

THE RELEVANCE OF ACADEMIC LIBRARIES IN THE PROMOTION OF OPEN ACCESS REPOSITORIES IN NIGERIAN UNIVERSITIES: A BLESSING TO THE ANDROID SOCIETY

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Abstract *Open access repositories provide free access to institutional outputs that emanate from researchers and scholars within academic institutions. It is an avenue where intellectual content is collected, stored, preserved, and disseminated to the larger audience of the research community. OAR constitutes national, research, institutional, and subject or disciplinary repositories. With the emergence of OAR, scholars and researchers in academic institutions have the opportunity to avail their intellectual output through a repository hosted by their institutions. Academic libraries are also at the forefront in complementing the effort of their parent institutions by collecting, storing, and preserving the intellectual content of the academics, and making it freely available and accessible to the intended users within and outside academic circle. The paper explores the relevance of academic libraries in the promotion of institutional repositories, with particular reference to Nigerian university libraries. Further, it highlights the emergence of open access movement as a blessing to the Android society. Policies regarding OAR are pinpointed. Open source software used in open access repositories are also identified. The role of academic libraries and librarians in the promotion of OAR in Nigerian university libraries is explicitly discussed. Adaptation of institutional repositories in Nigerian universities is fraught with numerous challenges, ranging from lack of awareness, misconception, copyright issues, poor Internet services, and unstable power supply to technical know-how. The paper recommends that for the actualisation of adoption of institutional repositories in Nigerian universities there is a dire need for advocacy and awareness campaigns by librarians on the importance of OAR to the academic community. Effective Internet services and epileptic electric power supply should be improved in Nigerian university libraries to achieve greatness for successful adoption of open access repositories.*

Keywords: *Open Access Repositories, Academic Libraries, Universities, Nigeria, Android Society*

INTRODUCTION

The emergence and the upsurge of open access is one of the advantages of the Internet. Open access (OA) is a general term that refers to unrestricted online free access to the full text of research articles published and disseminated in open access journals or intellectual content produced by members of the academic community that is shared through their institutional-based repositories. Jain (2012) posited that institutional repositories are repositories where digitised documents are archived and preserved. Green route to open access is referred to as open access repositories. In the context of this study, institutional repositories are explored, to be specific. The Budapest Open Access Initiative claimed

that the adoption of OA would involve 2 main outlets: the open access journals (gold open access) and institutional repositories (green open access) (Budapest, 2012). The former refers to publishing in peer review journals, where articles are accessed online free of charge without legal or technical barriers, whereas the latter refers to depositing, preserving, or archiving preprint, post-print of journal articles, or any other intellectual content produced by the academic community of an institution.

There are quite a number of definitions of institutional repositories by various authors and scholars. According to Scholarly Publishing for Academic Resources Coalition (SPARC), cited in Ifeanyi and Victoria (2016), institutional repositories are digitised scholarly contents that emanate

from various academic scholars of academic institutions. In addition to this, Ejikeme and Ezema (2019) described “Institutional repository as a green OA model [that] have greater advantages in providing free flow of information to researchers particularly in developing countries”. It is evident that the emergence of open access archiving marked the beginning of open access repositories, which by extension paves way for institutional repositories. The repository in question provides free access to institutional outputs that emanate from researchers and scholars within academic institutions. It is also an avenue where intellectual contents are collected, stored, preserved, and disseminated to the larger audience of the research community. The repository also provides unprecedented opportunities to members of the academic community to disseminate their intellectual output, making them accessible through their institutional-based repositories. According to Dulle (2010), materials content produced by researchers archived in QAR/institutional repositories include and are not limited to peer-reviewed articles published in a journal (post-print), articles waiting for peer review in a journal (preprint), theses/dissertations, conference papers, teaching materials, and on-peer-reviewed articles. Against this background, the academic community is opportune to have free access to all intellectual contents emanating from the academics of their institutions.

However, the goal of open access is well captured in three declarations, which are the Budapest Open Archives Initiative (BOAI) of February 2002, the Bethesda Statement which was held in June 2003, and the Berlin Declaration of October 2003. Even though these three focused on diverse aspects of open access publishing, they shared the common view that research findings should be available online, free of charge, without restrictions. The restrictions referred to are restrictions on copying, price, display charges, distribution, and printing (Budapest, 2012).

Emergence of Open Access Movement

One of the significant contributions of the open access initiative is the establishment of a repository by Paul Ginsparg in 1991, which marked the beginning of open access (OA). The founder established the repository in order to make preprints in physics freely accessible. Peter Suber and Stephen Harnad were among the leading protagonists and co-founders of the open access movement, who also contributed immensely towards its development (Open Access to Scientific Information, 2017).

In addition, according to Gideon (2008), the emergence of open access publishing could be attributed to “restrictive

access” to scholarly content that is enforced by commercially based publishing houses. The restriction to these journals is characterised by inflation in the price of journals through what is called subscription fees, license fees, or pay-per-view fees.

The development of open access could not be concluded without mentioning the significant contribution of the Budapest Open Access Initiative (BOAI), which is one of the forefront open access movements that emerged in 2002. The movement is a collaboration of scholars and scientists of national and international repute from a wide spectrum of expertise in the sciences and humanities. The aim of the movement is to authorise free and unrestricted online access to scholarly articles published in peer-reviewed journals in all academic fields, as stipulated in its declaration (Open Access to Scientific Information, 2017).

The subsequent open access movement after the Budapest initiative was the Bethesda Statement of June 2003. The statement of the Bethesda geared towards prompt access of research findings, particularly in biomedical sciences. Researchers are also mandated to make their research findings available to the global research community.

Lastly, the Berlin Declaration was another milestone credited to open access movement, which emerged as a result of a conference hosted in October 2003 by the Max Planck Society. The signatories of the conference were research funders and universities from Europe and America. These signatories undertake “to support the open access idea”, thereby motivating researchers to make their research findings freely available and accessible (Open Access to Scientific Information, 2017).

OPEN ACCESS REPOSITORY POLICIES

Policy formulation and implementation is momentous for the development of any organisation or institution as it strengthens the sustainability of any system. In their study, Roy, Mukhopadhyay and Biswas (2015) identified 5 main types of repository policies, which include metadata re-use policies; data re-use policies; content policies; submission policies; and preservation policies.

Types of Open Access Repository

There are different types of open access repositories that are adopted based on the purpose for which they are established. Jain (2012) identified four different types of open access repository publications, which include research, institutional, national, and subject-based repositories.

Open Source Software (OSS) Used in Open Access Repository

Dipen (2006) defined open-source software as “computer software whose source code is available under a copyright license that permits users to study, change, and improve the software, and to redistribute it in modified or unmodified form”. Adoption of open access repository hinges on the open-source software that supports the operation and function of the repositories. There are different open-source software used in the adaptation and operation of an open access repository. Ashikuzzaman (2018) posited that there are quite a number of open source software which are developed in the world and are being used in the establishment of open access repositories; the software include, among others, EPrints, DSpace, FEDORA, CDSware, and so on. On the other hand, Roy, Mukhopadhyay and Biswas (2015) identified other open-source software, which include Diva-Portal, dLibra, invenio, eDoc, HAL, Digibib, Exalead, Micro-CDS/ISIS, VITAL, OJS, DSpace, Fedora, EPrints PURE, and LibreCat. At this juncture, let us expatiate on the 3 major open source software used in creating open access repositories that are highlighted by Ashikuzzaman (2018).

• Greenstone Open Source Software

Greenstone is an open source software created by the New Zealand Digital Library Project at the University of Waikato. The project is meant to promote the emerging trend of information technology in libraries. This software is subject to modification as everyone is free to change some of its features and make it available publicly so that others can use it to create their own collections. The main architects of the software are Roger McNab and Stefan Boddie. Greenstone is an open source software aimed at maintaining and digitising library collections. The software digitised the collection and made it available via the Internet or on a CD-ROM. Similarly, UNESCO and the human info NGO are at the forefront in the development and distribution of the software. The software is available at <http://www.Greenstone.org> (Ashikuzzaman, 2018).

• GNU E-Print Archiving Software (Version 2.2.1)

The e-Print open source software is developed at the University of Southampton, UK, which is part of a digital library project. The software runs on Linux and creates online archive libraries of electronic prints. It is freely available under the terms of the GNU general public license. The default configuration creates a research paper archive; however, there is no room for modification and use for other purposes. The document can be stored in any format and each individual research paper (e-print) can be stored in

more than one format. The e-print can be submitted through powerful www-based interface. Data integrity checks are performed (Ashikuzzaman, 2018).

• DSpace Open Source Software

DSpace is one of most widely used open source software, particularly in an institutional repository, and the software captures information in multimedia form, which is made available and accessible via the Internet. The software makes research discoverable to the end-users as researches are indexed, which paves way for users to access, explore, and retrieve the deposited documents. Digitised documents are also preserved for a long time. The software manages research documents and intellectual content in a designated repository, which allows visibility and accessibility for a long period. The software is popularly used in institutional repositories. One of the important functions of the DSpace software is providing metadata of the archived documents, and simplifying access and search of multimedia (text, image, audio, and video) documents.

The benefits of using DSpace are:

- It gives prompt access to research findings to the global research community.
- It provides access to researches that are indexed in popular search engines.
- It archives instructional materials that could be of use for educational purposes.
- It allows storing and disseminating of educational materials on the Internet and self-archiving of author’s documents.
- It preserves grey literature, such as under-graduate and post-graduate students’ projects.
- It gives access to intellectual contents of students, which is done with their consent.
- It maintains a bibliography of an author’s publication.

ROLE OF ACADEMIC LIBRARIES IN THE PROMOTION OF INSTITUTIONAL REPOSITORIES TO THE ANDROID SOCIETY

Academic libraries play an unprecedented role in the adoption, promotion, and sustenance of institutional repositories in Nigerian universities. Academic libraries are the central hub of any educational institution where all academic activities of teaching, learning, and research revolve. The following are the roles of academic libraries in the promotion of institutional repositories to the Android society.

- Academic libraries help members of the academic community access the intellectual inputs of their institution, thereby collecting, storing, and archiving academic output through their institutional repositories, without any technical, legal, or financial barrier.
- Some academic libraries in Nigerian universities face serious challenges of financial support from their parent institution or government. Some of these libraries find it difficult to either subscribe or renew the subscription of journals, which they used to subscribe to. At this juncture, such libraries could use the intellectual inputs stored from their repository to meet the information needs of their users.
- Academic libraries help their parent institutions in reducing the cost of their budget in subscribing to journals, especially during an economic crisis. These libraries could use the intellectual content of their repositories to support the academic activities of teaching, learning, and research. The aim of the emergence of open access movement is to advocate for free access to the full text of all publications that emanate from the research community of a particular institution. Dulle (2010) claimed that skyrocketing journal subscription costs is a contributing factor to the serial crisis, which is described as a situation whereby libraries could no longer subscribe to every journal required by their user community. In view of this, Gideon (as cited in Mutwiri, 2014) stated that the advent of open access movement is a result of restrictive access to knowledge of scholarly content imposed by commercial publishing houses.
- Institutional repositories allow visibility and impact of research findings of individual authors to the larger world research community; this is claimed by Allamki (2013:13), who stated that “the more an article is cited, the better it is for the researcher’s career”. At this point, academic libraries play a dominant role in promoting the integrity of academic activities through open access repositories.

Role of Librarians in an IR Environment

Librarians as custodians and disseminators of knowledge have a role to play in the adoption and maintenance of institutional repositories. Abrizah, (2010) stated that “Librarians are in an ideal position to act as change agents in the promotion of their own university’s IR as well as other IRs as potentially valuable sources of information for their clients”. In view of this, the author identified the roles of librarians in an IR environment as follows:

- Understanding the IR software used;
- Publicity and advocacy of IR;

- Establishing an institutional mandate;
- Educating faculty regarding self-archiving issues;
- Submission review for content and metadata; and
- Training of authors.

PROBLEMS AFFECTING THE IMPLEMENTATION OF INSTITUTIONAL REPOSITORIES IN NIGERIAN UNIVERSITIES

There are many challenges that affect the adoption and implementation of institutional repositories in Nigerian universities. These problems may include, among others, lack of awareness, copyright issues, lack of Internet connectivity/ICT facilities, lack of stable power supply, and lack of technical know-how (ICT skills). These problems, if solved, are deemed to be the building blocks that would strengthen the adoption and sustainability of institutional repositories in Nigerian academic libraries. The problems are discussed below:

- *Lack of Awareness:* Awareness is considered to be the most essential integral part for effective use of institutional repositories among the academic community, as the more people are aware of the current trend, the more their responses will be intensified positively. The use of institutional repositories is hinged on massive campaign and sensitisation of the academic community on the existence of these repositories. Dulle (2008:6) stated that “Awareness is a pre-requisite to subsequent usage of open access publications unless an individual uses it unknowingly”. The awareness of open access to scholars is heavily reliant on their knowledge of open access repositories. Jain (2012) observes that lack of awareness and misconception of the existence and benefits of open access publishing is another setback in developing countries. Furthermore, awareness of depositing content in a repository is considered to be of paramount importance that paves the way to the actual understanding of the concept of open access to researchers. In view of this, Mutwiri (2014:65) stated that, “for the academic staff to fully utilise OA outlets as well as provide their works on Open Access, they must be aware of the existence of the outlets, its benefits and shortcomings”.
- *Copyright Issues:* Copyright issue is one of the pronounced challenges that preclude the scholars and researchers to deposit their intellectual content in institutional repositories. Francisca and Abioye (2017) identified some copyright-related issues affecting institutional repositories in university libraries in Nigeria. These include plagiarism, piracy, counterfeiting, photocopying; and lack of non-workable policy guiding copyright matters and its implementations, coupled with Publishers Contract

Policy that mandates authors to give away their copyright to publishers to get their works published.

- *Poor Internet/Lack of ICT Facilities:* Internet connectivity facilitates effective online information service delivery as institutional repositories are Web-based resources, which could not be accessed without a dedicated Internet service. It is observed that some institutions could neither pay for their bandwidth subscription nor could they procure standard ICT facilities that could help them effectively transfer information. This assertion is also corroborated by Jain (2012), who states that developing countries are confronted with the problem of the high cost of ICTs, Internet connectivity, and poor telecommunication infrastructure.
- *Unstable Power Supply:* Constant power failure and higher cost of ICT infrastructure are among the most problematic issues bedeviling the sustenance and maintenance of open access repositories. ICT facilities also heavily depend on the availability of an uninterrupted power supply for them to function efficiently and effectively. Uninterrupted power supply plays a major role in actualising the adoption, usage, and elimination of any problem towards the use of open access repositories. This confirms the view of Musa (2015), who observes that inadequate and epileptic electricity supply to power ICT facilities are common problems in academic institutions.
- *Lack of Technical Know-How (ICT Skills):* Another important area that promotes the use of open access journals is the acquisition of all the necessary skills to operate the ICT facilities and to navigate the Internet. ICT skills refer to the ability of OAR users to navigate the Internet by employing their own skills in accessing and utilising open access resources. For individuals to access, use, or publish scholarly content on the Internet and open access outlets, it is important that they should have all the necessary skills required to operate the facilities and the knowledge of surfing the Internet as well. Many scholars identify lack of ICT skill as the devastating obstacle that inhibits the users of OAR to make proper utilisation of this momentous opportunity. Contributing to this view, Mutwiri (2014:129) stated that, "ICT skills and training on [Open Access] outlets are key determinants of their ability to carry out various activities using the computer". In addition to this, Quadri (2012), cited in Mutwiri (2014:129), emphasises that "...the information professionals and users who possessed high ICT skills are more likely to adopt electronic information resources compared to those with inadequate ICT skills".

CONCLUSION

Open access repositories (institutional) play a dominant role in complementing the effort of their parent institutions, thereby promoting and supporting teaching, learning, and research via the intellectual input of their institutional-based repositories. The emergence of open access repositories is a golden opportunity to the Android society, as the intellectual property of the institution could be accessed without any barrier. Open access repositories operate on a variety of open-source software that facilitate the smooth function of the repositories. Academic libraries and librarians play an unprecedented role in the promotion of open access repositories, thereby employing the entire requisites skills. Replace the word actualisation with actualization wherever it appears.

Recommendations

- There should be a synergy between the university management and the university library, to promote effective adoption of institutional repositories in Nigerian universities.
- Librarians should be trained on the adoption and maintenance of IR softwares.
- Lecturers and students should be mandated to submit an electronic copy of their research papers, project, theses, and dissertation for archiving in the repository, to strengthen the IR mandate and policy.
- Developed countries should assist developing countries through international collaboration (training of stakeholder in IR), to achieve greatness in the promotion of institutional repositories.
- The academic community should be encouraged to deposit their intellectual output in the institutional repositories for them to earn recognition among their peers.
- National Universities Commission, as a mother of all universities in Nigeria, is saddled with the responsibility of regulating all academic programmes; they should mandate all universities to establish institutional-based repositories and make it a requisite for accrediting any programme in the Nigerian universities.

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