

LIBRARIANS' INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SKILL, KNOWLEDGE, AND USE OF INSTITUTIONAL REPOSITORY (IR) IN SELECTED UNIVERSITY LIBRARIES IN SOUTH-WEST, NIGERIA.

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Abstract

This study investigated librarian's knowledge, Information and Communication Technology (ICT) skill and use of Institutional repositories (IR). Descriptive research design of the ex-post facto type was adopted for the study. Total enumeration was used to capture one hundred and eight (108) academic librarians' in selected academic libraries in Nigeria using questionnaire as the research instrument for data collection. The findings revealed that the librarians' were aware that IR contain theses and dissertations written by students enrolled in the institution ($\chi = 1.71$). The study also found out that the librarians' were highly competent in using ICT to retrieve and download documents from the IR ($\chi = 3.90$). The major challenges encountered by the librarians' are ignorance regarding copyright issues and unreliable power supply. The study thus concludes that though there is a high level of knowledge about IR among the librarians', it is yet to be mandatory that librarians' should deposit works in the IR of the university. The study therefore recommends that it is not enough for librarians to be knowledgeable and competent rather the university management should make institutional repository deposit mandatory for all published works in the university.

Keywords: Librarians knowledge, Information and Communication Technology, ICT Skill, Institutional Repository, Use, Academic Libraries.

Introduction

Institutional repositories are sustainable and practical alternative to current scientific publication models. They ensure the long-term preservation of an institution's academic outcomes, increase visibility and prestige, and attract funding sources, new faculty, and students. For individuals, they provide a central archive of a researcher's work and increase dissemination. Such repositories capture, manage, preserve, and distribute the intellectual property of the host institution to create a central digital archive that contributes to institutional visibility and offers solutions to serial crises (Bamigbola & Adetimirin, 2017; Okoroma, 2018). Manch and Vasudevan (2018) defined institutional repository as an online

locus for collecting and preserving in digital form the intellectual output of an institution, particularly a research institution. Similarly, Ibrahim, Mohammed and Bawa (2020) opined that institutional repositories play a fundamental role in centralizing, preserving, and making accessible institution's intellectual capital and, at the same time, they form part of a global system of distributed and interoperable repositories that provide the foundation for a new disaggregated model of scholarly publishing. Institutional repositories aim to increase an institution's global visibility, gather content in one place, allow access to research output through self-archiving, and preserve unpublished or easily lost literature. (Mammo & Ngulube, 2015).

Institutional repositories serve two purposes: as a source for searching materials and as an archive for depositing scholarly works. Users use them to retrieve works of other scholars, as well as archive and share their own work. Materials found in institutional repositories are useful for scholarly research, lecture notes, personal use, cultural purposes, everyday information needs and entertainment. Therefore, the use of institutional repositories benefits the library, host institution and society (Okoroma, 2018). An institutional repository stores and displays a university's research, increasing access and visibility. It captures and disseminates intellectual capital, indicating academic quality. However, without knowledge of the repository's content, accessibility is limited. To successfully adopt an institutional repository, its users must be aware of its existence. The knowledge of users is important for the establishment and success of the repository. Lack of knowledge among users is a common problem leading to low usage (Anenene, Alegbeleye & Oyewole, 2017; Dutta & Paul, 2014).

Furthermore, ICT trends have caused work restructuring, new skill demands, and changes to information access. Libraries have changed due to these technologies, with electronic communication replacing traditional methods. The role of the library user has

become more active in accessing information from a variety of sources (Emezie and Nwaohiri, 2013). ICT competence is vital for library professionals. It includes knowledge, skills and attitudes towards functional use of ICT in education. Libraries today require computer proficiency for various tasks, making it important for staff to continually acquire new competencies and skills to be successful in their careers. Today's librarians' need ICT knowledge to meet client needs, as technology has transformed library resources to digital ones, making it necessary for libraries to adapt and offer advanced services. Librarians' are now knowledge navigators and facilitate change to meet clients' needs. Library users need ICT literacy for effective service delivery and resource use. Libraries have moved from print to digital resources due to advancements in technology. To perform at their best, libraries must offer services using the latest tools and techniques (Okiki & Mabawonku, 2013).

Eromosele (2019) found that lecturers in Covenant University utilize institutional repositories more due to their possession of ICT skills, while lecturers in UNILORIN utilize them less due to their lack of similar skills. The study concludes that adequate ICT skills can facilitate the use of IR provisions and suggests academic libraries should encourage lecturers to acquire these skills through regular training opportunities. Guided by the above background, this study, therefore, tends to examine librarians' knowledge, ICT competence and use of institutional repository in selected academic libraries in South West.

Statement of the Problem

Observation revealed that despite the increasing adoption of institutional repositories in academic libraries, there is a lack of knowledge about how librarian's knowledge and familiarity with these systems affects usage. The quality of the metadata used to describe the resources in the repository may be poor, making it difficult for users to find and access the materials they need. The institutional repository may not contain all of the materials that users need, making it less useful as a resource. Users may experience technical difficulties

when trying to access or use the repository, which can be frustrating and impede their ability to find the information they need. If the interface is not user-friendly, it can be a problem for library users to navigate through the repository. Some users may be resistant to using new technology or may prefer to use traditional methods of accessing information, which can make it difficult to promote and encourage the use of the institutional repository.

Furthermore, despite the growing importance of Information Communication Technology (ICT) competence and the use of institutional repositories in academic libraries, it is also observed that some librarians' may not have the necessary skills or knowledge to use computers or other technology effectively, which can make it difficult for them to access and use the resources in the institutional repository. In some cases, librarians' may not have access to a reliable internet connection, which can make it difficult for them to access the institutional repository remotely. librarians' may be more familiar with traditional print resources and may not be familiar with the digital formats used in the institutional repository. Hence, it is therefore imperative to find out librarian's knowledge, ICT competence and use of institutional repository in selected academic libraries in South West, Nigeria.

Objectives of the Study

The following objectives guided the study.

- I. To know the librarians' knowledge about institutional repository in selected academic libraries in South West;
- II. To determine the level of librarians' Information Communication Technology (ICT) skill to their use of institutional repository in selected academic libraries in South West;
- III. To investigate the challenges affecting librarians' use of institutional repositories in selected academic libraries in South West.

Review of Related Literature

Institutional repositories have become important in scholarly communication, institutional visibility, university ranking and feasible foundation of institutional knowledge management (Nunda and Elia, 2019). Institutional repositories have also been widely used to disseminate and communicate scientific information (Okumu, 2015). This has made the use of Institutional repositories more beneficial to various individuals, lecturer, library, host institution and society at large (Nzewi, 2022). However, it is knowledge that brings about accessibility. Knowledge is the realization about a certain technology, its personal and social benefits. Knowledge comes first before usage of any object. In the open access environment, awareness has been acknowledged as an important factor determining usage of this mode of scholarly communication (Singeh, Abrizah and Karim, 2012; Dutta and Paul, 2014).

Knowledge is a critical factor in the utilisation of any information product. In this light, Yang and Li (2015) expressed that for the adoption of institutional repository to be successful and serve its full potential, it is imperative that its constituents be aware of its existence. The library users form a critical mass in the knowledge of institutional repository and their institutional repository is of much importance as it could lead to the establishment of institutional repository. It is after institutional repository has been established that the knowledge of users will come to play (Anenene, Alegbeleye and Oyewole, 2017). A common problem that most users has is lack of knowledge. Most of them are bored with lots of academic work and do not have time to access regular publications about their institution nor realize to deposit in institutional repository of their institution (Dutta and Paul, 2014).

Akparobore and Omosekejimi (2020) examined faculty members' awareness and attitude towards the use of Institutional Repositories (IRs) in federal universities in South South, Nigeria. A descriptive survey research design was adopted for the study and questionnaire was used to collect data from the respondents. Finding from the study indicated that the faculty members in federal universities in South South, Nigeria have a high level of

awareness of institutional repositories. They also found that the attitude of faculty members towards the use of institutional repositories is positive, with faculty members using IR for accessing e-journal articles for teaching and research, accessing e-book collection for teaching and research, accessing scholarly works to prepare lecture notes, accessing electronic theses and dissertations for teaching and research, accessing materials for seminar presentations, depositing scholarly works for safekeeping, developing collaborative workspace/information sharing space, increasing their visibility as authors and researchers and to participate in the scholarly communication process among others.

Similarly, Akingbade (2022) research investigated how lecturers perceive, utilize, and are aware of institutional repositories within two Nigerian universities - Ahmadu Bello University in Zaria and the University of Jos. The study employed a correlational research design, with data collected via questionnaires. According to the findings, lecturers were moderately aware of IRs, with a weighted average score of 2.58 (65%). Moreover, it was found that most lecturers learned about IRs through various channels such as university websites (88.2%), library sensitizations (60.5%), and colleagues' recommendations (60.9%).

It is worth noting that the level of proficiency in information and communication technology (ICT) possessed by an individual can make a significant difference in their ability to benefit from electronic resources such as institutional repositories. A study conducted by Eromosele (2019) confirmed this assertion, revealing that lecturers at Covenant University made more use of institutional repository resources as a result of their high ICT skills. Conversely, the utilization of IR resources was found to be low among lecturers at UNILORIN due to their poor ICT skills. In light of these findings, the study posits that it is essential for educators in universities to attain adequate proficiency levels in ICT competencies since doing so could help them better utilize IR provisions. Likewise, Babalola's (2019) analysis evaluated the impact of ICT skills on undergraduate students'

exploitation of electronic information resources at Covenant University. The research discovered a high proportion of students with robust ICT capabilities who were able to use electronic information sources efficiently; this enhanced their reading comprehension and ultimately aided learning outcomes.

It can be observed from the foregoing that the absence of abilities to handle Information and Communication Technology (ICT) is a significant hindrance to the use of institutional repositories, although there are other factors as well. This concern has also been substantiated by Saliu and Ngozi (2022) in their recent research. The study revealed that academic staff in South-West Nigeria faces multiple challenges when it comes to using institutional repositories (IRs). These challenges include inadequate ICT skills, unwillingness to deposit research material, frequent power outages or epileptic power supply, lack of IR policies impeding submission of content to IRs, fear of copyrights infringement, financial constraints, inadequate awareness on publishers' policy regarding deposited published works in IRs, fear of plagiarism among others (Saliu and Ngozi, 2022). Furthermore, Nwachi and Idoko (2021) conducted a similar study and found out that users face obstacles such as insufficient training on IR usage procedures or protocols; frequent power outages; and lack of proper sensitization among members within academic communities. The issues described above have caused institutional repositories to become less user-friendly than they ought to be. As a result, academic staff find it challenging to access and utilize these resources for their studies and research purposes.

Methodology

Descriptive survey research design was adopted for this study. The population of the study comprised of librarians in four (4) selected academic libraries in South West, Nigeria. These are University of Ibadan, University of Lagos, Bells University and Covenant University. Total enumeration sampling technique was used to capture the entire librarians'

in the academic libraries due to its small population. This technique affords every individual in the population equal opportunity of chance to be selected. A self-designed and close-ended questionnaire was used as the instrument in gathering data from the respondents. The questionnaire was administered to the librarians' in the selected academic libraries. Out of 108 questionnaire that was administered, 103 was returned and found useful for the study.

Results and Discussion

Research Question 1: What is the level of librarians' knowledge about institutional repository in selected academic libraries in South West, Nigeria?

Table 1: Level of librarians' knowledge about institutional repository

Items	Mean	Std. Dev	Remark
I am aware that institutional repository contains data sets and research data	1.74	.442	Significant
I am aware that institutional repository contains theses and dissertations written by students enrolled in the institution	1.74	.442	Significant
I am aware that institutional repository contains learning objects, such as multimedia educational materials and courseware	1.71	.457	Significant
I am aware that institutional repository contains faculty publications and presentations	1.70	.461	Significant
I am aware that institutional repository contains technical reports and white papers	1.67	.473	Significant
I am aware that institutional repository contains digital images, videos, and audio recordings	1.66	.476	Significant
I am aware that institutional repository contains scholarly research articles including preprints and post prints	1.63	.485	Significant
I am aware that institutional repository contains historical documents and archives	1.58	.496	Significant
I am aware that institutional repository contains conference papers and proceedings	1.54	.501	Significant
I am aware that institutional repository contains maps, graphs and other forms of visual content	1.43	.497	NS
Average Mean	1.64	0.473	High

Decision: Mean score of $x = 1.50$ and above is significant

Result as presented in table 1 showed that average mean of 1.64 is greater than the accepted mean of 1.50 indicating that all the items measuring the level of librarians' knowledge about institutional repository; the total of 9 items were significant while 1 item

was non-significant. The findings indicated that the librarians' were aware that institutional repository contains data sets and research data, theses and dissertations written by students enrolled in the institution, learning objects, such as multimedia educational materials and courseware, faculty publications and presentations, technical reports and white papers, digital images, videos, and audio recordings, scholarly research articles including preprints and post prints, historical documents and archives, conference papers and proceedings, maps, graphs and other forms of visual content.

This findings were similarly to the findings of Akparobore and Omorekejimi (2020) and Akingbade (2022). In Akparobore and Omorekejimi (2020), a high level of awareness was revealed among academic staff in federal universities in South South, Nigeria. Not only that, but the academic staff was revealed to have a positive attitude towards institutional repositories which of course encourage their frequent usage. Similarly, Akingbade (2022) revealed that academic staff within two Nigerian universities - Ahmadu Bello University in Zaria and the University of Jos. were moderately aware of IRs, with a weighted average score of 2.58 (65%). It was also found that most academic staff learned about IRs through various channels such as university websites, library sensitizations, and colleagues' recommendations.

Research Question 2: What is the level of librarians' Information Communication Technology (ICT) skill to their use of institutional repository in selected academic libraries in South West Nigeria?

Table 2: Level of librarians' Information Communication Technology (ICT) competence to their use of institutional repository

User's ICT Skill	Not Sure	Not Competent	Averagely Competent	Highly Competent	Mean	Std. Dev
I am proficient in using ICT to retrieve and download documents form the institutional repository	-	-	10 9.7%	93 90.3%	3. 90	.298
I am comfortable with using ICT to upload and store documents in the institutional repository	-	-	15 14.6%	88 85.4%	3. 85	.354
I can communicate effectively with ICT and work collaboratively in groups to deposit my	-	-	25 24.3%	78 75.7%	3. 76	.431

research in institutional repository						
I am confident to use ICT to navigate and search within the institutional repository database	-	-	25 24.3%	78 75.7%	3. 76	.431
I am confident in my ability to use ICT to manage and preserve digital materials in the institutional repository	5 4.9 %	-	20 19.4%	78 75.7%	3. 71	.554
I am comfortable with using ICT for integrating with other systems and applications in the institutional repository	-	5 4.9%	25 24.3%	73 70.9%	3. 66	.570
I understand the use of ICT for organizing and indexing information sources in the institutional repository	10 9.7 %	-	20 19.4%	73 70.9%	3. 61	.490
I am confident to use ICT tools to search for, retrieve and store information sources on the institutional repository database	5 4.9 %	-	25 24.3%	73 70.9%	3. 61	.660
I am proficient in using ICT for monitoring and reporting on institutional repository usage statistics	-	10 9.7%	25 24.3%	68 66.0%	3. 56	.667
I am familiar with using ICT for copyright and intellectual property management in the institutional repository	5 4.9 %	-	30 29.1%	68 66.0%	3. 56	.498
I am proficient to use ICT tools to convert/transform information from one place to another on the institutional repository	-	-	40 38.8%	63 61.2%	3. 56	.589
I can effectively communicate using ICT by providing a platform for researchers to easily share and disseminate their work online through institutional repository interface	5 4.9 %	-	35 34.0%	63 61.2%	3. 56	.737
I am comfortable with using ICT tools for communication and collaboration within the institutional repository community	-	-	55 53.4%	48 46.6%	3. 47	.501
I am proficient in using ICT to generate and analyse usage statistics for the institutional repository	10 9.7 %	-	49 47.6%	44 42.7%	3. 33	.648
Average Mean					3. 64	0.53 1

Decision: Mean score of $X=2.50$ and above is significant.

Result in table 2 showed average mean of 3.64 is greater than the accepted mean of 2.50 indicating that all the items of measuring the Level of librarians' ICT competence to their use of institutional repository; the total of 14 items were significant while none of the item was non-significant. The implication of this result is that, the librarian are aware that been ICT proficient will enable them to use institutional repositories.

The finding was supported by Eromosele (2019) who revealed that lecturers at Covenant University made more use of institutional repository resources as a result of their high ICT skills. Conversely, the utilization of IR resources was found to be low among lecturers at UNILORIN due to their poor ICT skills. In light of these findings, the study posits that it is essential for educators in universities to attain adequate proficiency levels in ICT competencies since doing so could help them better utilize IR provisions.

Research Question 3: What are the challenges facing librarians' in the use of institutional repositories in selected academic libraries in South West Nigeria?

Table 3: Challenges facing librarians in the use of institutional repositories

Challenges		Std. Dev	Remark
Ignorance of publishers policy	1.76	.431	Significant
Copyright issues	1.76	.431	Significant
Fear of not being able to publish works submitted in institutional repository	1.71	.457	Significant
Epileptic power supply in the country	1.66	.476	Significant
Server unavailability	1.62	.487	Significant
Lack of time	1.61	.490	Significant
Fear of plagiarism	1.61	.490	Significant
Lack of awareness of institutional repository	1.58	.496	Significant
Inadequate internet connection	1.51	.502	Significant
Constant power failure	1.47	.501	Non-significant
Average Mean	1.63	0.476	Significant

Decision: Mean score of $X=1.50$ and above is significant.

Result in table 3 showed average mean of 1.63 is greater than the accepted mean of 1.50 indicating that all the items of measuring the challenges facing users towards the use of institutional repositories; the total of 9 items were significant while 1 of the item was non-significant. The major challenges facing librarians' towards the use of institutional repositories are ignorance of publishers policy, copyright issues, fear of not being able to publish works submitted in institutional repository and epileptic power supply in the country.

The findings were inconsistent with Saliu and Ngozi (2022) in their recent research. The study revealed that academic staff in South-West Nigeria faces multiple challenges when

it comes to using institutional repositories (IRs). These challenges include inadequate ICT skills, unwillingness to deposit research material, frequent power outages or epileptic power supply, lack of IR policies impeding submission of content to IRs, fear of copyrights infringement, financial constraints, inadequate awareness on publishers' policy regarding deposited published works in IRs, fear of plagiarism among others. Similarly, Nwachi and Idoko (2021) submitted that users face obstacles such as insufficient training on IR usage procedures or protocols; frequent power outages; and lack of proper sensitization among members within academic communities. The issues described above have caused institutional repositories to become less user-friendly than they ought to be. As a result, academic staff find it challenging to access and utilize these resources for their studies and research purposes.

Conclusion and Recommendation

Librarians' understand institutional repositories and their purpose, including storing research data, theses, multimedia educational resources, and courseware. They are proficient in using ICT to upload/download documents and exhibit collaborative skills by working in groups to deposit their research. The study confirms librarians' excellent understanding of institutional repositories for academic purposes. Institutional repositories may have benefits, but librarians encounter challenges such as unfamiliarity with publisher policies and copyright concerns. Repository archiving practices can also limit publishing options, and power supply issues in certain places can cause data loss or corruption.

After a thorough analysis, some recommendations have been suggested to address the challenges.

1. One recommendation is for universities to mandate depositing all published work in an institutional repository.
2. Staff members should also be trained on using the software effectively.

3. To encourage collaboration in local discussion groups centered around institutional repositories, universities should create forums where librarians and researchers can share experiences.
4. Mandatory repositories for librarians' would help incentivize participation with research grants or sponsoring attendance at conferences, seminars, and workshops.
5. Institutions should recruit more content and ensure network stability to achieve success for both the institution and individual researchers.

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