

The findings reveal that both administrators and faculty members share similar views on the challenges and problems in the implementation of Learning Management Systems (LMS) in higher education institutions (HEIs), as indicated by the composite mean. This consensus suggests the need for HEIs to consistently adapt and respond to these challenges by prioritizing teacher training that promotes constructivist, student-centered approaches. Emphasis should be placed on professional development initiatives focused on effective technology integration in instruction.

The successful integration of LMS requires the collaborative efforts of educators, technology specialists, administrators, researchers, and software developers. Despite the difficulties, the long-term benefits for educational institutions, educators, and students are substantial. This is supported by (Jaques & Salmon, 2017b), who emphasized that effective orientation for users, delivery of quality content through user-friendly systems, and improved

asynchronous interactions between lecturers and students are essential prerequisites for maximizing the benefits of e-learning technologies.

5. CONCLUSION

The Learning Management System (LMS) is an interactive digital platform designed to efficiently manage lesson content, accessible via any web-enabled device. In higher education institutions (HEIs), LMS is utilized through various media to create engaging lesson presentations and manage student records. Administrators and faculty members generally agree on LMS application in pedagogy and evaluation but differ in their views on its role in curriculum implementation. Common problems include limited time for planning technology-integrated lessons and teacher resistance to change, while major challenges involve inadequate access to ICT resources and the need for sustainable training in pedagogical and digital skills.

Funding: This study received no specific financial support.
Institutional Review Board Statement: The study involved minimal risk and adhered to ethical guidelines for social science fieldwork. Formal approval from an Institutional Review Board was not required under the policies of Batangas State University, Philippines. Informed verbal consent was obtained from all participants, and all data were anonymized to ensure participant confidentiality.
Transparency: The author states that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Competing Interests: The author declares that there are no conflicts of interests regarding the publication of this paper.

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