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UNIVERSITY LECTURERS' ADOPTION AND USE OF LEARNING MANAGEMENT SYSTEM (LMS) IN TERTIARY INSTITUTIONS IN ONDO STATE, NIGERIA

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Abstract

This study investigated university Lecturers' adoption and use of Learning Management System (LMS) in Ondo State. Three objectives with corresponding research questions and research hypothesis guided the study. The study employed survey research design. The population of the study consisted of all the University Lecturers in the State. The sample for the study was 270 Lecturers who were sampled using simple random sampling technique. A validated researcher-designed instrument titled Lecturers' Adoption and Use of Learning Management Questionnaire (LAULMSQ) was used for data collection. The reliability of the instrument was established using the Cronbach alpha method to obtain an index of 0.812. Two research questions and one hypothesis guided the study. Mean, standard deviation, frequency counts, t-test and PPMC were used for data analysis. The findings among others established the extent to which Lecturers in Universities in Ondo State adopted learning Management System (LMS) is high, while the level of use of Learning Management System for instructional delivery is low. Also, finding revealed that there was no significant difference between male and female Lecturers' level of adoption of LMS in Tertiary Institutions in the State. It was recommended, among others, that Institutions should provide ongoing, comprehensive training programs that go beyond initial adoption. Implementation of regular assessments and feedback mechanisms is necessary to understand the challenges Lecturers face in using LMS and address these promptly.

Key words: Learning management system, Adoption, Tertiary institution, Ondo State, Gender

Introduction

The importance of Information and Communication Technology (ICT) cannot be ignored in the society. Apparently, it has brought revolution into the educational sector and this revolution has incredibly enhanced the accessibility, quality, and efficiency of teaching and learning processes in various learning environments, especially tertiary institutions. The integration of ICT in education often provides various kinds of tools that support productive delivery of learning contents, promote collaborative learning environments and encourage effective communication. In tertiary institutions, especially in the university system, ICT tools such as computers, the internet, and various software applications have become inevitable since they help both facilitators and students achieve their short- and long-term educational goals. As affirmed by (Sarkar) 2020, the relevance of ICT in the educational system is obviously reflected in

its ability to enhance remote learning, personalize learning experiences, and provide immediate and easy access to large information resources.

It is important to state that one pivotal and noteworthy innovation in the realm of ICT-enabled education is the introduction of Learning Management Systems (LMS). As submitted by Hagene (2024), Learning Management Systems (LMS) are digital platforms that are designed to facilitate the delivery, administration, documentation, tracking, and reporting of educational courses and training programs. Watson and Watson (2019) describe LMS as software applications that support the management and delivery of instructional contents which support the centralization and automation of teaching and learning related tasks by institutions. Through LMS platforms, educators/teachers have access to structured teaching environment where they can effectively create and deliver learning content and assess and evaluate the performances of students through various strategies and materials performance. Furthermore, LMS is known for its ability to enhance interactive, collaborative and vivid learning experiences.

LMS has been adopted in various learning institutions and this adoption has rapidly grown over the years especially because of its ability to innovatively combine both remote and hybrid learning models. According to Pathak et al., (2019), this adoption is portrayed as the decision-making process in which individuals or organizations begin to utilize an innovation or technology. In a similar vein, Hall and Hord (2015) claim that adoption is the process of taking up and integrating a new tool or practice to address specific needs within an organization or institution. In Nigeria, the adoption of LMS has been greatly influenced by the necessity to overcome some of the problems connected to education such as large class sizes, insufficient infrastructure, and the need for flexible learning schedules. Pappas (2019) opines that LMS enables educators to not only design but deliver content, assess learners, and provide well-timed feedback leading to the improvement of the overall quality of education.

It is worthy of note that adoption and effective utilization of Learning Management Systems in Nigeria hold great promise for enhancing the quality, accessibility, and inclusivity of tertiary education. As reflected in the study of Furqon et al., (2023), when LMS is judiciously harnessed in tertiary institutions, it becomes easy to overcome geographical barriers, embrace various learning needs, and promote a culture of lifelong learning and professional development among students and educators. However, (Oguguo et al., 2021) note that the successful implementation of LMS requires meticulous planning, investment in infrastructure and capacity building, and adequate and appropriate training of stakeholders. As Nigeria continually explores the opportunities of the digital era, introducing LMS into the educational sector can lead to more dynamic, engaging, and equitable learning experiences for both educators and learners. This is why Hew and Brush (2020) encourage academics to embrace the adoption and integration of LMS to ensure the delivery of various learning contents and to enhance teaching and learning.

From the perspective of Hagene (2024), LMS has the ability to facilitate effective communication and collaboration among learners and educators through discussion forums, messaging systems and virtual classrooms which can promote a sense of community and active learning. These collaborative tools support the dissemination of knowledge, support of peers, and also enrich students' learning experiences. Apart from content delivery and communication, (Pappas 2019) posits that LMS is useful for empowering instructors to monitor and effectively assess students' academic performances. Additionally, the application of LMS provide automated grading capabilities that save time for instructors especially

university lecturers, and provide well-timed and constructive feedback to students, leading to students' sound comprehension and retention and easy tracking of students' academic progress (Hew & Brush, 2020).

However, despite the remarkable potential of LMS to support and promote educational experiences, (Yakubu et al., 2020) confirm that the adoption and utilization of these systems in Nigerian universities are still very low. Walson & Walson (2019) identify different reasons for the limited adoption and use of LMS in Nigerian universities and they include non-existent operational policies, financial constraints, poor internet connectivity, resistance and insufficient investment in human and infrastructural facilities. Apart from the fact that only very few lecturers in Nigerian universities have fully utilized LMS, there is also limited research on lecturers' level of adoption and use of LMS in Nigerian universities particularly in Ondo State. Hence, there is need for this study. In other words, this present study addresses the level of lecturers' adoption and use of Learning Management System in Nigeria.

Objectives of the Study

The study aims at achieving the following objectives;

- 1) Determine university lecturers' level of adoption of learning management system (LMS) in Ondo State; and
- 2) Examine university lecturers' level of use of learning management system (LMS) in Ondo State.
- 3) Ascertain the relationship between the adoption and Lecturers' use of learning management system (LMS) in Ondo state.

Research Questions

1. What is the university lecturers' level of adoption of learning management system in Ondo State?
2. What is the university lecturers' level of use of learning management system in Ondo State?

Research Hypothesis

Ho: There is no significant relationship between university lecturers' adoption and use of learning management system in Ondo State.

Methodology

The study employed a descriptive survey research design. The sample population consisted of 270 lecturers randomly selected from three public universities in Ondo State. One university was randomly selected from each of the state's three senatorial districts (Ondo South, Ondo Central, and Ondo North). 90 lecturers were randomly selected in each of the universities. Data were collected using a researcher-developed questionnaire titled Lecturers Adoption and Use of Learning Management System Questionnaire (LAULMSQ), which consisted of three sections (A-C). Section A gathered demographic information including participants' qualifications and name of institution. Section B contained ten question items assessing lecturers' adoption of LMS while C consisted of ten questions on lecturers' use of LMS in tertiary institutions. Responses were recorded using a 4-point Likert Scale: Strongly Agree (SA = 4), Agree (A = 3), Disagree (D = 2), and Strongly Disagree (SD = 1). The questionnaire underwent face and content validation by two experts in test measurement and evaluation from the Department of Educational Foundation and Counseling in Adeyemi Federal University of Education, Ondo, to ensure accuracy, appropriateness, and completeness for the study. The instrument's reliability was confirmed using Cronbach's Alpha, yielding a coefficient of 0.803, indicating high reliability. Data analysis involved calculating mean scores and standard

deviations to answer the research questions, while Pearson Product Moment Correlation coefficient was used to test the research hypothesis, with significance set at the 0.05 alpha level.

Results

1. **Research Question 1:** What is the university lecturers' level of adoption of learning management system in Ondo State?

Table 1: University Lecturers' Level of Adoption of Learning Management System (LMS) in Ondo State.

Item	SA	A	D	SD	Mean	Std. D
I am aware of what a Learning Management System (LMS) is.	111	89	44	26	3.06	.98
I have received formal training on how to use the LMS.	132	90	37	11	3.27	.85
I know how to log in to the LMS provided by my institution	137	71	37	25	3.19	.99
I am familiar with the features of the LMS	106	107	46	11	3.14	.84
My institution encourages the use of LMS for teaching and learning	31	63	97	79	2.17	.97
I have easy access to the necessary technology to use the LMS	64	49	76	81	2.36	1.14
I believe that adopting an LMS is essential for modern education.	145	86	30	9	3.36	.80
I am motivated to integrate the LMS into my teaching	117	124	11	18	3.26	.82
I feel supported by my institution in adopting the LMS	10	71	78	111	1.93	.90
I have seen positive outcomes from adopting the LMS	85	121	30	34	2.95	.96
Weighted Average					2.87	

Key; SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree

Decision Value: Low=0.00-2.44, High= 2.45-4.00

Table 1: shows the university lecturers' level of adoption of learning management system (LMS) in Ondo State. The table shows that the lecturers agreed to the following items as follows: they are aware of what a Learning Management System (LMS) is ($\bar{x} = 3.06$), have received formal training on how to use the LMS ($\bar{x} = 3.27$), know how to log in to the LMS provided by their institution ($\bar{x} = 3.19$), familiar with the features of the LMS ($\bar{x} = 3.14$), believe that adopting an LMS is essential for modern education ($\bar{x} = 3.36$), motivated to integrate the LMS into their teaching ($\bar{x} = 3.26$), and have seen positive outcomes from adopting the LMS ($\bar{x} = 2.95$). Furthermore, the table shows that the lecturers disagreed to the following: institution encourages the use of LMS for teaching and learning ($\bar{x} = 2.17$), have easy access to the necessary technology to use the LMS ($\bar{x} = 2.36$), and feel supported by their institution in adopting the LMS ($\bar{x} = 2.72$). Meanwhile, based on the value of the weighted average (2.87 out of 4.00 maximum value obtainable)

which falls, within the decision value for **high**, it can be inferred that the lecturers' level of adoption of learning management system (LMS) in Ondo State is high.

Research Question 2: What is the university lecturers' level of use of learning management system in Ondo State?

Table 2: Lecturers' Level of Use of Learning Management System (LMS) In Tertiary Institutions

Item	SA	A	D	SD	Mean	Std. D
I regularly use the LMS to post course materials	21	36	99	114	1.87	.92
I use the LMS to communicate with my students	70	99	67	34	2.76	.98
I use the LMS to administer quizzes and assignments	85	62	73	50	2.67	1.11
I grade and provide feedback through the LMS	39	36	72	123	1.97	1.08
I use the LMS to monitor students' progress	31	44	69	126	1.93	1.04
I conduct online discussions or forums via the LMS	68	122	40	40	2.81	.98
I utilize multimedia resources (videos, podcasts) on the LMS	118	38	58	56	2.81	1.20
I find the LMS useful for organizing course content	62	108	41	59	2.64	1.06
I use the LMS for synchronous (live) online classes	77	105	43	45	2.79	1.04
I have integrated external tools (e.g., Turnitin, Google Drive) with the LMS	26	44	79	121	1.91	.99
Weighted Average						2.42

Key; SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree

Decision Value: Low=0.00-2.44, High = 2.45-4.00

Table 2, shows the university lecturers' level of use of learning management system (LMS). The table shows that the lecturers disagreed to the following: regularly use the LMS to post course materials ($\bar{x} = 1.87$), grade and provide feedback through the LMS ($\bar{x} = 1.97$), use the LMS to monitor students' progress ($\bar{x} = 1.93$), and have integrated external tools (e.g., Turnitin, Google Drive) with the LMS ($\bar{x} = 2.11$). Furthermore, the table also show that the student agreed to the following: use the LMS to communicate with my students ($\bar{x} = 2.76$), use the LMS to administer quizzes and assignments ($\bar{x} = 2.67$), conduct online discussions or forums via the LMS ($\bar{x} = 2.81$), utilize multimedia resources (videos, podcasts) on the LMS ($\bar{x} = 2.81$), find the LMS useful for organizing course content ($\bar{x} = 2.64$), and use the LMS for synchronous (live) online classes ($\bar{x} = 2.79$). Meanwhile, based on the value of the weighted average (2.31 out of 4.00 maximum value obtainable) which falls, within the decision value for **low**, it can be inferred that university lecturers' level of use of learning management system (LMS) in Ondo State is low.

H01: There is no significant relationship between university lecturers' adoption and use of learning management system in Ondo state.

Table 3: Summary of Pearson Product Moment Correlation Showing Relationship between Adoption and Lecturers' Level of Use of Learning Management System

Variable	Mean	Std. D	N	R	Sig(p)	Remark
Adoption	28.67	2.96	270	.184	.002	Significant
Use	24.15	3.02				

Table 3, shows the relationship between university lecturers' adoption and use of learning management system (LMS) in Ondo State. The table shows that there is a strong positive relationship between lecturers' adoption and use of learning management system (LMS) in Ondo state which was statistically significant ($N = 270$; $r = .184$; $p < 0.05$). Hence, hypothesis 2 is not accepted.

Discussion of Results

The study reveals that university lecturers in Ondo State have a high level of adoption of LMS. This finding suggests that universities have successfully introduced and promoted LMS platforms, and lecturers are generally willing to adopt new technological tools for teaching. The high level of adoption of LMS among lecturers in Ondo State is consistent with findings from other studies. For instance, a study by Al-Fraihat, et al., (2020) found that the adoption of LMS is generally high in institutions that provide adequate support and resources. The high adoption rate could be attributed to several factors such as institutional policies, training programs, and the perceived benefits of LMS in enhancing teaching and learning processes. This finding aligns with Ifenthaler and Schweighofer (2016) which indicates that when institutions provide adequate support and resources, the adoption rate of educational technologies tends to be high.

Despite the high adoption rate, the study shows that the actual use of LMS by lecturers is low. This discrepancy between adoption and use is a critical issue. It indicates that while lecturers may recognize the value of LMS and integrate it into their teaching arsenal, they may not be fully utilizing its features and capabilities. Possible reasons for this could include insufficient comprehensive training on how to use the LMS effectively, time constraints, resistance to changing traditional teaching methods, or insufficient technical support. This finding highlights the need for more targeted interventions to encourage and facilitate the active use of LMS. A study by Aydın and Tasci (2015) highlighted that while educators may adopt LMS, the depth of use remains low due to insufficient training and support. Additionally, Oguguo et al., (2021) found that barriers such as lack of time and inadequate training significantly hinder the effective use of LMS.

Moreover, the study also found a significant relationship between lecturers' adoption and use of LMS. This suggests that lecturers who adopt LMS are more likely to use it, albeit the use being low in this context. It implies that adoption is a precursor to use; without adopting LMS, usage cannot occur. However, adoption alone is not sufficient to ensure high usage. This finding is in agreement with the position of (Furqon et al., (2023) found out that adoption is a necessary precursor to usage in their Unified Theory of Acceptance and Use of Technology.

Conclusion

The study concludes that although there is a commendable level of adoption of Learning Management Systems (LMS) among university lecturers in Ondo State, the actual utilization of these systems remains insufficient. This gap between adoption and use can be attributed to several significant institutional

challenges, including inadequate training, insufficient technical support, and limitations in infrastructure, such as unreliable internet connectivity. These obstacles hinder the effective integration of LMS into teaching practices. Importantly, the challenges identified in this study are consistent across different demographic groups, including gender and varying levels of teaching experience. This indicates that the issues are systemic and pervasive, rather than being limited to specific subsets of lecturers. Therefore, it is crucial for educational institutions to develop a more comprehensive and supportive framework that addresses these barriers. Such efforts should focus on enhancing the availability of necessary resources, providing ongoing training, and ensuring reliable technical support to fully realize the potential of LMS in improving educational outcomes.

Recommendations

Based on the findings and implications of this study, the following recommendations were made:

- 1) **Enhanced Training Programs:** Institutions should provide ongoing, comprehensive training programs that go beyond initial adoption. These should focus on practical, hands-on use of LMS features and demonstrate how these tools can enhance teaching and learning outcomes.
- 2) **Support Systems:** Establish robust technical support systems to assist lecturers in using LMS. This could include help desks, online support, and peer support groups where lecturers can share experiences and solutions.
- 3) **Incentives for Active Use:** Develop incentive programs to encourage lecturers to use LMS more frequently and effectively. This could involve recognizing and rewarding innovative uses of LMS in teaching.
- 4) **Regular Assessment and Feedback:** Implement regular assessments and feedback mechanisms to understand the challenges lecturers face in using LMS and address these promptly. Feedback can guide the development of targeted interventions to improve LMS use.

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