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DEVELOPMENT OF STRATEGIC FRAMEWORK FOR LEARNING MANAGEMENT SYSTEM (LMS) CLIENT RETENTION

Mary Grace L. Prilles

School of Business and Accountancy, University of Nueva Caceres, J. Hernandez Ave. Naga City, Philippines

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ABSTRACT

This study investigates the drivers of client satisfaction within Learning Management System (LMS) ecosystems to develop a robust strategic framework for institutional retention. Moving beyond mere technical usability, the research explores how institutional profiles, including school type and operational longevity, intersect with five core functional dimensions: instructional content, pedagogy, assessment, academic integrity, and data analytics. Using a descriptive-correlational approach, data were synthesized from administrators and educators who were actively engaging with these platforms. While results indicate high baseline satisfaction, particularly in assessment and feedback loops, a clear gap emerges in the strategic utilization of analytics for institutional decision-making. Significant correlations were identified between a school's established history and its specific pedagogical application of the LMS. This provides the basis for a strategic model for localized onboarding and sustainable integration to ensure that LMS transitions from occasional digital tools to a permanent institutional infrastructure.

Keywords: *Learning management system (LMS), user satisfaction, client retention, pedagogical enhancement, educational technology, higher education, Philippines*

INTRODUCTION

Currently, education is rapidly evolving, and being technology-driven is increasingly recognized as a necessity in the field. Learning Management Systems (LMS) have

become integral to modern educational processes, supporting content delivery, communication, and assessment. Studies such as (Almarashdeh, 2016) LMS success factors study emphasize that LMS platforms significantly enhance teaching and learning efficiency when effectively implemented. Similarly, (Chirumamilla & Sindre, 2021). LMS review highlight that LMS adoption has accelerated globally, particularly due to the increasing demand for flexible and technology-supported learning environments. However, despite their widespread use, institutions face a critical challenge: sustaining long-term engagement among both students and educators. It is no longer sufficient for schools to merely operate an LMS; rather, the system must align with institutional practices and teaching methodologies to remain relevant.

Although LMS adoption rates are relatively high, actual utilization often remains limited. Many institutions use only a fraction of the system's capabilities, and more critically, users may fail to perceive its practical benefits. According to (Dahlstrom et.al., 2014) ECAR study on LMS, while LMS platforms are widely available, user engagement tends to focus on basic functions such as content access, with advanced features underutilized. This suggests that platform success is not solely dependent on usability but also on how well it integrates into daily academic routines. Furthermore, (Delialioglu & Yildirim, 2008). critical factors influencing LMS satisfaction argue that user satisfaction is influenced by multiple factors, including system quality, instructor attitude, and perceived usefulness, reinforcing the importance of contextual and institutional alignment.

Existing research has largely focused on usability and technical performance; however, there remains a gap in understanding the concept of "institutional fit" the alignment between LMS functionalities and the unique needs, culture, and practices of educational institutions. (Prior et. al., 2016) LMS adoption factors note that institutional support and compatibility with existing processes are critical determinants of LMS success, yet these aspects are often underexplored in empirical studies. This highlights the need to examine how LMS platforms interact with institutional habits and workflows rather than viewing them purely as technological tools.

By analyzing the responses of administrators and educators across five functional areas, this study identifies the key friction points where technology intersects with established practices. Moreover, it seeks to determine whether the perceived value of LMS varies according to institutional characteristics, such as years of operation. Ultimately, the study aims to develop a strategic model that fosters sustained LMS usage and client retention, positioning the system not merely as a tool but as an embedded component of institutional culture and practice.

Research Objectives

This study developed a strategic framework to attain Learning Management System (LMS) clients-retention. Specifically, it sought to answer the following objectives:

1. To determine the business profile of LMS clients in terms of educational elector offered, type of school, category, population, and years of operation.

2. To evaluate the level of satisfaction of LMS Clients along, instructional content and curriculum support, teaching and pedagogical enhancement, assessment and feedback mechanisms, academic integrity and security, and analytics and strategic decision-making.
3. To assess the business profile that significantly affect the satisfaction of LMS clients
4. To propose a strategic framework for effective customer retention of LMS clients.

METHODOLOGY

A descriptive-correlational research design was used in this study to examine the relationship between institutional profiles and LMS satisfaction. This design was considered appropriate as it enabled the objective observation of what is happening at present, alongside detecting significant relationships between variables e.g., school type, and length of time without manipulation of the environment.

The administrative audience and teachers from different schools, all using LMS, were selected. It is important to note that the researcher used a purposive sampling technique, with a minimum experience level of at least one academic year, resulting in people relatively having “settled” rather than merely onboarding patterns. Thus, the respondent pool in this research is not limited.

The primary research instrument was a structured survey categorized into five functional dimensions:

1. Instructional Content: resource hosting and accessibility evaluation;
2. Teaching Practices: pedagogy and synchronous/asynchronous flexibility;
3. Assessment: feedback loops and grading efficiency;
4. Academic Integrity: proctoring and plagiarism prevention;
5. Analytics: data visualization and reporting capabilities.

Data were collected via online Forms to maintain the digital context of the study.

The applied statistical tools were the Weighted Mean for general satisfaction or based on surveys and the Chi-Square Test of Independence for the association between the general satisfaction level and the institution’s dependent variables. The Likert scale scores were converted to a qualitative scale which was equivalently distributed from “Very Dissatisfied” to “Very Satisfied”.

RESULTS

This paper presents a comprehensive analysis and interpretation of the data collected in relation to the study’s objectives. Appropriate statistical techniques were applied to organize and examine the responses, ensuring that the results accurately reflect the

perspectives of the participating institutions. The discussion highlights key patterns, trends, and relationships observed in the data, providing deeper insight into the factors that influence LMS satisfaction. Findings are supported by tables and narrative explanations to enhance clarity and understanding.

DISCUSSION

Business Profile of the LMS Clients

The table shows the business profile of educational institutions describes their organizational characteristics and context, including sector, type (public or private), category, population size, and years of operation. These factors provide the basis for examining satisfaction with LMS features. Understanding this profile helps explain how institutional differences influence LMS adoption, user perceptions, and client retention.

Table 1. Institutional Profile of Respondents

Profile Variable	Category	Frequency	Percentage (%)
Educational Sector	K6	2	3.13
	K10	1	1.56
	K12	61	95.31
	Total	64	100
Type of School	Private School	64	100
	Total	64	100
Category	Elementary	62	96.88
	Secondary	2	3.12
	Total	64	100
Population	<500	53	82.81
	500–1000	10	15.62
	1000–5000	1	1.57
	Total	64	100
Years of Operation	<10	8	12.50
	10–20	22	34.37
	21–30	11	17.19
	31–40	12	18.75
	>40	11	17.19
	Total	64	100
Years of LMS Subscription	1–2	16	25.00
	3–4	21	32.81
	>4	27	42.19

Profile Variable	Category	Frequency	Percentage (%)
	Total	**64**	**100**

The table 1 presented the breakdown of the respondent profile focuses on the private sector, at 100% of the sample. At 4.69%, one may observe that public schools, the sample exhibits the K-12 education domain's overwhelming dominance. This goes directly against the tendencies depicted above due to the private sector's ambition to integrate digital solutions into stakeholders' experience in education facilities. Moreover, the subsequent development is especially characteristic of the private sector's management mentality. It is viable that 75.4% of the institutions fall into either the last year has flown by the test -year 'onboarding' period, or 42.19% is celebrating the fifth year of having to work with the software. Together, it results in having a stable user triangle at one's disposal, not on what to do, but talking about something else that merely makes the thing work.

Learning Management System Satisfaction

LMS satisfaction refers to how school administrators and teachers perceive the system's effectiveness, reliability, and support for instructional and organizational needs. It includes their experiences with key features such as content support, pedagogy, assessment, security, and analytics. High satisfaction indicates the LMS meets user expectations and enhances teaching and learning, while low satisfaction points to areas needing improvement.

Table 2. Level of LMS Satisfaction along Instructional Content and Curriculum Support

Indicator	Mean	Rank	Interpretation
Content is accessible to both teachers and students	4.55	1	Very Satisfied
Materials are aligned with institutional curriculum goals	4.50	2	Satisfied
LMS provides curriculum-aligned K–12 content	4.48	3	Satisfied
K–12 materials are updated and relevant	4.45	4	Satisfied
Instructor kits enhance teacher preparation	4.38	5	Satisfied
Essay evaluation tools are fair and transparent	4.31	6	Satisfied
Essay submission is simple and accessible	4.30	7	Satisfied
Kits are easy to integrate into lesson planning	4.19	8	Satisfied
Instructor kits contain sufficient resources	4.13	9.5	Satisfied
LMS supports student essay writing	4.13	9.5	Satisfied
LMS supports differentiated instruction	4.09	11	Satisfied
Teachers can provide timely feedback on essays	4.05	12	Satisfied
Overall	**4.23**		**Satisfied**

Table 2 shown the Instructional content support is generally robust the Overall Mean is 4.23, with strengths in accessibility with a Mean of 4.55 and curricular alignment with a Mean of 4.50. These foundational elements diminish administrative burdens on instructors. However, indicators requiring direct instructional intervention, such as differentiated instruction with a Mean of 4.09 and timely feedback with a Mean of 4.05, received lower scores. This suggests a functional plateau where the LMS excels as a delivery vehicle but fluctuates in effectiveness during interactive processes.

Table 3. Level of LMS Satisfaction along Teaching and Pedagogical Enhancement

Indicator	Mean	Rank	Interpretation
LMS is user-friendly for educators	4.53	1	Very Satisfied
LMS supports innovation and professional growth	4.45	2	Satisfied
LMS provides interactive learning tools	4.44	3	Satisfied
LMS promotes active student engagement	4.41	4	Satisfied
LMS supports varied teaching strategies	4.33	5	Satisfied
LMS enhances instructional delivery	4.30	6	Satisfied
LMS integrates well into teaching practice	4.25	7	Satisfied
LMS supports collaborative learning	4.21	8	Satisfied
LMS encourages student participation	4.17	9	Satisfied
LMS supports flexible teaching approaches	4.12	10	Satisfied
LMS provides AI-assisted teaching tools	4.00	11	Satisfied
AI features are reliable and accurate	3.91	12	Satisfied
Overall	**4.19**		**Satisfied**

Table 3 shown the teaching and pedagogical enhancement showed positive satisfaction (Overall M=4.19), with high scores for user-friendliness (M=4.53) and support for innovation (M=4.45). While the platform effectively facilitates diverse teaching strategies, a contrasting pattern emerges with AI-assisted tools (M=4.00) and AI reliability (M=3.91). This indicates that the transition toward more sophisticated, automated features is still in an evolutionary phase.

Table 4. Assessment and Feedback Mechanisms

Indicator	Mean	Rank	Interpretation
Quiz delivery speed	4.59	1.5	Very Satisfied
Automated checking efficiency	4.59	1.5	Very Satisfied
Immediate feedback	4.41	3	Satisfied
Flexible grading	4.38	4	Satisfied
Performance tracking	4.34	5	Satisfied
Results organization	4.28	6	Satisfied

Indicator	Mean	Rank	Interpretation
Assessment variety	4.22	7	Satisfied
Grading accuracy	4.19	8	Satisfied
Error minimization	4.16	9	Satisfied
Detailed feedback support	4.14	10	Satisfied
Overall	**4.45**		**Satisfied**

Assessment and Feedback Mechanism

Table 4 presents the level of satisfaction of LMS clients in relation to assessment and feedback mechanisms. This section highlights how administrators and teachers perceive the effectiveness of the LMS in facilitating student evaluations, providing timely feedback, and supporting continuous improvement in the teaching–learning process. The results offer insights into how well the system addresses institutional needs for fair, efficient, and responsive assessment practices.

Assessment mechanisms achieved high overall satisfaction with a mean of 4.45, driven by quiz delivery speed with a mean of 4.55 and automated checking efficiency with a mean pf 4.59. These functions are valued for their ability to streamline high-volume tasks. Conversely, lower ratings for detailed feedback support (M=4.14) suggest the platform is currently optimized for workload reduction rather than qualitative instructional complexity

Table 5. Academic Integrity and Security

Indicator	Mean	Rank	Interpretation
Fair implementation of policies	4.44	1.5	Satisfied
System reliability	4.44	1.5	Satisfied
Data privacy protection	4.41	3	Satisfied
Secure assessment environment	4.38	4	Satisfied
Trust in system safeguards	4.34	5	Satisfied
Activity monitoring	4.31	6	Satisfied
Reduction of dishonesty	4.25	7	Satisfied
Irregularity detection	4.22	8	Satisfied
Rule enforcement	4.20	9	Satisfied
Cheating prevention	4.18	10	Satisfied
Overall	**4.35**		**Satisfied**

Academic integrity received a positive perception an overall mean of 4.35, with high confidence in the fair implementation of policies with the Mean of 4.44 as well as the system reliability. However, lower rankings in cheating prevention with a mean of 4.18 suggest that technical features alone are insufficient to mitigate dishonesty without vigilant user practice and institutional monitoring.

Table 6. Analytics and Strategic Decision-Making

Indicator	Mean	Rank	Interpretation
Report clarity	4.53	1	Very Satisfied
Decision-making support	4.47	2	Satisfied
Progress tracking	4.45	3	Satisfied
Engagement monitoring	4.44	4	Satisfied
Learning gap identification	4.42	5	Satisfied
Instructional planning support	4.40	6	Satisfied
Data accuracy	4.38	7	Satisfied
Data-driven decisions	4.36	8	Satisfied
Teaching strategy improvement	4.33	9	Satisfied
Consistent analytics use	4.30	10	Satisfied
Overall	**4.47**		**Satisfied**

Table 6 presents the level of satisfaction of LMS clients in relation to analytics and strategic decision-making. This section highlights how administrators and teachers perceive the system's ability to generate useful data, support informed decisions, and guide institutional strategies. The results provide insights into the extent to which the LMS contributes to evidence-based planning and enhances overall organizational effectiveness.

Analytics features were highly regarded an overall mean of 4.47, particularly report clarity is the highest mean of 4.53. Despite this, lower rankings for consistent analytics use with a mean of 4.30 reveal a gap between the "availability" of sophisticated data and its actual "utilization" in daily institutional workflows.

Table 7. Chi-Square Test of Association Between Institutional Profile and LMS Satisfaction

Institutional Variable	LMS Dimension	χ^2 Value	p-value	Decision	Interpretation
Type of School	Instructional Content	110.611	0.834	Fail to Reject H_0	Not Significant
	Teaching & Pedagogical Enhancement	112.924	0.050	Reject H_0	Significant
	Assessment & Feedback	134.445	0.287	Fail to Reject H_0	Not Significant
	Academic Integrity	33.531	0.944	Fail to Reject H_0	Not Significant
	Analytics	33.501	0.944	Fail to Reject H_0	Not Significant

Institutional Variable	LMS Dimension	χ^2 Value	p-value	Decision	Interpretation
Population	Instructional Content	269.996	0.540	Fail to Reject H_0	Not Significant
	Teaching & Pedagogical Enhancement	213.582	0.172	Fail to Reject H_0	Not Significant
	Assessment & Feedback	280.080	0.371	Fail to Reject H_0	Not Significant
	Academic Integrity	116.790	0.184	Fail to Reject H_0	Not Significant
	Analytics	90.992	0.815	Fail to Reject H_0	Not Significant
Years of Operation	Instructional Content	208.124	0.858	Fail to Reject H_0	Not Significant
	Teaching & Pedagogical Enhancement	195.527	0.050	Reject H_0	Significant
	Assessment & Feedback	219.897	0.689	Fail to Reject H_0	Not Significant
	Academic Integrity	83.766	0.608	Fail to Reject H_0	Not Significant
	Analytics	83.774	0.608	Fail to Reject H_0	Not Significant
Years of LMS Subscription	Instructional Content	67.231	0.910	Fail to Reject H_0	Not Significant
	Teaching & Pedagogical Enhancement	60.656	0.452	Fail to Reject H_0	Not Significant
	Assessment & Feedback	69.103	0.880	Fail to Reject H_0	Not Significant
	Academic Integrity	25.603	0.781	Fail to Reject H_0	Not Significant
	Analytics	32.511	0.442	Fail to Reject H_0	Not Significant

Note: Significant at α = 0.05

Statistical significance was confined to the intersection of school type and years of operation with teaching and pedagogical enhancement (p = .05). This indicates that institutional context serves as a primary moderator for pedagogical integration. Conversely, no significant associations were found for instructional content, assessment, integrity, or analytics (p > .05), suggesting these core pillars remain consistent regardless of institutional characteristics.

The institutional adoption of the Learning Management System (LMS) in this study reflects a pattern where the platform functions as a stable support for routine and structured academic tasks. Satisfaction was highest in the Assessment and Feedback dimension (M = 4.45), particularly in features related to automated grading and efficient quiz delivery, which directly support instructional workload management. This aligns with prior findings that systems are more consistently used when they reduce effort and support core teaching tasks (Navarro et al., 2021; Oliver, 1980). At the same time, comparatively lower ratings in differentiated instruction and AI-assisted tools indicate that features requiring more active pedagogical engagement are less consistently utilized.

This suggests that while the LMS has become a regular part of institutional practice, its strengths remain concentrated in efficiency-driven functions rather than more complex instructional applications, consistent with observations that usability and familiarity shape the extent of feature use (Al-Maroof et al., 2023; Chou & Chou, 2021).

The results also show a disconnect between system capabilities' availability and their regular application, especially in analytics. Report clarity was rated highly (M = 4.53), but indicators pertaining to regular application were lower, indicating that routine decision-making has not yet fully incorporated data-driven tools. This is consistent with previous research showing that, despite their availability, analytics frequently need institutional support and interpretation to be used effectively (Johar et al., 2023; Borabo et al., 2024).

The chi-square results also revealed that differences in teaching-related LMS use are related to institutional characteristics, particularly school type and years of operation (p =.05). This bolsters the idea that institutional context, including experience, practices, and preparedness, influences LMS effectiveness in addition to system features. (Garcia, 2023).

Consequently, and to these patterns in particular, one contribution of the study is the development of the FOCUS strategic framework. Be that as it may, as a structured approach to improving LMS client retention, the framework stresses the following aspects: Functionality, Onboarding Excellence, Client Engagement, Understanding Client Needs, and Satisfaction. Notably, these elements are interconnected and, thus, jointly deal with the issue of both system utility and user experience. Given that basic LMS features are already well embedded in everyday practice, the challenge is to ‘move users up the use pyramid’ and help institutions stimulate their use of higher-level characteristics, primarily for pedagogical and real-time learning data purposes. Thus, by interfacing system capabilities with the institutional context and user logic, the framework reverses the accent to not only function as employment but also to feature significance. Thus, it establishes the LMS as not exclusively a technical invention but a feature in a wider instructional ecosystem where long-term retention arises from continuous interaction, institutional assimilation, and actual practice.

Conclusions

Based on the findings of this study, the following conclusions are drawn:

Functional Stability vs. Pedagogical Maturity. The high satisfaction levels across the core LMS functions suggest that platforms have achieved technical stability and now operate as reliable “digital infrastructure” for institutions. Yet, the analytics and differentiated instruction receive the lowest relative scores, implying that pedagogical maturity is still developing despite the technology’s availability.

Assessment as the Primary Retention Anchor. The data unequivocally name assessment and feedback efficiency the strongest satisfaction driver. Automated grading and quick feedback relieve faculty load the most and hence are the “Sovereign Variables” that create a high switching cost for institutions evaluating migration.

Analytics Utilization Gap. Users think that the data is there, that it is communicated clearly through the interface, but they also maintain that they are not acting on it systematically. This becomes the primary usage vulnerability for platform providers.

Institutional Context as a Pedagogical Moderator. The strong association between the measures of institutional environment and those of teaching practice shows that LMS is not a neutral technology that can be implemented in a one-size-fits-all manner. School type and longevity decide how the system is embroidered in the institution’s unique educational DNA.

Recommendations

The following actions are recommended:

LMS Providers (The LSRF Implementation): Transition from a “feature-based” marketing model to “practice-based” retention strategy. In this case, onboarding should be personalized to the profile of the institution – increasing assessment efficiency with early-stage clients and advancing analytics integration with mature institutions.

Institutional Administrators: Address the “Analytics Gap” by establishing role profiles for data-driven instructional design. Regular usage of LMS dashboards can reposition the system as a classroom utility to a tool for student retention and faculty development.

Educators/Faculty: Explore the platform’s “active learning” and collaboration tools. This transition from the information storage “digital filing cabinet” will better promote the system to a wider range of pedagogical strategies.

Future researchers: Conduct further longitudinal research on the evolution of LMS satisfaction’s “Pedagogical Layer” as new AI features are applied. Alternatively, investigate the qualitative perspectives on the Analytics Gap to inform future improvements in institutional decision-making.

Compliance with Ethical Standards

The study was conducted with a strong commitment to ethical standards. Informed consent was obtained from all participants before their involvement in the research, ensuring they were fully aware of the study's purpose and procedures. Confidentiality of responses was maintained throughout the data collection and reporting process, with all data presented in aggregate form to protect individual identities. Participants were also assured of their voluntary participation and informed of their right to withdraw from the study at any point without any consequences. These measures were implemented to uphold the integrity of the research and the rights of the participants.

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marygrace.prilles@unc.edu.ph