Access Tools and Services to Open Access:
DOAR, ROAR, SHERPA-ROMEO, SPARC and DOAJ

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Abstract

The paper presents the concept and background of Open Access (OA) as well as its benefits. Librarians as information gatekeepers are enjoined to register in the advocacy of OA in a bid to promote scholarly communication and also aid in the building up of institutional repositories. Self Archiving (Green Access) and Open Access Journals (Gold Access) as proposed by the Budapest Open Access Initiative (BOAI) are discussed. Describes selected access tools and services to Open Access to explain the topic. Concludes by describing the influence of Open Access movement among information service professionals in Nigeria, and the raising awareness among scholars about self-archiving and Open Access journals.

Keywords: Open Access, Green Access, Golden Access, self-archiving, BOAI, OAI-PMH, Z39.50, Nigeria.

Introduction

In universities today, we talk of Open Access to documents of research not just for people to peruse and see the local contents of the university but also for image boosting of the university. This entails that such documents can be viewed by virtually anybody that finds his or her way to the institution's repository. Repositories exist for the main purpose of unleashing the indigenous contents of a particular institution. These contents are the ones produced within the confines of the university especially by the researchers in the particular university. There is a strategic link between institutional repositories and Open Access resources because institutional repositories are one of the strategies through which self-archiving is achieved and these repositories house theses, dissertations, term papers and other scholarly works which are

digital in nature (e-prints). Why are Open Access works only digital? This question was thrown by Suber (2013) which he answered by stating that 'after the creation of the first digital copy of a work, the cost of creating additional copies and distributing them on the Internet is marginal. This contrasts with paper-based publishing, which not only entails meaningful paper-copy production costs, but also physical storage and distribution costs. As noted by Bailey (2006), Open Access works are scholarly works - romance novels, popular magazines, self-help books, and the like are excluded. Most universities are now aiming to provide Open Access to their local contents via institutional repositories, which typically utilize free open source software, such as DSpace, EPrints, or Fedora, but may be externally hosted by vendors for designed fees. Institutional repository staff may offer a range of services, such as document deposit, metadata creation,

repository promotion, training, and user support. This means, there is need for establishment of repositories in institutions, but the question is: How many universities in Nigeria have keyed into this development? The OpenDOAR has listed some universities in Nigeria that provide Open Access to their contents. They are: Ahmadu Bello University, Covenant University, Federal University of Technology Akure (Institutional Repository), University of Nigeria Nsukka (Open Repository), and University of Jos (Institutional Repository).

Repositories adhere to an internationally agreed set of technical standards that means that they expose the metadata (the bibliographic details such as author names, institutional affiliation, and date, titles of the article, abstract and so forth) of each item in their contents on the Web in the same basic way. In other words, they are 'interoperable'. This common protocol to which they all adhere is called the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). According to Giarlo (2005), the OAI-PMH works in much the same way that Z39.50 does, enabling a common set of functions to be accessed via a standard protocol. The great benefit of OAI-PMH is the ability to harvest records from numerous providers (e.g., Open Access journals, institutional repositories, etc.), and aggregate them under a single search. The contents of all repositories are then indexed by Web search engines such as Google and Google Scholar, creating online Open Access databases of freely-available global research. As the level of self-archiving (the process by which authors deposit their work in repositories) grows, the Open Access corpus will represent an increasingly large proportion of the scholarly literature.

Many libraries in Nigeria suffer from what is called 'serials crisis', and this singular reason has made them gun for Open Access materials to augment their collections. This is practical in University of Nigeria, Nsukka where librarians called 'research consultants' are compelled to visit Open Access sites and download journals and other e-resources in preparation for NUC accreditation exercises. Serials crisis referred here, is a situation whereby universities are not able to afford subscriptions to certain journals and the like. Therefore, the available resources made open on the Internet are downloaded, printed and bound together by the binders in the library. This is not just intended for the university to scale through accreditation exercises, but for users to consult such downloaded resources for their research and this boils down to the reason behind Open Access. As universities and libraries seek alternative publishing models to reduce costs and protect authors' rights as much as possible, Open Access is considered a feasible system that enables archiving and distribution of scholarly works with minimal or no cost to universities, libraries, or readers (Wong, 2009).

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, and their printed and web -based versions. Another vital issue is that removing access barriers will accelerate research, enrich education and share learning. There is therefore a critical need to make research results available to as many academics and elite class as possible free of charge. Because of this need, concerned institutions and organizations feel challenged. One of such initiatives, which has been undertaken to demonstrate that scientific knowledge need not be published in forms that make access expensive, is the Budapest (Okoye and Ejikeme, 2011).

What is Open Access?

Tenopir (2004) states that Open Access: 'includes many publication and distribution schemes. E-journals that are published, distributed electronically, and subsidized by universities, government agencies, and

volunteer organizations are the most common. In addition, collections of separate articles or research reports could fit the definition, including e-print servers such as arXiv.org, institutional repositories, and author web pages.' (Tenopir, 2004)

'Framing the Issue,' published by the Association of Research Libraries (ARL, 2004) outlines some issues relating to Open Access. It addresses questions such as:

- Why is access to information important?

- What obstacles limit access?

- What is Open Access?

Access to information is important because society benefits from the open exchange of ideas. Access to copyrighted materials inspires creativity and facilitates research development in academic disciplines. There are troubling economic trends in scholarly publishing; the increasing cost of subscriptions, the emphasis on licensing of access instead of purchasing physical copies, and mergers and acquisitions resulting in price increases and monopolies. Additionally, various legal and legislative issues constitute obstacles that limit access. ARL claims that Open Access is a cost-effective way to disseminate information and facilitate academic research. Open Access is consistent with the legal framework of copyright and can include peer-review to ensure the quality of scholarship (ARL, 2004).

Open Access is an on-going discourse among scholars, researchers, and libraries. For the Open Access movement, the Budapest (February 2002), Bethesda (June 2003), and Berlin (October 2003) definitions of 'Open Access' are the most central. In December 2001, the Open Society Institute convened a meeting of prominent scholarly communication change agents in Budapest that strongly influenced the nascent Open Access movement. The result of this meeting was the Budapest Open Access Initiative (BOAI) (Bailey, 2006).

The Budapest (Budapest Open Access Initiative, 2002) (BOAI) definition of Open Access explains that scholarship is made widely available, but that authors' rights must be recognized:

By 'Open Access' to literature reporting research results, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited (Bailey, 2007).

The Bethesda and Berlin statements say that for a work to be Open Access, users must be able to 'copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship.' These are referred to as the BBB definition by Suber (2013). Wong (2009) went further to state that the three definitions listed have similarities and differences in wording and focus. Open Access has as its goal the democratization of information access, but is also fully compatible with scholarly practices such as peer review, citation, and intellectual property (Lind and Williams, 2013).

The Bethesda Statement builds upon the BOAI, but how does it differ from it? The BOAI does not indicate how copyright owners will operationalize the Open Access concept. Aside from being able to access it freely, how will users know that a specific work is an 'Open Access' work? By contrast, the Bethesda Statement specifies that copyright owners will grant users certain

rights under licenses, and these rights shall be 'free, irrevocable, worldwide, perpetual.' A license is a contract, with terms and conditions that describe permitted uses. As such, it supercedes users' copyright rights if it specifies terms and conditions that negate them. One such right under the Bethesda Statement, which the BOAI doesn't specify, is the right to make derivative works. For example, a work could be translated into another language without requiring permission (Bailey, 2006).

To achieve Open Access to scholarly journal literature, BOAI (2002) recommend two complementary strategies.

Self Archiving (Green OA)

First, scholars need the tools and assistance to deposit their refereed journal articles in open electronic archives, a practice commonly called, self-archiving. When these archives conform to standards created by the Open Archives Initiative, then search engines and other tools can treat the separate archives as one. Users then need not know which archives exist or where they are located in order to find and make use of their contents. When authors make their articles freely available in digital form on the Internet, they are said to be 'self-archiving' them. These articles can be either 'preprints' or 'post prints.' Preprints are draft versions of articles that have not undergone peer review or editorial review and modification. Most preprints are intended for submission to journals, but some are not. Post prints are the final published versions of articles. They can either be the publisher's version of the article or an updated preprint that the author creates to reflect any changes made during the peer review and editorial processes. (BOAI, FAQ). There are different forms of Open Access archives, including institutional repositories and subject or disciplinary repositories (Morrison, 2006). Self-archiving has some strategies in itself, as identified by Bailey who stated that 'the most common ways that e-prints are made available on the

Internet are: (1) authors' personal Websites, (2) disciplinary archives, (3) institutional-unit archives, or (4) institutional repositories. But authors at times find it difficult to do self-archiving due to some apprehensions about publishers' policies. This is why SHERPA-RoMEO is existing - to offer list of publisher permissions policies with respect to self-archiving.

Open Access Journals (Gold OA)

These are journals that are freely available to scholars online for downloads and use. According to Suber (2013) as cited in Wikipedia (2013b), Open Access journals are scholarly journals that are available online to the reader 'without financial, legal, or technical barriers other than those inseparable from gaining access to the Internet itself.' Some are subsidized, and some require payment on behalf of the author. Second, scholars need the means to launch a new generation of journals committed to Open Access, and to help existing journals that elect to make the transition to Open Access. Because journal articles should be disseminated as widely as possible, these new journals will no longer invoke copyright to restrict access to and use of the material they publish. Instead they will use copyright and other tools to ensure permanent Open Access to all the articles they publish. Because price is a barrier to access, these new journals will not charge subscription or access fees, and will turn to other methods for covering their expenses. There are many alternative sources of funds for this purpose, including the foundations and governments that fund research, the universities and laboratories that employ researchers, endowments set up by discipline or institution, friends of the cause of Open Access, profits from the sale of add-ons to the basic texts, funds freed up by the demise or cancellation of journals charging traditional subscription or access fees, or even contributions from the researchers themselves. There is no need to favor one of these solutions over the others

for all disciplines or nations, and no need to stop looking for other, creative alternatives.

Suber characterizes the core concept of Open Access this way: Open Access removes price barriers (e.g., subscription fees) and permission barriers (e.g., copyright and licensing restrictions) to royalty-free literature (i.e., scholarly works created for free by authors), making them available with minimal use restrictions (e.g., author attribution).

Open Access has the following characteristics as given by Jain (2012):

- It is free availability of scholarly publication.
- It is free of copyright and licensing restrictions
- Materials are available online or on the Internet.
- Material is full text.
- Material can be accessed by anybody from anywhere without any discrimination.
- Material can be freely used by anyone.
- Open Access contents can be in any format from texts and data to software, audio, video, and multi-media, scholarly articles and their preprints.

Benefits of Open Access

Open Access is beneficial to a many as listed by Jain (2012) which include: teaching staff and students, authors, readers, society, journals and publishers, funding agencies, governments, citizens, libraries, universities and nations. Open Access also accelerates research, enriches education, and shares learning across rich and poor nations (Bhat, 2010).

Lind and Williams (2013), asking the question: 'Why Open Access?' made the following citation from the Executive Office of the President of the United States:

'...Wider availability of peer-reviewed publications and scientific data in digital formats will create innovative economic markets for services related to curation, preservation, analysis, and visualization. Policies that mobilize these publications and data for re-use through preservation and broader public access also maximize the impact and accountability of the Federal research investment. These policies will accelerate scientific breakthroughs and innovation, promote entrepreneurship, and enhance economic growth and job creation.'

To the author, Open Access is very beneficial not only by making their works visible, but by increasing the authors' prestige. This in agreement with CASLIN (2009)'s statement that 'Open Access generates more citations and thus contributes to status and prestige of the author which in turn benefits their career and the granting of their research proposals'.

The Open Access Movement: Roles of Professionals

Open Access is especially important for research and academic libraries since all academic institutions are research-intensive and a library's main mandate is to support the teaching, learning and research activities of their parent institutions. All three activities are research-based (Jain, 2012). While the growth of Open Access presents a number of challenging hurdles to academic libraries, there are a number of notable benefits that it offers as well. Moreover, it seems clear that this is no longer a subject to be read about and debated; Open Access has arrived and is being rapidly adopted (Giarlo, 2005). Gedye (2004) claimed that in an Open Access era, 'a new role for librarians needs to be discussed, defined, and promoted' in order to better apply their research and instruction expertise to facilitate and instruct their users in accessing and evaluating the quality of Open Access articles. Some of the roles played by libraries and librarians in regard to the Open Access movement are as follows:

Libraries as Publishers

This creates room for libraries to manage their own electronic journals and

institutional repositories. One of the key goals of the institutional repository, simply stated, is to capture the intellectual output of an institution and make it available via a single interface, so that one no longer needs to scour disparate faculty and graduate student websites in order to find their research. A single point of access, search, and organization of scholarly materials within the institution would be of value to the communities served by academic libraries, and there are certainly other values of institutional repositories. One such value is digital preservation, as 'libraries are in a better position than individual academics to guarantee that the collection is systematically available even after decades' (Björk, 2004).

Librarians as Educators

Librarians all over the world have become advocates of Open Access. It has been observed that when authors self-archive their works, it lessens the burden on librarians. Hence, the need to educate researchers in universities on Open Access and its place in research - how authors can put up their works not only for the world to see, but to boost their careers as this will encourage scholarly communication. When another author cites an author's work, it goes a long way in career promotion. At times, collaboration between such authors is birthed. That is why it is important for authors to leave their contact (especially e-mails) on their articles so as to enable communication from other authors, which can give rise to writing or sharing ideas together, which is same as collaboration. Many librarians have been vocal and active advocates of Open Access. These librarians believe that Open Access promises to remove both the price barriers and the permission barriers that undermine library efforts to provide access to the journal literature (Suber, 2013).

Librarians as OA Guideline Establishers

There will also be some technological challenges; there are access issues when ensuring that the computer facilities and software are compatible with Open Access materials. Open Access also requires policy and procedure changes, in order to accommodate the additional collections of institutional repositories and Open Access journals. Subject specialists, bibliographers, and cataloging librarians need to establish guidelines to perform quality control and regular catalog maintenance on these titles (Wong, 2009).

Librarians as OA Promoters

Morrison (2004) is of the view that professional library associations should rise to the challenge of promoting OA.

Open Access Repositories

Ideally, a repository is a place or container where anything could be kept for safekeeping. But whenever 'repository' is mentioned, 'books' come to mind, especially where librarians are concerned. A library could be likened to a repository where books are stored for safekeeping and easy reference. More recently, a repository is usually associated with digital contents due to the advent of the Internet. Ideally, a repository ought to be a storehouse of archival contents whereas a digital repository is where digital content and assets are stored and can be searched and retrieved for later use (Hayes, 2005). With the advent of the Open Access Initiative (OAI), the advocates never really differentiated between these two terms; rather, it is assumed that repositories are digital in nature. So, when a repository is mentioned, 'digital repository' comes to mind. Recently, higher institutions are fighting so hard to push their contents up and make them accessible by researchers and scholars all over the world. This is in a bid to break the barrier of digital divide whereby ubiquitous access to digital documents thrives. A study by Stanger and McGregor (2006) revealed that an institutional repository could have a positive impact on the visibility and accessibility to an institution's intellectual output.

Open Access Tools

Access tools are pointers to information obtained in databases and repositories. 'Lib 111 Glossary on Information Technology, Internet and Library Terms' defines access tools as bibliography, catalog, database, or other information source, which leads us to information on our topic. An access tool helps a researcher, student or librarian gain access to relevant documents located on the web. Some of the Open Access tools as discussed in this paper are: DOAJ, DOAR, ROAR, SHERPA-ROMEO, and SPARC.

The Directory of Open Access Journals (DOAJ)

DOAJ: The Directory of Open Access Journals (http://www.doaj.org/) is a website that lists Open Access journals and is maintained by Infrastructure Services for Open Access (IS4OA). Until January 2013, the DOAJ was maintained by Lund University. The project defines Open Access journals as scientific and scholarly journals that meet high quality standards by exercising peer review or editorial quality control and 'use a funding model that does not charge readers or their institutions for access.' The Budapest Open Access Initiative's definition of Open Access is used to define required rights given to users, for the journal to be included in the DOAJ, as the rights to 'read, download, copy, distribute, print, search, or link to the full texts of these articles'. Open Access journals are defined by DOAJ as 'journals that use a funding model that does not charge readers or their institutions for access' (Wikipedia, 2013a).

Critical Evaluation

DOAJ is the most recognized and most authoritative list of scholarly, peer-reviewed, fully Open Access journals. More than 10 percent of the world's peer-reviewed journals are now included in DOAJ, making DOAJ among the world's largest collections of peer-reviewed scholarly journals, period. There are more peer-reviewed journals in DOAJ than

Science Direct; more non-embargoed, peer-reviewed journals in DOAJ than in EBSCO's Academic Search Premiere or Gale's OneFile. Full Open Access means no journals are embargoed, and articles are available for use, a significant strength of DOAJ. The DOAJ vetting process involves querying journal editors to ensure that peer-review or equivalent quality controls are in place and that journals meet the criterion of true Open Access as per the Budapest Open Access Initiative definition. To be included in DOAJ, a journal must have an ISSN. Journals included in DOAJ go through a periodic review process to ensure that the journal continues to meet the criteria for inclusion (Morrison, 2007).

The aim of the DOAJ is to increase the visibility and ease of use of Open Access scientific and scholarly journals, thereby promoting their increased usage and impact. The DOAJ aims to be comprehensive and cover all Open Access scientific and scholarly journals that use a quality control system to guarantee the content. In short, the DOAJ aims to be the one stop shop for users of Open Access journals.

Selection Criteria

Coverage:

- Subject: All scientific and scholarly subjects are covered
- Types of resource: Scientific and scholarly periodicals that publish research or review papers in full text.
- Acceptable sources: Academic, government, commercial, non-profit private sources are all acceptable.
- Level: The target group for included journals should primarily be researchers.
- Content: A substantive part of the journal should consist of research papers. All content should be available in full text.
- All languages

Access:

- All content freely available.

- Registration: Free user registration online is acceptable.

- Open Access without delay (e.g. no embargo period).

DOAJ Services

DOAJ offers the 'Search' and 'Browse' interfaces, which offer users opportunity to gain access to all the journals available in the directory. See Figure 1.

Figure 1: DOAJ Search Interface

This 'search' interface is a service that enables researchers search the directory by journals or articles by typing a desired title or subject. This is similar to a library user who visits the library for research, needing a material without knowing the author or name of the book or journal he/she is looking for. Therefore, the user consults the access tool (catalog) using either the subject or title catalog, especially when the author is unknown. There is also the 'advanced search' option whereby journals can be searched for using either the title, ISSN, author, keyword, abstract, publisher (See Figure 2).

The Directory of Open Access Repositories (OpenDOAR)

OpenDOAR is an authoritative directory of academic Open Access repositories. Each OpenDOAR repository has been visited by project staff to check the information that is recorded here. This in-depth approach does not rely on automated analysis and gives a

Figure 2: Advanced Search Interface

quality-controlled list of repositories. As well as providing a simple repository list, OpenDOAR lets you search for repositories or search repository contents. OpenDOAR is one of the SHERPA Services including RoMEO and JULIET, run by the Centre for Research Communications (CRC). OpenDOAR has also been identified as a key resource for the Open Access community and identified as the leader in repository directories in a study by Johns Hopkins University. OpenDOAR was one of the services, which contributed to SHERPA being awarded the 2007 SPARC Europe Award for Outstanding Achievements in Scholarly Communications.

Oliver and Swain (2006) conducted a research on 'Directories of Institutional Repositories: Research Results & Recommendations' and came to a finding that ' the University of Nottingham's OpenDOAR, stands out as the leader among the directories identified, particularly for the purposes envisioned at the Section's 2005 business meeting. It is international in scope. Subject coverage is noted and it is possible to browse and retrieve repositories with health and bioscience content'. A directory such as OpenDOAR makes it easier to identify and mine the individual repositories.

DOAR Services

The website of DOAR is: www.opendoar. org and therein are listed as a submenu, the services offered by the directory such as: Search for repositories, Search repository contents, List of repositories, Repository Statistics (See Figure 1).

(a) Search for Repositories: This platform enables you to search for the existing repositories using either of the search query fields such as: 'any subject area', 'any content type', 'any repository type', 'any country', 'any language', 'any software', etc. (See Figure 3).

Figure 3: Home Page of DOAR

Figure 4: 'Search' Interface of DOAR

Figure 5: Search Repository Contents

(b). Search Repository Contents: This service, based on the Google Custom Search engine, lets you search the contents of the repositories listed in OpenDOAR for freely available academic research information. This quality assured approach minimises (but does not eliminate!) spurious or junk results, and leads more directly to useful and relevant information. Full texts are available for most results (http://www.opendoar.org/search.php). See Figure 5.

(c) List of Repositories: This showcases the list of repositories by countries and organizations. See Figure 6.

(d) Repository Statistics: This offers the data of the OpenDOAR charts worldwide. See figures 7 and 8.
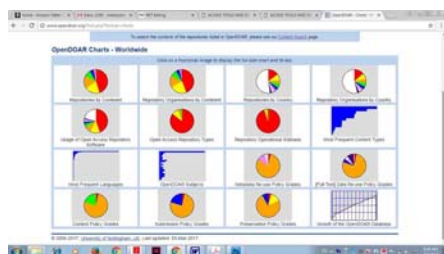

Figure 6: List of repositories

Figure 7: OpenDOAR Charts - Worldwide

Figure 8: Proportion of Repositories by Continent - Worldwide

DOAR's Strengths.

- It is user-friendly
- It offers Open Access to over 2200 listings
- It gives a quality-controlled list of repositories.

Scholarly Publishing and Academic Resources Coalition (SPARC)

SPARC(r), the Scholarly Publishing and Academic Resources Coalition, (URL: http://www.sparc.arl.org) is an international alliance of academic and research libraries working to create a more open system of scholarly communication. SPARC was developed by the Association of Research Libraries in 1998 and believes that faster and wider sharing of the outputs of the scholarly research process increases the impact of research, fuels the advancement of knowledge, and increases the return on research investments. SPARC focuses on taking action in collaboration with stakeholders - including authors, publishers, and libraries - to build on the unprecedented opportunities created by the networked digital environment to advance the conduct of scholarship. SPARC Europe was established with LIBER in 2001 (Wikipedia, 2013c).

As a catalyst for action, SPARC's pragmatic agenda focuses on supporting the emergence of new scholarly communication models that expand the dissemination of scholarly research and reduce financial pressures on libraries and create a more open system of scholarly communications.

SPARC's Strategy

Reducing barriers to the access, sharing, and use of scholarship and their highest priority is in advancing the understanding and implementation of policies and practices that ensure Open Access to scholarly research outputs. SPARC's primary focus is on journal literature, but their evolving strategy reflects an increasing focus on Open Access to research outputs of all kinds - including digital data and open educational resources (OER).

What Does SPARC Do?

SPARC's activities will advance acceptance and long-term sustainability of an open system for scholarly communication. SPARC will promote changes to both the infrastructure and culture needed to make 'open' the default mode in scholarly communication. SPARC's activities are centered on the following broad issue areas:

Open Access to Scholarly and Scientific Research Articles: SPARC supports the immediate, barrier-free online availability of scholarly and scientific research articles, coupled with the rights to reuse these articles fully in the digital environment, and supports practices and policies that enable this.

Open Data: SPARC recognizes that the conduct of scientific and scholarly research is increasingly digital, and that its advancement is predicated on being able to access, comment on, build upon and reuse data. SPARC supports practices and policies that promote broad, Open Accessibility and utility of scholarly and scientific research data.

Open Educational Resources (OER): SPARC believes that Open Education makes the link between teaching, learning and the collaborative culture of the Internet. SPARC supports the open creation and sharing of materials used in teaching, as well as new approaches to learning where people create and shape knowledge openly together, and supports practices and policies to advance this vision.

SPARC's role in stimulating change focuses on the following:

- Educating stakeholders about challenges in the scholarly communication system and the opportunities for change;

- Advocating for policy changes that leverage technology to advance scholarly communication and that explicitly recognize that dissemination is an essential, inseparable component of the research process;

- Incubating demonstrations of business and publishing models that leverage openness for the benefit of scholarship and academe.

SPARC has two partner organizations, SPARC Europe and SPARC Japan and today, membership numbers nearly 800 institutions in North America, Europe, Japan, China, and Australia. SPARC also is actively affiliated with major library, academic and advocacy organizations through our active coalition work. In summary, SPARC raises awareness and advocates for Open Access. SPARC is committed to producing resources to promote the establishment, use, and improvement of open digital repositories. Digital repositories have been a central theme in many of the events that SPARC hosts for its members and the community. In 2008 and again in 2010, SPARC convened the SPARC Digital Repositories Conference in Baltimore, Maryland to advance the potential of open online repositories to expand the dissemination of scholarship and transform scholarly communication. The broader issue of Open Access itself took center stage at the 2012 SPARC Open Access Meeting in Kansas City, Kansas; however, repositories remained at the heart of discussions throughout the conference. See Figure 9 for the SPARC home page.

Figure 9: SPARC Home Page

SPARC Services

Issues: On Open Access, open data, open educational resources: Here, SPARC defines Open Access, the reasons for Open Access, how Open Access works, why one should care about Open Access, how one can learn more about Open Access and also get involved in Open Access. Open data and open educational resources are likewise handled.

Advocacy: Here the 'support the FASTR act', 'national and state policies', 'campus policies' and one can get involved in this advocacy, are unleashed.

Initiatives: To advance its vision of a more open system of scholarly communication, SPARC supports an evolving suite of initiatives designed to drive meaningful change across our main issue areas. SPARC's initiatives are designed around three main goals:

- Educating stakeholders about challenges in the scholarly communication system and the opportunities for change;

- Advocating for policy changes that leverage technology to advance scholarly communication;

- Incubating demonstrations of business and publishing models that leverage openness for the benefit of scholarship and academe.

SPARC currently supports active initiatives in the following areas: advocacy, article-level metrics, author rights, campus-based publishing, campus Open Access funds, digital repositories, right to repositories, and right to research coalition.

News: The SPARC blog, newsletters, etc are embodied here.

Resources: Resources can be searched here. See Figure 10:

Memberships: SPARC's over 200 North American members represent seven Canadian provinces as well as 45 of the United States and the District of Columbia. The membership includes several institutions from outside North America and affiliate memberships of six major library associations. In addition to SPARC's close ties to its sister organizations SPARC Europe and SPARC Japan, this broad and comprehensive representation from libraries
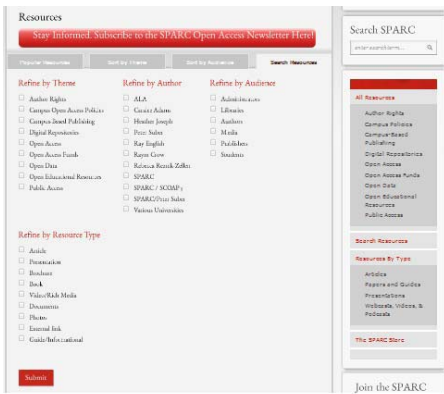
Figure 10: SPARC Resources Page

helps reinforce the coalition's international focus. New members may choose to join with full, consortia, supporting, affiliate, international supporting, or European status. To view current members, visit: http://www.sparc.arl.org/membership/current-members.

Registry of Open Access Repositories (ROAR)

The aim of ROAR is to promote the development of Open Access by providing timely information about the growth and status of repositories throughout the world. Open Access to research maximizes research access and thereby also research impact, making research more productive and effective. ROAR is hosted at the University of Southampton, UK and is made possible by funding from the JISC. ROAR is part of the EPrints.org network. See Figure R for ROAR homepage: (Website: http://roar.eprints.org/)

Figure 11: ROAR Home Page

ROAR Services

Account Creation: ROAR offers opportunity for individuals to create an account for their institution's repository in order to submit records to the registry.

Browse Facility: Repositories can be browsed by either by country, year, repository type, or repository software. See Figure 12.

Figure 12: ROAR 'Browse' Interface
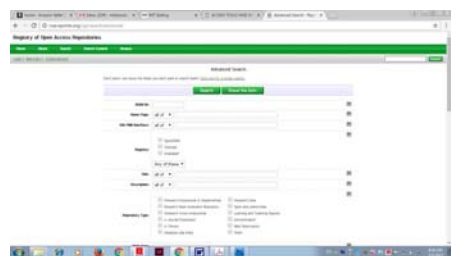
Search Facility: See Figure 13:

Figure 13: ROAR Search Facility

SHERPA-RoMEO

The original SHERPA partnership was formed for the SHERPA project (2002-2006) and drew from research-led universities with an active interest in establishing an example of a then-new concept - an Open Access institutional repository. (Website: http://www.sherpa.ac.uk/)

SHERPA is investigating issues in the future of scholarly communication. It is developing Open Access institutional repositories in universities to facilitate the rapid and efficient worldwide dissemination of research. SHERPA services and the SHERPA

Partnership are both based at the Centre for Research Communications at the University of Nottingham. SHERPA services include:

- RoMEO - Publisher's copyright & archiving policies

- JULIET - Research funder's archiving mandates and guidelines

- OpenDOAR worldwide Directory of Open Access Repositories

- SHERPA Search - Simple full-text search of UK repositories

RoMEO -(Publishers' Copyright and Archiving Policies) Website: (http:// www.sherpa.ac. uk/ romeo/)

RoMEO is part of SHERPA Services based at the University of Nottingham. RoMEO is a searchable database of publisher's policies regarding the self- archiving of journal articles on the web and in Open Access repositories. If an academic author wants to put their research articles on-line, they are faced with an increasingly complex situation. Evidence shows that citations to articles made openly accessible in this way are taken up and cited more often than research that is simply published in journals. Also some funding agencies require Open Access archiving for their research, to increase the use of the information generated. However, some publishers prohibit authors from using their own articles in this way. Others allow it, but only under certain conditions, while others are quite happy for authors to show their work in this way. Authors can be left confused: RoMEO helps to clarify the situation. RoMEO contains publishers' general policies on self-archiving of journal articles and certain conference series. Each entry provides a summary of the publisher's policy, including what version of an article can be deposited, where it can be deposited, and any conditions that are attached to that deposit. RoMEO Services are as follows:

Search Options and Publishers' Policy: This offers a platform where publishers'

copyright policies and self-archiving can be looked up. The title, ISSN, publisher, etc of a particular journal can be used as a key term to search for the archiving policy. When reading a SHERPA RoMEO record or the publisher's policy, pay particular attention to the version of the paper you may self-archive and any embargo periods you are expected to adhere to. On this page, the keys to the archiving policy can be viewed too. See Figures 14 and 15.

Figure 14: SHERPA-RoMEO Search Interface.)

Figure 15: Publishers' Policy. Source: University of Ottawa).

Browse Romeo Journals: All the journals in RoMEO can be browsed here. See Figure 16:

Figure 16: Browse RoMEO journals interface)

List of Publishers: (See Figure 17).

Figure 17: RoMEO List of Publishers Interface)

Suggest to RoMEO: Here, one is encouraged to suggest publishers to be included in RoMEO. See interface at Figure 18:

Figure 18: Publisher Suggestion Interface

Statistics of Publishers

SHERPA-RoMEO provides the statistics of registered publishers per time. For example, as of November 2016, 80% of the publishers registered in the SHERPA RoMEO publisher policy index endorse self-archiving by authors of the preprint and/or post print versions
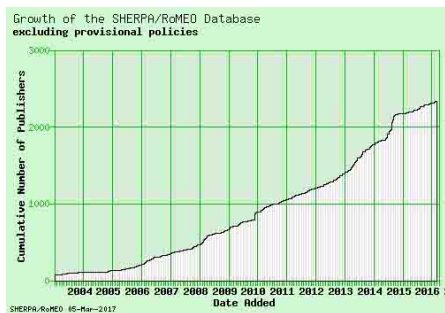

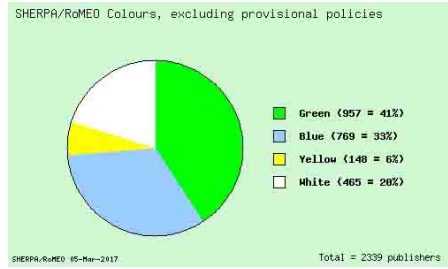Figure 19: Growth of Sherpa /Romeo Database

Figure 20: Publishers Permitting Self Archiving

of their papers. And 70% of publishers on SHERPA-RoMEO list formally allow some form of self-archiving, with a total of 2339 publishers as at November 2016. See Figure 19 and 20:

Conclusion

Open Access and institutional repositories is here to stay. Librarians and academicians need to embrace this trend and get involved in self-archiving and sending the publications to Open Access journals. There is also need for advocating this trend by librarians, following the pace set by the coalition agencies like SPARC. This is a stepping-stone to greater heights in the library field. We talk of information societies and knowledge societies, so we have to delve into it too. Open Access and institutional repositories help in breaking the digital divide whereby a more people gain access to scholarly publications. Scholarly communication is paramount in this era and self-archiving is needed to establish good scholarly communication among authors around the world. Librarians should rise up and advocate for authors to visit all the institutional repositories and dump their works there. They are not there in vain but for utilization. Submission of articles to Open Access journals is also necessary to attain this goal. This is no new call to librarians. It is also recalled that a knowledge-sharing event, which was co-organized by the Department of Library and Information Science at Ahmadu Bello University, eIFL.net and the

Nigerian University Libraries Consortium (NULIB) in 2008, issued a Communiqué after the workshop, which endorsed the Open Access model and made a set of recommendations for government and stakeholders. In addition to formulating policies for implementing and sustaining open institutional repositories, participants updated their knowledge of copyright issues and open content licenses and developed strategies for the promotion and marketing of institutional repositories. In the same occasion Dr. Victoria Okojie, reported by EIFL.NET (2008), referred to the agreed need for a national policy on Open Access and institutional repositories by stating that 'Communicating scholarly information through Open Access repositories provide the added advantages of faster publishing opportunities, greater visibility for authors and institutions and cheaper access'.

Okoye and Ejikeme further noted that 'in support to this call, Nigerian universities endorsed Open Access for all journals, dissertations and conference proceedings in the library and information science (LIS) sector in Nigeria published by them (Okojie, 2008). She promised to encourage members to archive their pre -prints and post prints in Open Access. But the question is: how many institutional repositories would allow authors to self-archive and what are the self-archiving challenges faced by authors? Onyancha (2011) wrote on 'Self-Archiving by LIS Schools in South Africa: Practices, Challenges and Opportunities' and came out with the finding that 'LIS scholars are aware of the importance of self-archiving; and LIS scholars face several challenges in self-archiving which include lack of facilities, know-how and institutional support'. This points the fact that there ought to be trainings on self-archiving in institutions and more to that is submission of articles to Open Access journals.

In as much as self-archiving is much encouraged, permission from publishers must be obtained. The copyright holder, normally the publisher, must give permission to self-archive. Many publishers now include these permissions in their copyright transfer agreements (CTAs), licenses to publish (LTP) and on their website.

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Other Resources

@access (http://access.okfn.org/blog/)

Access to Middle East Islamic Resources (http://amirmideast.blogspot.com/)

Access2research (http://access2research.org/?blog/)

City Open Access (http://cityopenaccess.wordpress.com/)

Directory of Open Access Books (http://doabooks.wordpress.com/)

Dura Space (http://duraspace.org/taxonomy/term/43)

OAI for Beginners - the Open Archives Forum online tutorial (http://www.oaforum.org/tutorial/)

Open Access (OA) Librarian (http://oalibrarian.blogspot.com/)

Open Access Archivangelism (http://openaccess.eprints.org/)

Open Access Bibliography By Charles W. Bailey, Jr. (http://digital-scholarship.org/oab/oab.htm)

Open Access Scholarly Publishers Association (http://oaspa.org/blog/)

Open Access Webliography by Adrian K. Ho and Charles W. Bailey, Jr. (http://digital-scholarship.org/cwb/oaw.htm#jaboutoa)

Open Knowledge Foundation Blog (http://blog.okfn.org/)

Scholarly Open Access (http://scholarlyoa.com/)

Some Open Access Blogs

SPARC Blog (http://www.sparc.arl.org/blog)

Wiley Open Access blog (http://wileyopenaccess.wordpress.com/)