

**ESTABLISHMENT OF INSTITUTIONAL REPOSITORY:
BENEFITS AND CHALLENGES FOR ACADEMIC
LIBRARIES IN NIGERIA.**

BY

NGOZI CHIMA-JAMES

Head, Research, Training and Statistics

Federal University of Technology Library

Owerri, Imo - State -Nigeria

E-mail address:chyjames2002@yahoo.com

Abstract

This paper discussed the establishment of Institutional Repositories, its benefits and challenges. The paper reveals that in developed countries institutional repositories enable the free sharing of information, encouraging collaborations and the widespread communication of institutional education and research activities while in the developing countries, the most important problems for scholars and researchers in universities and research organizations is the lack of open access to the current literature in their subjects. Since important research output is most often published in journals with high subscription fees, collecting the required journals exceeds the capacity of most libraries. More so; the research infrastructure and the capacity to absorb scientific and technical knowledge are weak, leading to low levels of scientific output and further under development. The study suggest that it is now time for the developing countries particularly Nigeria to establish Institutional Repositories to make available, permanently all digital collections of that institutions to all the researchers, academicians, practitioners within institutions and beyond, thereby enhancing greatly, the public value of research.

Introduction

The advent of ICT has given birth to institutional repositories. Institutional Repositories is a new breed of services still in their early stage in academic libraries in Nigeria. It is an online archive of books, films, artwork, or works of all kinds emanating from universities, colleges, funding agencies, and government agencies. Repositories are key components of the emerging digital research infrastructure which can help ensure the widest possibility of starting a research works. Through institutional repositories, academic libraries collect, preserve and disseminate the scholarly output of the parent institutions. It equally provides free unrestricted online access to all types of institutional research output seamlessly linking data, knowledge and scholars. For effective utilization of this scholarly output in daily activities of the

institutions, such scholarly output in form of knowledge and information must be collected, processed and disseminated for use by the users.

Concept of institutional repository

Institutional repository means a storehouse where all knowledge and information about an institution is stored or a storehouse where all the indigenous materials emanating from an institution are stored and made available for dissemination and use by the university community and the world at large through digitization. It is a digital collection capturing and preserving the intellectual output of a single or multi university community. According to Payne (2005), manager of the Australian Research Repositories online to the world (ARROW) project, institutional repository is "a managed collection of digital objects, institutional in scope, with consistent data and metadata structures for similar objects, enabling resources discovery by the communities of practice for whom the objects are of interests". Payne noted that institutional repository (IR) needs to allow reading, inputting, and exporting of objects to facilitate resource sharing, while respecting access constraints.

Repositories are meant to be sustainable over time and support presentation strategies. Lynch (2003), Executive Director of the Coalition for Networked Information, describes an institutional repository (IR) as "a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members". Gibbons (2004) is of the view 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".

Institutional repositories (IR) is defined as an" online locus for collecting, preserving and disseminating in digital form the intellectual output of an institution, particularly a research institution". (Wikipedia, 2012). Besides, it is a database with a set of services to capture, store, index, preserve and redistributes a university's scholarly research in digital form.

From the above definitions, one can infer that an institutional repository is all about institutions and their scholarly output and how to make it accessible to each university community and the world at large for better and effective repository services. The repository services that an institution provides bring together all the components that act as enablers for the institutions overall policies of collection, preservation and dissemination. This is the institutional repository. Therefore, it is a welcome development to academic libraries because through it, institutions output is known worldwide, and there will be knowledge transfer and automation link or collaboration with other institutions in the world. It is against the foregoing that repositories hold great promise for Nigerian universities and libraries, particularly its potential for moving them from traditional librarianship to the lime light. Notwithstanding, knowledge of the potential of institutional repositories (IR) is not enough; it is equally necessary to understand the key ingredients in the establishment and functionality of repositories and how such can be adapted and implemented in Nigerian academic libraries.

Institutional Repository Content

Based on the goal established by each institution, IR content could be any work product generated by the institution's staff, students and faculty and non-faculty members. Content also means composition, materials that are stored in the repository or the things that are expected to be seen as we access the repository. According to Hayes (2005). Academic institutions all over the world have made the decision to digitalize their scholarly output and research into the format of a repository in an effort to manage their educational research more effectively and transparently than in the past". In establishing institutional repositories, different types of materials are collated and they include Published materials such as post prints, journal papers, book chapters and conference papers that are digitized. These make up a significant portion of the content of institutional repositories (IRs) .It also includes other digital assets generated by normal academic life such as administrative documents, course note and learning objects. Others include student electronic portfolios, class-room teaching materials, institution reports/video recording, computer programs, data sets, photographs and art works. From the aforementioned contents of institutional repositories (IR), it shows that every local

material emanating from the institutions makes up the content or material found in the institutional repository.

Institutional repositories creation/steps

Barton (2005) identified 7 major steps in establishing IRs, which include:

1. Learning about the process by reading about and examining other Institutional repositories.
2. Developing a service definition and Service plan which will include:
 - i. Conducting a needs assessment of institutions.
 - ii. Developing a cost model based on this plan.
 - iii. Creating an implementation schedule and timeline.
 - iv. Developing policies that govern content acquisition, distribution.
 - v. Maintenance.
3. Assembling a qualified team
4. Technology - Choosing and installing software platform.
5. Marketing
6. Launching the Service
7. Running the Service.

In addition to the steps stipulated above, Starkmen (2008) suggested that Staff training, support services, and customization cost should be considered. Owing to the fact that institutional repositories are a new area in Nigeria's academic library operations, specialists are needed for its effective establishment and maintenance. Therefore training of staff is very important especially IT based staff.

Furthermore, Open IRs and Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) are important processes in institutional repositories' creation. This means that for the scholarly output of an institution to be harvestable by search engines, the repositories must expose their data through the OAI-PMH. The term, archive, within the name "Open Archives Initiatives" reflects the origin of OAI - the community of e-prints, in which the term "Archive" is used as the synonym of repository of scientific articles. Institutional repositories must therefore comply with the OAI protocols, for it to be searched and accessed from general or specific search engines, boosting its impact. This in essence leads to Open Access which is freely

available on the Internet, allowing any user to read, download, copy, distribute, print, search or reference (link) the full text of the documents.

The history of OAI is linked to its launching in 1999 with the aim of creating a simple platform to allow for inter operability and search of scientific publication of several disciplines. This initiative emerged into the "e -prints" community out of which came the OAI-PMH protocol. In spite of its lack of "philosophical" concerns at inception, it provided a stable base for inter-operability of Open Archives, which makes the number of implemented servers increase, and thus, contributes to given wider visibility and dissemination to the Open Access knowledge.

An important component of Institutional Repositories is the Copyright and creative common licenses. Creative commons helps in the sharing of knowledge and creativity with the world. It develops, supports, and stewards legal or technical infrastructure that maximizes digital creativity, sharing or innovation.

Benefits of institutional repositories

Generally, the establishment of effective and workable institutional repositories in academic libraries will help gather together and make accessible all the local documents of the institution to the public and will bring credit to the institutions. According to Swan (2005), the benefits of repositories to institutions include:

- Opening up outputs of the institutions to a worldwide audience;
- Maximizing the visibility and impact of these outputs as a result;
- Showcasing the institutions to interested constituencies-prospective students, and other stakeholders;
- Collecting and creating digital output;
- Managing and measuring research and teaching activities;
- Providing a workplace for work-in-progress, and for collaborative or large scale projects;
- Enabling and encouraging interdisciplinary approaches to research;
- Facilitating the development and sharing of digital teaching materials and aids, and
- Supporting student endeavors, providing access to theses and dissertations and a location for the development of e-portfolios.

Furthermore, Starkman-Van (2009) states that institutional repositories offer the opportunity for academic library to collect preserve and disseminate the institution's scholarly output to the community and world at large. It makes it possible to collect content in one location, capture and provide open access to the intellectual output of a university, as well as preserve contents that may be otherwise unavailable or out of publication. Institutional repositories more so, allow for the storage and easy retrieval of many types of institutional information. It offers the opportunity to organize and maintain all the institutions scholarly documents in one location which is accessible to everyone in the university community. Besides, it also offers an opportunity to bring visibility to the university and individual faculty members.

Other significant benefits of institutional repositories, according to Neil (2003), include the rapid sharing of unpublished resources, ideas and long term preservation of research papers. The promotion of collaboration works that are available through a repository will have increased visibility and therefore, increased the citation rates of such a work. The publishing of research to institutional repositories may also attract future research funding as well as facilitate knowledge sharing and research. It is crucial that resources go into promoting these benefits to faculty, who may not feel they have the time or interest necessary to contribute to an institutional repositories project. Without proper promotion and advocacy, it is unlikely that the institutional repositories will continue to grow and thrive. (Abbie Starkman-Van Earwage,2008).

The fact that scholars around the world can have access to others research reports and scholarly writings means that institutional repositories enable the free sharing of information, encouraging collaborations and the widespread communication of institutional education and research activities (Hayes,2005). This creates a community of scholars who would otherwise never communicate with one another, not to mention the fact that information is available to any interested individual free of charge, thus promoting the philosophy of the open movement, free and open access to information.

Furthermore, the most important problems for scholars and researchers in universities and research organizations of developing countries is the lack of open

access to the current literature in their subjects. Since important research output is most often published in journals with high subscription fees, collecting the required journals exceeds the capacity of most libraries. Moreover, in developing countries also, the research infrastructure and the capacity to absorb scientific and technical knowledge are weak, leading to low levels of scientific output and further under development,(Okerson,2004). In a recent study of the comparative performance of the world's major science producing countries, King(2004) found that researchers in eight countries led by the US, the UK, Germany and Japan produce almost 86 percent of the world most cited publications, while 163 countries mostly developing ones, account for less than 2.5 percent. The open access movement addresses this barrier by arguing for the free availability of literature on public internet and permitting all users to use it for any other lawful purpose (Krishnarmurthy, 2005).

Suber (2012), is of the view that Open access literature is digital, online free of charge and free of most copyright and licensing restrictions. What make it possible are the Internet and the consent of the author or copyright holder. The two routes to open access recommended by Budapest Open Access Initiatives (BOAI) are Institutional repositories and OA Journals. Both are proven mechanisms for the choosing the information gaps in ways that are appropriate for low income countries. Institutional repositories are now established in all countries with the largest Repositories being found in Europe, North and South America, India and Australia. (Cullen & Chawner, 2009). The establishment of OA policies and their implementation in developing countries may offer new channels of dissemination of their scientific work among their colleagues worldwide. This may be significant for its long-term preservation and for the inclusion of this research in the global knowledge pool. In the context of developing countries like Nigeria, however, the problems are still enormous and we have to go a long way due to various limitations.

Institutional repositories are being recognized as essential vehicle for scholarship in the digital world. This is evident based on the continuous growth of Institutional Repositories around the world. However this growth is more prevalent in developed and western countries as more than 50% Institutional repositories existed only in four countries (USA, UK, Germany and Spain). So, it is now time for developing countries particularly Nigeria to establish such repositories to make available, permanently all

digital collections, of that institutions for researchers, academicians and practitioners within the institutions and beyond. (Naziri, 2011).

Challenges of institutional repositories in Nigeria

The word challenge means confrontation, threat that militates against the establishment of institutional repositories in academic libraries in Nigeria. The idea of institutional repositories has been quite appealing to academic libraries because of many of its anticipated benefits. The processes and logistics involved in creating, operating and sustaining a repository and associated challenges need to be identified, understood and overcome. Some of the challenges include;

Faculty participation: It is pertinent that faculties should be involved fully in contributing to institutional repositories growth and development but the reverse is often the case. According to Abbie Stark Man (2008) "without the willingness of faculty to contribute their works to the repositories, the collection will not be sustained and grow." He provides the many reasons why faculty may be reluctant to participate in a repository to include, fear of backlash from a publisher, a belief that depositing their work is "too time-consuming or holds little value. Salo (2007), repeated this notion in her interview that "predicating the planning and development of institutional repositories on the idea that faculty were going to come in and deposit all of their work in the repositories that have open access and made available to the world, amounts to demanding for free labour from the faculty". Lack of faculty interest and involvement is seen as the biggest challenge affecting institutional repositories development.

In order for an institutional repository to be maintained and managed, there must be administrative, faculty and financial support. Also staff hours must be dedicated to advocacy for the institutional repositories, content management; and creation of OAI-PMH metadata. Additional factors such as getting faculty to agree to share their works can sometimes create an obstacle for librarians who endeavour to create a digital repository. Consequent upon the evidence of the centrality of faculties in both the success and failure of Institutional Repositories, (Salo, 2007), states that it is essential for institutional repositories staff to undertake significant advocacy for institutional repositories among faculties.

Another obstacle is about users and how they appreciate the need and use of institutional repositories. According to Kingsley (2008) institutional repositories have not had as much success as discipline based repositories because they are centralized systems where decisions about the implementation are imposed from the administration; more so, technical issues such as format of items to be deposited, as well as the fact that software versions change and may not allow backward use. This means that depositors will be asked to convert files to portable document format (pdf) which may be simple for some, complex for most and definitely regarded as time consuming. Also learning to use the institutional repositories softwares both for uploading and retrieving information can also present a significant learning curve.

Another challenge in establishing institutional repositories (IR) according to Devise & Connolly, (2007), is identified in the literature as ensuring that the institutional repositories (IR) have content that grows. Problems that have been identified include the reluctance of authors to self archive due to a number of factors; difficulties around intellectual property issues; learning to use the software, plus the fact that academics tend to see self archiving as one more thing they have to do, especially if it involves their checking on copyright, the versions that they deposit, as well as getting metadata complete and right. Other issues on the part of authors include fear of plagiarism and having their ideas stolen, and confusion of whether ones work will be published when posted (Devise & Connolly, 2007).

According to Fitzgerald & Austin (2008), a lot of the challenges in increasing participation of academics and researchers in depository content are succinctly articulated. They state that the fact that academic progression of academics largely depends on their being published in high reputation peer reviewed journals tends to militate against their overwhelming positive response to depositing output in institutional repositories. First there is the belief that depositing outputs in institutional repositories may reduce chances of further publications in reputable peer reviewed journals. Secondly, there is concern about possible re-use of their contacts given the fact that institutional repositories are generally open access. Thirdly many authors and researchers are essentially ignorant about their intellectual property rights and what they can negotiate with publishers. Overly authors tend to sign away their rights

instead of negotiating for creative common license. Fourthly, academic authors do not appreciate the impact that depositing in institutional repositories will help on their academic profile impact. Clearly, there is in the face of the above, a great need to inform and educate academics and researchers so that they have a clear understanding of the role of institutional repositories and how they relate to their rights and how they may advance their visibility.

Donovan & Watson (2008) also point out that for repositories that accept all output published or not, one challenge may be posed by authors who want to deposit everything and anything. Such researchers necessitate the policies that control the intake of inappropriate, unwanted materials or content.

Sustainability of the institutional repositories is another important issue that can become a significant challenge. According to Moahi (2009), it may be easy to build institutional repositories, but because it is based on technology that becomes obsolete very quickly, an institution must bear in mind the cost that will be associated with long term preservation of research output.

Furthermore, a major issue affecting academic institution is the rising cost of proprietary database and journal subscriptions. These rising costs are causing librarians to look for alternative means of developing their collections. The use of alternatives to institutional repositories is a key challenge. Many faculty use alternatives to institutional repository, such as their personal web page and disciplinary repositories which are perceived to have higher community salience than repositories affiliated to an institution. Faculty gave many reasons for not using repositories; redundancy with other modes of disseminating information, the learning curve, confusion with copyright, fear of plagiarism and having one's work scooped, associating one's work with inconsistent quality, and concerns about whether positing a manuscript constitute "publishing". In sum Lynch(2003) identified the most common challenges of establishing IR as, adoption rate by academics, provisions for sustainability, developing policies, managing of intellectual property rights, institutional buy in-and support, cost management, digital preservation and identification of key stakeholders.

In conclusion, if an IR is established, it will be used heavily in satisfying the needs of the institution and it will be of immense importance to every aspect of teaching, learning and research. However, institutional repositories will be successful only if a large percentage of institutional community voluntarily subscribes to the concept of the repository and routinely participate in it.

References

- Abbie .S. & Van, E. (2008). *Institutional Repository: Benefits challenges for Libraries. The Open Movement and Libraries: LIBER 287-06*
- Cullen, R. & Chawner, B.(2009).institutional Repositories and the role of academic libraries in scholarly communications. In Asia pacific conference on library and Information education and practice (pp.268-277). Retrieved from [http://researcharchive.Vuw.ac.nz/bitreams/handle/10063/866/conference % 20 paper.pdf. ?sequence=2](http://researcharchive.Vuw.ac.nz/bitreams/handle/10063/866/conference%20paper.pdf?sequence=2)
- Davis, P. M. & Connolly, M. (2007). Institutional Repository: evaluating the reasons for non-use of CU's Installation of Dspace. D-lib Magazine, March / April 2007, vol. 13 no. ³/₄
- Donovan, J, M. & Watson, C, A. (2008). *White Paper: Behind a law schools decision to implement an institutional repository*. Alexander Campbell King Law Library; University of Georgia School of Law [http://digitalcommons.law.uga.edu/la lib artchop/15](http://digitalcommons.law.uga.edu/la_lib_artchop/15).
- Fitzgerald, B. & Austin, A. (2008). *The OAK Law Project: Issues for Academic Authors, Institutional Repositories, Open Access Journals and End-Users*. Open Repositories Conference - 1- 4 April 2008, Southampton.
- Gibons, S. (2004). *Establishing an institutional repository*. Chicago: American Library Association.
- Hayes, H. (2005) *Digital Repositories: Helping universities and colleges*. JISC.Websites:http://www.jisc.ac.uk/uploaded-documents/HErerositories_brief ngpa per-2005.pdf
- Kingsley, D. (2008). *Those who don't look do 'find: disciplinary Considerations in repository advocacy*, OCLC Systems & Services: International digital library perspectives Vol. 24 No.4.
- Krishnarmurthy, M.(2008). *Open access, Open source and digital libraries. A current trend in university libraries around the world. Program: Electronic library and information system 42,48-55,DOT.10.110811003303308108515*

- Kroski, E. & Salo, D. (2007). *Dorothea Salo Interview*. Interview posted to <http://www.archive.org/details/DorotheaSaloInterview>.]
- Lynch, C.A. (2003). *"Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age"* ARL, no. 226 : 1-7. website: <http://www.arl.org/resources/pubs/br/br226/br226ir.shtml>
- Moahi, K.H (2009). *Institutional Repositories: Towards Harnessing Knowledge for Africa digital libraries and Archives* (ICADA), Addis Ababa, Ethiopia.
- National Library of Australia. Preserving Access to Digital Information. *PADI Thesaurus: Costs*. Website: <http://www.nla.gov.au/padi/topics/5.html>
- Nazid, M, (2011) *Status of Institutional Repositories in Asia countries: A quantitative study*. Retrieved from <http://unilib.unl.edu/pp/>
- Neil, G. (2007). *Repositories 101: Part I*. Metalogger. Message Posted to <http://metalogger.wordpress.com/2007/09/13/repositories-101-part-I/>
- Okerson, A. (2004) *Six flavors of open access: success and possibilities for STM journals*. *LIBER Quarterly*, 14, 339-347. Retrieved October 11, 2013 from http://liber.library.uu.nl/Inhdexrphp_19/article/view/7785.
- Payne, G. (2005). *HARROW Institutional Repositories: a report on the Decisions and experiences of the HARROW Project* presentation to information online, Sydney, Australia. Website: <http://arrow.edu.au/dccs/>
- Salo, D. (2007). *What you're Up Against*. [PDF document]. Website: <http://minds.wisconsin.edu/handle/1793/22081>
- Suber, P. (2012). *OpenAccess Overview*. Retrieved October, 11, 2013 from <http://legacy.eashearth.edu/~peters/fos/overview.hyr>.
- Swan, A. and Brown, S. (2005). *Open access self-archiving: an author study, Technical report, unspecified, external collaborators, JJSC, H EFCE*. Available at: <http://eprints.ecs.soton.ac.uk/109991>.
- Salo, D. (2007). *What you're Up Against* [PDF document]. Website: <http://minds.wisconsin.edu/handle/1793/22081>
- Wikipedia: *The Free Encyclopedia* (2012). Digitizing. <http://en.wikipedia.org/wiki/Digitizing> Accessed April 24, 2012.