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Evaluating lecturer satisfaction towards learning management systems in private universities

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Abstract

This study investigates lecturer satisfaction with Learning Management Systems (LMS) in private universities in Myanmar, a context where digital learning adoption is relatively recent. This study employs the Stimulus-Organism-Response (S-O-R) model as a theoretical framework, examining how external stimuli (system quality, information quality, self-efficacy, and technical support) influence internal cognitive processes (perceived usefulness and perceived ease of use), ultimately affecting lecturer satisfaction. A quantitative approach using a survey questionnaire was administered to 135 lecturers from private universities in Yangon. According to the results, self-efficacy and technical support significantly positively influence perceived usefulness and ease of use. System quality also positively influences perceived usefulness. Furthermore, perceived usefulness and ease of use significantly influence lecturer satisfaction. The findings provide valuable insights for universities and IT developers seeking to optimize LMS implementation and support, ultimately enhancing teaching effectiveness and lecturer satisfaction in Myanmar's evolving digital landscape of higher education.

1. Introduction

Higher education institutions, particularly universities, have been urged to adapt their course offerings to keep up with the development of information and communication technologies, making educational activities increasingly reliant on the internet and online applications. These recent developments have given rise to a new idea known as e-learning within education. E-learning is technology-based learning in which lecturers electronically distribute course materials to distant students across a computer network (Zhang et al., 2004). Due to this recent transition, universities are increasingly promoting online courses to increase student participation, create new revenue streams, and reduce the time and place limits associated with traditional education. These e-learning activities are supported by several technical advancements, including course websites, accounting systems, learning and student administration systems, and content production tools (Paulsen, 2003). Among these, the Learning Management System (LMS) is a widely adopted tech innovation in advanced education that facilitates course activities in a digital setting.

Higher education institutions use LMS to support their course curriculum with various tools, including discussion boards, forums, chat, online grade posting, online exams, file sharing, assignment management, syllabi, schedules, announcements, and course plans (Fındık Coşkunçay & Özkan Yıldırım, 2013). LMS platforms allow lecturers to administer tests, distribute information, and track students' progress in an organized and easily accessible online setting (Lassoued et al., 2020). As a result, LMS has transformed contemporary education by acting as a centralized platform that combines administrative, instructional, and learning tasks. By providing lecturers and students access to educational resources at any place and moment, these systems aim to increase educational flexibility.

Additionally, LMS facilitates collaborative tools, including group projects, video conferencing, and discussion boards, all promoting interactive learning (Martin et al., 2020). Therefore, LMS are digital platforms that have

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revolutionized contemporary education by offering a centralized setting for communication, performance monitoring, and material distribution. Dhawan (2020) asserts that the efficient use of this technology is critical to enhancing learning quality, expanding access to training and education, delivering cost-effectiveness, and lowering educational expenses. LMS has become essential in both conventional and digital learning environments because it can improve flexibility, accessibility, and engagement. While students benefit from self-paced learning and access to various resources, lecturers can create interactive courses, track student progress using analytics, and give timely feedback (Lassoued et al., 2020).

The global shift toward digital education, spearheaded by significant events like the COVID-19 pandemic and rapid technological advancements, has further highlighted the significance of LMS in higher education. LMS became a lifeline for educational institutions at this time, allowing learning to continue even in the face of disturbances brought on by physical distance (Adedoyin & Soykan, 2020). This change has sped up the global adoption of digital learning platforms, underscoring their critical function in guaranteeing innovation and continuity in education. As these platforms become essential for delivering education in the digital era, LMS use has gradually increased in universities worldwide, including private universities in Myanmar. Due to increased competition and the need for updated teaching methods, private universities in Myanmar are increasingly using LMS to improve academic delivery and student engagement.

To successfully implement and effectively use these platforms in higher education, universities must understand lecturers' perceptions of LMS. Since lecturers are one of the main stakeholders in adopting and integrating LMS, their views and involvement with the technology directly influence how well it enhances teaching and learning. Research indicates that perceptions of lecturers influence how they utilize LMS features such as content delivery, assessment, and student engagement tools (Kite et al., 2020). To overcome obstacles and challenges when adjusting to new technology, address the training they need, and successfully integrate into daily practices, it is essential to understand how lecturers perceive the adoption of LMS in the context of private universities in Myanmar, where the shift towards digital learning is still relatively new. Therefore, understanding these elements enables universities to support their faculty better, enhance the effectiveness of LMS implementation, and create a more supportive and effective teaching environment that empowers lecturers and improves educational outcomes. The current research focuses on the following two objectives. The first is to describe the satisfaction of lecturers towards LMS, and the second is to analyze the effect of influencing factors on the satisfaction of lecturers towards LMS.

2. Literature review

This section discussed the concept of a learning management system (LMS), lecturer satisfaction towards LMS, theoretical background based on the stimulus-organism-response (S-O-R) model, research framework, and hypothesis development.

2.1. Learning management system (LMS)

LMS is becoming a crucial component of higher education, especially at universities where online learning systems simplify training delivery, communication, and assessment. LMS is one of the most popular web-based programs, and its usage at universities is growing (Dutta et al., 2013). Accordingly, it is a technology-based solution that gives students access to educational resources and learning content to help them learn more. It also allows lecturers to produce personalized learning materials utilizing various pedagogical models in an online modality (Goh et al., 2014). Zanjani et al. (2013) identified three primary functions of LMS. Firstly, LMS provides lecturers and students an interactive interface in a reliable digital networking environment. Secondly, it offers curricular materials and tests in an electronic format for learning objectives. Finally, it integrates specific tools for monitoring classroom activity.

LMS includes diverse features that facilitate remote learning, such as course management, lecture scheduling, student learning assessment, educational content dissemination, learning progress monitoring, support for virtual social communities, communication tools, and robust system security (Borabo et al., 2024). Selecting an appropriate LMS is contingent upon several criteria, including desired technical features, financial constraints, and educational objectives. According to Katsaris and Vidakis (2021), it can be either cloud-based or installed, open-source or proprietary, and come in both free and paid versions. Users have a variety of LMS choices. Blackboard, Moodle, Google Classroom, Schoology, Canvas, Brightspace, Edmodo, Absorb LMS, and Talent LMS are several well-known LMS platforms (Katsaris & Vidakis, 2021). Lecturers frequently use LMS to create online course

materials, assess students' progress, and help them enhance their critical thinking while collaborating on university assignments (Zanjani et al., 2016).

According to Walker et al. (2016), LMS offers learning modules, course assessments, and grading that can all be tailored to fit teaching and learning requirements. Lecturers and students benefit from non-traditional teaching and learning methods supported by online learning strategies (Anshari et al., 2017). LMS has emerged as a crucial instrument for managing e-learning and can raise educational standards. Using technology, LMS allows users to make learning accessible and autonomous, customize training programs and courses, centralize learning materials, and simplify tracking learning outcomes (Bradley, 2021). LMS integration in education has a positive effect. However, some issues still need to be resolved, including improved pedagogical approaches, better integration with other systems, better support for lecturers and students, IT infrastructure, system-related problems, and policy issues (Bervelly & Umar, 2017). Additionally, the lack of parental involvement in LMS makes it more difficult for parents to oversee the academic development of their children (Xin et al., 2021).

2.2. Lecturer satisfaction towards LMS

Satisfaction is generally an individual's joy or despair about something resulting from comparing the actual results with expectations (Alkhateeb & Abdalla, 2021). According to DeLone and McLean (2016), user satisfaction related to information systems should encompass the entire customer experience cycle, from information search to purchase, payment, receipt, and service. Adayemi et al. (2024) further state that user satisfaction is the degree to which consumers are pleased with reports, websites, and support services. Additionally, DeLone and McLean (2016) note that user satisfaction is crucial for assessing how customers feel about web-based commerce. In e-learning, user satisfaction refers to the extent to which users – including lecturers and students – believe that an online learning environment meets their needs and expectations (Sun et al., 2008). It contains several elements, such as platform usability, the quality of course materials, instructional design effectiveness, user engagement, and the overall experience of using the platform. A Learning Management System (LMS) is the e-learning digital platform most commonly used by universities to conduct online courses (Simelan-Mnisi, 2023).

One of the key considerations in evaluating the efficacy and broad adoption of these digital platforms in educational institutions is lecturer satisfaction with LMS. Al-Fraihat et al. (2020) define lecturer satisfaction with LMS as the extent to which lecturers are satisfied with the features, functionalities, and general experience of utilizing the LMS in their instructional activities. This includes essential components like the convenience of use, the efficiency of the tools offered, the caliber of support, and the influence of LMS on improving teaching and learning outcomes. An excellent LMS enables instructors to upload materials, design interactive classes, administer tests, and keep track of students' progress (Kite et al., 2020). Furthermore, if an LMS is simple to use, straightforward, and doesn't need a lot of technical expertise, lecturers are more inclined to be satisfied with it (Cantabella et al., 2018). Consequently, a favorable user experience is facilitated by usability qualities, including easy navigation, understandable displays, and few technological issues. Lecturer satisfaction can be significantly increased by support from the administration, particularly when it comes to acknowledging efforts made to teach online and matching LMS features with instructional objectives (Martin et al., 2020). A satisfied lecturer is more likely to incorporate the LMS completely into their teaching methods, which will improve student involvement and the quality of instruction. (Cantabella et al., 2018).

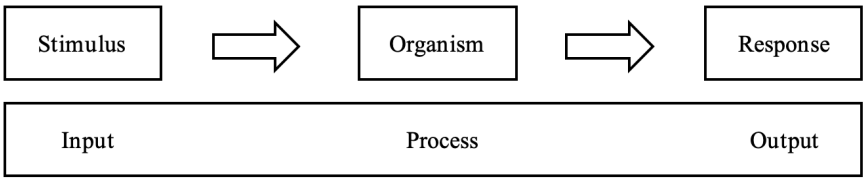
2.3. Theoretical background: Stimulus-Organism-Response (S-O-R) model

The S-O-R model is a popular theoretical framework that explains how people interpret outside stimuli and how they influence their actions and reactions. Mehrabian and Russell (1974) initially established the model, which has since been modified in various domains to examine how people behave in response to technological and environmental stimuli. The S-O-R model highlights the emotional or emotion-evoking aspects of environments regarded as visual indicators (Wohlwill, 1976). Bitner (1992) extended the application of the S-O-R model to servicescapes by integrating cognition and physiology, whereas Mehrabian and Russell (1974) concentrated solely on emotional reactions.

The cognitive and emotional processes of an integrated S-O-R model, which was introduced more recently, consider all prior experiences, including long-term memory (Jacoby, 2002). Kim and Lennon (2013) expanded the S-O-R model to incorporate both external and internal information sources (stimuli) that influence customer intention (response) through emotions and thoughts (organism). Besides offering a traditional basis for research on consumer behavior, nowadays, the S-O-R model is used to examine information technology utilization (Lee & Chen, 2021). In comprehending how lecturers perceive LMS, the S-O-R model can provide a useful understanding

of how lecturers respond to the technological aspects of LMS and how their cognitive and affective responses influence their reactions.

Figure 1. Conceptual framework of S-O-R model



Source: Kim et al. (2020)

2.4. Research framework and hypothesis development

Fiore and Kim (2007) explained that external stimuli influence an individual's interior moods. An organism connects stimuli and behavior, controlling the final behavior in reaction to the input. The summary of the outcomes for regulating an organism is called the response. In the context of education technology, especially in LMS usage, the S-O-R framework offers a theoretical basis for comprehending how external stimuli (system-related factors) influence the internal cognitive processes of users (perceived usefulness and perceived ease of use), eventually influencing the behavioral responses of users (satisfaction). The hypotheses for the study are generated and grounded in the relationship between these components.

2.5. Stimulus factors and organisms

Based on the S-O-R model, stimuli are elements of the external environment that cause emotional and cognitive reactions. The primary stimuli in the current study are system quality, information quality, self-efficacy, and technical support.

System quality, perceived usefulness, and perceived ease of use: DeLone and McLean (2016) define system quality as the performance of the information system. In the current study, system quality reflects LMS's overall technical performance, dependability, and efficiency. Lecturers are likely to find a system that is helpful and easy to use when it operates well (DeLone & McLean, 2016). It has been demonstrated by Fathema et al. (2015), and the study emphasized that system quality had favorable effects on LMS usage of lecturers at universities in terms of perceived usefulness and perceived ease of use. Therefore, a more favorable opinion of the perceived usefulness and ease of use is influenced by good system quality, including features like quick loading times and smooth integration.

H1a: System quality has a positive influence on perceived usefulness.

H1b: System quality has a positive influence on perceived ease of use.

*Information quality and perceived usefulness, perceived ease of use:*According to DeLone and McLean (2016), information quality encompasses the desired qualities of the outputs of a system, including completeness, correctness, timeliness, relevance, usability, and accessibility. The material's correctness, applicability, and comprehensiveness in the LMS are considered aspects of information quality in the current study. According to several scholars, perceived usefulness and ease of use are determined mainly by information accuracy (Alshurideh et al., 2021; Cheng, 2012). Information quality is positively correlated with perceived usefulness and perceived ease of use, according to research by Suleiman et al. (2023). Therefore, lecturers are better equipped to provide effective teaching when they can access top-notch resources.

H2a: Information quality has a positive influence on perceived usefulness.

H2b: Information quality has a positive influence on perceived ease of use.

Self-efficacy, perceived usefulness, and perceived ease of use: According to Trinidad (2020), self-efficacy is the conviction that an individual can plan and carry out the actions necessary to achieve specific performance goals. When it comes to using an LMS, self-efficacy pertains to the judgment or confidence of a lecturer in his or her ability to use, navigate, and operate the LMS. Perceived usefulness and perceived ease of use are often stronger among users with higher levels of self-efficacy. According to earlier studies, users' self-efficacy significantly im-

proves their perceptions of perceived usefulness and ease of use. (Ashraf et al., 2020; Park et al., 2012). Furthermore, Fathema et al. (2015) investigated how faculty members in post-secondary institutions used LMS. According to that study, the perceived self-efficacy of faculty members significantly enhances their view on the system's usefulness and ease of use. As a result, lecturers who have greater self-efficacy are more prone to think the LMS is practical and easy to use.

H3a: Self-efficacy has a positive influence on perceived usefulness.

H3b: Self-efficacy has a positive influence on perceived ease of use.

Technical support, perceived usefulness, and perceived ease of use: Technical support includes help from IT experts and others to resolve hardware and software issues, to offer technical services to users, and to make technology use easier (Sulaiman et al., 2023). The accessibility of technical assistance can significantly influence how lecturers see LMS. Aparicio et al. (2017) found that sufficient support increases perceived usefulness and ease of use by improving system usability and lowering annoyance. Through technical assistance, Alshammari (2020) found that students' adoption of LMS is influenced by perceived usefulness and ease of use. In addition, according to research conducted by Zheng et al. (2018), technical support influences perceived usefulness and ease of use.

H4a: Technical support has a positive influence on perceived usefulness.

H4b: Technical support has a positive influence on perceived ease of use.

2.6. Organism factors and response

Based on the S-O-R model, the organism components in this study represent internal cognitive processes that influence behavioral reactions, especially lecturer satisfaction. These cognitive processes are viewed as perceived usefulness and perceived ease of use.

Perceived usefulness and satisfaction: According to Sulaiman et al. (2023), perceived usefulness is the subjective likelihood that a prospective user would feel more satisfied and perform better at work when utilizing a specific application system. In this study, perceived usefulness measures how much a lecturer thinks utilizing an LMS improves the efficacy of their instruction. Studies have pointed out that users are more prone to be satisfied with a system's performance when they believe it to be helpful (Motaghian et al., 2013; Wang & Wang, 2009). According to the study by Fathema et al. (2015), perceived usefulness and ease of use considerably impact the actual utilization of LMS, especially among academicians.

H5: Perceived usefulness has a positive influence on lecturer satisfaction.

Perceived ease of use and satisfaction: The extent to which a potential user anticipates the intended system to be effortless is known as perceived ease of use (Sulaiman et al., 2023). Perceived ease of use in this study relates to how simple lecturers find the LMS to use and navigate. Like any other information system, an LMS will be more appropriate and used by lecturers if it is user-friendly, has advantages, and gives them academic tools (Taylor & Todd, 1995). According to several research studies, LMS utilization is significantly influenced by perceived ease of use. The significance of the connected route between perceived ease of use and LMS use was demonstrated by Ngai et al. (2007). Furthermore, a study by Sulaiman et al. (2023) focused on identifying factors influencing university lecturers' use of LMS. According to that study, LMS utilization and perceived ease of use correlate positively.

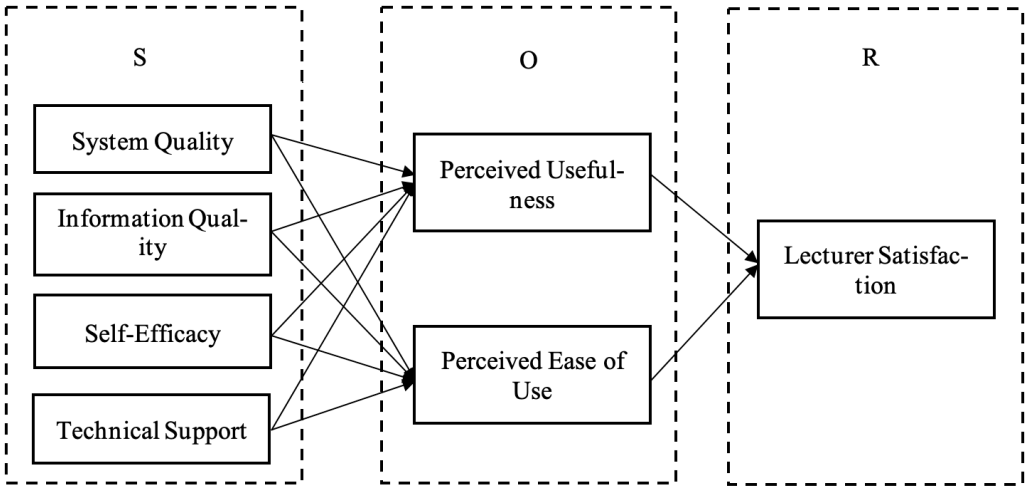
H6: Perceived ease of use has a positive influence on lecturer satisfaction.

3. Methodology

This research has ethics committee approval from the Myanmar Research Synergy Association (MRSA) with 10/08/2024 and ethical number MRSA20240807.

Two main objectives direct the present study. The first is to describe lecturers' satisfaction with LMS and analyze the factors influencing this satisfaction. This study organizes the research techniques using the research onion model developed by Saunders et al. (2019). It uses a positivist research philosophy to objectively quantify lecturers' satisfaction with LMS in private universities. Using a deductive method, empirical data is gathered to assess current hypotheses on LMS satisfaction.

Figure 2. Research framework



Source: Author (2025)

The study uses a quantitative and survey research method, with self-administered questionnaires as the main data-gathering instrument. Primary data is gathered from 135 lecturers employed by private universities in the Yangon area, while secondary data is collected from scholarly publications and pertinent literature. A simple random sampling method is employed to reduce prejudice and guarantee fairness. Data is collected using a cross-sectional time horizon from August 2024 to January 2025 to capture present satisfaction with LMS.

There are four sections on the survey form: A, B, C, and D. Section A concentrates on the demographic profile of respondents to obtain some background information. The stimuli factors, including system quality, information quality, self-efficacy, and technical support, are described in section B. Section C discusses the organism factors – perceived usefulness and perceived ease of use –. As a response factor, lecturer satisfaction is explicated in section D. To align the context of LMS implications in private universities, all measuring items are selected from prior research and slightly modified.

The measurement items of the stimuli factors, including system quality, information quality, self-efficacy, and technical support, are adopted by Sulaiman et al. (2023), Alshammari (2020), and Alshibly (2014). The measurement items of perceived usefulness and perceived ease of use are amended from Pan et al. (2024) and Ashrafi (2022). The measurement items for lecturer satisfaction are adopted from Alzahrani and Seth (2021). Every measurement item is scored on a five-point Likert scale, with 1 denoting strongly disagree, 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree). With SPSS software, the gathered data will be examined using descriptive and inferential statistical techniques to investigate the study's objectives.

3.1. Data analysis and findings

This section provides a concise analysis of the collected data. It begins with an overview of the respondents' demographic characteristics, followed by descriptive statistics summarizing key variables. The reliability test is discussed to ensure the validity of the research instrument. The regression analysis then examines the relationships between variables. The section concludes with the results of hypothesis testing, determining the support for the proposed hypotheses.

3.2. Demographic information of respondents

Table 1 presents the demographic information of respondents, which provides valuable insights into the characteristics of the respondents in this research study.

According to Table (1), the sample consists of 135 participants, with a gender distribution of 32% male and 68% female, indicating a higher representation of female respondents. In terms of age, the majority fall within the 25–34 age group (50%), followed by 35–44 years (28%) and 45–54 years (22%), with no respondents above 55 years. Regarding educational qualifications, most hold a master's degree (81%), while 19% have a PhD, reflecting a highly educated group. Academic ranking reveals that most respondents are lecturers (58%), with smaller proportions of senior lecturers (19%), assistant lecturers (15%), and professors (8%). Teaching experience varies,

with 38% having over eight years of experience, followed by 21% with 6.1–8 years, 18% with 4.1–6 years, 16% with 2–4 years, and 7% with less than two years, suggesting a relatively experienced teaching workforce. Subject specialization shows a predominance in business, economics, and finance (62%), followed by STEM (19%), languages (15%), and other disciplines (4%). Regarding the LMS used, Google Classroom is the most widely utilized platform (58%), followed by a customized LMS developed by the university (25%) and Moodle (17%), indicating a strong preference for Google Classroom as a primary teaching tool.

Table 1. Demographic information of respondents (n = 135)

No.	Demographic variable		Frequency (*f*)	Percentage (%)
1	Gender	Male	43	32
		Female	92	68
2	Age	25–34 years	68	50
		35 – 44 years	38	28
		45 – 54 years	29	22
		Over 55 years	-	-
3	Education	Master degree	109	81
		PhD degree	26	19
4	Academic Ranking	Assistant lecturer	20	15
		Lecturer	79	58
		Senior lecturer	25	19
		Professor	11	8
5	Teaching Experience	Below 2 years	9	7
		2 – 4 years	21	16
		4.1 – 6 years	24	18
		6.1 – 8 years	28	21
		Above 8 years	53	38
6	Teaching Subject	STEM	25	19
		Languages	20	15
		Business, Economics, and Finance	84	62
		Other	6	4
7	Type of LMS used	Moodle	23	17
		Google Classroom	78	58
		Customized LMS by University	34	25

Source: Survey Data (2025)

3.3. Descriptive statistics and reliability test

The following table presents the reliability analysis and descriptive statistics for key constructs measured in the study, including system quality, information quality, self-efficacy, technical support, perceived usefulness, perceived ease of use, and lecturer satisfaction.

According to Table (2), system quality recorded an overall mean of 3.96 with a strong Cronbach's Alpha of 0.851, indicating good internal consistency. The highest-rated item (SQ5 = 4.22) suggests a positive perception of system functionality. Information quality had an overall mean of 3.67 with a reliability score of 0.910, demonstrating high consistency. The highest score (IQ4 = 3.92) indicates that respondents value the accuracy and relevance of information. Self-efficacy showed a strong perception with an overall mean of 4.04 and a Cronbach's Alpha of 0.788, reflecting confidence in users' ability to utilize the system effectively, with SE3 receiving the highest mean (4.22).

Technical support was rated at 3.92 overall, with a reliability coefficient of 0.857, highlighting the importance of accessible support services. Perceived usefulness emerged as the highest-rated construct with an overall mean of 4.27 and a reliability score of 0.884, reinforcing the system's effectiveness, particularly PU5 (4.51), which suggests strong agreement on its practical benefits. Perceived ease of use scored 4.09 overall with a Cronbach's Alpha of 0.771, demonstrating ease of system interaction. At the same time, lecturer satisfaction recorded an overall mean of 4.05 with a strong reliability score of 0.894, confirming positive user experiences, particularly in satisfaction with the system's overall performance (LS5 = 4.22). These findings suggest a well-functioning system with strong user engagement, usability, and technical support, contributing to overall lecturer satisfaction.

Table 2. Cronbach's alpha value and descriptive statistics of measurement model

No.	Constructs	Measurement items	Mean	Overall mean	Cronbach's alpha
1	System quality	SQ1	3.96	3.96	.851
2		SQ2	3.68		
3		SQ3	3.88		
4		SQ4	4.05		
5		SQ5	4.22		
6	Information quality	IQ1	3.41	3.67	.910
7		IQ2	3.83		
8		IQ3	3.63		
9		IQ4	3.92		
10		IQ5	3.56		
11	Self-efficacy	SE1	4.02	4.04	.788
12		SE2	3.93		
13		SE3	4.22		
14		SE4	4.03		
15		SE5	4.02		
16	Technical support	TS1	3.89	3.92	.857
17		TS2	3.92		
18		TS3	3.82		
19		TS4	3.91		
20		TS5	4.04		
21	Perceived usefulness	PU1	4.19	4.27	.884
22		PU2	4.24		
23		PU3	4.17		
24		PU4	4.26		
25		PU5	4.51		
26	Perceived ease of use	PEU1	4.17	4.09	.771
27		PEU2	4.03		
28		PEU3	4.15		
29		PEU4	4.06		
30		PEU5	4.05		
31	Lecturer satisfaction	LS1	3.88	4.05	.894
32		LS2	4.01		
33		LS3	4.07		
34		LS4	4.07		
35		LS5	4.22		

Source: Survey Data (2025)

3.4. Regression analysis

The regression analysis results presented in the following tables illustrate the influence of influencing factors – system quality, information quality, self-efficacy, and technical support – on the dependent variables, perceived usefulness, and perceived ease of use, and the influence of influencing factors – perceived usefulness and perceived ease of use – on lecturer satisfaction towards LMS. The statistical significance of each influence is assessed based on unstandardized coefficients (B), standard errors (SE), standardized beta coefficients (β), and significance values (Sig.). Additionally, the explanatory power of the models is evaluated using R square, adjusted R square, and the F-value.

Table 3. Influencing factors on perceived usefulness and perceived ease of use

Model	Perceived usefulness				Perceived ease of use			
	B	SE	β	Sig.	B	SE	β	Sig.
System quality	.176**	.078	2.263	.026	-.043	.055	-.782	.436
Information quality	.095	.061	1.550	.125	-.080	.041	-1.968	.152
Self-efficacy	.265***	.086	3.075	.003	.436***	.056	7.732	.000
Technical support	.180**	.086	2.098	.039	.328***	.056	5.838	.000
R Square	.643				.758			
Adj: R Square	.626				.747			
F - Value	39.574 (p = 0.000)				68.995 (p = 0.000)			

Source: Survey Data (2025), *** means 1% significant level, ** means 5% considerable level

The regression model demonstrates a strong explanatory power for perceived usefulness with an R square value of 0.643 and an adjusted R square of 0.626. The F-value of 39.574 is statistically significant (p = 0.000), indicating the model's overall effectiveness in explaining the variance in perceived usefulness. Among the independent variables, system quality significantly positively affects perceived usefulness (B = 0.176, β = 2.263, p = 0.026), suggesting that improving system quality enhances the perceived usefulness of the LMS. Similarly, self-efficacy exhibits a highly significant and strong positive influence (B = 0.265, β = 3.075, p = 0.003), indicating that lecturers with higher confidence in using the LMS are likelier to perceive it as applicable. Technical support also contributes significantly to perceived usefulness (B = 0.180, β = 2.098, p = 0.039), emphasizing the importance of adequate support services in increasing lecturers' perception of system utility. In contrast, information quality does not show a statistically significant relationship with perceived usefulness (B = 0.095, β = 1.550, p = 0.125), suggesting that the quality of information provided by the system may not directly influence lecturers' perception of its usefulness.

The model exhibits an even higher explanatory power regarding perceived ease of use, with an R square value of 0.758 and an adjusted R square of 0.747. The F-value of 68.995 is statistically significant (p = 0.000), confirming the model's robustness in explaining the variance in perceived ease of use. Among the independent variables, Self-efficacy demonstrates the most substantial positive influence (B = 0.436, β = 7.732, p = 0.000), indicating that individuals with higher self-efficacy find the LMS easier to use. Technical support also has a significant positive effect (B = 0.328, β = 5.838, p = 0.000), highlighting the role of technical assistance in enhancing lecturers' ease of LMS use. Conversely, system quality (B = -0.043, β = -0.782, p = 0.436) and information quality (B = -0.080, β = -1.968, p = 0.152) do not exhibit significant relationships with perceived ease of use, suggesting that these factors do not directly contribute to lecturer's perception of the usability of the LMS.

Table 4. Influencing factors on lecturer satisfaction

Model	B	SE	β	Sig.
Perceived usefulness	.711***	.157	4.532	.000
Perceived ease of use	.412**	.177	2.321	.023
R Square		.620		
Adj: R Square		.612		
F - Value		73.560 (p = 0.000)		

Source: Survey Data (2025), *** means 1% significant level, ** means 5% significant level

The results presented in Table 4 highlight the key factors influencing lecturer satisfaction, focusing on perceived usefulness and perceived ease of use. The regression model demonstrates a strong explanatory power, with an R-square value of 0.620 and an adjusted R-square of 0.612, indicating that these independent variables can explain approximately 61.2% of the variance in lecturer satisfaction. The overall significance of the model is confirmed by an F-value of 73.560 (p = 0.000), suggesting that the predictors collectively contribute to lecturer satisfaction. Perceived usefulness exerts the most substantial positive influence on lecturer satisfaction (B = 0.711, β = 4.532, p = 0.000), indicating that lecturers who perceive the LMS as applicable are significantly more likely to report higher satisfaction. Perceived ease of use also significantly influences lecturer satisfaction (B = 0.412, β = 2.321, p = 0.023), although its effect is comparatively lower than perceived usefulness. This suggests that while ease of use is an essential factor, lecturers place greater emphasis on the usefulness of LMS when evaluating their overall satisfaction.

3.5. Results of hypothesis testing

The following table presents a summary of hypotheses based on the results obtained from the testing process.

Table 5. Results of hypothesis testing

Hypothesis	Results
H1a: System quality → perceived usefulness.	Supported
H1b: System quality → perceived ease of use.	Not Supported
H2a: Information quality → perceived usefulness.	Not Supported
H2b: Information quality → perceived ease of use.	Not Supported
H3a: Self-efficacy → perceived usefulness.	Supported
H3b: Self-efficacy → perceived ease of use.	Supported
H4a: Technical support → perceived usefulness.	Supported
H4b: Technical support → perceived ease of use.	Supported
H5: Perceived usefulness → lecturer satisfaction.	Supported
H6: Perceived ease of use → lecturer satisfaction.	Supported

Source: Survey Data (2025)

4. Discussions and conclusions

This section comprehensively discusses the theoretical contributions and managerial implications derived from the study's findings. By examining the relationships among the components within the LMS context, this study extends existing theoretical frameworks and offers practical recommendations for private universities and IT developers.

4.1. Theoretical contribution

According to the findings from data analysis, this study enhances the theoretical framework in technology adoption and user satisfaction by clarifying the hierarchical structure of influencing factors and the importance of perceived usefulness and ease of use in determining lecturer satisfaction. Specifically, within the context of LMS implementation in higher education, particularly in private universities in the Yangon region, Myanmar, this research introduces a new model grounded in the S-O-R framework, establishing a well-supported theoretical link between perception and lecturer satisfaction. The results of this study are beneficial for improving models from the field of educational technology adoption, such as the Information Systems Success Model and the Technology Acceptance Model.

By illustrating the effect of certain external aspects on perceived usefulness and ease of use, the findings support and broaden the research on the Technology Acceptance Model (TAM) and ultimately shape lecturer satisfaction. According to the regression analysis, self-efficacy and technical support are the most critical antecedents affecting perceived usefulness and ease of use. This result is consistent with Bandura's Social Cognitive Theory (1986), which highlights that people with a better sense of their abilities are more inclined to embrace and effectively use technology. Moreover, this finding also aligns with the study conducted by Venkatesh and Bala (2008), which highlights the function of institutional support in promoting technical adoption.

Additionally, the results show that system quality strongly influences perceived usefulness, whereas perceived ease of use is not statistically significant with system quality. This implies that although a solid system quality in an LMS improves opinions of its usefulness, it does not enhance its ease of use. This outcome contributes to the Information Systems Success Model developed by DeLone and McLean (2003), clarifying how system quality shapes user perceptions through distinct mechanisms. Furthermore, the result that shows the lack of a substantial correlation between perceived usefulness and perceived ease of use suggests that lecturers may place greater importance on how well the LMS functions and the level of support it provides rather than the quality of the information it delivers.

The second regression model provides additional support for the S-O-R model by showing that lecturer satisfaction is strongly influenced by perceived usefulness and perceived ease of use, with perceived usefulness having the most decisive influence. According to these results, the Expectation-Confirmation Theory developed by Oliver (1980) is extended by this research, which shows that lecturers' perceptions about the effectiveness of LMS significantly influence lecturer satisfaction. Furthermore, the fact that perceived usefulness has a more significant influence than perceived ease of use suggests that lecturers are results-driven and focus more on whether the LMS improves their teaching ability than on how easy it is to use.

4.2. Managerial implications for universities and IT developers

The findings of this study offer several managerial implications for both responsible persons of private universities and IT developers aiming to improve teaching effectiveness through the use of LMS in private universities.

For those responsible in private universities, the results emphasize how important it is for organizations to give faculty support systems as a top priority in enhancing LMS adoption and satisfaction. Since self-efficacy and technical support are essential factors in determining perceived usefulness and ease of use, universities should provide focused training programs, practical workshops, and ongoing professional development to increase the confidence of lecturers in using the LMS. To guarantee a flawless digital teaching experience, specialized technical support teams should be set up to offer prompt troubleshooting and direction. University administrators should collaborate with IT developers to maintain high-performance standards, ensuring the LMS is stable, reliable, and seamlessly integrated with academic tools to enhance its usefulness and support digital learning.

Furthermore, responsible individuals in universities should concentrate on integrating LMS features that directly improve teaching effectiveness, such as data analytics for tracking student performance, interactive content creation tools, and AI-driven feedback mechanisms, since perceived usefulness is the strongest determinant of lecturer satisfaction. Universities should also enhance system functioning and technical support rather than content

quality because information quality does not significantly influence perceived usefulness and ease of use. Therefore, improving the capacity of LMS to support improved learning outcomes and ensuring that these tools align with the instructional objectives of lecturers could significantly increase lecturer satisfaction.

For IT professionals who have developed LMS to commercialize them in the education industry, this study emphasizes how crucial it is to create LMS platforms that highly value system quality and offer extensive technical assistance. To satisfy the diverse demands of lecturers in many academic fields, developers should concentrate on developing an LMS that is not only reliable and functional but also adaptable. Regular upgrades and maintenance should be carried out to keep the system up to date with user expectations and technical improvements. Developers should also consider incorporating features that boost self-efficacy, such as intuitive user interfaces and helpful onboarding guides, making it easier for lecturers to adopt and feel confident using the system.

Since the study highlights self-efficacy and technical support as key factors in lecturer satisfaction with the LMS, IT developers should work closely with universities to establish strong support systems. This includes designing user-friendly platforms with built-in troubleshooting tools, self-help resources, and direct support options. By focusing on usability and technical reliability, IT developers can facilitate smoother LMS adoption, ultimately enhancing teaching effectiveness and lecturers' overall satisfaction. Finally, universities and IT developers are key to improving the effectiveness of LMSs in teaching. Responsible persons and IT developers can create a more supportive and efficient learning environment that empowers lecturers and enhances educational outcomes by focusing on self-efficacy, technical support, system quality, and perceived usefulness.

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The author self-conducted the research design and implementation, analysis, and article writing without using AI applications.

Disclosure statement

The author reported no potential competing interest.

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This research has ethics committee approval from the Myanmar Research Synergy Association (MRSA) with 10/08/2024 and ethical number MRSA20240807. It adhered to the guidelines outlined in the Declaration of Helsinki for human subjects research. All responsibility belongs to the author.