Implementing Institutional Repository in Nigerian Universities: Status, Challenges, Prospects, and the Role of Librarians & Libraries

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Abstract

This is a report of the study carried out in late 2013. In this paper, the authors identify the extent of adoption of Institutional Repository (IR) in various universities through an online survey. Concepts of institutional repository (IR) and institutional memory (IM) are clarified. It lays down the findings from the survey. The paper also explains the essential elements of IR, Service Model of IR, prospects and challenges of IR in Nigerian universities, IR implementation strategies; including the role of the libraries and librarians. Findings reveal that as at the time of study world IR presence numbers 3479. Nigeria has only nine (9) Universities representing just 0.23% of the world IR. But some African countries' universities have more. South Africa alone had 40, which amounts to 1.15% of the world Institutional Repositories as at then. The paper concludes with recommendations on the ways Nigerian universities could overcome the barrier in IR implementation.

Keywords: *Institutional Repository, Nigerian universities, IR elements, IR prospects, IR challenges, libraries, implementation*

1.0 Introduction

In the last few years, the institutional repository (IR) has emerged as an important new model in scholarly communication. An IR is defined by Lynch (2003) as "a set of services that institutions offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members". He explains that IR has the potential to offer a new strategy that allows universities to apply serious, systematic leverage to accelerate changes taking place in scholarship and scholarly communication, both moving beyond their historic relatively passive role of supporting established publishers in modernizing scholarly publications through licensing of digital content, and also scaling up beyond ad-hoc alliances, partnerships, and support arrangements with a few select faculty pioneers exploring more transformative new uses of the digital medium.

The growth of Institutional Repositories has assumed exponential magnitude. The use is not limited to academic and research communities only. Many government

institutions and private organizations now use it to make documents public. Agencies for the global ranking of world universities use different criteria in their ranking exercises but one criterion that is common to all of them is the number of publications and their impact (i.e. number of citations). In gathering their data they do not send questionnaires but use the institution's web resource for tertiary institutions and research institutes. The leading universities in the world and Africa have Institutional Repositories. This is also applicable to research institutions. The academic slogan of "publish or perish" is now applicable to tertiary institutions, which are now judged by the collective publications of their faculty.

According to Jato (2013) "Institutional Repository (IR) is defined as a digital archive of the intellectual product created by the faculty staff, research staff and students of an institution and accessible to end users both within and outside of the institution, with few if any barriers to access, in other words the content of an IR is institutionally defined, scholarly cumulative and perpetual and finally open and interoperable". "There is a rapidly expanding stock of scientific knowledge. Yet access to this pool of knowledge is often difficult because of the relatively high cost of scholarly journal, their printed and web-based versions" (Okoye and Ejikeme, 2011).

Concept clarification

It is pertinent to differentiate institutional memory form institutional repository. While the former is defined by Reitz (2004) as a collection of official materials assembled to document the current and historical activities and intellectual production of an organization, including legal and policy documents, reports, proceedings, books, periodicals, articles, non-print media, technical documents, membership and employment records, etc., usually organized to facilitate access and

sometimes available in digital form. Branin (2010) assets that:*"Although institutional repositories are still evolving and taking on differing manifestations in specific institutions, they can be defined in general as systems and service models designed to collect, organize, store, share, and preserve an institution's digital information or knowledge assets worthy of such investment."* The two terms are very much similar. It may just be a question of semantics in the sense that "memory" deals with humans and computers whereas "repository" include digital and physical library. In all, both have to do with storage of information.

1.1 Benefits of Institutional Repository

Utulu and Akadri (2010) identify the following as benefits of institutional repository:

Increase in Internet contents
Visibility of institutional research output
Promotion of institution and increase in reputation
Staff and researcher's visibility and reputation
Easy access to research funds and opportunity for collaborations
Provision of data-usage data, user's location data, etc.
Fast publication of research and other published works
Prestige of being part of institutions using IRs
Possible improvement in webometric ranking

1.2 Objectives of the study

The objectives of the study include:
1. To survey the status of Nigerian universities presence in Institutional Repository (IR)
2. To identify the roles of the library and librarians in IR implementation
3. To determine the prospects and

challenges of IR implementation in Nigerian universities

4. To recommend the way forward for Nigerian universities involvement in IR project

1.3 Statement of the Problem

The idea of establishing Institutional Repositories should be taken very seriously by research institutes to make their research findings open. In recent times many research institutes have complained about low utilization of research findings. At this age of 'if it is not on the Internet, it is not available'; the use of Institutional Repository to make research findings public, cannot be ignored. Currently only two Nigerian repositories are ranked: University of Jos (federal) which is the trail blazer of IR in Nigeria and Covenant University (private). This is probably attributed to the low populating rate of Nigerian repositories. At present, the statistics about Nigeria is not encouraging when compared to the global trends and to the situation in other African countries.

1.4 Research Questions

1. How many Nigerian universities have registered their presence in Institutional Repository?

2. What roles do libraries and librarians play in the implementation of institutional repository?

3. What are the challenges encountered during IR Implementation?

4. What strategies can be adopted for implementing IR in Nigerian universities?

2.0 Literature Review

Institutional Repositories provide access to wealth of scientific and technological information and knowledge which are very essential for development. The opportunities presented by institutional repositories and Open Access archives to the development of

Africa as well as the challenges hindering the development of digital information repositories on the continent has been examined by Chisenga (2006). He acknowledges the fact that several of the research output from the region exists in the form of grey literature i.e. unpublished information and knowledge resources such as research reports, theses and dissertations, seminar and conference papers. Very little research outputs find their way into the world's well-established international scientific journals, due to various problems and among them because publication in mainstream journals faces the problems of over-subscription and recorded prejudice against submissions from developing country scientists. Additionally, local journals in general have poor distribution and visibility. This situation results in research from developing countries not being indexed in major international databases which have the capacity to increase the visibility of these research outputs. He further notes that much of the research generated in research institutions are not being shared or developed further beyond field and laboratory research. Very useful and valuable technological and scientific information and knowledge remains unexploited and in some cases is lost.

The establishment of Institutional Repositories in academic and research institutions in Africa is a serious developmental issue that requires urgent attention. As Chisenga (2006) rightly observed, they are valuable for research and development because they can offer instant access to information and knowledge resources being generated on the continent. The universities and research institutions in Africa are the major centres of research and consequently the major generators of research based data, information and knowledge. 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.

2.1 Essential Elements of an Institutional Repository

Stated broadly, a digital institutional repository can be any collection of digital materials hosted, owned or controlled or disseminated by a college or university, irrespective of purpose or provenance. Other types of institutions that generate substantial bodies of research or other intellectual property could establish repositories as well. These might include government departments or agencies, non-governmental or inter-governmental organizations, museums, independent research organizations, federations of societies, and (theoretically at least) commercial entities—any organization that wishes to capture and openly disseminate its intellectual product, thus contributing to scientific/scholarly communication and benefiting from the resulting organizational visibility. Citing David (2011), Oyewo (2013) identifies the content of the institutional repository to include:

i. Institutionally Defined – In contrast to discipline-specific repositories and subject-oriented or thematic digital libraries, institutional repositories capture the original research and other intellectual property generated by an institution's constituent population active in many fields. Defined in this way, institutional repositories represent an historical and tangible embodiment of the intellectual life and output of an institution. And, to the extent that institutional affiliation itself serves as the primary qualitative filter, this repository becomes a significant indicator of the institution's academic quality.

ii. Scholarly Content – Depending on the goals established by each institution, an institutional repository could contain any work product generated by the institution's students, faculty, non-faculty researchers and staff. This material might include student electronic portfolios, classroom teaching materials, the institution's annual reports, video recordings, computer programs, data sets, photographs, and art works—virtually any digital material that the institution wishes to preserve. This content may include pre-prints and other works-in-progress, peer-reviewed articles, monographs, enduring teaching materials, data sets and other ancillary research materials, conference papers, electronic theses and dissertations and gray literature.

iii Cumulative and Perpetual – Essential to the institutional repository's role both within the university and within the larger structure of scholarly communication is that the content collected be both cumulative and maintained in perpetuity. This has two implications.

1. Whatever the content submission criteria for a repository, items once submitted cannot be withdrawn—except in presumably rare cases involving allegations of libel, plagiarism, copyright infringement or "bad science."

2. Institutional repositories aim to preserve and make accessible, digital content on a long-term basis. Digital preservation and long-term access are inextricably linked, each being largely meaningless without the other.

iv. Interoperability and Open Access – Providing no- or low-barrier access to the intellectual product generated by the institution increases awareness of research contributions. The goals motivating an institution to create and maintain a digital repository—whether pan-institutional, as a component in the changing structure of scholarly communication or institution centric —require that users beyond the institution's community gain access to the content. For the repository to provide access to the broader research community, users outside the university must be able to find and retrieve information from the repository. Therefore, institutional repository systems must be able to support interoperability in

order to provide access via multiple search engines and other discovery tools.

Given the disparate publishing practices amongst academic disciplines, an institution's content accession and access policies need to accommodate legitimate researcher concerns about access to pre-publication materials deposited in the repository. Institutional repositories typically do not permit content to be removed once submitted. However, a variety of legitimate circumstances cause an institution to limit access to particular content by a specific set of users. These circumstances might include copyright restrictions, policies established by a particular research community (limiting access to departmental working papers to members of that department, for example), embargoes that an institution's Sponsored Programs Office might require to keep the institution in compliance with the terms of sponsor contracts and even monetary access fees for certain data.

2.2 Service Model of IR

The technology platform is an essential component – and its capability a driving force in the establishment of an institutional repository, but it may prove over time the least expensive and least complicated component. As Digital Asset Management (DAM) system technology matures and as digital storage cost decline, service activities and organization surrounding and supporting an institutional repository may turn out, over the long-term, to be the more expensive and challenging aspects of such a program. According to Branin (2010), a service model for an institutional repository will have to include some or all of the following activities:

assistance with digital asset creation and submission,
metadata preparation, or training and guidance in metadata preparation,
intellectual property rights management,

preservation management,
assistance with content access and use,
marketing.

Findings of Ezema's (2013) study on open access institutional repositories in Nigeria University libraries reveal that 15 local content materials were identified as relevant for publication in institutional repositories. Similarly a major method of acquiring these local contents is by encouraging staff to deposit their publications in the university libraries. It was also found out that providing a subject index to the local contents and their digitization were effective methods of organizing the materials for the institutional repository. The findings also showed that an increase in the visibility of the authors, promotion of university ranking and efficient dissemination of research findings were among the benefits of publishing in institutional repositories. The problems and strategies of publishing in institutional repositories were also identified through the findings.

2.3 Prospects of Institutional Repository in Nigeria

Institutional Repository is advantageous from another spectrum, it increases the visibility, usage, and impact of researchers own findings and also increase the researchers' power to find; access and use the work of others. The universities, research institutions also benefit from their researchers increased impact, which also increase such as governments, foundations and scientific societies. Recently, there has been an upsurge of interest in IR globally. It is gratifying to note that the exploitation of ICT based solutions is growing in Africa, despite the attendant challenges (power supply, slow internet connectivity, underdeveloped infrastructure and inadequate knowledge). Some Nigerian institutions are already buying

into this strategy that will enhance educational and research opportunities and bring the world together.

In Nigeria, most tertiary institutions are embracing the idea of Institutional Repositories which is a new trend in scholarly communication which makes their institutions and scholarly resources to be openly available on the web. More so, the ranking system of the webometrics is also based on the digital content of web resources on the institutional repository of any tertiary institution. The trail blazer in this respect in Nigeria is University of Jos, the first institution to embrace the IR as mean of scholarly communication. Some other universities have since joined in the revolution that is sweeping across the various Open Access Initiatives.

Ranking of world universities has come to be accepted as one of the indicators of a country's development. Unfortunately, Nigerian universities have not been doing well in the major global rankings. Visibility and impact of scholarly publications is one of the ranking criteria and this is greatly enhanced by adopting current trends in scholarly communications, notably establishment of institutional repositories (IR) have been accepted as the best way to create visibility for scholarly output. One thing that is common to all the highest rank institutions is that they all have IRs. In Nigeria, the highest ranking private university – Covenant University has IR and the highest ranking University of Agriculture, University of Agriculture, Abeokuta has IR. The other three universities in Nigeria that have IR are University of Jos, University of Nigeria and Ahmadu Bello University.

2.4 Challenges to Institutional Repository Implementation in Nigeria

Most of the challenges are attributed to cultural and academic barriers. Carver (2003) observes that early in the development of institutional repositories it was recognized that "getting campus "buy-in" was the main worry…. Buying would require a shift in how things are done, and any shift in academia can often be a frustrating process". Values entrenched among faculty and campus administration have prevented some authors from immediately embracing the IR model. That the IR challenges many traditional academic values should not be unexpected, but the strength of these concerns may surprise some authors from immediately embracing the IR model. That the IR challenges many traditional academic values should not be unexpected, but the strength of these concerns may surprise some librarians.

Given existing barriers, authors who submit material to the institutional repository are, in a sense, risk-takers and academia has traditionally been considered a risk-averse environment. The traditional culture of academic publishing accounts for some of the resistance to IRs, journal and monograph publication processes are deeply embedded in the scholarly process. Across disciplines, publishing in journals and monographs has been the standard for over a hundred years, and integrating a new genre into scholarly communication is a significant challenge.

Richard (2002) argues that other challenges faced by IR implementation are not as abstract, the resistance cut across disciplines regarding:

fear of disrupting existing relationships with publishers;

concerns about the equivalence between IR and journal publishing;

ignorance of copyright law;

reluctance for research to be made public without proper vetting;

reluctance to modify bureaucratic processes;

reluctance to have a university stamp on their scholarly output;

lack of time to learn how to do something

different;

technophobia;

uncertainty about the authenticity of the file.

2.5 The role of libraries and librarians in IR implementation

In the library literature, discourse has focused on implementing IRs as an alternative to traditional publishing. Absent from the discussion is the call for collaboration of library staff throughout the organization. In particular, there is limited scholarship on the role of reference librarians in the implementation of institutional repositories. The lack of involvement may stem from reference librarians' preoccupation with other issues, such as the rethinking of the reference service model and the development of virtual reference services. Furthermore, administrators have not considered reference/subject librarians as essential team members in what is viewed as a technical services project.

The IR model is still evolving and its role in scholarly publishing uncertain. If the IR is to be a new and powerful model of scholarly communication, reference/subject librarians must participate in the development and growth of the IR. Their experience working with users and intimate knowledge of the research process provides critical skills that will contribute to the evolution of institutional repositories. As vital partners, reference librarians can be a key connection between the IR and users, getting content in to the repository and out to library users.

Library staff members submitting materials to the repository on behalf of authors are asked to search for appropriate subject headings in the library's catalogue. In other cases where materials deposited in IR duplicate submissions to a disciplinary archive, library staff select terms that have been used in the disciplinary archive to describe the same items in IR. If the software supports a controlled vocabulary, users must have access to the list of terms in order to formulate effective searches.

Working with faculty and students on a daily basis reinforces the reference librarian's sense of the vital role of authority control, and the importance that a controlled vocabulary plays in specialized academic research. Libraries must also bring together IR content with other information resources. Currently, too many libraries display a bewildering collection of separate links to the catalogue, article databases, and various locally developed resources. Much work needs to be done to create a single entry point at the local level that searches and retrieves information from the different sources seamlessly.

In order to create a successful institutional repository, the library must find authors to submit materials. To do so, library staff must be able to convey the value of the IR to the campus community. Conveying this information effectively to authors relies on an understanding of the culture of scholarly communication locally and beyond. Reference/subject librarians, familiar with the general academic milieu and the cultures of different disciplines, are uniquely positioned to successfully tackle these challenges. Crow (2008) lists the roles of libraries and librarians in IR implementation as follows:

i. Academic libraries retain responsibility for managing and archiving traditionally published print materials

ii. Library programmes and budgets will have support faculty open access publishing activities in order for libraries to remain relevant in this constituency.

iii. For libraries with organizational imperative to invest in the future, institutional repositories offer a compelling response.

iv. Libraries are best suited to provide much of the document preparation expertise

(document format control, archival standards, etc) to help authors contribute their research to institution's repository.

v. Libraries can effectively provide much of the expertise in terms of metadata tagging, authority controls and the other content management requirement that increases access to and usability of the data.

3. Strategies for Implementation of IR

In this expanding and competitive market for digital asset management systems, institutions will have to choose among a variety of property and open-source options. Many of these technical platform options are still in development, and all of them will have to continually expand and upgrade their capabilities to remain competitive. As one might expect, each digital assets management system (just as in the integrated library system platform arena) has its advocates and critics, its strengths and shortcomings in handling various types of digital content, and its range of costs. While open-source options such as Dspace and ePrints may have free or low entry prices, ongoing local development and support requirements for this type of system must be factored in when comparing longer-term costs to those of commercial, turnkey system options. Interoperability and extensibility – a system's ability to interface with other systems as well as its ability to expand and add new components – are also important factors in evaluating the merits of a digital asset management system.

An institutional repository should be an integral part of a larger knowledge management or information services programme of an institution. The repository itself simply stores and provides capabilities for preserving and sharing digital assets. To be successful, individuals in the institution must understand the purpose and benefits of the repository, willingly submit digital assets to the repository, and finally, make full use of the

assets in the repository in their work. Using the terminology of the Open Archival Information System (OAIS) (2003), reference model, management must make the institutional repository program understandable to producers and consumers through marketing and training, and easy to use through efficient, streamlined, and highly automated or personalized services.

In designing the service model for an institutional repository, management will have to decide how much assistance it wants and can afford to provide producers and consumers. Up-front services to producers might include multimedia production and design assistance, digitization, and metadata training and preparation. Or management could decide that self-archiving, the use of templates and automated services that place preparation and submission responsibilities almost entirely in the hands of the producer are more scaleable and economical ways to design frontend services. Metadata preparation and conformance to metadata standards play a critical role in a digital repository, because they underpin the search and discovery, interoperability, as well as the preservation capabilities of a digital repository. Whether the producer or management takes responsibility for metadata preparation and compliance; this front-end service function demands careful attention in any institutional repository programme.

Management will also have to decide how much access availability and service assistance it will provide consumers of an institutional repository. According to Branin (2010) these questions are considerable for IR implementation.

What search and discovery tools will management provide for consumers and will there be training in the use of these tools?

Will metadata and content in the repository be exposed and accessible to

general or specialized search service?
Will there be reference assistance to help consumers make effective use of the knowledge assets in the institutional repository?

Critical to access services for the consumer are the preservation and rights management responsibilities of management in an institutional repository programme. Management must carry out proper backup, disaster preparedness, and timely migration strategies in the institutional repository to ensure long-term access to assets by consumers. And finally, consumers should have access only to assets they are authorized to see and use. In a full-service institutional repository, rights management will extend the gamut of access control, from private assets only available to the producer, to assets restricted to certain groups or types of consumers, to complete open access to the public domain

In establishing an institutional repository in an academic setting, the greatest initial service challenge is likely to be inducing faculty or student engagement and participation. In a corporate setting, management may require that all employees deposit their appropriate digital assets where power and control are diffuse and where faculty and student are treated as free agents, at least when it comes to creative work, convincing producers to contribute their work to an academic institutional repository becomes a significant marketing challenge.

The Table1 illustrates the fact that although the effectiveness of Open Access Journals in general and Institutional Repositories in particular is no more in doubt; having attracted world presence, yet Nigeria is lagging behind. **Goutam and Dibyendu (2010) assert that** educational institutions dominate in the use of open source digital library software packages. However, many institutions have implemented digital libraries, but not all are online. Open access of knowledge is possible only if these repositories has made online.

Institutional repositories are a new resource with potential to develop in a variety of directions. Working collaboratively with other specialized staff, reference/subject librarians can help chart the course for IRs, particularly in regards to authors' and users' needs. For IRs to reflect the spectrum of intellectual output and become "a part of a core information infrastructure that the university offers", Greenstein (2004), reference/subject librarians should vigorously pursue outreach to faculty and departments. To do so most effectively, more research is needed on how different disciplines could use the IR as an alternative to traditional publishing venues.

Furthermore, the reference librarian's close interaction with library users searching for information will help facilitate the move of repositories into the information mainstream. These areas include development of online assistance and tutorials, sophisticated search tools and the implementation of usage studies. Overall, reference/subject librarians need to raise their profile within the scholarly communication community so that their expertise can inform the development of IRs and other models.

3.1 Research Method

Due to the strike by the Academic Staff Union of Universities (ASUU) in Nigeria at the time of this study, the researchers were unable to neither conduct any interviews nor gather information through questionnaires. Alternatively, a web search was conducted, and information was drawn from documents on institutional repositories from which the investigators summarized the open access projects and challenges faced. Information was also gathered through observation and work experience from the researchers who

had attended training workshops on the
subject area. Data collected were presented
in tables and analyzed using percentages.

4.0 Result and Discussion of Findings

Table 1: Global, South Africa & Nigeria presence in Open Access and IR

Titles/Number	World	South Africa	Nigeria
Open Access Journal	5253	67	40
Institutional Repository	3479	40	9

The data show that while South Africa has 1.28% of the world open access journal; Nigeria has 0.76%. Also while South Africa has 1.15% of Institutional Repository; Nigeria has 0.23%. Out of over 100 Universities in Nigeria, only nine (9) have registered their presence in the Institutional Repository.

Table 2: Nigerian Universities in the Institutional Repository

S/N	Universities	Web Address	Software/Size/Content	Repository Name/Address
1	Ahmadu Bello University	http://www.abu.edu.ng/	DSpace 3853 items (2013-09-16) Conferences; Theses	*Ahmadu Bello University Institutional Digital Repository* http://kubanni.abu.edu.ng:8080/jspui
2	Covenant University	http://www.covenantuniversity.edu.ng	EPrints 10 items (2013-06-18) Theses & Dissertation 1151 items (2013-09-16) Articles	1. *Electronic Theses and Dissertation Repository* http://www.covenantuniversity.edu.ng/~/clr_cu/library/readonline/docsExplorer/# 2. *Covenant University Repository* http://eprints.covenantuniversity.edu.ng
3	Federal University of Technology Akure	http://futa.edu.ng/futacms/	DSpace 2346 items (2013-09-16) Articles; References; Theses	*Institutional Repository of the Federal University of Technology* http://dspace.futa.edu.ng:8080/jspui/
4	Federal University of Technology, Minna	*www.futminna.edu.ng*	DSpace Theses	Federal University Of Technology, Minna Institutional Repository http://http://dspace.futminna.edu.ng/jspui/handle/1/4340
5	University of Jos	http://www.unijos.edu.ng/	DSpace 1973 items (2013-07-29) References; Conferences; Learning Objects; Multimedia	*University of Jos Institutional Repository* http://dspace.unijos.edu.ng/
6	University of Nigeria Nsukka	http://www.unn.edu.ng	Open Repository 14366 items (2013-09-16) Articles; Theses;	*Open Resources* http://unn.edu.ng/chart/repo
7	Michael Okpara University of Agriculture, Umudike	http://www.mouau.edu.ng	DSpace Research Institutional or Departmental	Michael Okpara University of Agriculture, Umudike Repository http://www.mouaurepository.edu.ng
8	Benue State University	*www.bsum.edu.ng*	DSpace/Articles	Bsuir.bsum.edu.ng/handle/123456789/54

The data in Table 2: show that there are eight (9) Nigerian universities in the Open Access Institutional Repository. Out of this nine, six (6) are Federal Universities. Two (2) State Universities who has registered their presence in IR is Benue State University. While the only one (1) private university in the IR is Covenant university with two registrations hosting Students Electronics Theses and Dissertations (ETDs) and the general university articles. It is also noteworthy that among the universities, only Covenant University and University of Nigeria used E-prints and Open Repository software respectively for installation and upload. Other universities used DSpace software. It is worthy of note that, as at time this research was conducted, University of Nigeria has only electronic information resources and not Institutional Repository because the university's ICT experts and systems were challenged with some issues including virus attack. This incident hampered the repository project of UNN. It is possible that similar instance may have posed serious threat to other universities whose IR projects have not been completed, money invested notwithstanding.

5. Conclusion and Recommendations

Institutional repositories offer hope that local resources will be committed to the development and application of metadata standards, open access strategies and connections, that important digital knowledge asset will be safeguarded and accessible for future generations. Academic administrators and librarians appear motivated to create institutional repositories for two primary reasons: improving access to and preservation of unpublished digital assets, and reforming the scholarly publishing system. The management and administration of an institutional repository could be taken up by a variety of entities in an organization: in most cases, responsibility will likely fall to an information technology (IT) unit, to a library, or to a combination of these units.

In Nigeria, however, there is very low rate of adoptability of this trendy digital resource preservation and management system in spite of the global embrace since over a decade ago. Several factors pose serious challenge to university librarians and information scientists as well as Universities' management towards implementation of IR in Nigerian universities. Among others, these problems include: Unawareness of IR benefits; Unwillingness to submit personal research works to IR; the majority of the lecturers do not have any idea of what Open Access Institutional Repository means, neither are they aware of IR existence in their university or others home and abroad. Based on the findings of the study, the followings are recommended:

University's Management through the Directorate of ICT unit in association with the University's Library should continue to organize conferences, capacity building workshops and seminars to educate the lecturers on the relevance of Institutional Repository to the academic community.

Lecturers should be encouraged with incentives to submit their articles published or unpublished (but peer-reviewed) for uploading into the institutions' IR.

Students should be encouraged to access IR in their universities or other universities

University Management should provide adequate funds for carrying IR project.

Individuals in the institution must understand the purpose and benefits of the repository, willingly submit digital assets to the repository, and finally, make full use of the assets in the repository in their work.

Institutional repository should be an integral part of a larger knowledge

management or information services programme of an institution, not just a department or unit.

There should be proper back up with external disc drives and the servers should always be updated with strong antivirus in order to avert the hazardous incidents of data loss due to virus attach or even total systems crash.

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