



## Research Paper

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# The Nigerian institutional repositories: Opportunities and barriers

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### ABSTRACT

This paper reports on the Nigerian Institutional Repositories: Opportunities and barriers. To elicit the necessary information, a literature review of studies done on Institutional Repositories was carried out. Researcher's personal experiences and observation methods were also employed in the course of this study. The paper gives an overview of Institutional Repositories in Nigeria. It highlighted opportunities in Institutional Repositories that institutions and scholars can exploit such as opening up output of an institution to a worldwide audience, boosting institution prestige, increasing the visibility and citation impact of institution scholarships and preserving the institution scholarship etc. Some of the issues identified in this which adversely militate against the development of Institutional Repository in the country are lack of awareness of open access Institutional Repositories, inadequate information and communication technology infrastructure, inadequate advocacy for open access, copyright issue, technological obsolescence and deterioration of media etc. This paper establishes that there are challenges militating against the Institutional Repositories in Nigeria which demands immediate attention. However, solutions are proffered, which can help in ameliorating the challenges raised.

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### INTRODUCTION

Academic and research institutions in many developing countries like Nigeria are still battling to overcome many challenging issues in an attempt to make their research outputs openly accessible by means of institutional repositories. The Directory of Open Access Repositories (2013) and author's compilation reveals that only six institutions have operational institutional repositories.

Nigeria with an estimated population of 150 million has 129 universities, polytechnics, 63 colleges of education and 100 research and allied institutions host the highest number of institutions compared to any country in Africa (Bola, 2013). With this, Nigeria have more institutions than any country in the Sub-saharan. The resulting effect is that volumes of research output emanates from the country. Egwunyenga (2008) attributed this to the fact that research is made compulsory for both lecturers and

students either by job description or by prescribed academic program of study.

Reasonably, these research outputs should be given wide circulation so that the results of the research can be applied in addressing the issues that they sought to tackle and used for further research, but unfortunately these outputs reside in obscurity where they are not visible to those who may need them, gathering dusts in the various departmental offices and institutional libraries without getting published. Some eventually get published in local journals that have minimal circulation due to poor distributorship, marketing or prestige. Thus, after so much painstaking commitment of efforts and resources in undertaking researches, the outcomes are not widely disseminated. In consequences, these research findings die at the institutional level as those who need to apply the

knowledge are unable to access them. This situation thus highlights the need for an effective process of knowledge dissemination from academic and research institutions in developing country.

As centers for intellectual and scholarly research, academic and research institutions are expected to take an interest in the creation, dissemination as well as, preservation of knowledge. This is not so in developing countries like Nigeria where the economic, technological and institutional structures necessary to achieve the process are not well established. Altbach (1999) noted (and rightly) that knowledge dissemination is especially important in the third world context because the emergence of an independent intellectual life and some self-sufficiency in science is to some extent dependent on establishing the essential structure for dissemination of knowledge.

This paper studies the problems associated with dissemination and preservation of research outputs from Nigeria and how the development Institutional Repositories could be instrumental in increasing availability, accessibility and visibility of research output from the country.

### **What is Institutional Repository (IR)**

A lot of scholars expressed their views on the ideas of Institutional Repositories (IR). As the concept is rather new, there are diverse opinions on its meaning. To many, an Institutional Repository is just technology, a combination of a Web Server, relational database and data storage accompanied by a wide spectrum of functionalities, but the building or purchasing of the technology is just one part of an IR project and perhaps the easiest part. Far more time and effort goes into the less tangible aspects of an IR, such as building advocacy, garnering collections and determining policies. IR also includes other digital assets generated by normal academic life, such as the administrative documents, course notes, or learning objects (Wikipedia, 2013).

Crow (2002) defined Institutional Repositories as digital collections capturing and preserving the intellectual output of a single or multiple-university community, providing a critical component in reforming the system of scholarly communication, a component that expands access to research, reasserts control over scholarship by the academy, increases competition, reduces the monopoly power of journals and brings economic relief and heightened relevance to the institutions and libraries that support them. Their role, he suggested, should be to serve as tangible indicators of an institution's quality and to demonstrate the scientific, societal and economic relevance of its research activities, thus, increasing the institution's visibility, status, and public value" and also to provide tools to assist universities "re-shape the scholarly communication process".

In the simplest sense of the term, Crow (2002) further defined institutional digital repository as an electronic archive of the scholarly output of an institution, stored in a digital format, where search and recovery are allowed for its national or international use. In the view of Lynch (2003), Institutional Repository is a set of services that a university offers to the members of its community or the management and dissemination of digital materials created by the institution and its community members and thus an organizational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as, organization and access or distribution.

The concept of Institutional Repositories is usually associated with the university but in the real sense it is a broader concept that goes beyond the wall of the university. It should be seen as digital collections capturing and preserving the intellectual output of any institutions where research outputs are generated, be it universities, polytechnics, colleges of education and research and allied institutions. It ought to be a set of services that a research output generated institutions offers to the members of its community or the management and dissemination of digital materials created by the institution and its community members and thus an organizational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as, organization and access or distribution.

According to Palmer et al. (2008), Institutional Repositories is an online locus for collecting, preserving and disseminating in digital form, the intellectual output of an institution such as research journal articles, theses, dissertations, normal academic materials, administrative document, course notes and leaving objects.

Institutional Repository (IR) is not defined by the type of data it stores but by the purpose it serves. In essence, it is the capture, (selection) collection, management and dissemination of the intellectual output of a simple or multi-university community. It may consist of pre-prints or post-prints of articles, conference papers, teaching and e-learning materials (ARL, 2009).

Zipho (2002) expressed that Institutional Repository (IR) is a digital archive of intellectual product created by faculty, research staff and students of an institution and accessible to end users both within and outside of the institution with little or no barrier. Generally, an institutional repository is an electronic system that captures, disseminates and preserves intellectual results of a group of universities or a single university. Crow (2002) and Ware (2004) characterized an institutional repository as open, interoperable, cumulative, perpetual and contributes to the process of scholarly communication in collecting, storing and disseminating the scholarly content.

### **Why Institutional Repository (IR)?**

Institutional repositories (IRs) were borne out of the need

to address problems inherent in the present system of scholarly publishing. According to Chan (2004) among these problems are the affordability of key journals, with subscription costs rising faster than the rate of inflation and far outstripping library budgets and the 'loss' of key resources if e-journal and database subscriptions are cancelled by libraries. Loss of access to research resources as well as, output may consequently reduce the 'research impact' of the work of scholars and researchers. Institutional repositories are seen as having a role to play in overcoming these problems, a cost-effective method of providing access to research findings and improving the 'research impact' of an institution.

According to Adebayo (2012), Institutional Repository (IR) was conceived out of the desire to handle the problems of presentation, organization and dissemination confronting libraries on digital content. Zipho, (2002) also posited that the 'why' of Institutional Repository (IR) can be summarized as a result of ever rising cost of journals, insufficient library budget, unstable exchange rate and development in technology.

### **Objectives of creating Institutional Repository (IR)**

Wikipedia (2013) identified the following as the objectives of creating institutional repository:

- 1) Creating global visibility for an institution's scholarly research;
- 2) Collecting content in a single location;
- 3) Providing open access to institutional research output by self-archiving it;
- 4) Storing and preserving other institution's output, including unpublished or otherwise earlier lost 'grey' literature;
- 5) It also fulfills the research funding modalities of institutions;
- 6) Satisfying the desire for centrally storing and preserving institutional output in one database.

### **Early History of Institutional Repository**

The history of institutional repositories is relatively short, with the first discipline-based repositories being implemented in the early 1990s. In their seminal text *The Institutional Repository*, Jones et al. (2006) identified several successful repositories during this early period, in particular attention the ArXiv repository. Hailing (2011) opined that IR began at the same time with the World Wide Web and also posited that ArXiv was the first online repository founded in 1999 by physicist Paul Ginsparg at the Los Alamos National Laboratory in New Mexico, and known as arXiv--pronounced archive--although its current home is Cornell University in Ithaca, New York, where it has been since 2001. ArXiv began life in 1991 with its focus

on theoretical physics as a server, or combination of computer software and hardware providing a service, when it was known as xxx.lanl.gov, and maintained by Ginsparg for a handful of high-energy physicists.

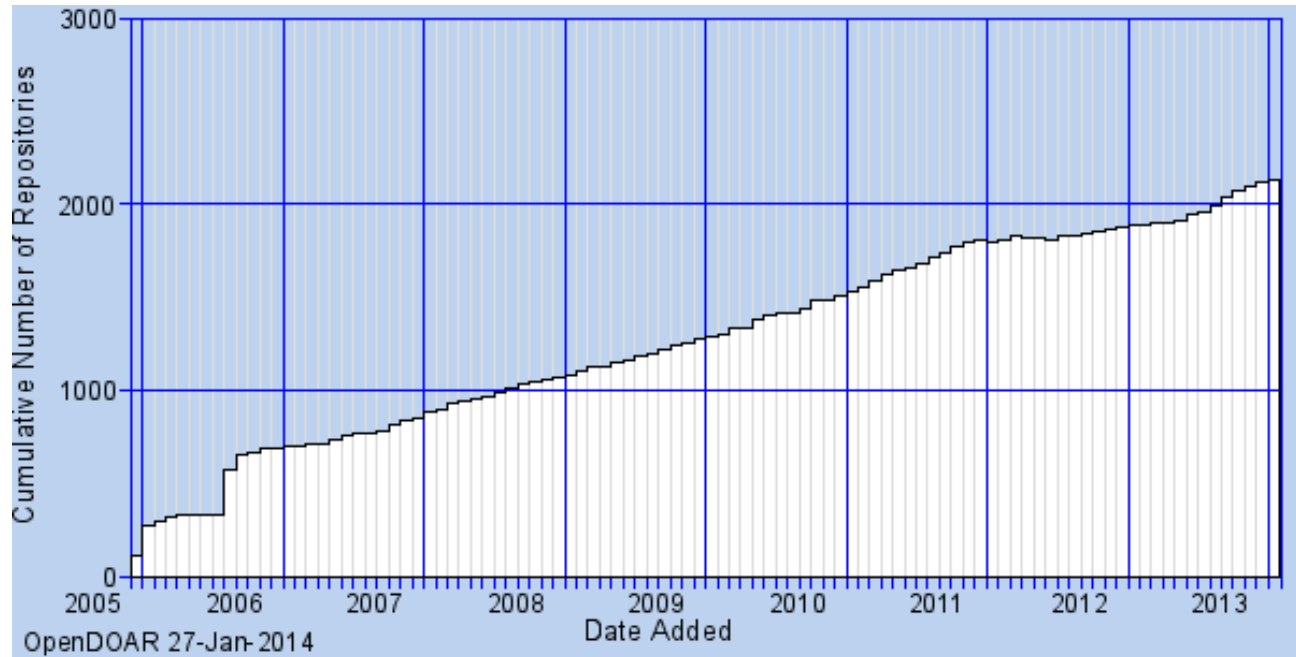
According to Lariviere et al. (2013) the creation of arXiv in 1991 has become central to the diffusion of research in a number of fields, combining data from the entirety of arXiv and the Web of Science (WoS). It has expanded to include most other areas of physics, as well as, mathematics and computer science. Its success led to the establishment of other institutional repositories, such as RePec, or Research Papers in Economics, CogPrints and Education Line respectively, for economics, cognitive and computer science and education, all of which were initiated in 1997. They eventually led to the Open Archives Initiative in 1999, which enables institutional repositories to operate together, a phenomenon known as interoperability.

In 2002, the history of the institutional repository received a further boost with the publication by Raym Crow, senior consultant for the Scholarly Publishing and Academic Resources Coalition (SPARC) based in Washington, D.C., of a groundbreaking paper titled "The Case for Institutional Repositories." In it, Crow made the important point that, in addition to academic and scientific institutions, non-academic institutions such as governments might benefit from the maintenance of institutional repositories.

Recent literature on institutional repositories indicates that repositories are being implemented at a growing rate. A 2005 survey of United States institutions, for example, observed that 40% had already established institutional repositories (Lynch and Lipponcott, 2005). A further 88% of colleges and universities that did not currently house institutional repositories intended to do so in the near future. Other reports indicate a surge in usage of the two main repository platforms, Eprints and DSpace, in recent years. According to Lomangino (2006), the use of Eprints rose from 125 to over 200 repositories in 2004 to 2005. The Registry of Open Access Repositories indicates that as of mid-2007, there are 227 known repositories using Eprints, with DSpace being the preferred software platform for 234 repositories. Lomangino (2006) also found that the number of repositories complying with the Open Archives Initiative's interoperability standards has risen from 243 to 617 repositories since late 2003.

Hailing (2011) also reported that as the history of the institutional repository proceeds at a more rapid pace than ever before, a list of no less than 400 leading IRs was published at the Spanish website SCIC in January, 2010, titled "Ranking Web of World Repositories." Of the 440, the first ever IR, arXiv, was ranked number one, with six of the top ten IRs in the world being American, namely, in addition to arXiv, CiteSeerX, Scientific and Technical Information Network, Social Science Research Network, Smithsonian/NASA Astrophysics Data System and MIT Dspace at numbers 2, 3, 4, 6 and 10 respectively (CSIC).

Librarians and libraries around the world are



**Figure 1:** Growth of the OpenDoar database worldwide, Institutional Repositories.

championing the course of establishing institutional repositories all over the world. Xia and Opperman (2009) posited that large-sized academic libraries were the early adopters of institutional repositories when the concept came into limelight in 2002. The Association of African Universities (AAU) launched the DATAD project in 2000 to enhance access, management and usage of African scholarly works and to ensure that members of the Association establish an institutional repository. In the same vein, the President of Nigerian Library Association, Okojie (2008) implores Nigerian libraries and librarians to take advantage of Open Access movement to develop institutional repositories in their various institutions.

The Directory of Open Access Repository revealed the Growth of the OpenDOAR Database - Worldwide, Institutional Repository with the breakdown (Figure 1). Figure 1 reveals a tremendous growth in the number of repository with over 2000 in the year 2013.

### The Development of Institutional Repositories in Nigeria

The growth of open access institutional digital repositories has been very remarkable in developed countries as well as, some developing countries like Brazil, India and South Africa (Christian, 2008), but not much had been heard in sub-Saharan African countries (Nigeria inclusive). Nigeria with an estimated population of 150 million has 129 universities, 75 polytechnics, 63 colleges of education and 100 research and allied institutions host the highest number of institutions compared to any country in Africa

(Bola, 2013). Curiously, there are 19 active Institutional Digital Repositories in South Africa, 6 each in Egypt and Kenya and Nigeria has 6 (Directory of Open Access Repository, 2013).

In spite of the relevance of IR in increasing the visibility and better performance in the ongoing web ranking of world universities, its development is still in its infancy in Nigeria. Akintunde and Anjo (2012) posited that the idea of an IR is a current theme in tertiary institutions in Nigeria. They posited that University of Jos library, in June, 2009 became the first institution in Nigeria to establish an Institutional Repository (IR) and the second in West Africa after the University of Science and Technology, Ghana. The library adopted dspace, an open source self-archiving software, Moodle ([www.unijos.edu.ng/moodle](http://www.unijos.edu.ng/moodle)) to deliver electronic learning and Drupal to manage the website of the university as open source content management system.

According to Keats (2010) in 2003, eight universities in Africa including University of Jos founded African Virtual Open Initiatives and Resources (AVOIR) which was a novel network for capacity building in network engineering developing free and open source software to facilitate electronic learning and business transactions across Africa as a first step. AVOIR developed and deployed Knowledge Environment for Web based Learning (KEWL) which was used to deliver the Postgraduate programme in Telecommunications Policy and Regulation, sponsored by the Network of Telecommunications Policy and Regulation in Africa (NetTel@Africa) based in Tanzania. It is obvious therefore that the University of Jos was already getting familiar with open source software when the library

**Table 1:** The available statistics on numbers of Institutions with Repositories in Nigeria.

| S/N | Institution                                       | Technology use  | URL                                       | Content   | Date of Establishment |
|-----|---|-----------------|---|---|-----------------------|
| 1   | Ahmadu Bello University                           | Dspace          | http://kubanni.abu.edu.ng:8080/jspui      | Conferences and Theses                                | -                     |
| 2   | Covenant University                               | Eprints         | http://eprints.covenantuniversity.edu.ng/ | Articles  | December, 2010        |
| 3   | Federal University of Technology, Akure, Nigeria. | Dspace          | http://dspace.futa.edu.ng:8080/jspui/     | Articles, References, Theses                          | 2011                  |
| 4   | Federal University of Oye Ekiti                   | Dspace          | -   | -   | -                     |
| 5   | University of Jos                                 | Dspace          | http://dspace.unijos.edu.ng/              | References, Conferences, Learning objects, Multimedia | June,2009             |
| 6   | University of Nigeria Nsukka                      | Open Repository | http://unn.edu.ng/chart/rep0              | Articles, Theses                                      | -                     |

Source: The Directory of Open Access Repositories (2014) and Authors compilation.

adopted and deployed dspace for its IR. **Table 1** revealed the available statistics on numbers of Institutions with Repositories in Nigeria.

The number Institutional Repositories in Nigeria is inadequate. It is pathetic that out of 129 universities, 75 polytechnics, 63 colleges of education and 100 research and allied institutions only six have an operational institutional Repository. The work of Westell (2006) and Kingsley (2008) argued that the development and use of Institutional Repositories has been slow despite its numerous benefits. Alemayehu (2010) also argued that the development and researchers have not being contributing enough to the growth and development of Institutional Repository. In ranking of web of repository of African Universities, 2013, Nigeria is number 13 and 22 with Covenant University and University of Jos respectively.

The Directory of Open Access Repositories (2014) revealed vital issues of the only six operational institutional repositories in Nigeria. Their repository policies are undefined and analyzed. Metadata reuse policy explicitly undefined; full data item policy explicitly undefined; content policies explicitly undefined; submission policy explicitly undefined and preservation policies explicitly undefined

### Opportunities in Institutional Repository (IR)

Institutional repository has many opportunities that institutions and scholars can exploit. JISC (2012) posited that digital repositories have great potential for value added services and offer a range of benefits to researchers, teaching, learning, learners, institutions, the global research community and the wider world. In the view of

Crow (2002), although publication by faculty members in scholarly journals could add impact to the prestige of the institutions in which they work, an institutional repository stands to generate greater impact by centralizing research outputs generated by the institution researchers. This will therefore serve as a much better and simpler method for measuring the quality of the institutions academic scholarship, productivity and prestige.

Based on the studies, the opportunities presented by institutional repositories to the development of Nigeria could be summarized as:

- Increase in visibility and impact of research output, change in the scholarly publication paradigm and improvement of internal communication within the institution;
- Expands access to research, reasserts control over scholarship by the academy, increases competition and reduces the monopoly power of journals and brings economic relief and heightened relevance to the institutions and libraries that support them;
- Serves as a tangible indicator of a university's quality and to demonstrate the scientific, societal and economic relevance of its research activities, thus, increasing the institution's visibility, status and public value;
- Serves as a natural extension of academic institutions' responsibility as generators of primary research seeking to preserve and leverage their constituents' intellectual assets; and secondly as one potentially major component in the evolving structure of scholarly communication;
- Provide access to wealth of scientific and technological information and knowledge which are very essential for development;
- Offer instant access to information and knowledge

resources being generated on the continent. The scientific and technological information and knowledge which they are generating should be easily accessible and the creation and use of institutional repositories could be the first step in this process;

- Avoid a duplication of scientific efforts, which saves time and money, is one of its main advantages;
- Institutional Repositories enable institutions and faculty to offer long-term access to digital objects that have persistent value. They extend the core missions of libraries into the digital environment by providing reliable, scalable, comprehensible, and free access to libraries' holdings for the world as a whole;
- In some measure, repositories constitute a reaction against those publishers that create monopolies, charging for access to publications on research they have not conducted, funded, or supported;
- Institutional repository stands to generate greater impact by centralizing research outputs generated by the institution's researchers, and thus serving as a much better and simpler metrics for gauging the quality of the institution's academic scholarship, productivity and prestige;
- It will boost the global visibility and utility of their research and introduce a novel research culture focused on meeting international standard and values.

### **Barriers to development of institutional repository in Nigeria**

Academic and research institution in the country are yet to take full advantage of the benefits provided by institutional repositories. Some of the issues identified by existing literatures as being responsible for the slow uptake of institutional repositories in Nigeria include:

#### ***Lack of knowledge or awareness of open access institutional repository***

Lack of knowledge or awareness of institutional repository is a major challenge to the development of institutional repository in Nigeria. Christian (2008) 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. He further revealed that more than 74% of the respondents surveyed during the course of the research are completely unfamiliar with open access institutional repository. Effective advocacy and promotion is crucial for successful implementation of institutional digital repository.

Until awareness of institutional repository is created any meaningful progress cannot be made. Moller (2004) points out that despite many opportunities that present themselves, many countries in Africa are yet to utilize the

privilege offered by these resources to internationalize their research sources. The full benefits of institutional digital repository can be achieved only if stakeholders involved are fully aware of its potential roles.

#### ***Inadequate ICT connectivity and infrastructure***

Dearth of ICT infrastructure and facilities is a major problem that is militating against the take-off of institutional digital repository in Nigerian libraries. This is a sad affirmation of a similar complaint several years ago by Afullo (2000), that Nigeria was rated among the lowest in Africa in telecommunication infrastructure. This factor made adoption of institutional digital repository difficult in Nigeria institutions. According to Arunachalam (2003), the development of institutional repository in developing countries is much a capital intensive project than in developed countries; this is because academic and research institutions in developed country already have in place a well-established state-of-the-art ICT infrastructure to build on, but in developing countries, this infrastructure or foundation is not in place". Access and maintenance of institutional digital repository will require internet access and enough bandwidths. Institutions in Nigeria are facing serious challenge of insufficient bandwidth, while the development of institutional digital repository requires fast and reliable internet connection as well as, deployment of adequate information and communication technology infrastructure.

Pappalardo (2008) observed that bandwidth allocation in Africa is so expensive that most universities (on their own budget) cannot afford more than 1.544 Mbps which is less than many home broadband users in North America. A survey for Africa Tertiary Institutions Connectivity Survey (ATICS) carried out by the African Virtual University in 2005 showed the average African university has bandwidth capacity equivalent to a broadband residential connection available in Europe, pays 50 times more for their bandwidth than their educational counterparts in the rest of the world and fails to monitor, let alone manage, the existing bandwidth (ATICS, 2005). As a result, what little bandwidth that is available becomes even less useful for research and scholarship purposes.

#### ***Inadequate electricity power supply***

Another infrastructural problem associated with internet connectivity in Nigerian academic institutions is the problem of electricity power supply. An institutional repository should be openly accessible 24 h a day. This will thus imply a sustained and regular electricity supply to power ICT facilities. Electricity supply is a major problem in developing countries like Nigeria. This problem has made the development of projects like an institutional repository in Nigeria much difficult and expensive.

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.

### ***Inadequate funding***

Establishment of institutional digital repository requires a huge financial investment, therefore lack of funding is another major problem experienced by developing country institutions in their effort to establish institutional digital repositories. Akintunde (2006), Blakes (2006), Jagboro (2007) and Omekwu and Echezona (2008) all cited in Mohammed (2013) cites inadequate funding as a major setback to digitization and hence, globalization efforts of academic libraries in Nigeria.

### ***Inadequate advocacy***

Advocacy is one of the best ways to promote the development of IR in a developing country like Nigeria. All stakeholders of institutional repository such as lecturers, researchers, librarians as well as, students must be involved in order for such advocacy to be effective. Advocacy attracts contributors as well as, stakeholders. Unfortunately, a high percentage of stakeholders in Nigeria have little or no knowledge of what IR is about to be able to act as advocates. Effective advocacy pre-supposes that the advocates or stakeholders are very familiar with the concept. This has created apathy in the scientific/research community. Hence, very few understand the concept and are willing to donate content.

### ***Insufficient technological skills***

Establishment of institutional digital repository requires requisite technological skills, however, such technology is either totally absent in some institutions or inadequate 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.

### ***Copyright issues***

Another challenge that will affect the development of institutional repository in Nigeria institutions is copyright

challenges. Legal barriers arise from copyright law and licensing agreements that determine how a person can deal with a published work such as a journal article or a research paper or whether the work shall be available in a closed or open access format.

### ***Technological obsolescence and deterioration of media***

Technical barrier like the software issue is another challenge of instituting IR in Nigeria. According to Ghosh (2007), other technological barriers like the software issues would have to be sorted with the digital rights management (DRM), a software professional in order not to block access by authorized users.

In addition, the computing technology which is *sine qua non* for development of IR is changing at the speed of light. Hence, the academic institution will be able to cope with their ever reducing budget. Supporting this position was Jackson (2008) assertion that the rate of change in computing technologies is such that information can be rendered inaccessible within a decade.

With reference to longevity of media used to store the research output. Conway (1996) in his research noted that "our capacity to record information has increased exponentially over time; the longevity of the media used to store the information has decreased equivalently. Illuminated manuscripts have lasted for over one thousand (1,000) years but Compact Disc (CD) will degrade in a little as fifteen (15) years. Current implementation of digital preservation methods and tools in IRs is in its infancy. Inadequacy of the IR system's digital preservation capabilities would negatively impact the successful adoption of an IR.

### ***Institutional culture and politics***

The developers of institutional repository in Nigeria will more likely face challenges related to the politics and culture of an institution from the stakeholders, namely the faculty, library staff, IT staff and instructional designers. Any single institutional failure can cause more damage to the viability of the institutional repository. An institutional repository can fail over time for many reasons: policy (for example, if the institution chooses to stop funding it), management failure or incompetence. Any of these failures can result in the disruption of access, or worse, total and permanent loss of material stored in the institutional repository.

### ***Lack of institutional repository policy***

All the existed Institutional Repository in Nigeria has no policy that guides their operation. Such IR policy document should cover such matters as what to accept/ not to



accept, copyright issues, self or mediated archiving, submission and withdrawal policies, types of materials to accept and any other issue necessary to govern the operation of the institutional repositories for implementation.

## RECOMMENDATIONS

In the light of the aforementioned discussion, the following recommendations are made:

- Creating of awareness and advocacy on institutional repository;
- Development and implementation of efficient power generating alternative to diesel powered generators to power ICT facilities in educational and research institutions;
- There is the need to increase the size of bandwidth allocated to institution for easy uploading and access to the information; receipt or submission of research results and publications to ensure regular updates for the repository;
- There is need for increased funding from government to help academic and research institutions in Nigeria to uplift the state of their ICT infrastructure;
- As regards copyright issues, authors should be educated on their rights in relation to their intellectual output;
- Institutional policies on the operation of the institutional repositories should be formulated;
- Train and retain computer IR team to manage IR platform (software and hardware);
- Quality Assurance Unit and/or Editorial Board should be set up to ensure high standards of donated content.

## Conclusion

Institutional repositories play an important role in academic and research institutions in this information age. It is the best means of making research output widely available and accessible to interested users throughout the world. Unfortunately, academic and research institutions in Nigeria are still struggling to overcome the many challenging issues in an attempt to establish institutional repositories. Some of the issues that affect the development of institutional repository include lack of awareness of the open access publishing in academic and research institutions in developing countries, inadequate information and communication infrastructure, lack of funding as well as, poor advocacy for IR and copyright management.

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