

SUSTAINING OPEN ACCESS SCHOLARLY COMMUNICATION FOR EFFECTIVE RESEARCH AND SCHOLARSHIP: ROLES OF ACADEMIC LIBRARIES AND LIBRARIANS

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Abstract

The paper examined the concept of scholarly communication, the need for open access in research and scholarship and its types as products of industrialization were discussed. The paper further examined the benefits of open access scholarly communication as how it grants immediate accessibility, wide coverage, eradication fee-based barrier among others, the Nigerian experience of open access. For sustainability of scholarly communication and open access to be realistic, authors, funders/employers, publishers, librarians and libraries and end users must work as a team. The paper concluded by highlighting the roles academic libraries and librarians has to play in sustaining scholarly communication and open access in Nigeria.

Keywords: Scholarly Communication, Open Access in Nigeria, Academic librarians, Academic Libraries

Introduction

The use of scholarly communication and open access offers quality academic resources that contribute greatly to teaching, learning and research at different level of education. The achievement of sustainable development goals to all learners to acquire knowledge and skills depends largely on access to current and relevant information. In the 21st Century, humanity is confronted with the emergence of the Fourth Industrial Revolution (4IR) and the demand for open access of scholarly communication (Ndung'u & Signe (2020). With the aid of the internet and computer technology have brought a growing trend among scientific community to allow open access to scholarly research.

Scholarly communications and open access therefore have become central part of the process of discussion in the academic environment. Scholarly communications are carried out using

certain channels of communications by scholars and academicians (Klain-Gabbay & Shoham, 2018). There are several channels, they include; scholarly journals, research monographs, conference proceedings, dissertations and theses, research reports etc. Digital technology now provides easy and instant means of connection as well as social media boom to any type of communication.

The learned societies such as the expert communities and formal institutions representing scientific subject area are primarily responsible for initiating scholarly communication in their respective subject areas (Das, 2015). Members could as well communicate their findings of scientific research to get valuable feedbacks. Since the mid-twentieth century and later, learned societies have started striving for profit, for example, achieving global outreach, global readership and global authorship. The 4IR enabled environment in global outreach of scholarly literature more rapidly than the earlier print-only era. Scholarly communication got enormous momentum when scholarly literature becomes globally and instantly accessible through online mode in the global society. However, inability to provide the required technology facilities to enable easy access for the librarian for effective service delivery due has been identified as one of the challenges confronting sustainability of open access and scholarly communication. The paper therefore, focus on the following: scholarly communication, need for open access in research and scholarship, types of open access, benefits of open access scholarly communication, open access in Nigeria, sustainability of scholarly communication and open access in Nigeria, role of academic libraries and librarians in sustainability of scholarly communication and open access in Nigeria.

Scholarly Communication

Communication is the act of sharing and receiving information through variety of media to individuals, while scholarly communication is type of communication of intellectual property between academicians. This is used to establish connections between individual scholars and international research groups with shared fields of interest and research. Such communication can

be verbal, concrete, virtual, formal/informal or media format. According to Association of College and Research Libraries (2013), such communication yields publications in journals and conference proceedings, reviews, preprints and working papers, encyclopedias, dictionaries, blogs, discussion forums, professional and scholarly hubs etc and it enables the exchange of opinions, positions, and information regarding conferences among others.

Scholarly communication is considered as the connection between scholars which increases the awareness of one scholar to the work and ideas of another. Indeed, scholarly communication has always been considered a fundamental aspect of scholarly and scientific research. The Association of College and Research Libraries (2015) considered scholarly communication as the system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use. The scholarly communication system is the primary driver of the culture that shapes research practice within the academic sphere. In the words of Hill (2016) which stated that, the insights from research are of little, if any, value until they are shared. It has created an authority structure in the form of journal publications as avenue for sharing scientific research findings, De-Silva & Vance, (2017). The study therefore, considered scholarly communication as connections among scholars and disciplines in either or both formal and informal way which usually results into periodicals.

By the waves of industrialization which is the driving force enhanced scholarly communication to be more than just communication between individual scholars and international research group. It promotes a shared system of research and scholarship. Scholarly communication has dominated with commercial publishing and “Science Citation Index”, a bibliographic tool based on citations which has led to the development of a journal metric called the Journal Impact Factor (JIF) (Guédon, 2019). This metric has contributed to re-organizing the competition among scholarly journals, and has led to a mode of research evaluation based on which journal researchers are measured in their publications.

The availability of Internet connection and devices has shifted most of scholarly communication workflow digitally thereby, making it possible for drafting, publishing, and accessing scientific publications to be carried out online for an average researcher. According to Nicholas, Rowlands, Huntington, Clark and Jamali (2009) almost all journal titles are available today in a digital format. Rapid dissemination of findings is becoming a norm as preprint servers such as arXive, socArXiv, SSRN etc allow researchers to publish their manuscripts that have been submitted undergoing peer review for publication (Klain-Gabbay & Shoham, 2018).

Industrialization has also changed scholarly communication to fee-for-access. According to Steele (2014) scholarly content has moved from historical relative open information common to an expensive firewalled multinational publishing environment. Drahos and Braithwaite (2002) have named this as ‘information feudalism’. That is, researchers, academic institutions, or the public in general need subscription to access scholarly communication. The implication is the monetary and legal barriers which restrict free access to scholarly communication. The majority of scholarly journals are only available to people who can pay a subscription or who are members of an institution who pays subscription. Open access uses digital technology to make research findings widely available.

Need for Open Access in Research and Scholarship

Open access is simply making published research finding freely available to anyone with an Internet connection rather than keeping it behind a subscription paywall. Budapest Open Access Initiative (BOAI) (2002) and Public Library of Science (PLoS) (2005) has defined open access as the free availability of literature on the public Internet, permitting any user 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 other lawful purpose without financial, legal, or technical barriers other than those inseparable from gaining access to the Internet itself. That is, open access

scholarship basically means free access of scholarly communication to the users, it is the availability of electronic scholarly articles for free.

The concept of open access is based on the idea that information deserves to be free-without barriers that could prevent access to the knowledge (Aju & Gbuushi, 2021). The goal of open access to scholarly communication is therefore to sustain partially, the situation, whereby researchers must publish in journals governed by most prominent publishers controlling the market and academic libraries which are required to pay constantly increasingly fees to purchase subscriptions to databases and scientific journals that these publishers provide. According to Oluwasemilore (2013), open access emerged in response to increasing legal and economic barriers by commercial scholarly publishers which have made access to research output and information difficult especially to people in developing countries of the world like Nigeria.

Open access which encompasses Open Science, Open Data, and Open Education, is devoted to opening up the research process for quick dissemination of knowledge and rapid discovery by making scholarly communication available online, free and unrestricted. Scholarly communication is made open either by depositing a copy of their published work in a repository or by publishing in a journal that makes the work freely available (Guédon, 2019).

Types of Open Access

Many traditional publishers of scholarly journals now offer new models of scholarly communication to be accommodated in open access, thereby allowing broader distribution of journal articles. Some publishers offer open access publishing of books, according to Das (2015), the following are considered as types of open access:

Hybrid journals: Many traditional scholarly journals now offer an open access option, often involving a fee paid to the publisher, commonly referred to as an Article Processing Charge (APC) or author publication fee. If the author chooses the open access option and pays the required fee, the

individual article will be made available as an open access article. In hybrid journals, articles that are not selected under the open access option are available through standard subscription or sale only. When an author chooses an article to be published as an open access article in a hybrid journal, the publisher has the legal right to make it available broadly to the world under the conditions of the publication agreement. The SHERPA/RoMEO Publisher Copyright Policies & Self-Archiving database provides links to publisher copyright policies that detail publication options for various journals.

Fully open access journals: Fully open access journals offer even greater possibilities for global accessibility of copyrighted works. Fully open access journals generally operate on the basis of non-exclusive licenses with authors who retain their copyrights. Open access journals may charge an article processing charge (APC). When an author publishes in an open access journal, the publisher has the legal right to make the article available broadly to the world under the conditions of the publication agreement. For example, a list of open access journal publishers may be found in the Directory of Open Access Journals (DOAJ) and Rutgers University Libraries which also publishes a number of open access journals through the Rutgers Open Access Journals site.

Self-archiving in open access repositories: Many scholarly journal publishers allow authors to self-archive versions of their scholarly articles in institutional or subject-based open access digital repositories, allowing for a parallel distribution of articles: one by the publisher and another through an open access repository. The publisher final version (usually a pdf) is distributed by the publisher, while the open access version, usually called the author's final version and in manuscript form, is permitted by the publisher to be made available in a digital repository either immediately or after an embargo period.

Open access books: Self-publishing of works has become a viable option for some scholars interested in taking a more independent approach to distributing their works in an open access framework. Commercial and university publishers are also developing open access book

programme and open textbook programme. The Directory of Open Access Books indexes academic, peer reviewed open access books that are made publicly available under various types of licenses. The license terms associated with each book display as a link.

Benefits of Open Access Scholarly Communication

In spite of tension mounting on open access, between two sets of forces; the necessity for the publishing business to keep its revenue, thus leading to ever-increasing subscription budgets for the academic institutions; and the feeling that dissemination of scientific information in the digital age should be straightforward (i.e. without intermediaries) and fundamentally cheap. The open access initiative keeps spreading due to the benefits that are associated with it, therefore among these benefits are thus:

Wide coverage: Readers worldwide are able to access up-to-date literature. This is vital for developing countries like Nigeria where many systems are often financially restricted due to the costs required for developing infrastructure and providing cares. Since the purchase of scholarly articles from a fee-based repository is often out of reach to a significant portion of the world, researchers are not able to access much of the current information to develop true evidence-based research. Therefore, many scholars in these situations routinely rely on the information available on the Internet.

Immediate accessibility: Digital open-access journal publishing also fulfills the need for immediate access to information at a point of service environment. With the increasing widespread use of mobile Internet devices, an open-access journal publication is more likely to be used to answer a question in real time than a print copy of a subscription journal.

Eradication of fee-based barrier: While most subscription journals offer an online version, the price of the subscription is often unaffordable for many users. As a result, many institutional libraries in developing countries cannot afford the subscription prices of many journals, requiring

deferment of some journals or reallocation of the library budget to accommodate the ever-increasing cost of journal subscriptions. Institutions in several developing countries are limited by the requirement to pay a fee for research database access. In addition, these fee-based databases may search only a limited number of journals. Therefore, open-access journal publishing stands to frustrate the global problem of information restriction and fosters the culture of evidence-based practice.

Increased recognition and collaboration: Researchers publishing in an open-access journal have the potential to reach a larger number of readers and a more diverse population compared with the popular subscription-based journals. The increased visibility accorded by an open-access journal can allow more international recognition and scientific impact in a short period. These factors have led to increased collaboration and frequent citations.

Decreases research duplication: The potential for more rapid dissemination of information in open-access journals decreases the likelihood of research duplication. And thanks to the electronic format of open-access publications, authors can cross-link a publication with datasets to allow more thorough evaluation of research methodology.

Open Access in Nigeria

Nigeria like other developing countries in Africa are starving from knowledge, not because knowledge is not available but because it has been inaccessible due to the high cost of subscription or the inability of one's country to provide the required ICT infrastructure for speedy internet connectivity and access amongst other things (Ola, 2016). Open access therefore comes as a much-needed panacea to people in developing countries, and the wider the access gate is opened the more information is made available to the public.

However, it may be surprising to observe that academic and research institutions in the country are yet to take full advantage of the benefits. Hence, open access to scholarly

communication is characterized with challenges. According to Oluwasemilore (2013) some of the challenges for the slow uptake of open access publishing and scholarly communication in Nigeria include; lack of knowledge or awareness of open access publishing; dearth of cross-linked e-libraries; poor state of information and communication technology infrastructure; inadequate and epileptic power supply; inadequate advocacy for open access repositories; poor or inadequate funding; inhibiting copyright and intellectual property regime.

Inadequate funding to build and upgrade the internet infrastructure, inadequate advocacy and misconceptions, managing intellectual property rights through alternative publishing agreements, inability to afford subscriptions to journals and inability to integrate national research into the global knowledge pool as problem among other are the problems slowing down the open access movement in Nigeria (Jain, 2012). Some other problems to open scholarly communication are lack of access to the internet; restrictive copyright laws together with digital rights management systems that “lock up” information or restrict access; unreasonable policies and embargo periods set by publishers on online material; and excessively priced books.

Industrialization has also changed scholarly communication to fee-for-access. According to Steele (2014) scholarly content has moved from historical relative open information common to an expensive firewalled multinational publishing environment. Drahos and Braithwaite (2002) have named this as ‘information feudalism’. That is, researchers, academic institutions, or the public in general need subscription to access scholarly communication. The implication is the monetary and legal barriers which restrict free access to scholarly communication. The majority of scholarly journals are only available to people who can pay a subscription or who are members of an institution who pays subscription. Open access uses digital technology to make research findings widely available.

Sustainability of Scholarly Communication and Open Access in Nigeria

The sustainability of scholarly communication and open access in Nigeria involves several players. Some of the players include universities, research institutions, government, funding agencies, learned societies and professional agencies etc. According to Ola (2016) five broad groups could however be considered directly involved in all scholarly communication and open access namely;

1. Authors who generate content such as literary works;
2. Funders/employers, who provide funding for carrying out research, for example, the governmental funding agencies such as National Institute of Health (NIH), European Research Council (ERC), Australian Research Council (ARC) and the non-governmental funding agencies include Wellcome Trust, Ford Foundation, Bill and Melinda Gates Foundation and William and Flora Hewlett Foundation etc
3. Publishers who publish works of authors and markets them;
4. Librarians and libraries who are the major clients of the publishers and serve the multi-purpose of educating both authors the need for open access communication and providing storage of literary works as well as access to literary work (usually to a select audience) and lastly,
5. the User public.

However, universities, publishers, academic libraries and librarians are the major facilitators of scholarly communication and open access, hence, universities serve as the central point that generates and ensures the integrity and quality of published materials. This is achieved through active participation in the peer-review process of journal articles. Universities are institutions of learning, centres of research, the rallying point for the incubation, birth, development and production of knowledge. They nurture authors, provide experts for peer-review, encourage and fund research and train the next generation.

Publishers on the other hand are the major commercial entity involved in the publication cycle. They are responsible for receiving manuscripts from authors, vetting and sending them for

peer-review, notifying authors of acceptance or rejection, preparing manuscripts for final prints, financing publication and marketing the published work at hard and soft copies. Some publishers now publish solely online versions.

Librarians and libraries also play a major role in the scholarly communication and open access. Libraries serve as the warehouse and middleman between publishers (the commercial entity) and users. Libraries also provide a platform for access to knowledge, archival of important and rare materials, preservation of documents in both hard and digital copies and they provide guidance to authors and users in multiple ways. These users include the university and research communities, other higher educational institutions and the general public.

The interesting link between universities and libraries is that university libraries are associated with and funded by the universities due to the institutional framework of university systems. Universities and publishers also have an interesting link, in that a large number of authors are from the university community and even more interested in peer-review processes. The publishing industry's continual increase in subscription costs coupled with declining funds for the universities has brought about the "serials crisis" which has led many universities and libraries back to the drawing board (Ola, 2016).

Role of Academic Libraries and Librarians in Sustainability of Scholarly Communication and Open Access in Nigeria

Literature has indicated that libraries and librarians are key players in advancing the scholarly communication and open access. Indeed Greyson, Vézina, Morrison, Taylor and Black (2009) found that librarians surpass research administrators in their perception of the mandate for promoting open access. They further stated that the majority of libraries were performing open access awareness bolstering activities through user education or supporting open access infrastructure development.

The librarians and libraries as list by Boufarss and Harviainen (2021) can play the following roles in promoting scholarly communication and open access: they provide enhanced access to open access resources, becoming publishers of open access works, establishing institutional digital archives, building open access computer systems, digitizing out-of-copyright works, preserving open access material, and providing support for article processing charges.

Libraries can provide enhanced access to open access works: This presupposes that librarians will not simply leave it to information users to find these materials themselves, but will actively promote access to them, for example by including selected materials in catalogues or other finding tools. This implies selecting appropriate materials from the large and growing pool, creating metadata, keeping track of their status and availability, developing skills in using search engines and specialized finding tools, and transmitting these skills to library users as part of information literacy education.

Libraries can be digital publisher of open access works: Librarians generally have better content expertise and people skills than information technology specialists, and are better equipped for interacting with authors, dealing with metadata and intellectual property questions, promotion and training which are the core values for a reference librarian. This could be the case in developing countries, where it recommended that institutional repositories in African universities should be run by the university libraries (Anbu, 2006).

Libraries can build specialized open access systems: Early library automation systems were developed in and by libraries. More recently some open-source institutional repository software, including DSpace, Fedora and OAlster (Bailey 2006) has been developed in collaboration with libraries. However, such efforts are likely to be limited to a small number of well-resourced libraries in major universities.

Libraries can digitize open access versions of out-of-copyright works: Digitization of rare and specialized materials that are in the public domain is a widespread library activity. To the extent that digitized materials remain in the public domain or are put under a Creative Commons license, this activity adds to the pool of open access materials available.

Libraries can preserve open access materials: Libraries traditionally play a role in respect of preservation and have moved into the preservation of traditionally published digital resources such as electronic journals and the rest. Much attention is currently being paid to options for the long-term preservation of digital scholarly content, e.g. legal deposit “trusted digital repositories” (Open DOAR, 2006) and the LOCKSS (lots of copies keep stuff safe) concept (Lessig 2002). The long-term preservation of open access resources which are arguably at greater risk, needs urgent attention, and libraries are the obvious institutions to handle such task.

Libraries can subsidize author fees: This role arises in the case of open access journals using a business model in which the costs of publication are wholly or partly borne by authors or their institutions. In the latter case author fees may be waived or reduced if the institution (usually through its library) takes out an institutional membership. Academic libraries in Nigeria could be in agreement with publishers to reduce certain article publishing charges for authors affiliated with their institution thereby reducing authors financial commitments (University of Wisconsin–Madison libraries, 2023).

Conclusion

Industrialization has changed the way scholarly communication operates, the boundaries of scholarship are expanding, role of librarians and libraries in the digital networked environment is becoming more complex. Therefore, librarians and libraries have to brace up to contend with new challenges in order to sustain scholarly communication and open access for effective delivery of the scholarship. This can be achieved by serving faculty research, teaching, and publishing agendas

which includes building collections to support faculty research, providing tools, developing technological expertise for their publishing projects, support the infrastructure for their courses should be emphasized. Librarians should lend their expertise in the classroom by assisting with assignment development, embedded digital humanities work, or co-instructing with teaching faculty thereby contributing in developing scholarly communication skills of students and the general users of scholarly communication contents.

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