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AWARENESS AND ADOPTION OF LEARNING MANAGEMENT SYSTEM AMONG LIBRARIANS FOR TEACHING LIBRARY INSTRUCTION IN SELECTED UNIVERSITIES IN NORTH -EAST, NIGERIA

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Abstract
This study investigates awareness and adoption of learning management systems (LMS) among librarians for teaching library instruction in selected Universities in North-East, Nigeria. Three (3) research questions form the basis of the study while one was tested at 0.05 level of significance. A descriptive survey design was adopted for the study. The population of this study consisted of all the 294 library personnel in selected universities in the North-East, Nigeria. Total enumeration technique was adopted with the use of 294 library personnel while questionnaire was used as the instrument for data collection. Data were analysed using IBM Statistical Product for Service solution version 23 (IBM SPSS v 26), descriptive statistics (to run frequency count and percentages) and inferential statistics such as Pearson's Product Moment Correlation (PPMC). The findings of the study revealed that, despite a high level of awareness about LMS and its potential benefits, the actual adoption rates of LMS remains relatively low, indicating the need to improve. The study concludes that while awareness is not an issue, overcoming the identified obstacles is crucial for increasing LMS adoption. Recommendations include; providing comprehensive training and that, the Institutions should continue to raise more awareness about LMS through targeted communication strategies.
Keywords: Awareness, Adoption, Learning Management System, Librarians and Library Instruction

Introduction

Information and Communication Technologies (ICTs) have ushered in a transformative era, revolutionizing nearly every aspect of modern society. Once center of traditional knowledge preservation and dissemination, libraries has found themselves at the forefront of this digital transformation, necessitating a fundamental shift in their operations, services and activities (Ikenwe & Udem, 2022). In the pre-digital era, libraries were primarily focused on managing physical collections of books, journals and other printed materials. Their core operations revolved around acquiring, cataloguing and circulating these tangible resources within the confines of their physical spaces (Loganathan & Rao, 2020).

Library instruction, user education, bibliographic instruction and information literacy are

alternative terms which describe the same basic concepts. Face-to-face instruction requires physical attendance which could be challenging for learners with conflicting schedules, geographical constraints or mobility issues. Tomaszewski (2021) while effective in their own right, these methods were often limited in terms of reach, flexibility and accessibility for learners. Additionally, these sessions were typically one-time occurrences, making it difficult for learners to revisit and reinforce the concepts covered at their own pace or convenience. Moreover, Goedhart et al. (2019) stressed that, the traditional classroom-based approach often followed a one-size-fits-all model, failing to accommodate individual learners' diverse learning styles, preferences and paces. Library instruction has become increasingly crucial in equipping users to locate, evaluate and effectively utilize digital information resources. The emergence of learning management systems (LMS) has become a game-changer.

A learning management system is a software application used to manage and deliver educational courses and content to learners via internet connectivity. Learning Management Systems (LMS) is a hallmark of modern educational practices, providing extensive features and capabilities to improve the teaching and learning experience. Chahal and Patel (2021) defined LMS as software applications designed to facilitate the administration, delivery and management of educational courses, programs and training in a virtual environment. Bradley (2021) stressed that, LMS platforms provide a centralized space where librarians and instructors can create and organize course materials, distribute assignments, facilitate discussions and assess learner progress. Furthermore, Lee (2021) affirmed that, learning management system facilitates seamless content management, enabling instructors to curate and deliver diverse educational resources, from textual documents to multimedia presentations and interactive materials, Moreover, learning management system platforms streamline assessment and grading processes, providing instructors with tools for creating quizzes, tests and assignments alongside features for automated grading and feedback provision (Bradley, 2021).

Awareness is very vital in LMS adoption, If stakeholders such as; instructors, librarians and administrators are unaware of the existence, capabilities and potential benefits of LMS, the adoption process may be hindered. Raising awareness through professional development, workshops and sharing of best practices can help create more insight about the benefits of using LMS software, thus the need to adopt it. Olatunji and Akinsulire (2023) assert that, awareness is a critical factor in adopting LMS in the library instruction. Librarians must be aware of LMS's existence, capabilities and potential benefits for library instruction. Pinamang et al. (2018) said, lack of awareness can hinder adoption as stakeholders may need to recognize the need or opportunity for incorporating LMS into their instructional practices.

Adoption of LMS in library instruction has several advantages over traditional face-to-face methods. It has yielded a host of benefits for libraries; LMS facilitates information literacy teaching through interactive modules and tutorials, empowering patrons with critical thinking, research skills and digital literacy which are essential in today's digital age. Negi and Ghildiyal (2024) stressed that LMS expands access to educational resources, catering diverse learning needs and preferences by offering remote access to courses and materials. Al-Rawashd et al. (2021) opined that, LMS allows for greater flexibility and accessibility, allowing learners to access instructional materials and conveniently engage in self-paced learning. LMS facilitate the integration of multimedia content, interactive quizzes and collaborative activities, enhancing engagement and promoting active learning (Bradley, 2021).

Notably, the selected universities in the North-Eastern Nigeria possess the necessary infrastructure and resources to support the adoption of LMS for online delivery of library

instruction. However, despite having the requisite technological capabilities, these resources still need to be utilized and the adoption of LMS for library instruction needs to be addressed.

Statement of the Problem

Academic libraries are under growing pressure to modify their services and instructional offerings to suit the changing needs of learners in the 21st century, as we enter the digital transformation era. Integrating technology-enhanced learning platforms such as; learning management systems (LMS) which has now become vital for providing, engaging, easily available and personalized for library Instruction. However, despite the potential benefits of LMS in enhancing library instruction, the awareness, adoption and effective implementation of these systems in academic libraries particularly in the context of North-Eastern Nigeria remains a significant challenge. The paucity of research investigating the awareness and adoption of LMS for library instruction is a significant gap that hinders understanding the factors influencing the successful integration of the LMS platforms. While LMS has gained widespread adoption in various educational sectors, their implementation in library instruction programs has received limited attention from researchers and practitioners alike.

Research Questions

The study covered the following research questions:

1. What is the level of awareness of learning management systems among librarians for teaching library instruction in selected universities in North-east Nigeria?
2. What is the extent of adoption of learning management systems among librarians for teaching library instruction in selected universities in North-east Nigeria
3. What is the relationship between awareness and adoption of learning management systems among librarians for teaching library instruction in selected universities in North-east Nigeria?

Hypothesis

H01: There is no significant relationship between awareness and adoption of learning management systems for library Instruction in the selected universities in North-east Nigeria

Review of Related Literature

Awareness is often the first step in technology adoption process. Awareness of LMS refers to the extent to which librarians are knowledgeable about the existence, functionality and potential of LMS tools in enhancing their teaching practices. Without awareness, the likelihood of adopting any technology, including LMS, remains minimal (Varajão, Carvalho, Silva & Pereira, 2022). Awareness is a fundamental stage in the Innovation-Decision Process outlined by Rogers (2003) in his Diffusion of Innovations theory. According to Rogers, the process of innovation adoption begins with awareness, where potential adopters learn about the existence and functionality of an innovation before moving to later stages of persuasion, decision, implementation and confirmation. Saibakumo (2021) investigated the awareness and acceptance of emerging technologies for extended information service delivery in academic libraries in Nigeria which shows Librarian's level of awareness about the emerging technologies found useful in academic libraries was found to be very high. This is probably because librarians are widely read, they are research focused and have been involved in several conferences discussing emerging technologies. Access to publications about emerging technologies and the recent deliberations about the subject matter on all library and information science platforms may necessitate this high level of

awareness. Amongst librarians from Nigeria, there was a high level (74%) of awareness of the various emerging technologies and their significance for academic libraries.

The adoption of learning management systems has been a topic of interest in various educational settings. Many universities around the world and Nigeria in particular have incorporated LMS into their educational systems due to its advantages in teaching and learning (Olatubosun, Olusoga, & Samuel, 2015; Nicholas-Omoregbe, Azeta, Chiazor, & Omoregbe, 2017). According to Edutechnica (2018), Blackboard has the largest market share (31.4%, 1,129 institutions), according to the number of institutions adopting LMS. Second and third place went to Canvas (24.9%, 893 institutions) and Moodle (18%, 644 institutions), respectively. D2L (398 institutions, 11.1%), Sakai (96 institutions, 2.8%), and Pearson (45 institutions, 1.3%) were next in line. Blackboard also exhibited the highest market share in terms of student enrollments (35.99%, 6,987,086 student users). In second and third place, respectively, were Canvas (29.46%, 5,718,857 student users), Moodle (12.74%, 2,454,441 student users), D2L (2,317,030 student users, 11.93%), Sakai (666,356 student users, 3.43%), Pearson (86,298 student users, 0.44%), and ANGEL (3,222 student users, 0.02%).In the study of (De Olivier et al., 2016), it was found out that frequency of LMS use by Instructors varies. The purpose of LMS use by the lecturers also varies. It was specifically found out that some of the educators use LMS as assessment tool. In terms of frequency of use, a significant number of the lecturers use it twice a week while high number of the respondents indicated that they have been using LMS for course delivery for couple of years. Some of them also indicate that they use it once or twice a year.

Research Methodology

The study utilizes a descriptive survey design and this is because it is concerned with sampling peoples' opinions, beliefs, feelings, attitudes, behaviour and ideas. Self-design structured questionnaire was used to collect data. Descriptive statistics of frequency count and percentages were used to analyze the collected data and present result in table. Additionally, inferential statistics was employed to examine the relationships between the variables and to test the study hypotheses.

Table 1: Population of the Study

	Name of Libraries	State	Ownership	Number of Library Professionals
1	University of Maiduguri Library	Borno	Public	66
2	Gombe State University Library	Gombe	Public	25
3	Bauchi State University Library	Bauchi	Public	30
4	Federal University Kasheri	Gombe	Public	26
5	Taraba State University	Taraba	Public	24
6	Abubakar Tafawa Balewa University	Bauchi	Public	37
7	Federal University Gashua	Yobe	Public	25
8	Adamawa State University	Adamawa	Public	36
9	Modibbo Adama University of Technology	Adamawa	Public	25
	Total			**294**

Sources: Staff list of the University Libraries, 2024

No sampling technique was chosen for this study, this is because the total population of library professionals in the selected Universities is small and therefore total enumeration sampling technique was employed in order to allow all the targeted population to participate in the study. Canonizado (2021) total enumeration sampling is used when the entire population is small and shares well-defined features, as using only a fraction of it may not measure what is desired, it can eliminate any possible bias that can arise from the sampling technique.

Data Analysis and Interpretation

The data was collected using Google Forms which allowed for efficient distribution and collection of responses from respondents across the selected universities. Out of the 294 expected responses from the survey conducted using Google Forms, 231 (78.6%) respondents completed and submitted the questionnaire that are found usable for the study.

Table 2: Level of Awareness of LMS for Teaching Library Instructions among Librarians in Selected Universities in North-East Nigeria

(N=231)

Awareness of LMS for Teaching Library Instructions	Level of Agreement (%)					$\bar{x}$	S.D
	NA	MA	A	PA	HA		
1. I am aware of the various Learning Management Systems available for library instruction	1.7	6.1	11.7	25.1	55.4	4.26	1.00
2. I am aware of the features and capabilities of the LMS used in my institution.	3.0	4.3	16.9	47.6	28.1	3.94	0.95
3. I am aware of the benefits of using LMS for enhancing library instruction.	3.0	4.3	23.4	32.0	37.2	3.96	1.03
4. I am aware of the training programs available for learning how to use LMS.	3.9	3.5	18.6	37.2	36.8	4.00	1.02
5. I am aware of the technical support available for resolving LMS-related issues	4.3	5.6	20.8	30.3	39.0	3.94	1.10
6. I am aware of how to access and utilize LMS resources for library instruction.	3.0	3.9	19.0	38.1	35.9	4.00	0.99
7. I am aware of the integration of LMS with other library systems and resources.	2.2	5.2	22.9	39.0	30.7	3.91	0.98
8. I am aware of the security and privacy features of the LMS used in my institution.	4.3	3.9	22.1	31.6	38.1	3.95	1.07
9. I am aware of the costs associated with implementing and maintaining LMS.	5.2	3.9	19.9	34.6	36.4	3.93	1.09
10. I am aware of the potential impact of LMS on improving library instruction.	3.0	2.6	22.1	35.9	36.4	4.00	0.98
Weighted Mean:				**3.99**			

Source: Field Survey 2024
Keys: NA= Not Aware, **MA**= Moderately Aware, **A**= Aware, **PA**= Partially Aware, **HA**= Highly Aware

Table 2 presents the respondents' level of awareness regarding various aspects of Learning Management Systems (LMS) for teaching library instructions. The responses are categorized into Not Aware (NA), Moderately Aware (MA), Aware (A), Partially Aware (PA), and Highly Aware (HA), with corresponding percentages and mean scores (M) and standard deviations (S.D). The highest awareness is in understanding the benefits of using LMS for enhancing library instruction ($\bar{x}$ = 4.26) and knowing how to access and utilize LMS resources ($\bar{x}$ = 4.00). This suggests that respondents recognize the advantages and know how to use LMS effectively. Awareness of the features and capabilities of the LMS used in their institutions ($\bar{x}$ = 3.94) and available technical support ($\bar{x}$ = 3.94) is somewhat lower, indicating room for improvement in these areas. Awareness of training programs ($\bar{x}$ = 4.00) and integration with other library systems ($\bar{x}$ = 3.91) shows a moderate level of awareness, but there is potential for increasing familiarity with these aspects. Awareness of security and privacy features ($\bar{x}$ = 3.95) and the costs associated with LMS ($\bar{x}$ = 3.93) varies, highlighting a need for more detailed information and communication in these areas.

Table 3: Extent of Adoption of LMS for Teaching Library Instructions among Librarians in Selected Universities in North-East Nigeria

(N=231)

Extent of Adoption of LMS for teaching Library Instructions	Level of Agreement (%)					$\bar{x}$	S.D
	VLE	LE	ME	HE	VHE		
1. I regularly use LMS to deliver library instruction.	13.9	58.0	13.9	9.1	5.2	2.34	1.00
2. My institution has fully integrated LMS into the library instruction curriculum.	40.7	28.1	17.7	9.5	3.9	2.08	1.14
3. I incorporate LMS features such as quizzes, assignments, and forums in my teaching.	32.5	35.5	18.2	9.5	4.3	2.18	1.11
4. LMS is an essential part of my daily teaching practices.	35.1	37.7	15.2	7.4	4.8	2.09	1.11
5. I use LMS to track and assess student progress in library instruction.	35.9	35.5	15.6	9.5	3.5	2.09	1.10
6. I frequently update and maintain the content on the LMS for my courses.	38.1	38.1	10.8	9.1	3.9	2.03	1.10
7. My students actively use the LMS for their library instruction activities.	37.2	36.8	12.1	8.2	5.6	2.08	1.15
8. The use of LMS is encouraged and supported by my institution.	36.8	35.5	13.9	7.4	6.5	2.11	1.17
9. I receive adequate support from my institution to use LMS effectively.	42.0	34.2	9.5	7.8	6.5	2.03	1.19
10. I collaborate with other librarians and educators using LMS for library instruction.	41.6	35.5	10.4	8.2	4.3	1.98	1.12
Weighted Mean:			**2.10**				

Source: Field Survey 2024

Keys: VLE= Very Low Extent; **LE**= Low Extent; **ME**= Moderate Extent; **HE**= High Extent; **VHE**= Very High Extent

Table 3 reveals the extent of adoption of LMS for teaching Library Instructions in selected

universities in North-East Nigeria. The survey results indicate a generally low extent of Learning Management System (LMS) adoption among librarians in selected universities in North-East Nigeria. Librarians' regular use of LMS to deliver library instruction is limited, with a mean of ($\bar{x}$ =2.34). Furthermore, the integration of LMS into the library instruction curriculum is minimal, as reflected by a mean of ($\bar{x}$ = 2.08). Incorporation of LMS features such as quizzes, assignments, and forums is similarly limited ($\bar{x}$=2.18). Daily use of LMS is not common among librarians ($\bar{x}$ = 2.09). The practice of using LMS to track and assess student progress is also infrequent ($\bar{x}$ = 2.09). Frequent updating and maintaining of LMS content is rare among respondents ($\bar{x}$ = 2.03). Student engagement with LMS for library instruction activities is low ($\bar{x}$ = 2.08). Institutional support and encouragement for LMS use are perceived as inadequate ($\bar{x}$ = 2.11). Adequate support from institutions for effective LMS use is lacking ($\bar{x}$ = 2.03). Finally, collaboration using LMS with other librarians and educators is very low ($\bar{x}$ = 1.98). This suggests a lack of collaborative efforts in using LMS for library instruction.

Table 4: Relationship between Awareness and Adoption of LMS for Library Instructions in Selected Universities in North-East Nigeria

Variables	Mean	Std. Deviation	N	r	p.value	Remark
Awareness	3.9887	.73742	231	-.024	.718	Not Sig
Adoption of LMS	2.1004	.92912				

Table 4 reveals the relationship between awareness and the adoption of Learning Management Systems (LMS) for library instructions in selected universities in North-East Nigeria. The mean score for awareness is 3.99, with a standard deviation of 0.74, based on responses from 231 participants. This indicates a high level of awareness about LMS among the librarians surveyed. The mean score for the adoption of LMS is 2.10, with a standard deviation of 0.93. This shows a lower level of LMS adoption compared to the awareness of it.

The Pearson correlation coefficient (r) between awareness and the adoption of LMS is -0.024. This negative correlation is very weak and statistically insignificant, with a p-value of 0.718. The p-value exceeds the common significance threshold of 0.05, indicating that the relationship between awareness and adoption is not statistically significant.

The results suggest that there is no significant relationship between awareness and the adoption of LMS for library instructions among the surveyed librarians. Despite high levels of awareness (3.99), this does not appear to translate into higher levels of LMS adoption (2.10). The very weak and insignificant negative correlation ($r = -0.024$, $p = 0.718$) implies that other factors may play a more crucial role in influencing the adoption of LMS rather than simply being aware of it. This suggests that the correlation between awareness and adoption of LMS is not statistically significant at the conventional significance level of 0.01. Therefore, the null hypothesis that states there is no significant relationship between awareness and adoption of LMS for library instructions in selected universities in North-East Nigeria is accepted.

Discussion of the Findings

The study reveals a high level of awareness among librarians and stakeholders regarding adopting of LMS among librarians for library instruction. This awareness spans various aspects

such as; LMS's availability, features and the potential benefits they offer. However, while many respondents are aware of LMS in a general sense, there needs to be more specific areas, such as understanding technical support and cost implications. This is in tandem with the findings of (Saibakumo, 2021) who reported a very high awareness of emerging technologies among Nigerian librarians, attributed to their research focus and conference participation. The study findings suggest that while there is a general understanding of LMS and its potential applications in library instruction, there is still considerable room for improvement. The fact that most respondents have received formal training on using LMS is encouraging and indicates efforts to increase awareness and competence.

Despite the high awareness levels, the study reveals a relatively low extent of LMS adoption for library instruction in the selected universities. This low adoption rate is evident in both the frequency of LMS use and the extent of its integration into library instruction practices. Most respondent's reports using LMS rarely or never, only a small percentage using it regularly to deliver library instruction. Only few respondents indicate that their institutions fully integrated LMS into the library instruction curriculum. This suggests that while recognizing its potential benefit, LMS has yet to become a standard tool for library instruction practices in these universities. This contradicts the findings of (Olatubosun et al., 2015) who reported a widespread adoption of LMSs in Nigerian universities driven by teaching and learning advantages.

The study's finding of no significant relationship between awareness of LMS and its adoption among librarians for library Instruction is surprising and insightful. This result challenges the often-held assumption that increasing awareness automatically leads to increased adoption of technological tools. This lack of correlation between awareness and adoption is particularly noteworthy given the moderate levels of awareness reported and the relatively low adoption rates.

Conclusion

The findings of the study revealed that, despite the high level of awareness about LMS and its potential benefits, actual adoption rates of LMS remains relatively low, indicating need for improvement due to various challenges. The findings indicate that while many librarians know the different LMS options and their features, this awareness only translates into positive perceptions or increased adoption. Therefore, while awareness of LMS is high among librarians in North-East Nigeria, overcoming the challenges and barriers to adoption requires concerted efforts from both the institutions and the stakeholders.

Recommendations

The following recommendations were made in line with the findings:

1. While awareness alone is not sufficient, it is still necessary. Institutions should continue to raise awareness about LMS through targeted communication strategies, highlighting success stories and demonstrating the tangible benefits of LMS for library instruction.
2. The institutions should develop and implement extensive training programs that go beyond basic functionality of LMS. These programs should address the specific needs of library instruction, covering advanced LMS features and best practices for integrating LMS into daily activities. Continuous support through help desks, peer mentoring and regular workshops should also be provided to ensure sustained competency that will give room for

LMS adoption.

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