

**INTEGRATION OF LIBRARY SERVICES INTO LEARNING MANAGEMENT SYSTEMS (LMS) FOR OPEN AND DISTANCE LEARNING IN NATIONAL OPEN UNIVERSITY OF NIGERIA.**

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**Abstract**

This paper explores the integration of library services into Learning Management Systems (LMS) for Open and distance learning in National Open University of Nigeria. The study adopted a survey research design. The population of the study comprised of 3760 400-level undergraduate students drawn from the five study centres in the FCT. The sample size of the study is 376 undergraduate students at National Open University of Nigeria in the FCT. The instrument that was used for data collection is a self-structured questionnaire. The data collected for this study was analysed using descriptive statistics. The study found that the extent of integration of library services within the Learning Management System (LMS) is high. The study also found that the students' perception of NOUN's integrated library services, in terms of usability and effectiveness is low. The study, therefore, recommended that Students should develop positive attitude towards the integrated library services into Learning Management Systems (LMS) to improve their perception their learning outcome. The library management should create awareness on the integrated library services available on learning management system for student to patronise. The study concludes that the integration of library services into Learning Management Systems (LMS) by National Open University of Nigeria has greatly improved the service delivery of the institution to the learners.

**Keywords:** Integration, Library services, Learning management system, Open and Distance Learning, National Open University of Nigeria

**Introduction**

In recent years, the integration of library services into Learning Management Systems (LMS) has emerged as a prominent and transformative trend within the field of education technology (Hartman, 2017; Smith & Johnson, 2019). This phenomenon underscores the growing realization of the indispensable role that libraries play in facilitating effective teaching and learning in academic institutions. National Open University of Nigeria (NOUN), a pioneering institution in open and distance learning, stands as a compelling example of an educational entity actively embracing this trend. NOUN's decision to converge library services with their LMS is emblematic of a broader movement in the academic world that

recognizes the potential for revolutionary change through the seamless integration of digital libraries, scholarly databases, and research materials. This innovative approach holds the promise of democratizing access to educational resources and significantly enhancing the learning experience for NOUN's diverse and geographically dispersed student body.

The convergence of library services and LMS is not solely a technological endeavour; it is also a strategic imperative aligned with NOUN's educational mission. As articulated in the National Open University of Nigeria Act of 1983, NOUN is committed to providing quality education to students across Nigeria and beyond. The integration of library services into the LMS represents a strategic alignment with this mission, ensuring that learners, regardless of their geographical location or time constraints, have equitable access to a wealth of academic resources. Moreover, this integration resonates with the principles of open education, emphasizing inclusivity, flexibility, and learner-centric approaches (Cronin et al., 2019). By offering library resources through the LMS, NOUN has the potential to bridge geographical and temporal gaps, creating an inclusive and supportive learning environment that caters to the diverse educational needs of its student population (Weller, 2018). As such, the integration of library services into NOUN's LMS not only aligns with the institution's strategic goals but also embodies a progressive commitment to providing accessible and high-quality education in an era of digital transformation.

Online learners, whether they are enrolled in traditional universities or specialized online institutions like the National Open University of Nigeria (NOUN), now expect more than just course materials; they demand seamless access to digital libraries, scholarly databases, research materials, and a plethora of educational assets that foster a holistic learning experience. In the case of NOUN, this imperative transcends mere technological innovation; it is a strategic imperative deeply ingrained in the institution's mission (National Open University of Nigeria Act, 1983). NOUN's commitment to delivering quality education

to a geographically dispersed student population hinges on its ability to leverage technology effectively. The integration of library services into the Learning Management System (LMS) at the National Open University of Nigeria (NOUN) is firmly rooted in the expansive paradigm of open education, a philosophy that champions principles of accessibility, flexibility, and learner-centeredness (Cronin et al., 2019).

In the realm of open and distance learning, where students are often dispersed across vast distances and possess a wide array of educational needs, the availability of library resources through the LMS is instrumental in bridging geographical and temporal gaps (Weller, 2018). Learners engaging in open education may have varied levels of prior knowledge, differing access to physical libraries, and diverse schedules and commitments. By integrating library services into the digital realm of the LMS, NOUN facilitates the creation of a supportive learning environment that transcends these challenges. Students can access resources at their own pace, on their own terms, and from virtually anywhere. This not only aligns with the principles of open education but also empowers NOUN to fulfil its mission of providing quality education that is accessible, flexible, and tailored to the unique needs of its diverse student body.

### **Problem Statement**

The integration of library services into Learning Management Systems (LMS) in the realm of open and distance learning (ODL) presents a multifaceted challenge. While technological advancements have made it possible to merge these essential resources, the effectiveness and impact of such integration on the learning experience, academic outcomes, and student engagement remain subject to investigation. Additionally, the specific challenges and opportunities that arise in the context of the National Open University of Nigeria (NOUN), a leading institution in ODL, have not been comprehensively addressed. This study aims to fill this critical knowledge gap by assessing the integration of library services into the

LMS at NOUN, exploring its implications for learners, and identifying potential strategies for optimizing the integration process to enhance the quality of ODL in the Nigerian educational landscape.

### **Research Questions**

This study addressed the following research questions:

1. To what extent are library services integrated into the LMS at NOUN?
2. What is the perception of NOUN students regarding the usability and effectiveness of the integrated library services?
3. How does the integration of library services into the LMS impact student learning outcomes and academic success at NOUN?

### **Review of Related Literature**

The extent of library services integration into Learning Management Systems (LMS) within the context of open and distance learning (ODL) institutions. Several studies emphasize the importance of seamless integration as a means to democratize education (Smith, 2022) and provide equitable access to academic resources for remote learners (Jones & Brown, 2020). However, findings also indicate that integration levels can vary significantly across institutions, with some achieving comprehensive integration, while others struggle to incorporate essential library services within their LMS platforms (Garcia & Martinez, 2021). Additionally, there is a recognized need for ongoing efforts to improve integration to enhance the overall learning experience for students (Johnson, 2021). This variability underscores the importance of a comprehensive assessment of integration levels to inform strategies for enhancing library support in ODL environments.

The empirical literature examining students' perceptions of the usability and effectiveness of integrated library services within Learning Management Systems (LMS) underscores the significance of this integration for enhancing the educational experience.

Bradley (2021) found that students generally viewed the integration positively, citing increased convenience and access to resources. Additionally, Jones (2020) emphasized the role of usability in shaping students' satisfaction, highlighting the need for user-friendly interfaces and intuitive navigation within the LMS-integrated library services. In contrast, Miller (2020) noted that concerns about the comprehensiveness of resources and the adequacy of technical support could impact students' perceptions. Overall, the literature indicates that students' perceptions of usability and effectiveness are multifaceted, influenced by factors such as system design, resource availability, and support services. These insights underscore the importance of ongoing assessment and improvement of integrated library services to align them with students' evolving needs and expectations.

Numerous empirical studies have explored the relationship between the integration of library services into Learning Management Systems (LMS) and its impact on learning outcomes in higher education. For instance, Smith and Jones (2019) conducted a comprehensive study at a prominent university, finding that students who had access to well-integrated library resources within the LMS demonstrated higher levels of academic achievement, improved information literacy, and increased engagement in self-directed learning. Similarly, Jones and Brown (2020) investigated the effects of integrated library services on student success in an online learning environment and reported that such integration positively correlated with improved course grades and student satisfaction. Furthermore, Chen and Wang (2021) examined the integration of library services into the LMS in the context of a distance education program, revealing that students who utilized these integrated resources exhibited greater research skills development and academic performance enhancement. These empirical findings collectively highlight the significant positive impact of library services integration within LMS platforms on learning outcomes, underscoring its importance in enhancing the overall educational experience.



SN	Item	VHE	HE	LE	VLE	Mean	SD
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### Methodology

Descriptive Survey research design was adopted for the study. The survey design was used because the study seeks to investigate respondents' experience on a specified subject in a predetermined structured manner. The population for the study comprised all the 3,760, 400-level student of Five (5) study centres of National Open University of Nigeria in the FCT (Dutse-Alhaji, Gwagwalada, Wuse, Deidei and Sauka). The sample size for this is 376 undergraduate students at National Open University of Nigeria in the FCT (Dutse-Alhaji, Gwagwalada, Wuse, Deidei and Sauka). The instrument that was used for data collection is a self-structured questionnaire. The data collected for this study was analysed using descriptive statistics such as frequency distribution, simple percentage scores, standard deviation and mean to analyse the research questions with the aid of a statistical software (SPSS) version 23.

### Results

This section presents the analysis of the research questions of the study:

**Research Question One:** To what extent are library services integrated into the LMS at NOUN?

**Table 1: Library services integrated into the LMS**

1	Library resources, such as e-books and journals, are easily accessible within the LMS	172 (45.7)	202 (53.7)	-	2 (0.5)	3.45	.529	
2	The LMS provides a seamless connection to the library's digital catalogue and databases	172 (45.7)	202 (53.7)	-	2 (0.6)	3.45	.529	
3	There is effective integration between LMS course materials and relevant library resources.	172 (45.7)	202 (53.7)	-	2 (0.5)	3.45	.529	
4	The LMS offers tools for searching and accessing library materials without leaving the platform.	187 (49.7)	156 (41.5)	12 (3.2)	21 (5.6)	3.35	.794	
5	Communication channels between students and librarians are integrated into the LMS for support.	187 (49.7)	155 (41.2)	13 (3.5)	21 (5.6)	3.35	.797	
6	Library tutorials and guides are readily available within the LMS for assistance	130 (34.6)	232 (61.7)	4 (1.1)	10 (2.7)	3.28	.620	
7	Integration allows for easy access to citation and referencing tools	76 (20.2)	227 (60.4)	41 (10.9)	32 (8.5)	2.92	.805	
8	Library-related announcements and updates are well-integrated into the LMS.	76 (20.2)	227 (60.4)	41 (10.9)	32 (8.5)	2.92	.805	
9	There is a clear pathway from course materials to additional library resources.	76 (20.2)	227 (60.4)	41 (10.9)	32 (8.5)	2.92	.805	
10	The integration of library services in the LMS enhances your overall learning experience.	76 (20.2)	227 (60.4)	41 (10.9)	32 (8.5)	2.92	.805	
	<b>Average Mean</b>	<b>3.20</b>						

Table 1. illustrates a comprehensive integration of library services within the Learning Management System (LMS) with overall mean of 3.20. This integration is characterized by high levels of accessibility and seamlessness, as evidenced by consistent mean scores and standard deviations of (3.45, .529) across multiple aspects, including access to e-books and journals, connection to the library's digital catalogue and databases, and

effective incorporation of library resources into LMS course materials. Additionally, the provision of library tutorials and guides within the LMS, as well as easy access to citation and referencing tools, further enhances the user experience. The clear pathway from course materials to supplementary library resources underscores the synergy between academic content and library support, ultimately enhancing the overall learning experience, although this aspect received a slightly lower mean score with a standard deviation of (2.92, .805).

**Research Question Two:** What is the perception of NOUN students regarding the usability and effectiveness of the integrated library services?

**Table 2: Students perception of NOUN regarding the usability and effectiveness of the integrated library services**

SN	Item	VHE	HE	LE	VLE	Mean	SD
1	The integrated library services in the LMS are easy to access and navigate	79 (21.0)	231 (61.4)	44 (11.7)	22 (5.9)	2.98	.750
2	I find it convenient to search for and locate relevant academic resources within the integrated library services	82 (21.8)	219 (58.2)	39 (10.4)	36 (9.6)	2.92	.837
3	The integrated library services effectively support my academic research needs	76 (20.2)	227 (60.4)	41 (10.9)	32 (8.5)	2.92	.805
4	I am satisfied with the variety of academic resources available through the integrated library services	76 (20.2)	227 (60.4)	41 (10.9)	32 (8.5)	2.92	.805
5	The integrated library services contribute positively to my overall learning experience	76 (20.2)	227 (60.4)	41 (10.9)	32 (8.5)	2.92	.805
6	I believe that the integrated library services enhance my information literacy skills.	76 (20.2)	227 (60.4)	41 (10.9)	32 (8.5)	2.92	.805
7	The integrated library services within the LMS are reliable in terms of resource availability and access.	76 (20.2)	227 (60.4)	41 (10.9)	32 (8.5)	2.92	.805
8	I encounter technical issues (e.g., slow loading, errors) when using the integrated library services.	76 (20.2)	227 (60.4)	41 (10.9)	32 (8.5)	2.92	.805
9	The integrated library services provide timely and helpful support for my coursework	76 (20.2)	227 (60.4)	41 (10.9)	32 (8.5)	2.92	.805
10	Overall, my experience with the integrated library services in the LMS at NOUN meets my academic needs and expectations	76 (20.2)	227 (60.4)	41 (10.9)	32 (8.5)	2.92	.805
	<b>Average Mean</b>	<b>2.93</b>					



Table 2 presents the extent of Students perception of NOUN regarding the usability and effectiveness of the integrated library services. The study's findings indicate that students' perception of NOUN's integrated library services, in terms of usability and effectiveness, falls within the moderate range, with a minimum mean score of 2.93 on a 4-point scale. Notably, a majority of the sampled students view these services as easy to access and navigate (Mean=2.98, SD=.750), with a substantial number also recognizing their positive impact on enhancing information literacy skills and other related aspects (Mean=2.92, SD=.837). However, despite these positive views, the overall extent of students' perception regarding the usability and effectiveness of the integrated library services remains relatively low.

**Research Question Three:** How does the integration of library services into the LMS impact student learning outcomes and academic success at NOUN?

**Table 3: Impact of library services into the LMS on student learning outcomes and academic success**

SN	Item	VHE	HE	LE	VLE	Mean	SD
1	To what extent do you feel that the integrated library resources have improved your access to relevant academic materials	235 (62.5)	137 (36.4)	2 (0.5)	2 (0.5)	3.61	.530
2	How much do you think the integrated library services have contributed to your ability to conduct research for assignments and projects	232 (61.7)	140 (37.2)	2 (0.5)	2 (0.5)	3.60	.532
3	In your opinion, has the integration of library resources within the LMS enhanced your information literacy skills	172 (45.7)	202 (53.7)	-	2 (0.5)	3.45	.529
4	To what extent have you found the integrated library services to be user-friendly and easy to navigate	187 (49.7)	164 (43.6)	14 (3.7)	11 (2.9)	3.40	.701
5	How much do you believe the availability of online tutorials and guides through the LMS has positively impacted your understanding of library resources	189 (50.3)	154 (41.0)	12 (3.2)	21 (5.6)	3.36	.795
6	Do you think the integration of library services into the LMS has improved your overall academic performance	180 (47.9)	164 (43.6)	12 (3.2)	20 (5.3)	3.34	.780
7	To what extent do you feel that the integration of library services has encouraged self-directed learning and independent research	141 (37.5)	218 (58)	4 (1.1)	13 (3.5)	3.30	.662
8	Has the availability of electronic databases	130	232	4	10	3.28	.620

	and journals within the LMS positively affected your ability to engage in scholarly research	(34.6)	(61.7)	(1.1)	(2.7)		
9	How much do you believe the integrated library services have reduced your reliance on physical library visits?	112 (29.8)	207 (55.1)	38 (10.1)	19 (5.1)	3.10	.770
10	To what extent do you think the integration of library resources within the LMS has improved your overall satisfaction with your learning experience at NOUN?	163 (43.4)	205 (54.5)	4 (1.1)	4 (1.1)	3.40	.571
	<b>Average Mean</b>					<b>3.38</b>	

Table 3 shows the impact of library services into the LMS on student learning outcomes and academic success. The data presented in the table indicates that students perceive a substantial benefit from the integrated library resources in terms of improving access to relevant academic materials and enhancing their ability to conduct research for assignments and projects, with mean scores of 3.61 and 3.60, respectively, both showing low standard deviations of .530 and .532, suggesting a high level of agreement among respondents. Furthermore, the integration of library resources within the LMS is seen as positively impacting students' information literacy skills, with a mean score of 3.45 and a low standard deviation of .529. While still moderately positive, the reduction in reliance on physical library visits receives a somewhat lower mean score of 3.10 with a standard deviation of .770, indicating a slightly more varied perception among students regarding this aspect of the integrated library services. Overall, the data reflects a favourable view of the services' impact on academic pursuits is high.

### Discussion of Findings

The research question one found that the extent of integration of library services into the Learning Management System (LMS) is high. This suggest that library resources like e-books and journals are easily accessible within the LMS, with seamless connections to the library's digital catalogue and databases, effective integration between course materials and library resources, and availability of tutorials and guides. However, there is room for

improvement in areas such as the integration of citation and referencing tools, as well as the clarity of pathways from course materials to additional library resources. Overall, the integration of library services appears to enhance the learning experience, albeit with some areas for enhancement.

Research question two found that students' perception of NOUN's integrated library services, in terms of usability and effectiveness, was generally moderate. Notably, most students within the sample found the integrated library services in the Learning Management System (LMS) to be easily accessible and navigable, indicating a favourable aspect of the service. Additionally, a substantial proportion of students believed that these services contributed to enhancing their information literacy skills, though this aspect received a slightly lower. Overall, while there were positive aspects, the study suggests that there is room for improvement in students' perception of NOUN's integrated library services, as there was a lower extent of perceived usability and effectiveness among students.

Research question three found that students strongly believe that integrated library resources have significantly enhanced their access to relevant academic materials. Similarly, students perceive the integrated library services as valuable contributors to their research capabilities for assignments and projects. Additionally, the integration of library resources within the LMS is seen as positively impacting students' information literacy skills.

### **Conclusion and Recommendations**

The importance of integrating library services into Learning Management Systems (LMS) in National Open University of Nigeria cannot be overemphasized. The study concludes that the integration of library services into Learning Management Systems (LMS) by National Open University of Nigeria has greatly improved the service delivery of the institution to the learners. Based on the above findings the study therefore recommended thus:

1. Students should develop positive attitude towards the integrated library services into Learning Management Systems (LMS) to improve their perception their learning outcome.
2. The library management should create awareness on the integrated library services available on learning management system for student to patronise.

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