

CHAPTER THREE

AVAILABILITY AND USE OF INSTITUTIONAL REPOSITORIES FOR SUCCESSFUL SERVICE DELIVERY IN DIGITAL AGE: A CASE STUDY OF NINE POLYTECHNIC LIBRARIES IN NIGERIA

Abstract

The increase in awareness of open access, the need to capture, preserve and disseminate collective intellectual output for global visibility by academic institutions in Nigeria has resulted in the rapid development and deployment of Institutional Repositories (IRs). IR contains valuable institutional memories such as theses, dissertations, scholarly articles, academic journals, conference papers and lots of other institutional publications that are domiciled in the Institutions which are relevant to teaching, learning and research. This study is carried out with a view to examine the availability of IR infrastructural facilities, prospects and challenges in the selected nine Polytechnics in Nigeria. The research instruments used were questionnaire, documentary evidence and oral interview. Findings revealed that software needed to manage IR contents are not available in most of the polytechnic libraries sampled. Majority of the respondents perceived IR to be

highly beneficial for effective service delivery especially for long term preservation; access and global visibility of institutional intellectual assets. Challenges facing the establishment and sustenance of IR contents were identified. The study concludes with recommendations that the Management of Polytechnics in Nigeria should prioritize the procurement of ICT facilities (both hardware and software) to support viable and functional IRs, encourage enlightenment and advocacy programs on benefits of IRs through different media, to seek local and foreign grants from donors to solve the problems of IR funding, make robust provision for appropriate and adequate training for IRs personnel to enhance competence and expertise.

Keywords: Institutional Repository(ies), Availability, Service Delivery, Digital Age, Use

Introduction

The library is the heart and life-line of any citadel of learning. The quality of teaching, learning and research is predicated on the robustness of the availability, accessibility and utilization of library and information resources. Library is the institutional warehouse which contained intellectual food on which lecturers, researchers, administrators and students are nourished. The advent of ICT and electronic publishing has opened new avenues for scholars to disseminate their findings to one another through the internet in this digital age. This is characterized by ubiquitous nature of computing and prolific use of technology in almost all aspects of human activity. The increase in awareness of open access, the need for accessibility and the quest for global visibility by academic institutions in Nigeria and the preservation of resources for future generation, has resulted in the rapid deployment of Institutional Repositories (IRs). Lynch (2003) defined Institutional Repository as a set of services that an academic Institution offer to the members of its community for the management and dissemination of digital materials created by the institution and its members. Anenene, Alegbeleye and Oyewole, (2017) viewed IRs as a digital archive that provides the platform where institutions can archive their intellectual output. Francisca (2017) also elaborated more on the definition of IR where she explained that IRs are materials in digital format generated, managed and disseminated by the Institution and its

community. IR exists in format such as theses, dissertations, scholarly articles, academic journals, conference papers, administrative record, technical reports, grey literature, rare books and lots of other institutional publications that are domiciled in the institution which are relevant to teaching, learning and research. Gbaje and Mohammed, (2017) in their paper titled “Long-term Accessibility and Re-use of Institutional Repositories Contents of some Selected Academic Institutions in Nigeria” stated that IR contents useful for teaching and research include images, audio and video contents. In a bid to increase accessibility, global visibility and effective management of these digital contents, academic institutions have deployed Institutional Repositories.

Anenene, Alegbeleye and Oyewole, (2017) identified some IRs’ benefits as follows: it serves as tangible indicators for an institution’s quality; increases visibility; prestige; and public value. It also increases the ranking of an institution both at local and international level; enhances learning; online teaching and research; and presents an institution’s intellectual assets to a whole lot of scholars. IR enhances resource sharing; improves the lifespan of an institution’s intellectual output, aids proper monitoring and assessment of institution’s research output. IR can expose discoveries or contribution to knowledge and innovation of institutions for commercialization of technology; aids monitoring of research outputs by funders; provides immediate and valuable complement to the existing scholarly publishing model among many others. Hence, the need for institutional Repositories in polytechnic libraries cannot be overemphasized

Statement of the Problem

Despite the numerous benefits associated with Institutional Repositories (IRs) by institutions of higher learning particularly the polytechnic sector, it is observed that most polytechnics in Nigeria have not optimized fully this laudable innovation. Some of the polytechnics that have started the deployment of IRs have not fully maximized the benefits for effective service delivery. This could be as a result of some factors such as lack of awareness, lack of adequate knowledge of the importance of IRs, inadequacy of internet connectivity and ICT infrastructure, inadequate funding, low response of staff for submission of projects, technophobia, lack of technical support etc. In view of the aforementioned, this paper is set to examine the management of IRs for successful delivery of service in the Polytechnic sector in Nigeria.

Literature Review

Umar, Musa and Aliyu (2014) in their paper titled; “Institutional Digital Repositories in Nigeria: Issues and Challenges” state that in the 21st century, libraries in Nigeria have embarked on integration of technology in their operations. This serves as a mechanism for improvement and development, especially, in a situation where attention is drawn to the academic contents and ways of digitizing, creating global visibility and preserving them for future use. The effort to digitize the intellectual property of an institution is

what is known as digitization (Eke, 2011). According to Gbaje and Mohammed (2017), Institutional Repositories can be used to collect, preserve and provide free, unrestricted access to all types of institutional digital content. IRs are dependent upon software and hardware technologies. These technologies are prone to technological changes. Lynch (2003) had earlier asserted that the key part of the Institutional Repository is the management of the technological changes to meet up with these constant changes. The author further argued that an effective management of Institutional Repository requires collaboration among Librarians, Information Technologists, Archivists, Record Managers, Lecturers, Administrators and Management Staff.

Anenene, Alegbeleye and Oyewole (2017) in their study titled "Factors Contributing to the Adoption of Institutional Repositories in Universities in South-West in Nigeria: Perspective of Library Staff", measured the awareness and perception of IRs among library staff of some selected higher Institutions where majority of respondents noted that institutions that have adopted IR concept had more prestige and public value than those that have not. It can be deduced that most of the respondents had a favourable and positive perception of IRs. Dutta and Paul (2014) in their findings reported that majority of the faculty members have a positive and favourable perception regarding IRs. In another study, Ukwoma and Dike (2017) studied academics' attitudes towards the utilization of IRs in five Nigerian universities. They discovered that most of them were ready to deposit their works in the IRs. On the issue of funds to establish IRs, Anenene, Alegbeleye and Oyewole (2017) indicated that a very high number of respondents 28 (93.3%) were of the opinion that funds to start up and sustain IRs were available in their Institutions and may not necessarily be a challenge but the commitment needed to see to it that IR is established, maintained and sustained. This is however in contrast to the findings of Christian (2012) who carried out a study and discovered that funding is a major problem confronting the establishment of IRs in most higher institutions in Nigeria. Despite the numerous benefits of IRs, there are implications and potential barriers to its successful implementation. Jain, Bentley and Oladiran (2009) quoting Pickton and Barwick (2006) in their work titled: "The Role of Institutional Repository in Digital Scholarly Communications" highlighted IR's challenges which include high cost, difficulties in generating content, sustaining support and commitment, copyrights management issues, working culture issues, policy issues and lack of incentives.

Umar, Musa and Aliyu (2014) while reporting the challenges facing digitization project in Ahmadu Bello University, Zaria equally observed that constant change of hardware and software, copyright issues, technical support and security were among the challenges facing Institutional Repositories. Eke (2011) had earlier reported similar challenges at the University of Nigeria NSUKKA which he mentioned among others low bandwidth, technophobia, technical support and security, finance and legal aspects. Mentioning a similar problem at the University of Jos, Akintunde and Anjo (2012)

enumerated lack of skilled personnel to manage the repository, lack of adequate power supply, lack of support from the community in terms of usage and uploading of content

Objectives of the Study

The objectives of the study are highlighted as follows:

1. To ascertain the establishment and availability of IRs facilities in the selected Polytechnics in Nigeria;
2. To ascertain the level of perception of IRs in the Polytechnics in Nigeria;
3. To determine the prospects/ benefits of IRs to the Polytechnics in Nigeria ;
4. To identify the challenges facing the establishment, deployment and sustenance of Institutional Repositories in the selected Polytechnics

Research Questions

In view of the above, the study will provide answers to the following Research Questions:

1. What are the available IRs facilities in the selected Polytechnics in Nigeria?
2. What is the level of perception of IRs in the selected Polytechnics in Nigeria?
3. What are the prospects/benefits of IRs to the selected Polytechnics in Nigeria?
4. What are the challenges facing the establishment, deployment and sustenance of IRs in selected Polytechnics?

Methodology

The study adopted descriptive survey design. Nine (9) Polytechnic Librarians and eighteen (18) ICT and Library Officers in the Polytechnic Libraries were the respondents used for this study. The research instruments used were questionnaire which was sent online to the respondents, and oral interview. Twenty seven (27) copies of questionnaires were administered for this research and were all duly filled and returned for analysis .This translates to 100% response rate. The data collected were analyzed using simple statistical methods such as percentages and frequency table for meaningful conclusions as per the objectives of the study. The data collected from the questionnaire were analyzed based on a five-point Likert Rating Scale with response option of the following: Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD), Undecided (U). The analyses and interpretations of the data collected with content analysis result are presented below:

Population of the Study

S/N	Name of the Institution/Library	Librarians	ICT & Lib. Officers	Total
1	The Federal Polytechnic Ado-Ekiti, Ekiti State, Polytechnic Digital Library	1	4	5
2	The Federal Polytechnic Ede Library, Osun State	1	2	3
3	The Federal Polytechnic Offa Library, Kwara State	1	2	3
4	Rufus Giwa Polytechnic Library, Owo, Ondo State	1	2	3
5	Crown Polytechnic Library, Odo Ado-Ekiti Ekiti State	1	0	1
6	The Federal Polytechnic Damaturu Library, Yobe State	1	2	3
7	Plateau State Polytechnic Library, B/Ladi Plateau State	1	2	3
8	The Federal Polytechnic Idah Library, Kogi State	1	2	3
9	The Federal Polytechnic Kaura Namoda Library	1	2	3
	TOTAL	9	18	27

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Results and Discussions

Table 1: Demographic characteristics of respondents

Demographic Characteristics	Frequency	Percentage (%)
Highest Educational Qualifications		
First Degree	18	66.66
Master Degree	6	22.22
Ph.D	3	11.11
TOTAL	27	100

Demographic Characteristics of Respondents

Table 2 presented data on the demographic variables of the respondents and findings showed that 18(66.66%) of the respondents had B.Sc/HND degrees, 6 (22.22%) had Masters degree, 3 (11.11%) had Ph.D educational qualification. This shows that the polytechnic libraries are manned by well trained and qualified Librarians.

Research Question 1: Availability of IR s facilities in the selected polytechnics

Table 3: Availability of IRS facilities

S/N	INSTITUTION	IR FACILITIES		
		Facilities Available	Model/ Version	Qty
1	The Federal Polytechnic Ado-Ekiti, Ekiti State, Polytechnic Digital Library	Desktop Computer	Zinox and HP	50 Zinox & 4 HP at Digitization Room
		Industrial Scanner	Xerox Documate 3640	2
		Industrial Scanner	Epson	1
		UPS	Mercury	4
		Server		1
		Local Area Network		4 Ports
		Internet Access	Available	
		SOFTWARE		
		Greenstone	Version 2.83	1
		KOHA		
2	The Federal Polytechnic Ede, Osun State,	Laptop Computer	Dell Inspiron I5	30
		Scanner	Xerox Documate 752	1
		Scanner	Laserjet Pro MFP m177sw	1
		Local Area Network	Single Networks	
		Server	Dell Server	1
		Internet Access	2mbps	
		SOFTWARE		
		O.link	Version 1.1	
3	The Federal Polytechnic Offa, Kwara State,	Laptop Computer	HP	50
		UPS		50
4	Rufus Giwa Polytechnic, Owo Ondo State,	Desktop Computers	Intel Pentium	50
		Laptop Computers	Brian and HP	35
		Scanners	Industrial Scanner and HP	6
		UPS	Bluegate 1KVA	30
		Local Area network	Wired by CAT 5 Networks	
		Internet Access	Microwave Model	
		Server	Server 2012	3
		SOFTWARE		
		Dspace	6.3, installed in 2018	
		KOHA	18.05 installed in year 2018	

5	Crown Polytechnic Odo, Ekiti State,	Laptop Computer	HP	100
		Desktop Computer	HP	8
		Scanners	HP M25 (3 in one)	1
		Local Area Networks		8 Ports
		Internet Access	Available in the school but excluding Library	
		SOFTWARE		
6	The Federal Polytechnic Damaturu Library, Yobe State	Desktops	HP	65
		Laptops Computer	HP	3
		Sacnners	HP	2
		UPS		100
		LAN		2 Ports
7	Plateau State Polytechnic Library, B/Ladi Plateau State	Desktop Computers		50
		Laptop Computers		3
		Scanners		1
		UPS		50
		LAN		
		Server		1
		Battery Banks		16 Batteries
8	The Federal Polytechnic Idah Library, Kogi State	Desktop Computers		70
		Laptops Computers		16
		Scanners		10
		UPS		6
		Server		1
9	The Federal Polytechnic Kaura Namoda Library	Desktop		50
		Scanners	HP Laserjet 3015	1
		UPS	Mercury	50
		Server		1
		Dspace	2011 Version	

From the above table, all the selected polytechnics have various ranges of ICT hardware facilities that can support IR. Most of the polytechnics do not have the required software facilities to manage the Institutional Repository contents. It is observed that Rufus Giwa Polytechnic (State Funded Polytechnic) has the highest and the most robust ICT facilities for the implementation of IR. In other Polytechnics sampled, it was observed that the facilities needed for IRs are inadequate. This finding is in support of Aghwotu and Ebiere (2016) in their study where they expressed that few universities in Nigeria have been able to establish IR in order to provide information resources for members of staff and students to use for teaching, learning and research.

Research Question 2: Level of perception of Institutional Repositories in the Polytechnic libraries

Table 4: Level of perception on Institutional Repositories

Key: A = Agreed (representing Agreed and Strongly Agreed)

D = Disagreed (representing Disagreed and Strongly Disagreed)

U = Undecided (representing only Undecided)

S/N	Statement	A	D	U	Total
1	IR is highly needed because it is helpful in Academic Institution	24 (88.89%)	-	3 (11.11%)	27 (100%)
2	Implementing an IR improves the lifespan of any institution's output to be visible	21 (77.77%)	3 (11.11%)	3 (11.11%)	27 (100%)
3	Implementing an IR aids proper monitoring and assessment of my institution's research output.	24 (88.89%)	-	3 (11.11%)	27 (100%)
4	Institutions which have adopted the IR concept have more prestige and public value than those that have not	24 (88.89%)	-	3 (11.11%)	27 (100%)
5	Having an IR is a status symbol in academic environment	15 (55.55%)	9 (33.33%)	3 (11.11%)	27 (100%)
6	Availability of IR project the image of my Institution as it relates to its output	24 (88.89%)	-	3 (11.11%)	27 (100%)
7	IR Facilities prolong the lifespan of academic/Administrative Records and any other relevant documents	24 (88.88%)	-	3 (11.11%)	27 (100%)

Table 4 revealed that majority of the respondents 24(88.89%) agreed that IR is highly needed and helpful in the polytechnics. Also, majority of the respondents agreed 21(77.77%) that IR improves the lifespan of any institution's output and makes it visible. Similarly, 24(88.88%) agreed that IR aids proper monitoring and assessment of any institution's research output. Furthermore, 24(88.89%) of the respondents agreed that IR projects the image of their Institutions as it relates to its output and prolong lifespan of academic and administrative records. The opinions of the Polytechnic Librarians as analyzed above revealed that the level of perception of the values of Institutional Repositories in the polytechnic libraries in Nigeria is high. This implies that the majority of the Polytechnic Librarians perceived IRs to be highly beneficial for effective service delivery. This view as expressed by the Polytechnic Librarians is favourably compared to the standard in the university if not better. This is also in line with the research conducted by Aghwotu and Ebiere (2016) where they examined the awareness and attitude of lecturers towards the establishment of IR in Niger Delta,

Bayelsa State and reported that (90%) of their respondents stated that they were aware of IR.

Research Question 3: Challenges that face the establishment, deployment and sustenance of Institutional Repositories in the Polytechnic Sector.

Table 5

S/N	Statements	A	D	U	TOTAL
1	Staff are not fully aware of the benefit, development and sustenance of IRs	15 (55.55%)	0	12 (44.44%)	27 (100%)
2	There is lack of awareness of IRs among the researchers and lecturers	15 (55.55%)	3 (11.11%)	9 (33.33%)	27 (100%)
3	Lack/Inadequacy of internet connectivity and ICT Infrastructure	21 (77.77%)	3 (11.11%)	3 (11.11%)	27 (100%)
4	inadequate bandwidth and lack of public IP address to host digital repositories	21 (77.77%)	3 (11.11%)	3(11.11%)	27 (100%)
5	Inadequate publicity of the values of IR	15 (55.55%)	0	12 (44.44%)	27 (100%)
6	Epileptic Power Supply	9 (33.33%)	6 (22.22%)	12 (44.44%)	27 (100%)
7	Lack of vision of the importance of IR	12 (44.44%)	3 (11.11%)	12 (44.44%)	27 (100%)
8	Inadequate funding	15 (55.55%)	0	12 (44.44%)	27 (100%)
9	Technophobia is a limitation	0 12 (44.44%)	3 (11.11%)	12 (44.44%)	27 (100%)
10	Technical support is a challenge	0 15(55.55%)	0	12(44.44%)	27(100%)
11	Policy development/guidelines for IRs is yet to be established	0 15(55.55%)	0	12(44.44%)	27(100%)
12	IR is very costly to set up	9(33.33%) 15(55.55%)	0	12(44.44%)	27(100%)

Table 5 revealed that 15(55.55%) agreed that staff are not fully aware of the benefit, development and sustenance of IR. It was also revealed that there is lack of awareness of IRs among the researchers and lecturers with 15(55.55%) agreed to the question. In addition, 21(77.77%) agreed to inadequacy of internet connectivity, ICT infrastructural facilities, inadequate bandwidth and lack of IP address to host digital repository. On funding and setup cost, 15(55.55%) responded that there is inadequate funding. The study also revealed that 15(55.55%) agreed that Technical Support and Policy Development are challenges.

Research Question 4: Prospects/ Benefits of IR to the Institution

Table 6

S/N	Statement	A	D	U	TOTAL
1	IRs improve the Global visibility of the Institution	24 (88.88%)	-	3 (11.11%)	27 (100%)
2	IRs improve the lifespan of any institution's intellectual output	24 (88.88%)	-	3 (11.11%)	27 (100%)
3	IRs improve monitoring and assessment of institution's research output.	24 (88.88%)	-	3 (11.11%)	27 (100%)
4	IRs can enhance long life preservation of record	21 (77.77%)	3 (11.11%)	3 (11.11%)	27 (100%)
5	IRs expose the discoveries or contribution to knowledge and innovation of Institution for commercialization of research output	21 (77.77%)	3 (11.11%)	3 (11.11%)	27 (100%)
6	IRs provide global access to research output	24 (88.88%)	-	3 (11.11%)	27 (100%)
7	IRs aid monitoring of research outputs by Funders	21 (77.77%)	3 (11.11%)	3 (11.11%)	27 (100%)
8	Capture the intellectual assets of Institutions	21 (77.77%)	3 (11.11%)	3 (11.11%)	27 (100%)

Results from table 6 revealed that majority of the respondents had positive responses on benefits of IRs as 24(88.88%) responded that IR improves the global visibility of the Institution; IR improves the lifespan of any institution's intellectual output; and provides global access to research output and captures the intellectual asset of Institutions. In addition, 21(77.77%) of the respondents agreed that IR can enhance long life preservation of record and IR expose the discoveries or contribution to knowledge and innovation of Institution for commercialization of research output. Also 21(77.77%) agreed that IRs can aid the monitoring of research outputs by funders. These findings are in agreement with the discovery of Anenene, Alegbeleye and Oyewole (2017) in their study where 50% of the respondents noted that institutions which have adopted the IR concept had more prestige and public value than those that have not. This implies that more efforts are needed to make IR capture more of Institutional assets of the polytechnics. It can be deduced from the responses above that adoption of IR in the polytechnic sector is highly beneficial.

Conclusion

The potentials of IRs in academic institutions of higher learning are enormous. The benefits include among others: improvement in the global visibility of the institution, preservation of resources for future generation, improvement in the lifespan of any institution's intellectual output, proper monitoring and assessment of any institution's research output and enhancement of long life preservation of record. It also increases the ranking of an institution both at local and international level and enhances learning, online teaching and research; and presents an institution's intellectual assets to a whole lot of scholars globally. Finally, establishment and management of Institutional Repository facilities in academic institutions of higher learning especially, in the polytechnic sector is a desirable and worthwhile venture. A number of factors especially the proffered way forward need to be considered. The benefits could be delightful and alluring. The various challenges are many, but could be checked. The idea must be embraced by the Polytechnic Management and all stakeholders for the establishment and running of a successful and viable IRs venture in this digital age.

Recommendations

Based on the findings, the following recommendations are proffered;

1. Managements of the polytechnics in Nigeria should endeavour to prioritize the procurement of ICT facilities (both software and hardware) that can support viable and functional (institutional repositories).
2. Library management should encourage more enlightenment programmes and advocacy on the benefits of IR through different media i.e issuing of circulars, memos, organizing workshops and seminars and through social media and websites.
3. Since IR has positive impact in enhancing the global visibility, enhances long life preservation of intellectual outputs of higher institutions, it is therefore recommended that authorities of polytechnics in Nigeria should embrace the IR concept to make it capture more of institutional assets of the polytechnics.
4. To solve the problems of IR funding, it is recommended that polytechnic libraries should seek local and foreign grants from donors such as Tertiary Education Trust Fund (TETFund), Nigerian Communication Commission (NCC), Nigeria Information Technology Development Agency (NITDA) etc. This is in line with the recommendation of Francisca, (2017) that more financial intervention by the government and the Private-public partnership initiatives is highly needed to augment the funds available for the sustenance of institutional repositories in Polytechnic' libraries in Nigeria.
5. There is the need for collaboration among Librarians, ICT Officers, Archivists, Records Managers, Lecturers, Administrators and Policymakers on possible strategies for the actualization of effective management of IRs

6. Research Centers, Protocol and Information Passage Units of polytechnics and Staff Training and Development Committee have a lot to do in ensuring that published articles of academic staff and other publications in the polytechnics should be submitted to the IR units of the polytechnic libraries for digitization and uploading.
7. Polytechnic Management should make robust provision for appropriate and adequate training for IRs personnel to enhance their competence and expertise.

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