

STATUS OF INSTITUTIONAL REPOSITORIES IN FEDERAL AND STATE TERTIARY INSTITUTIONS IN IMO STATE, NIGERIA

Ogechi IHEANACHO-KELECHI¹ and Angelina C. UCHE Ph.D²

University Library, Federal University of Technology, Owerri¹ and Federal Polytechnic
Nekede Library, Owerri^{1,2}

oge4chidi@gmail.com¹, chiomaucha@yahoo.com²

Abstract

Purpose: This research investigated the status of institutional repositories in federal and state tertiary institutions in Imo State, Nigeria. Four research questions were answered.

Design/Methodology/ Approach: The study adopted a survey design. The population of the study consisted of 189 professionals and para-professionals of the five tertiary institutions studied which also served as the sample of the study. The instrument used for data collection was a questionnaire rated with four-point scale. Data were analysed using mean and standard deviation.

Findings: The result revealed that only FUTO and IMSU have their institutional repositories established to a high extent and also have little contents in their online repository limited to only technical reports, research articles, theses and dissertations. Furthermore, inadequate funding and poor electricity supply, inadequate advocacy and ICT connectivity, copyright issues among others were some of the identified challenges that hamper the effective set-up of the repositories in the institutions studied.

Implications: The establishment of institutional repositories with ICT connectivity, steady power supply, ensuring originality of IR contents, adequate funding for IR hosting, creating awareness and engaging skilled and experienced personnel will help the institutions to be on the right track will put the institutions in the lime light among the top institutions in Nigeria, Africa and the world at large.

Originality and Value: This work has not been published before. The findings of the study implies if institutions do not have a functional institutional repository, the academic contents of the institutions will not be made available to a wider audience hence leading to knowledge suppression.

Keywords: Academic libraries, Institutional Repositories, Establishment, Components, Awareness, Open Access.

Introduction

Libraries have remained the nerve centre of learning in educational institutions especially in tertiary institutions. They are considered critical centres in the educational development of the people at all levels of endeavours particularly in the academic environment. The three roles of universities and other tertiary institutions in the areas of teaching, learning and research have rapidly increased the output of information, and the libraries are expected to serve the users efficiently. Generally, as opined by Olanloku and Salisu (2003), academic libraries contribute immensely to the extension of the frontiers of knowledge through the provision of research-oriented information resources in various formats and in different platforms so as to enrich the learning process and programmes.

Overtime, many academic libraries, especially in the developing countries have relied on the traditional service delivery platforms until very recently when technology has forced some to change, convert or integrate technology sources into their services. The technologically needed changes should go beyond rethinking the very core of what defines an academic library – the sense of place, of service and of the community that characterizes the modern academic library system. The vision should embrace full library automation, digital assets and access, including the introduction of social media or web technologies and institutional repositories. These are among the core technologies that are revolutionizing the academic libraries today (Anunobi & Ezeani, 2011). In order to remain relevant to their users by offering technology oriented services, many academic libraries have

adopted many technological service platforms of which Institutional Repositories is one of them in order to serve their users better. Institutions of higher learning all over the world are experiencing the necessity of managing their education, research and resources in a more effective and open way. By making the research and scientific output easily available, they will support the development of new relationships between academics in both national and international research centres.

Institutional Repository (IR) is an electronic archive of the scientific and scholarly output of an institution, stored in digital format, where search and recovery are allowed for its subsequent internal, national or international use. The Institutional Repository (IR) is understood as an information system that collects, preserves, disseminates and provides access to the intellectual and academic output of the academic community. Nowadays, the IR is a key tool of the scientific and academic policy of institutions. On the other hand, access to the full text of the digital learning objects makes the repository become a fundamental support tool for teaching and research, whilst at the same time multiplying the institution's visibility in the international community. Within this scenario, it is the academic libraries that must lead the implementation of the IRs to enhance the university's educational competitiveness, because of their experience in information management in all its forms and contact with knowledge (Lynch, 2003).

The rapid development and advancement in Information and Communication Technologies (ICTs) has led to profound and progressive changes in all spheres of human endeavour (Abubakar, 2010). This of course includes the library and information profession and its environment. Interestingly, the emerging information environment at the global level now focuses more on the opportunities offered by the emerging ICTs that facilitate easy access to electronic information resources. Therefore, the application of ICTs has opened up new and wider possibilities and opportunities to global library and information services and products

which the traditional library wouldn't have been able to provide.

Open access to knowledge is a key contributor in providing universal access to information and knowledge. Zuccala, Oppenheim and Dhiensa (2008) state that the term open access has been given a variety of definitions while its meaning is still evolving. Presently, most of the academic libraries are now moving gradually from traditional service delivery to the digital format as they embraces full automation. However, the availability of digital resources yet to be hosted globally and the low awareness of the intended users necessitated the need to use social media and aggregating tools to abdicate these challenges. The success story today is that the library has started to use social media in providing these services through their server interface, embedding them for effective, prompt and feed –back delivery services.

Open access institutional repository has become one of the most important issues in contemporary times because there has been a proliferation in writings as well as advocacy in support of open access to research outputs. According to Jantz and Wilson (2008), academic libraries are currently at the intersection of three momentous changes in the world of scholarly communication. These are the dramatic increase in the number of journals that are now available on the Internet; the development of Internet technology which has permitted and encouraged the democratization of knowledge and the means to make knowledge widely and cheaply available. The library in a sense, can now transform itself into a publishing and archival institution by creating mechanisms whereby information could be collected, organized, preserved, and broadly disseminated outside the confines of the traditional publication format. One surest way by which the library could do this is through institutional repository.

The Scholarly Publishing and Academic Research Coalition (SPARC, 2002) has endorsed the need to take a broad view of the material that might be included in repositories and stressed that an Institutional Repository (IR) should not simply serve as duplicate to the existing channels of

formal scholarly publishing but include the various types of grey literature and other fugitive and unpublished material. Such materials include preprints and post print of journal articles, technical reports, research data, working papers, theses, dissertations work in progress, important print and image collection, teaching and learning materials, materials documenting the history of institution, research and technical reports, conference proceedings, departmental and research centre newsletters and bulletins, papers in support of grant applications, status reports to funding agencies, white papers, committee reports and memoranda, statistical reports, technical documentation and surveys. In addition, the grey literature forms a part of the informal scholarly communication process. (Drake, 2004).

There have been variations in the level of awareness of users concerning Institutional Repositories (IR). While some of the users indicated being aware of IR, there has been low level of awareness among them. This implies that though respondents claimed to have adequate awareness of the existence of their university IR, there was variation in their level of awareness. The study by Creaser, Frey, Greenwood, Oppenheim, Proberts, Spezi and White (2010) that found variation in the awareness level of faculty across the disciplines in all the countries in the European Union. However, a comparison of this result with the earlier study of Christian (2008) on IR awareness level of faculty in University of Lagos, Nigeria that showed that only few were completely familiar with open access IR.

The growth of open access institutional repositories has been very remarkable in developed countries as well as some developing countries like Brazil, India and South Africa. (Christian 2008). Not much has been heard in Africa south of the Sahara. Some of the challenges facing academic and research institutions in setting up IRs include inadequate Information and Communication Technology infrastructure, qualified ICT staff to set up and manage the IR, inadequate funding, lack of awareness of open access institutional repositories among researchers and academicians, unreliable power supply,

inadequate advocacy and how to manage copyright and intellectual property rights through alternative publishing agreements.

This study is delimited to public tertiary institutions in Imo State. The tertiary institutions in Imo State studied were; Federal University of Technology, Owerri; Imo State University, Owerri; Federal Polytechnic, Nekede; Imo State Polytechnic, Umuagwo and Alvan Ikoku Federal College of Education, Owerri.

Purpose of the Study

This study aims at examining the establishment of institutional repository in federal and state tertiary institutions in Imo State. Specifically, the study intends to:

1. ascertain whether institutional repositories are established in the libraries studied.
2. determine the components of institutional repositories in the libraries studied.
3. ascertain the extent of awareness of institutional repositories in the libraries studied.
4. investigate the challenges facing the establishment of institutional repositories in academic libraries in Imo State.

Literature Review

Institutional repository is a receptacle where a large volume of information is stored. It represents a place of location where potentially rich resources of information, data, images and other valuable research results are collected to access and use. There are many definitions of Institutional Repositories (IRS). According to Ware (2004) institutional repositories is described as a web based database (repository) of scholarly materials which is institutionally defined (as opposed to subject based repository), cumulative and perpetual (a collective of record); open and interoperable (e.g. using (Open Access Journal) OAJ-complaint software); and thus, collects, stores, and disseminates (is part of the process of scholarly communications). Ogbomo and Muokebe (2015) noted that IR is a type of digital library

established by an institution, populated by the staff, researchers, students and other members of the institution and to be consulted by both members of the university and the outside world.

In order to enhance the usage of the repository by graduate students, there is a need for more awareness raising and advocacy programmes to be carried out by the library about the repository and its benefits to the academic community of the university as indicated by Abdelrahman (2017).

Institutional Repository (IR) was conceived out of the desire to handle the problems of presentation, organization and dissemination confronting libraries on digital content, according to Adebayo (2009). Academic libraries no longer restrict themselves to print services such as the traditional collection development, cataloguing and classification, circulation and reference services, current awareness services, Selective Dissemination of Information (SDI), and other bibliographic elements but have extended their efforts to the adaptation and use of the computer, digitalizing, internet and repositories. In the light of this conceptual idea or frame work on the relevance, importance or advantages of institutional repositories over, the manual system, university and other tertiary institution in Nigeria should embrace the new chapter of digitization, repositories in their services (Cullen & Chawner, 2011). The study of Njagi and Namande (2018) showed that all the university libraries investigated had functional institutional repositories.

Institutional repositories are now being created to manage, preserve and maintain the digital assets, intellectual output and histories of institutions. Repositories in academic institutions may include these: preprints and post prints of journal articles, technical reports, white papers, research data, theses, dissertations, work in progress, important print and image collections, teaching and learning materials and materials documenting the history of the institution (Drake, 2004). Also "original art, grant proposals, maps, radio/TV interviews, motion pictures, music scores, photographs, consulting (technical) reports, technical drawings, and poster session displays"

(Cervone, 2004). All of these, once converted to digital format, might be deposited in the IR. Moreover, supplementary material such as supporting evidence and data, interim reports and draft versions of papers, may also be stored.

The lecturers may get information about the existence of institutional repositories through several sources. Several studies have been carried out to ascertain lecturers level of awareness of institutional repositories. The study of Tiemo, and Ebiagbe (2016) revealed that lecturers' awareness of institutional repository was high. The finding of the study of Ogbomo and Muokebe's (2015) revealed that lecturers in South-South federal universities in Nigeria are aware of IR and its benefits. Also Ivwighrehweta (2012) discovered that the respondents of his study indicated overwhelmingly that they were completely aware of open access institutional repository. But the result of Christian's (2008) study revealed that there is empirical evidence that the knowledge of open access institutional digital repository is very low among the major stakeholders including lecturers, researchers, librarians and students in Nigeria. Most of the researchers are completely unfamiliar with open access institutional repository.

Academic and research institutions in the country are yet to take full advantage of the benefits provided by institutional repositories. Fatunde (2008) observed that poor electricity supply is a major impediment to the operation and growth of information and communication technology in Nigerian universities. According to him, only a trickle of daily electricity production dribbles erratically into the country's 93 institutions, rendering ICT systems dysfunctional. Akintunde; Blakes; Jagboro; Omekwu and Echezona all cited in Mohammed (2013) stated that inadequate funding is a major setback to digitization and hence, globalization efforts of academic libraries in Nigeria. . According to Gbaje (2007), the implications of transporting library services to the online environment for the Nigerian academic libraries in the digital age are enormous particularly with the dynamic nature of digital technology which is constantly creating the need for new skills,

work environment and work methods. This problem has prevented many institutions in enabling institutional digital repository. Okoroma and Abioye (2017) in their study also discovered that there were copy right issues hindering the deployment and sustenance of institutional repositories in Nigeria.

Research Methodology

The researchers adopted the survey research design. The population of the study is 189. This is made up of all library staff of FUTO, IMSU, Federal Polytechnic Nekede, Alvan Ikoku Federal College of Education and Imo State

Polytechnic, Umuagwo. The sample of this study is 189 professional and para professional staff of the libraries purposively selected for the study. Questionnaire rated using the four-point scale was used to collect data for the study. The researchers used mean and standard deviations to analyse the data that were collected from the respondents.

Data Analysis

Research Question One: To what extent are institutional repositories established in the academic libraries studied?

Table 1: Extent to which Institutional Repositories are established in the Academic Libraries Studied

S/N	Extent of Est. of Inst. Repositories	VHE	HE	LE	VLE	Mean	Std Dev.	Decision
1.	FUTO	34	32	12	0	3.28	0.87	High Extent
2.	IMSU	10	12	4	6	2.81	0.81	High Extent
3.	FEDPOLY	7	7	7	9	2.4	0.99	Low Extent
4.	AIFCE	7	12	10	10	2.41	1.11	Low Extent
5.	IMOPOLY	0	1	6	3	1.9	0.95	Low Extent
Average Mean						2.54		

***Decision arrived at using 2.50 criterion mean*

Responses from the research question one summarized in Table 1 above reveal that Federal University of Technology Owerri (FUTO) and Imo State University (IMSU) both have mean scores of 3.28 and 2.81 respectively. This implies that the respondents from both institutions are positive that their institutions have institutional repositories established to a high extent. Federal Polytechnic Nekede (FEDPOLY), Alvan Ikoku Federal College of Education (AIFCE) and Imo State Polytechnic (IMOPOLY) have mean scores less than 2.5

criterion mean (2.4, 2.41 and 1.9) respectively indicating that the responses from the institutions are negative thus implying that they have established institutional repositories to a low extent on their academic libraries. We can deduce, therefore, that FUTO and IMSU have the highest functional institutional repositories amongst the five (5) institutions studied.

Research Question Two: What components of institutional repositories are available in the libraries studied?

Table 2: Components of Institutional Repositories in the Libraries Studied

S/N	Impact of Inst. Repositories	FUTO		IMSU		FEDPOLY		AIFCE		IMOPOLY		Total
		A	NA	A	NA	A	NA	A	NA	A	NA	
1.	Technical Reports	70	8	28	4	1	29	7	32	2	8	189
2.	Research Articles	78	0	16	16	5	25	6	33	0	10	189
3.	Theses	60	18	0	32	2	28	0	39	0	10	189
4.	Dissertations	68	10	0	32	0	30	0	39	0	10	189
5.	Work in progress	8	70	0	32	0	30	0	39	0	10	189
6.	Books/book chapters	5	73	0	32	0	30	0	39	0	10	189
7.	Video, audios, images	0	78	30	2	25	5	25	14	5	5	189
8.	Soft wares	0	78	0	32	0	30	0	39	0	10	189

The Table 2 above shows the responses of the library professionals and para-professionals on the availability of components of institutional

repositories in the 5 institutions studied. FUTO has Technical reports, Research articles, Theses and Dissertations in their repositories which is

shown by the majority of the respondents that said "Available". However, repository components such as Work in progress, Books, Videos and Softwares are not available in the institution (FUTO).

For Imo State University, Technical reports and Videos/audios/images are available while Theses, Dissertations, WIP, Books and softwares are not available. However, the respondents were split on the availability and non-availability of Research articles.

Federal Polytechnic Nekede (FEDPOLY) and Alvan Ikoku Federal College (AIFCE) both have

only Video/audio/images in their repositories based on the respondents while other repository components are not available in the institution.

Respondents from Imo State Polytechnic (IMOPOLY) were split on the availability and non-availability of Video/audio/images with 5 responses each. However, other repository components are not available in the institution.

Research Question Three: What is the extent of awareness of institutional repositories in the libraries studied?

Table 3: The mean responses of the library professionals and para-professionals on the extent of awareness of institutional repositories in the libraries studied

S/N	Extent of Awareness of IR	VHE	HE	LE	VLE	Mean	Std Dev.	Decision
1.	I am aware of the existence of my institution's Inst. Repository	89	29	55	16	3.01	1.05	High Extent
2.	I know the meaning of Inst. Repository	80	60	30	19	3.06	1.09	High Extent
3.	I am aware of the purpose of Inst. Repository	101	11	45	32	2.96	1.21	High Extent
4.	I am aware of the contents of my institutional Inst. Repository	13	29	78	69	1.93	0.89	Low Extent
5.	I know the benefits of establishing Inst. Repository	57	111	12	9	3.14	0.73	High Extent
Grand Mean						2.63		Positive

***Decision arrived at using 2.50 criterion mean*

The Table 5 indicates that majority of the respondents are aware, to a high extent, of the existence of an institutional repository and know the meaning, purpose and benefits of an institutional repository. This is evident in the mean scores of question item 1, 2, 3 and 5 (3.01, 3.06, 2.96 and 3.14 respectively) which are all greater than the 2.5 criterion mean. However, the mean score of question item 4 (1.93) indicates that a greater number of the respondents are aware of the contents of their institutions repository to a low extent.

The grand mean value of 2.63 is greater than the 2.5 criterion mean,, therefore, we conclude that the library professionals and para-professionals, to a high extent, are positive that they are aware of the existence of institutional repositories in their libraries.

Research Question Four: What are the challenges facing the establishment of institutional repositories in academic libraries in Imo State?

Table 4: Challenges Facing the Establishment of Institutional Repositories in Academic Libraries in Imo State.

S/N	Challenges	SA	A	D	SD	Mean	SD	Decision
1.	Lack of knowledge or awareness of open access institutional repository	50	81	25	33	2.78	1.03	A
2.	Inadequate ICT connectivity and infrastructure	121	41	18	9	3.45	0.85	A
3.	Inadequate electricity power supply	143	32	8	6	3.65	0.71	SA
4.	Inadequate funding	145	30	9	5	3.67	0.69	SA
5.	Inadequate advocacy	133	37	12	7	3.57	0.77	SA
6.	Insufficient technological skills	57	14	79	39	2.47	1.13	D
7.	Copyright issues	88	34	47	20	3.01	1.07	A
Grand Mean						3.23		High Extent

***Decision arrived at using 2.50 criterion mean*

Results from Table 9 show that lack of awareness, inadequate ICT infrastructure, inadequate power supply, funding, advocacy and copyright issues top the list of challenges facing the establishment of institutional repositories in academic libraries in Imo State. This is evident in their mean scores which are all greater than the 2.5 criterion mean indicating that they are ‘positive’. Only the question item on insufficient technological skills is ‘negative’ with a mean score of 2.47. This implies that the respondents do not agree on the fact that insufficient technological skill is a problem facing the establishment of institutional repositories in the libraries studied.

The grand mean value of 3.23 is an indication that the respondents strongly agree that the challenges listed above are some of the challenges facing the establishment of institutional repositories in the academic libraries studied.

Discussion of Findings

Status of Institutional Repositories

The research question one followed the first specific objective of the study and it sought to know the extent to which the institutional repositories are established in the libraries studied. It was found that institutional repositories are established to a high extent in FUTO and while they are established to a low extent in FEDPOLY, AIFCE and IMOPOLY. The finding on the extent of establishment of institutional repositories in FUTO and IMSU indicates that the institutions studied have come to realize the importance of institutional repositories as stated by Gibbons (2004) that institutional repositories provide an institution

with a mechanism to showcase its scholarly output, centralize and introduce efficiencies to the stewardship of digital documents of value and respond proactively to the escalating crisis in community. This finding does not agree with that of Njagi and Namande (2018) whose findings showed that all the university libraries investigated had functional institutional repositories.

Components of Institutional Repositories

The second research question analyzed the components of institutional repositories in the libraries studied. It was found that Technical reports, research articles, theses and dissertations are available in FUTO based on the responses while Technical reports, research articles and videos/audios are available in IMSU repository. Components such as work-in-progress, softwares and books/book chapters are mostly not available in the repositories of the institutions studied. Drake (2004) was of the opinion that repositories in academic institutions may include these: preprints and post prints of journal articles, technical reports, white papers, research data, theses, dissertations, work in progress, important print and image collections, teaching and learning materials and materials documenting the history of the institution. Abdelrahman’s (2017) study found that graduate theses and dissertations constitute the largest collection in the repository and that there is a high degree of institutional support for the repository.

Extent of Awareness of Institutional Repositories

Research question three investigated the extent of awareness of institutional repositories in the

libraries studied. The respondents' awareness of the contents of their institutional repository was negative indicating that they have very low knowledge of the repository components of their institutions. However, they agreed, to a very high extent, that they know the meaning of institutional repository, and are aware of the purpose and benefits of institutional repository. The study of Tiemo, and Ebiagbe (2016) revealed that lecturers' awareness of institutional repository was high. The finding of the study of Ogbomo and Muokebe's (2015) revealed that lecturers in South-South federal universities in Nigeria are aware of IR and its benefits. But disagrees with the result of Christian (2008) who posited that there is empirical evidence that the knowledge of open access institutional digital repository is very low among the major stakeholders including lecturers, researchers, librarians and students in Nigeria. Most of the researchers are completely unfamiliar with open access institutional repository. This is contrary to Iwighrehweta's (2012) discovery that the respondents of his study indicated overwhelmingly that they were completely aware of open access institutional repository

Challenges Facing the Establishment of Institutional Repositories in Academic Libraries in Imo State

Research question five investigated the challenges facing the establishment of institutional repositories in academic libraries in Imo State. This stems from the objective of the study to know the major challenges facing institutional repositories. Based on the responses analyzed, inadequate funding tops the list of challenges followed by inadequate electricity supply. Inadequate advocacy and ICT connectivity challenges followed with copyright issues and lack of knowledge or awareness of the repositories coming behind. However, insufficient technological skill was not found to be a major challenge. The results of this research question in line with the findings of Akintunde; Blakes; Jagboro; Omekwu and Echezona all cited in Mohammed (2013) who stated that inadequate funding is a major setback to digitization and hence, globalization efforts of academic libraries in Nigeria;

Fatunde's (2008) observation that poor electricity supply is a major impediment to the operation and growth of information and communication technology in Nigerian universities, However, it disagrees with Gbaje (2007), who stated that the implications of transporting library services to the online environment for the Nigerian academic libraries in the digital age are enormous particularly with the dynamic nature of digital technology which is constantly creating the need for new skills, work environment and work methods. This problem has prevented many institutions in enabling institutional digital repository. Okoroma and Abioye (2017) also discovered that there were copy right issues hindering the deployment and sustenance of institutional repositories in Nigeria.

Conclusion

The study focused on status of establishment of institutional repository in tertiary institutions in Imo State. Overtime, many academic libraries, especially in the developing countries like Nigeria have relied on the traditional service delivery platforms until very recently when technology has forced some to change, convert or integrate technology sources into their services resulting to web-based learning and knowledge acquisition. Institutional Repository (IR) is an electronic archive of the scientific and scholarly output of an institution, stored in digital format, where search and recovery are allowed for its subsequent internal, national or international use. Many tertiary institutions in Imo state and Nigeria in general are yet to establish an institutional repository which makes ease of learning very difficult. The knowledge base and innovations of these institutions are relatively not known to many.

Recommendations

Based on the research findings and implications of the findings, the following recommendations are made:

1. Efforts should be made by the tertiary institutions in Imo state especially the Federal Polytechnic, Imo State Polytechnic and Alvan Ikoku Federal College of Education to establish an

2. institutional repository for promotion of the knowledge base of the institutions.
3. The management of our tertiary institutions should find a way of getting all information materials that emanate from their institutions and include them in their repositories. This will make these repositories have a wide range of materials.
4. Institutional repository content should be made public to the staff, management and students of tertiary institutions. Also, the benefits and use should be spelt out so as to encourage them to update this knowledge fountain.
5. The federal government, through the National Universities Commission (NUC) and the tertiary Education Trust Fund (TetFund) should help to fund the hosting of institutional repositories in all tertiary institutions in Nigeria. Also, ICT infrastructure, steady power supply and engagement of skilled and experienced personnel are necessary for effectiveness of knowledge repositories in our institutions. Originality of the contents of the repositories will ensure wider access and acceptance by the academic community. This can be achieved through thorough plagiarism checks.

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