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Open Access Repositories in Academic and Research Institutions for the Realization of Nigeria's Vision 20: 2020

Kingsley Nwadiuto Igwe
Department of Library and Information Sciences
School of Communication and Information Technology, Nigeria.
knigwe@yahoo.com

Abstract

The generation, acquisition, utilization and application of knowledge/ information is an indispensable factor for growth and development. Nigeria's vision 20: 2020 is a blueprint designed for the development of the country with emphasis on making it one of the top developed economies by the year 2020. However, the observation and analysis of the vision's objectives and thematic areas shows that knowledge/information (its generation, acquisition, utilization and possible application) were not accorded the due attention as a tool for the vision's success. Added to the above statement is the fact that the research findings and intellectual output of higher education institutions (HEIs) and research-based institutes in the country mostly in the form of grey literature (i.e. unpublished technical/research reports, manuals, theses and dissertations, monographs, etc) gather dust in their institutions of origin, with little or no visibility, thereby affecting accessibility, utilization and application. This paper therefore examines the role of institutional libraries in developing open access repositories; infrastructure and facilities for developing Open Access Repositories; and advocates for a national policy for the development and management of open access repositories in institutions, where the research findings and intellectual outputs of these institutions will be domiciled, which will be easily accessible online for utilization and possible application in various sectors of the economy for the realization of vision 20: 2020.

Keywords: Open Access Repositories, academic and research institutions, vision 20:2020, Nigeria

Introduction

There is no contradiction to the fact that information and knowledge have assumed position as one of the factors of production. The generation, acquisition and utilization of information and knowledge are indispensable factors for growth and development. Knowledge has become the most important factor that determines the standard of living and

pace of development of nations. This is because the contemporary world is knowledge-based and all meaningful participation in its activities presupposes this status. Ghosh and Das (2007) note that, the contrast between developed and developing countries is in terms of generating and having access to knowledge. According to Christian (2008), the World Bank has explored the complex relationship between knowledge and development, and made a case for the need to address information problems as a way to eradicate poverty and improve people's lives in developing countries. She also observed that the most technologically developed countries of the world today are knowledge-based. Developed countries invest so much time and money in research to acquire the knowledge necessary for development. Information and knowledge are the major drivers of economic change, restructuring businesses, improving skills and generating employment. In other words, unhindered access to, and free flow of scientific, technological, academic, and economic information at the right time would assist and facilitate the activities of other production factors. This will lead to increased productivity, which will invariably contribute to development.

The Vision 20:2020 is a blueprint designed for the development of Nigeria with emphasis on making the country one of the top largest economies by the year 2020. The vision seems to be a direct outcome of the recommendations of the African Peer Review Mechanism (APRM) report no. 8 on Nigeria, May 2008. It is designed in pursuit of the Millennium Development Goals (MDGs) as set out in the New Partnership for African Development (NEPAD). The APRM identified the short comings of the Yar'adua's Seven-point Agenda and suggested that Nigeria desperately needs a long term vision for development. The architects of vision 20: 2020 have made attempts to project it as a new initiative, but there seems to be no promise, given the shape it is taking. In fact, the outline and structure of Vision 20: 2020 and the basic ideas that formed its conception and formulation are based entirely on those of Abacha's Vision 2010 and Obasanjo's National Economic Empowerment Development Strategy (NEEDS) (Diso, 2010).

The observation made and the analysis conducted by Diso (2010) shows that neither in the objectives of the vision nor in its thematic areas has information been considered an indispensable tool for the vision's success. This concurs with the analysis of four African countries' development strategies from 1980's to 2005, which attributed the serial failures of the strategies to lack of emphasis on access to information and knowledge as the main source of the capacity for development (Azubuike, 2006). However, according to Accenture, a technical consultant to the vision program, Nigeria is ranked as poor on the global competitiveness 'innovation' index due to the nation's poor and uncoordinated approach to research and development. The consultant gave key imperative factors for the realization of the vision as better utilization of the research outputs of higher education institutions (HEIs) and research institutes, linkages between the industry and research institutions, and greater funding for Research and Development (R&D) activities (Diso, 2010). Blakemore and

Herrendorf in Oke (2010) reveal that nearly 95% of all R & D activities conducted by a handful of leading economies led to the creation of new knowledge that becomes available to others at virtually no cost. This is in line with the open access initiative. The challenge at this point is on how to make the research and intellectual outputs of Nigerian HEIs and research institutes available for easy accessibility, utilization and possible application. Such availability will invariably facilitate the linkages between industries and research, and possibly attract greater funding for R&D activities. The research outputs from HEIs and research institutes are mainly in the form of grey literature, i.e. unpublished print-based information resources and knowledge assets such as research reports, journal articles, theses, dissertations, conference and seminar/workshop papers as well as indigenous research findings published in local outlets. In addition, these scholarly works have limited circulation even within the institutions of their origin. They also lack proper documentation in national and international bibliographic databases. They are neither indexed nor abstracted in international indexing and abstracting agencies; as such, they are not visible to the scholarly and research communities. This situation has retarded the level of development which we would have experienced in various sectors of the economy before now, and at the same time have affected the rating of Nigerian institutions. For instance, Gbaje (2010) reports that the poor visibility has affected the webometric analysis and ranking of Nigerian universities, as the ranking is usually based on the volume and quality of e-publications emanating from each university. There is therefore the need for the application and use of information and communication technologies (ICT) for the development and management of the intellectual outputs and research findings, which will be in open access domains for easy accessibility. This is because, the easier the access to research results, the more readily they can be read and understood, used, applied and built upon (Harnad, 2006).

Open Access Repositories in Institutions

An institutional repository is the digital archive of the intellectual products created by the faculty, research staff, and students of an institution and made accessible to end users both within and outside the institution, with few or no barriers (Crow, 2004). It is an online locus for collecting, preserving and disseminating in digital form, the intellectual outputs of the staff and students of academic and research institutions. The research output includes electronic copies of peer-reviewed journal articles, theses and dissertations, technical/research reports, conference proceedings, seminar and workshop papers, teaching materials, monographs, inaugural lectures, matriculation and convocation lectures, lectures at commissioned events, papers and publications of other intellectual activities in the institution, etc.

The concept of Open Access (OA) implies the provision of unrestricted access via the Internet to research and scholarly information resources. OA is characterized by free online

access and availability of information materials on the Internet without charge to users (readers) and libraries; granting users the license to make legal and non commercial use of the materials, subject to proper acknowledgement of the rights of the original owner (author) through citation and referencing. An Open Access Repository in an Institution (OARI) therefore means an online access to the research output and intellectual products created by the academic and research staff and students of an institution via the Internet without barriers.

The open access movement emerged in the digital era as a response to increasing legal and economic barriers by commercial scholarly publishers which made access to research output difficult especially to people in developing countries. Thus the movement seeks to promote free and open access to research outputs devoid of permission barriers and unnecessary legal restraints, with the use of ICT components especially the Internet. The past decade has witnessed the birth of OA initiatives, statements and conferences in support of the movement. The statements and conferences include the Budapest Open Access Initiative (BOAI) by the Open Society Institute in 2001, the Bethesda Statement on Open Access Publishing in 2003, the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities, the United Nations Summit on the Information Society Declaration of the Principles and Plan of Action, the Organisation for Economic Cooperation and Development (OECD) Declaration on Access to Research Data From Public Funding, the International Federation of Library Association and Institutions' (IFLA) Statement on Open Access to Scholarly Literature and Research Documentation in 2004. In 2007 , The Canadian Institutes of Health Research (CIHR) announced an open access mandate for CIHR-funded research. In a similar vein, in January 2008 the National Institute of Health (NIH) released the text of its new open access mandate for NIH-funded research. The mandate requires all NIH funded researchers to deposit their article into PubMedCentral – an open access archive. Same year, the Harvard University Faculty Council approved a plan to make open access archiving for all research works produced by the faculty members. Similar policy has also been adopted by some other tertiary institutions (Christian, 2008; Gbaje, 2010).

In Africa, the development of OARIs is weak – only 11 out of 53 independent African countries have established 42 OARIs, which account for approximately 3% of the world's total. South Africa is having 23 out of the 42 (Ocholla, 2011). In the case of Nigeria, Gbaje (2010) states that, in an effort to popularize open access initiative in the country, a 2-day workshop in collaboration with Electronic Information for Libraries Network (elf.net) on "Open Access Repositories: New Model for Scholarly Communication" was organised in 2008 at Ahmadu Bello University, Zaria. Eighty-nine participants comprising: policy makers from universities and research institutes, scholars, researchers, editors-in-chief of peer review scientific and scholarly journals, university librarians and systems librarians as well as university and ICT research experts from 45 different institutions participated. Discussions on the importance of open access initiatives to the academia and society at large, strategies for

formulating appropriate policy for implementing and sustaining open institutional repositories, copyright issues, open content licenses and strategies for the promotion and marketing of institutional repositories were deliberated upon. In November, 2009 a follow-up workshop was organized by the organizer of the first open access workshop with the theme "Open Access: Maximizing Research Quality and Impact". Two years after the first workshop, participants of the first workshop attributed the slow pace of the adoption of Open Access in their institutions to lack of ICT infrastructures such as dedicated server, bandwidth, technical staff and top management apathy, as some of the reasons for the very slow pace of the adoption of open access initiatives in Nigeria. That was why in the ranking web of world institutional repositories as at January 2012, out of 1173 repositories, Nigeria is represented with only the University of Jos Institutional Repository with the ranking number 669 (http://repositories.webometrics.info/toprep_inst.asp).

Libraries and the Development of Open Access Repositories in Institutions

Libraries have always served as access points for information. Services have evolved from the days of closed stacks, through shelf browsing and card catalogues, punch cards, and online public access catalogues (OPACs), to the concept of open access and institutional repositories (Cisse, 2004). A well established library is essential for any academic and research institution. As a focal point for teaching, learning, and research, it is expected to provide standard information resources. Today, academic libraries are struggling to keep their place as the major source of inquiry in the face of emerging digital technology. Digital technology has revolutionized not only the way information is packaged, processed, stored, and disseminated, but also how users seek, access and utilize information. Libraries no longer restrict themselves to print services such as collection development, cataloguing and classification, circulation and reference services, current awareness, selective dissemination, and other bibliographic services, but have extended their efforts to the application of ICT for the management and dissemination of knowledge resources. As observed by Campbell (2006), numerous creative and useful services have evolved within the libraries of HEIs and research institutes in the digital age: providing quality learning spaces, creating metadata, offering virtual reference services, teaching information literacy skills, choosing resources and managing resource licenses, collecting and digitizing archival materials, maintaining digital repositories and providing access to them.

Libraries and library practitioners (librarians, library officers and library assistants) are strong advocates for the establishment of open access institutional repositories. John (2005) states that by establishing an institutional repository, the library is responding to a variety of concerns: long term access, open access, and improved re-use of intellectual property resources. These are activities that already correlate with the mission and goals of libraries. Additionally, librarians would make excellent managers of institutional repositories. The

organizational architecture of the repository, the creation and/or management of metadata, and the understanding and communicating of various licensing policies coincide with what is already known to be traditional library work. Also, the core features of institutional repositories: materials collection, preservation, distribution, and metadata application are tasks that only librarians can claim expertise in.

The management of open access institutional repositories will also provide libraries with an opportunity to remain at the forefront of their institutions scholarly communication ventures. Libraries taking part in the process will undergo a metamorphosis, i.e. from paper-based thinking to the digital paradigm, from importers of global knowledge to exporters of local knowledge, from suppliers of visible collection to invisible partners in academic processes. Institutional repository management would place libraries in a highly visible role that serves to facilitate the central hub of the institutions scholarly communication. It is therefore important that libraries take advantage of this opportunity while institutional repositories are increasing in popularity and thus secure their place in this new way of collecting and organizing an institution's output in digital medium.

When undertaking the responsibility of establishing institutional repositories, libraries have the opportunity to investigate open source software (OSS) options and possibly adopt one that is globally used. Fox (2006) encourages library participation in the general open source movement based on the motivation to be innovative, solve unique problems, add to a growing body of knowledge, and use resources to their best advantage. Libraries and the open movement mesh together logically. Providing access to resources and information at little or no charge to users is historically an essential role that libraries have played within their communities.

Libraries remain at the centre for the development of open access repositories in their various institutions across the globe. A case in point is that of University of Jos Institutional Repository (http://dspace.unijos.edu.ng) that was launched in June 2009. The success of the project was due to cordial human relations between the library staff and that of the campus ICT centre (Akintunde, 2010).

Infrastructure and Facilities for Open Access Repositories in Institutions

An institutional repository provides a better opportunity to access its content far and wide without limitation to the time of access location of users and the number of users accessing it on real time regime. The versatility of the system made it possible to eliminate or drastically reduce the problems associated with speed of access, information delivery and response to queries; tracking of usage and levels of patronage; physical appearance of the users at site, adoption/ simulation of conventional circulation controls; inadequacy of copies of records and documents needed for consultation by variety of users especially on real time schedule; and possibility of easy threats to the security and survival of the collection.

The infrastructure and facilities needed to ensure proper preservation, operations, management, sustenance and use of institutional repositories include the following:

- ICT components: hardware, software, input and output devices, and other peripherals.
- Robust computer server and external hard disk.
- Network environments such as local area network, wide area network and Intranet;
- Internet connectivity;
- Institutional repository website and Uniform Resource Locator (URL);
- Network printer and scanner;
- ICT skilled, experienced and competent staff;
- Repository software (is it proprietary software or open access software?). Open source is always preferable because of its characteristics and benefits which include global outreach, reliable, flexible and free availability; and re-distribution on the Internet, which allows users to modify them to suit their needs, etc. Such open source software that are globally used for the development of institutional repositories and their websites are: DSpace (http://www. dspace.org), E-prints (http://www.eprints.org), Flexible Extensible Digital bject and Repository Architecture (FEDORA) (www.fedoraproject.org), Greenstone (http://www. greenstone.org), etc.
- Policy on IR access, use, items deposition and preservation, system maintenance and sustenance, content development and management, systems operations, staffing, services provision, and standards.
- Document on IR software platform, and support agreement/arrangement such as by local/internal support, centralized/consortium support, vendor support (for a fee), etc.
- Certified bibliographic description/details or Certified Dublin Core Metadata for identification and location of digitized materials such as: Title of article/material, Creator(s) /Author(s), Subject matter, Description of content of material, Publisher, Contributor to the content of material, Date of material creation, modification and availability, Type, nature or structure and size of material's appearance, format of material appearance, Identifier such as the ISBN or ISSN, Rights of use, access, intellectual property and copyright, Statement on peer review, full text and abstract, and Status of materials such being in press, published or unpublished.
- Management Committee of the IR (Mohammed, 2009).

Open Access Repositories in Institutions for the Realization of Vision 20: 2020

The vision 20: 2020 has two key objectives – to stimulate Nigeria's economic growth and launch the country into a path of sustained and rapid socio-economic development, and to place the country in the bracket of top 20 largest economies of the world by the year 2020. The relationship between knowledge and development cannot be over-emphasised. Free flow and unrestricted access to knowledge is very essential for a country like Nigeria that is

striving to improve the general welfare of its citizens. The nation has abundant natural resources which need to be transformed to the things the country needs. This transformation involves access to knowledge and information, thereby concurring with one of the Ranganathan's laws of library and information science which stipulates that information resources are for use, and that library and information practitioners should remove all barriers to access to information.

The availability and accessibility of the research outputs and intellectual products of Nigerian universities, polytechnics, research institutes, colleges of technology, colleges of agriculture, colleges of education, etc in open access repositories will contribute significantly to the achievement of vision 20: 2020. Oke (2010) posits that the polytechnic system, and indeed other tertiary institutions and research-based organisations, must strive to be part of the global knowledge network where they can make inputs and also benefit from the contributions of others. This is possible via the development of open access institutional repositories (with the use of open source software). Having open access repository is to create global visibility for an institution's scholarly research output, thereby projecting the image of the institution and its host country. One of the principles underlying the open access initiative is that wide dissemination of, and access to research and scholarly outputs is desirable so that subsequent works can be informed by the earlier works of others. If this principle is take away, what is left is an endless circle of duplication whereby scholars and researchers are constantly 're-inventing the wheel' because they are unaware of the fact that an in-depth research has already been conducted on a subject matter which they are about to research or are currently researching. Avoiding this unnecessary duplication saves time and enables researchers to expend their effort in other areas of human endeavor that has not been explored or researched, thereby moving at a faster pace in scientific investigation and the application of research results to key sectors of the economy for sustainable development. Open access increases the efficiency of scientific discovery since the likelihood of wasting resources and time on duplicative investigation decreases when researchers have comprehensive access to the results of earlier work. More so, the fundamental principle of research is that wide dissemination of research results is vital for validating these results and advancing the field of knowledge.

According to World Health Organization (2006), findings from well-designed and ethically sound research should contribute to the formulation of policies, and the development and strengthening of programmes for improvement and well-being of communities. In order to ensure maximum utilization of research findings, researchers and scholars need to be adept in a range of communication skills, information dissemination strategies, the ability to identify and engage with relevant stakeholders, etc on how to make their findings easily available in open access. The government, policy-makers and service providers need to have a sound appreciation of how research can contribute to the development and modification of

policies and practices, including implementation of interventions. A key obstacle to the utilization of research is the lack of dialogue between the various stakeholders. The gap between knowledge generation and its use is now well recognized by many researchers, donors, policy-makers and service providers. The challenge before all stakeholders is how to develop strong communication linkages between the various parties in order to facilitate the uptake of research findings. To do this effectively, stakeholders need to identify the barriers to accessibility and utilization of research findings.

Research findings can contribute greatly to improve the lives of people. Findings can be used to make decisions on new policies about provision of services (e.g. instituting new procedures, practices and interventions) related to strategic sectors of the economy. They can equally contribute to the strengthening of existing programmes in terms of discontinuing practices found to be ineffective or harmful. Furthermore, research findings can also be used for advocacy, promoting the adoption of necessary interventions, and for models of best practices to prevent or mitigate consequences of risks. However, if there are barriers to these research findings and scholarly works, their utilization for development can be impaired. Consider these research institutes:

(a) The National Root Crops Research Institute (NRCRI) Umudike, Umuahia, Abia State, Nigeria

According to the institute's website (www.nrcri.org), the institute has made giant strides with commendable results, which have earned the institute one of the best research institutes in Nigeria having contributed immensely to economic development. The research findings of the institute have made Nigeria to become the world's leading producer of cassava and yam. Among the notable achievements of the institute are the development and release of 11 hybrids of yam, 16 additional improved varieties of cassava including 10 that are particularly resistant to the virulent cassava mosaic disease (CMD), and pro-vitamin A varieties. It has also developed some technological packages for optimum production and utilization of mandate crops of the Institute. Other significant research results (in-house publications) of the institute include:

i) Cassava stem and root production: a practical manual.
ii) Yam research in Nigeria: an annotated bibliography, 1990 - 2002.
iii) Cassava production, processing and marketing, 1980-2005: an annotated bibliography.

For instance, in the case of Cassava stem and root production: a practical manual, the information available from the institute reads: "This field resource handbook emerged out of the need to equip the farmers, agricultural extension agents, students, etc with the necessary skills for stem production through multiplication of cassava planting materials as well as efficient production of cassava roots. The cassava manual is also a veritable resource

materials designed to render technical support service to the current presidential initiative on cassava production and export. The 54 paged-handbook has two sections. The first section dealing with the practical techniques of cassava stem production through rapid multiplication of cassava stems as a means of providing sufficient planting materials needed for cassava production. The step by step pictorial demonstration of the operations as well as the implements and inputs required clearly simplified the practical technique of rapid multiplication of cassava stem. The second section of the handbook dwelt on the modern techniques for efficient production of cassava roots. The technique involved application of current findings in the various production activities of cassava". Then, on the availability of such information resource, it reads: copies of this hand book can be obtained through the following address: The Director, National Root Crops Research Institute, Umudike, PMB 7006, Umuahia, Abia State, Nigeria. Email: nrcriumudike@nrcri.org. (www.nrcri.org).

(b) The Federal Institute of Industrial Research (FIIRO) Oshodi, Lagos, Nigeria

The institute's activities and records of achievements are documented in the following publications: research reports, technical memoranda, industrial profiles, annual progress reports. All these are available in the institute's library. Some of the institute's publications as contained in its website include:

a. Cassava production, processing and utilization in Nigeria.
b. Industrial profile cassava starch and cassava flour productions.
c. Industrial profile on instant pounded yam flour.
d. Industrial profile on cassava-based noodles.
e. Industrial profile on baking of bread and confectionaries.
f. Industrial profile on natural and clarified fruit juice production.
g. Industrial profile on toilet cleanser.
h. Industrial profile on solar dryer.
i. Electroplating and spark plug refurbishing.
j. Selected FIIRO technologies for industrial development.
k. Development of technological capabilities in Nigeria, etc.

However, on the availability of the materials, it reads: these publications are available for sale in the institute's library. This also contradicts the open access movement and therefore affects the pace of development in the country.

In the case of NRCRI, obtaining the information resources from the institute's director will attract financial and other implications. That of FIIRO made a categorical statement that their publications are available for sale in the institute's library. The situation at both NRCRI and FIIRO is what is applicable to virtually all Nigerian tertiary institutions and research institutes. This is totally against the mission of open access to knowledge for development. Why not make the information resources available and accessible through their websites or

better develop digital repositories for easy accessibility, utilization and application for the development of various sectors of our nation. The earlier we accept, adopt and implement the open access initiative to knowledge, as well as put necessary measures in place for it to thrive in our nation, the better for us in our drive for development.

Challenges of Developing Open Access Repositories in Nigerian Institutions

Higher education institutions and research institutes in Nigeria are yet to take advantage of the opportunities and benefits provided by open access institutional repositories for accelerating the development of the country. Some of the issues identified by existing literatures as being responsible for the slow uptake of institutional repositories in the country include lack of knowledge or awareness of open access institutional repository, poor state of ICT infrastructure (server, bandwidth, electricity), inadequate technical and skilled staff, apathy on the part of institutional top management, inadequate advocacy for open access repositories, poor or inadequate funding, copyright and intellectual property rights (Christian, 2008; Gbaje, 2010). Others include absence of relevant policies, inadequate attention to institutional libraries among others.

Conclusion and Recommendations

Open access repositories have changed the traditional method of scholarly communication. It provides academic and research-based organizations with an opportunity to create a central online location that collects and preserves in digital format their intellectual outputs. The opportunity to share and distribute this output is highly significant and would serve to benefit the repository's contributing authors, the institution itself and project the status of the host country.

In the light of the above conclusion, the following are strongly recommended for Nigeria:

- Formulation of a national policy to mandate all HEIs and research institutions in the country in order to set up open access repositories for global visibility of their research results and possible utilization for development.
- Establishment of a national centre or agency for the coordination of research to implement the above proposed policy. South Africa has a similar body known as National Research Foundation (http//www.nrf.ac.za), which hosts a database of major researches in South Africa (Aina, 2001).
- Formation of consortium for the procurement of ICT components, and Internet bandwidth among HEIs and research institutes for faster access to the Internet where the repositories will be domiciled. Formation of consortium among libraries is a wonderful idea for the accomplishment of objectives that may not be satisfactorily achieved independently. A good example is the partnership of six Nigerian university libraries – the Obafemi Awolowo

University Ile-Ife, the Ahmadu Bello University Zaria, the University of Port Harcourt, the Bayero University Kano, the University of Ibadan and the University of Jos – for the procurement of the best acclaimed integrated library automation software, the Virtual Library Management Software from Visionary Technology in Library Solution (VTLS) USA, at a lower cost than they would have paid individually (Igwe, 2010). This drastically reduced the cost of the software and provides sufficient expertise in its maintenance. In another development, international agencies and non-governmental organisations like the partnership for Higher Education in Africa (including the Ford, Carnegie, MacArthur, and Rockefeller Foundations) in 2005 assisted a consortium of 13 African universities, 6 from Nigeria (the afore-mentioned universities) to lower Internet connectivity cost. The partnership has donated over $5 million to make satellite bandwidth available to the consortium at $2,330 per Mbps/month instead of $7,300 (Gbaje & Okojie, 2011). That is the power of partnership and formation of consortiums.

- The copyright and intellectual property rights should be given a human face in the country. In India for instance, Uzuegbu (2011) reveals that India's copyright law is lenient. India is not a signatory to World Intellectual Property Organisation (WIPO) and also refused endorsing the anti-circumvention rules introduced in Digital Management Copyright Act (DMCA) which is a hindrance to open access movement. Indian institutions, societies, and organisations are signatories to various open access declarations. That may be the reason why Christian (2008) reported that the growth of OAIR is very remarkable in some developing countries like Brazil, India and South Africa.
- Nigeria needs non-governmental organisations (NGO's), corporate bodies, professional associations and individuals to serve as advocates for the open access movement and open access to research findings and scholarly resources.
- Higher education institutions, research institutes, scholars, researchers, lecturers, and other stakeholders in Nigeria should accept and participate actively in the open access to knowledge initiatives.

When an institution collects and shares its output, the members of the institution benefit while also making the world academically richer by allowing scholarly communication to flow more freely, which will be utilized and applied for accelerating developmental programmes. The repository software products that are available as open source are proving to be effective in fulfilling these informational harvesting functions. Libraries are ideal candidates for initiating and managing open access repositories, and thus fulfill their duty to their various institutions as stewards of information. Nigerian government, its higher education institutions and research institutes should make hay while the sun shines in developing open repositories with content of their research output that can be easily accessed, used and applied. This will no doubt contribute significantly to the realization of Nigeria's developmental goal, the vision 20: 2020.

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