

Full Length Research

Institutional Repositories: Digital Resource Hubs for Research in Nigerian Polytechnics in the 21st Century.

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Abstract

The study examined Institutional Repositories: digital resource hubs for research in Nigerian Polytechnics in the 21st century. Polytechnic libraries like other academic libraries are often considered the most important resource centre of institution of higher learning. Institutional repositories collect and preserve the scholarly output such as thesis, dissertations, seminar papers, conference proceedings, working papers, technical reports, and other documents of an academic institution in a digital format. The study pointed out that some universities in Nigeria have since established institutional repository and that the same cannot be said of majorities of Nigerian polytechnics. The libraries and librarians have a crucial role to play in the establishment of institutional repository. This study highlighted that polytechnics will benefits massively from the establishment of institutional repository because IR will increase the visibility and web rating of the polytechnics globally. However, challenges such as polytechnics management lack of willingness, lack of funds, copyright issues, computer anxiety, lack of awareness and advocacy among others are hampering the establishment of institutional repository in polytechnics in Nigeria. The study concluded that the polytechnics management should create or provide enabling environment such as funding, advocacy, willingness, provision of ICT infrastructure among others for the establishment of institutional repository. Polytechnics should emulate their universities counterparts by investing massively on the establishment of institutional repository in order to increase their visibility and remain relevant as research institutions in this digital age.

Keywords: institutional, repositories, digital, resources, scholarship, polytechnics, Nigeria

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INTRODUCTION

Information resources, which are the results of study, are essential to education. The building blocks of an enlightened society are scholarly publications. The polytechnic research communication process is changing as a result of information and communication technology (ICT). Information and communication technologies (ICT) are now revolutionizing not just how information is packed, processed, stored, and distributed, but also how people access it. As a result, libraries notably academic do no longer restrict themselves to print routine services such as collection development, cataloguing and classification, circulation, reference services, current awareness, selective dissemination of information and other bibliographic services but have incorporated ICT related services such as provision of e-books,

e-journal, e-periodicals and institutional repository (Oni *et al*, 2019). Lombardi (2000) cited in Oni *et al*. (2019) notes that library users now prefer more computer content, more and more computer indices, digital finding aids, digital repositories of articles and online access to newspapers. Adeyemo and Jamogha, (2021) understands institutional repository (IR) as a new and innovative channel of scholarly communication that provides wider access and visibility to the research output of the parent body and preserves the institution's heritage, reduces publication delay, strengthens researches, serves as a boon for the visibility and accessibility of grey materials and also, a faster and effective communication channel that increases the citation to publications. Ogbomo and Muokebe (2015) noted that IR is a type of digital library established by an institution, populated by the staff, researchers, students and other members of the institution and to be consulted by both members of the university and the outside world. The documents on IR are digital in nature, these digital documents consist of all electronic publications such as journals, theses, books and conference papers (Okumu, 2015).

Institutional Repositories (IR) are often mentioned in connection with the open access movement, which allows unrestricted access to digital content devoid of limitations; ordinarily, they stock the scholarly resources of an institution and are being considered very vital to scholarly communication, university ranking and institutional visibility (Elaturoti, 2018). Polytechnic libraries like other academic libraries are often considered the most important resource center of institution of higher learning. Institutional repositories collect and preserve the scholarly output such as thesis, dissertations, seminar papers, conference proceedings, working papers, technical reports, and other documents of an academic institution in a digital format. According to Ibrahim (2019), there is a global adoption of institutional repositories as an information technology infrastructure to facilitate teaching, learning and research among staff and students in an efficient manner. This global acceptance is as a result of the several benefits which the institutions, users and researchers stand to gain by adopting them (Elaturoti & Jatto 2021). Sankar and Kavitha (2018) stated that institutional repositories are the electronic archive of scientific and scholarly output of an institution, stored in digital format, where search and recovery are allowed for its subsequent use. Consequently, the concept of institutional repository is understood as an information system that collects, preserves, disseminates and provides access to the intellectual output of the academic community; a digital store of the intellectual product created by the faculty, research staff, and also students of an institution, that is made accessible to end-users both within and outside the institution with little or no barriers to access. It also houses experimental and observational data captured by members of the institution that support their scholarly endeavours. Institutional repositories are essential to tertiary institutions in managing and capturing their intellectual assets; they provide: interconnectivity to repositories of other institutions; and machine processable data to support tertiary institutions in their quest for excellence (Elaturoti & Jatto 2021). Ifijeh (2020) defined an institutional repository as an archive for collecting, preserving, and disseminating digital copies of the intellectual output of an institution.

Benefits of Institutional Repository (IR) to Polytechnics

Academic institutions such as polytechnics are regarded globally as knowledge creators, facilitators and dissemination. In recent times, institutional repositories have become major channels through which institutions carry out these functions. Institutions with open access e-documents enjoy higher usage and ranking of research materials, thereby improving the profile and ranking of both the institution and faculty members (Adeyemo & Jamogha, 2021). Institutional repositories have become important in scholarly communication, institutional visibility, university ranking and feasible foundation of institutional knowledge management (Kakai, 2018). Saini (2018) notes that apart from enhancing the visibility of faculties and researcher's intellectual works, IR supports scholarly communication among the academic community. The documents on IR are digital in nature, these digital documents consist of all electronic publications such as journals, theses, books and conference papers (Okumu, 2015). The move from the print publications to the use of online and digital resources on the internet have provided polytechnic and research institutions in Nigeria with an opportunity to make their scholarly work accessible to the outside world. IR plays a role in improving the global visibility of scholarly research works polytechnics.

Institutional repositories offer various benefits to the polytechnics scholars and researchers. Saini (2018) opined that IR provides opportunity for institutions such as polytechnics to share digitized intellectual wealth with the worldwide community of scholars and provide long-term preservation solution. Asadi (2019) observed that institutional repositories provide scholars with broader knowledge related to the research that is carried out by the individual or groups in the specific area of interest. IR present information users access to wide range of information materials or intellectual contents all in one platform and location for their use. The availability of IR improves institutional name, value, visibility and image by showcasing institutional intellectual works produced in the institution (Lee & Stvilia, 2017).

There are factors such as insecurity, natural disasters, mutilation or theft that could hamper the durability and reliability of institutional publications when they are not in digital form. However, when these publications are archived in digital

form as the case with IR, there will be no cause for alarm (Adeyemo & Jamogha, 2021). Institutional repository brings about increased productivity and effectiveness in the polytechnics (Adeze, 2020). Faculty staff would be encouraged to work better as their publications uploaded in the repository would bring about wider audience and accessibility which can lead to sponsorships, scholarships and grants. Employees' productivity enhances growth and development in any institution or organization (Yaya, 2016). The benefits of deploying IRs in preserving, disseminating, sharing and using research outputs notwithstanding, Nigerian polytechnics have experienced slow adoption and use of IRs compared to universities.

Mckay (2003) cited in Oni et al, (2019) enumerates the benefits of institutional repository to as follows: Institution repository improves access to library resources. By institution repository library collections, information will be accessible to all instead of a group of researchers. Institution repository projects allow users to search for collections rapidly and comprehensively from anywhere at any time. Institution repository makes the invisible to be visible. Several users can access the same materials the same time without hindrance. It also removes the problems of distances, as users do not have to travel to libraries that possess the hard copies of library materials before they can access and use such materials. Institution repository holds the advantage of providing library collection electronically; thereby improving access to library resources, the opportunity to search for collections rapidly and eliminating the issues of distances, alienating space constraints and cost of print collection (preservation and conservation of tradition library materials). It creates visibility not only of the library's content, but the scholarly work (theses, dissertation, project work, seminar papers conferences proceedings, working papers and technical reports) within the university and raises the profile of an institution by showcasing digital collections which can be a useful public relation exercise. Institution repository makes it possible for libraries to provide information sources electronically with it inherent values.

Challenges Facing the Implementation of Institution Repository in Polytechnics in Nigeria

Inadequate funding

Lack of adequate funding had been a hindrance to library development in developing countries. Despite the shrinking budgetary allocation to polytechnic libraries, the libraries do not even have access the money neither are they aware of the availability of such funds. In Nigeria, students pay the library fees alongside with school fees but the institution management in most cases do not used the money for library development. If not Tertiary education Trust fund (TETFUND) even though librarians are not fully involved in the award of contract, most polytechnic libraries in Nigeria would have been in shamble (Oni *et al*, 2019). Okoroma and Abioye (2017) also discovered that development of Institutional Repository in developing countries like Nigeria requires much of finance than in the developed countries, because academic and research institutions in developed countries already have in place a well-established state-of-the-art ICT infrastructures to build on. But in developing countries like Nigeria, this infrastructure or foundation is not in place and will require high budget to put it in place. Lack of finance and inadequate funding has always been a major problem reported to be impede the development and implementation and adoption of emergent technologies.

Lack of digitization/ICT infrastructures

Lack of automation in most polytechnic in Nigeria has hampered the establishment of Institutional repository. Automation of library is a sine-qua-non to the establishment of Institutional repository. Digital Library Projects as some of the challenges of digital library development in African. Most polytechnic libraries do not have the basic information technology infrastructures or facilities that would facilitate the establishment of institutional repository. Some Nigerian polytechnic libraries do not have website, facebook account, e-mail address, enough computers, Wi-Fi (internet connectivity), server etc. Internet facility is a general factor in accessing information and knowledge in this 21st century. Management of polytechnics in Nigeria should provide these facilities as top priority to enable polytechnics adopt and use IR seamlessly. Some Nigerian polytechnics management are not interested or committed to library development. It is no longer secret that some lecturers and non- academic staff in Nigerian polytechnics do not use the library; they do not have knowledge of the resources in the library in their own field. Some management staff cannot articulate the objectives of the library in the institution and as a result, they would always vote against any developmental plan of the library on the ground that is a waste of the limited fund (Oni *et al*, 2019). Poor electricity supply is a major impediment to the operation and growth of information and communication technology in Nigerian polytechnics.

Inadequate Advocacy

One of the best ways to promote the development and use of institutional repository in Nigerian polytechnics in this digital age is through advocacy. Institutional repositories are comparatively new to much of the academic world particularly polytechnics in developing countries. It is difficult to promote the benefits institutional repositories offer whilst

allaying stakeholders concerns and a relentless promotional and marketing aspect is crucial to successful institutional repository implementation (Jain, 2010 cited in March *et al* 2019). The use of advocacy has been found to be an efficient method of effecting changes in organisation and the wider society. Building of institutional repository is a new approach to research dissemination and many stakeholders in Nigerian polytechnics which know little or nothing about them. The library as the center for dissemination of information should be at the centre of this advocacy (March *et al* (2019).

Inadequate knowledge and skills

Some librarians in academic are not ICT compliance. They cannot operate computer, use internet, social media etc. as a result, they do not support any I T driving policy and programme. Ekuoye, Oni and Momoh (2015) posited that among the major challenges facing digital library projects in Nigerian polytechnics has been the readiness of academic libraries in terms of skills and knowledge to implement digital library services. Rosenberg (2006) cited in Ekuoye *et al* (2015) avers that skills in e-resources management, e-service development, full-text digitization and teaching skills are lacking in polytechnics. Polytechnic libraries are even worse. Information and communication technology skills in Nigerian tertiary institution face a lot of challenges. Iheanacho-Kelech and Uche, (2020) posited that inadequate advocacy and ICT connectivity challenges followed with copyright issues and lack of knowledge or awareness of the repositories coming behind. However, insufficient technological skill was not found to be a major challenge.

Copyright Issues

Copyright refers to the exclusive right granted an author and other creative artists to authorise the use of their works in any way. Copyright, often referred to as specific rights or neighbouring right are used by some countries to protect the works of performers, phonogram producers and broadcasters. Copyright and intellectual property issues have been a concern for faculties in the use of IRs, despite the fact that most publishers allow authors to make their articles accessible via institutional repository. However, authors are concerned that they may be violating the copyright agreements they signed with their publishers by depositing their papers into an institutional repository (Okoroma & Abioye, 2017). Manjunatha and Thandavamoorthy (2011) cited in March *et al* (2019) in their study where respondents were asked the reasons for not depositing on Institutional repository found that 53.45% of the respondents said other users might copy their works without their permission.

Computer anxiety

Computer anxiety includes worries about embarrassment, looking foolish or even fear of damaging computer equipment. The feelings of impending doom due to contact with computer may result to excessive caution with computers, defensive remarks about computer in order to avoid usage or even avoidance of computers (March *et al* 2019). Technophobia has led to the delay in the application of ICT in performing library services in Nigeria. The new information revolution in librarianship has provided a unique platform for speedy provision and dissemination of information. This highly celebrated technology in librarianship has also created some distresses. This technological change could be resisted due to fear. This fear, which is known as techno-phobia or computer phobia could have an adverse effect on the productivity of both male and female library staff (Ekuoye *et al*, 2015). Chidi and Oyeronke (2011) cited in Ekuoye *et al* (2015) opined that the departure from the manual methods of carrying out library services has without a doubt improved the quality of service offered by the library to its clientele and it has also on the other hand brought about a reasonable degree of techno-stress experienced by professional librarians while carrying out library services.

Perception of Institutional Repository

Perceived usefulness performance expectancy refers to the degree to which an individual believes that using the system will help him or her to attain gains in job performance (Venkatesh, Morris, Davis & Davis 2003 cited in March *et al* 2019). People can reject or adopt technology depending on the degree with which they perceive their job will be simplified by using it. People can also use technology with a view to accomplishing different goals, and if these goals cannot be achieved, they simply abandon its use (March *et al* 2019). The main problem faced by the Institutional Repository adoption and implementation in polytechnics is the perception of management toward Institutional Repository development and the willingness to support the development. The negative perception of polytechnic management and lecturers that Institutional Repository is a waste of fund and the willingness to submit their intellectual work to the Institutional Repository may affect its adoption. Perceptions of polytechnics management and staff have lots of effect on institutional repository development and use.

Awareness of Institutional Repository

Electronic publishing, institutional repositories, open access and other new innovative technological opportunities have all led to changes in scholarly publishing. One effect has increased accessibility of research output. These changes are, however, emerging without the participants fully understanding what the changes may actually mean for scholarly communication and how the nature of scholarly work may be affected (Manjunatha & Thandavamoorthy, 2011 cited in March *et al* 2019). Academic institutes build the Institutional Repository where all the scholarly contents and intellectual output of the host institute are captured, stored, indexed, preserved, and redistributed. The flow of content is the preliminary requirement for development and sustenance and the faculty members are the main source of the flow of content. But low rate of participation of faculty members in Institutional Repositories phenomenon is a major issue its success. Lack of awareness and confusion about copyright issues are the known barriers in faculty participation in it (Dutta & Paul, 2014). Awareness is a critical factor in the utilisation of any information product. In this light, Yang and Li (2015) expressed that for the adoption of Institutional Repository to be successful and serve its full potential, it is imperative that its constituents be aware of its existence. Awareness about IR by polytechnic management and lecturers and their willingness to participate and contribute to its establishment are factors that could lead to adoption and utilization IR in Nigerian polytechnic in the digital age.

Challenges Facing the Implementation of Institution Repository in Polytechnics in Nigeria are similar to what they encountered trying to setup e-library and complete automation of their libraries. According to Oni *et al* (2019), many Nigerian polytechnics if not all have not yet fully keyed into open access institutional repository despite the numerous benefits. Various factors explain this slow adoption and application of IRs in Nigerian polytechnics. Notably, most of Nigerian polytechnics scholars have yet to be committed to depositing their scholarly works in IRs (Malekani & Kavishe, 2018). As a result, there is poor visibility and accessibility of research outputs and products produced by the polytechnics. Poor visibility of research outputs and products is accompanied by the decline of polytechnics web ranking position. Malekani and Kavishe (2018) identified some of the hindrances to the adoption of institutional repositories, which include non-commitment by faculty members (mainly research fellows and academics) towards self-archiving of their publications; inadequate publications for deposition in the repository, which originates from lack of equipment (like scanners) to digitize hard copies of the publications for uploading in the repository

CONCLUSION

This study is on institutional repositories as crucial digital resource hubs for scholarship in Nigeria polytechnics in the digital age. Polytechnics like every other institutions of higher learning are research oriented. The polytechnics and their Libraries have been at the centre of providing access point to print institutional resources. Academic staff in polytechnics is already used to publishing for professional recognition, career advancement as well as contributing to knowledge advancement in their respective field of endeavour. Establishment and adoption of institutional repository in polytechnics will give a global visibility to scholarly publications of the polytechnics. Institutional repository is a way of reducing the cost of scholarly publications and increasing visibility and access to research from lecturers and students of the polytechnics by hosting them in the polytechnic libraries institutional repository website.

The relevance of institutional repository to polytechnics is numerous. IR will serve as a publisher of research materials such as, theses, peer reviewed papers, working papers, lecture notes, memorial lectures, keynote addresses and other types of grey literature emanating from the polytechnics thereby increasing the visibility and web rating of the polytechnics globally. Institutional repository is one of the criteria for the webometric ranking or rating of institution apart from visibility and recognition. However, challenges such as polytechnics lack of willingness, lack of funds, copyright issues, computer anxiety, lack of awareness and advocacy among others are hampering the establishment of institutional repository in polytechnics in Nigeria. The polytechnics management and library administrator should develop appropriate copyright mechanism to avoid unnecessary infringement. Polytechnics management should create or provide enabling environment such as funding, advocacy, willingness, provision of ICT infrastructure among others for the establishment of institutional repository. Polytechnics should emulate their universities counterparts by investing massively on the establishment of institutional repository in order to increase their visibility and remain relevant as research institutions in this digital age.

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