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### **Repositioning Africa's Open Access Movement on the Global Stage: Challenges and Prospects for African Universities and Research Institutions**

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## **Abstract**

The globalization of technological development in library/research in the 20<sup>th</sup> Century through the emergence of free electronic resources was meant to improve access to literature, ensure convenient and timely supply for user(s), and make the library a growing organism for researchers and others to repeatedly accommodate the changes inherent in the use of this technology. Ever since the introduction of the internet based World Wide Web in the early 1990s, information dissemination across the globe became easy. This also includes the sharing of research information by the academia. Although the African continent was not left out at a later stage of the internet revolution, her position in the open access movement is considered to be highly insignificant. With limited research networks, the African research landscape is accused of having been rocked by the intrusion of “fast publishing” and business rather than science oriented journals. African researchers have limited support to the free availability of research works over the Internet and to limit restrictions as much as possible on the use of the resource. In addition, limited research from governments and universities discourage African intellectuals to give away intellectual property through the open access media. We conclude that for Africa to be repositioned in the global open access movement, increasing levels of awareness through enabling infrastructure and enacting policies such as mandatory deposits of scholarly works in open access archives is imperative. In addition, the intensification of research networks could support the process of access and use of open access resources. Finally, African governments have a role to play by supporting African universities and research institutions to foot the cost of publicizing their works on the digital landscape.

*Key Words: Open Access movement, Awareness, African universities, challenges, prospects*

## **Introduction**

From historical, traditional or manual methods of scholarly communication (publishing and storage) to e-journals, the 21<sup>st</sup> Century has brought about the Open Access Movement with the Budapest Open Access Initiative (BOAI) which had as main philosophy the promotion of free of charge and unhindered access to research and its publications without copyright restrictions. The subsequent Berlin and Bethesda Open Access Declarations have further strengthened the Open Access Movement. The Berlin Declaration on Open Access (2003) stated that open access is achieved when a complete version of a work and all its supplemental materials, including a copy

of the permission, in a suitable standard electronic format is deposited (and thus published) in at least one online journal or repository that is supported and maintained by an academic institution, scholarly society, government agency, or other well established organisation that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving. Meanwhile, the Bethesda Statement on Open Access (2003) defines open access as, where the author(s) and copyright holder(s) grant(s) to all users a free, irrevocable, worldwide, perpetual right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to distribute the works, in any digital medium for any responsible purpose, subject to proper attribution of authorship as well as the right to make small numbers of printed copies for their personal use.

It is a truism that research has increasingly been recognised as the bed rock for development in all facets of life in the developing world. There is no gain saying that quality research as stated by Okore (2014) is a function of the availability and accessibility of information amongst others. This precondition cannot be solely satisfied by traditional physical library resources that were dominant prior to the 20<sup>th</sup> and 21<sup>st</sup> Centuries. The advent of Information and Communication Technologies (ICTs) especially with the coming of the Internet/World Wide Web (WWW), technology has changed the process of scholarly communication dramatically (Abubakar & Ali, 2014). The publication of scientific journals according to Smith (2007) began in 1665 to enable researchers share their work quickly and widely and to establish priority with investigating the same problems. Journals published then could not pay the authors, hence, the tradition of writing for impacts rather than payment was in vogue and prevailed. But with the passage of time, the ‘serial crisis’ rooted in subscription price became a barrier to information access and a serious concern to the stakeholders of scholarship. Only a small number of libraries in the developing world could afford journal subscriptions.

It is well founded that the pre-requisite to the improvement of research in Africa is hinged upon the awareness, access and use of open access educational/electronic resources. Ojedokun and Owolabi, (2003) cited in Okore (2014) posited that African researchers can only excel when they are aware that information stored, can be freely accessed, used and shared amongst them. This same view was shared by Arunachalam (2011) and Obuh and Bozimo (2012) who all opined that for African researchers to be able to use open access electronic resources effectively, they must

be aware of its existence and importance to research, be able to use the internet effectively by having great skills to search the internet and be able to evaluate the information obtained.

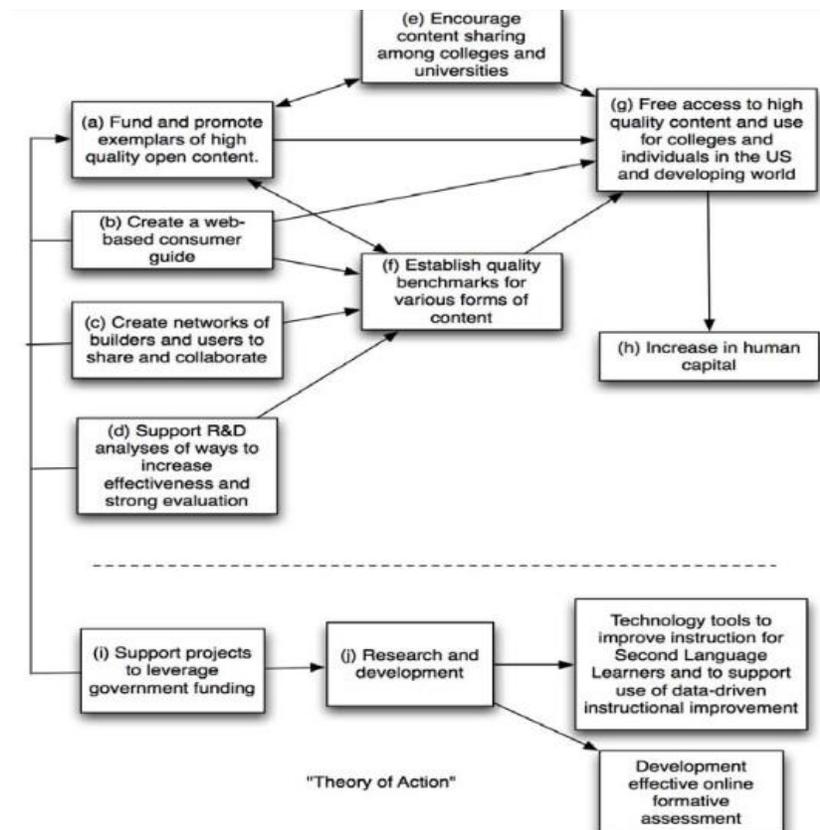
Despite the Open Access Movement gaining steam in the 21<sup>st</sup> Century, African countries especially institutions and governments in Sub Saharan Africa still face certain challenges in adopting and promoting the open access culture. Christian (2008) noted the multiplicity of issues and challenges to the development of open access institutional repositories in academic and research institutes to include: lack of awareness, inadequate ICT connectivity and infrastructure, inadequate funding and inadequate advocacy. These challenges which are more severe within the Sub Saharan African region has made many research findings which are endemic in this region to remain and ‘gather dust’ in library shelves of institutions after all the painstaking efforts and resources put into research.

One of the most promising developments in education and training today is the concept and growing reality of open access publishing. Since the term was first adopted at UNESCO’s 2002 Forum on the Impact of Open Courseware for Higher Education in Developing Countries, several organizations have ventured into this previously uncharted domain. The expansion of open access publishing in Africa is now a reality that necessitates further reflection, development, piloting, and monitoring, especially through research networks on the African continent (Bateman, 2006). Although the African continent was not left out at a later stage of the internet revolution, her position in the open access movement is considered to be highly insignificant. African researchers have limited support to promote the two most important aspects of openness - free availability over the Internet and as few restrictions as possible on the use of the resource. With limited research networks, the African research landscape is accused of having been rocked by the intrusion of “fast publishing” and business rather than science oriented journals. Such journals promise to provide fast publications (UNESCO, 2015). In addition, limited research from governments and universities discourage African intellectuals to give away intellectual property through the open access media.

### **The Open Access Movement: A retrospective view**

The history of the open access movement could be traced as far back as 1992, when the World Wide Web (WWW) was launched (Atkins et al., 2007). From this period, open information resources rapidly became freely available, although they were of widely varying quality. During

this period, emphasis was placed on the provision of the funding for information technology, access to computers and Internet connection and the basic literacy for their use. This was done with the sole intention of catalyzing universal access to and use of high-quality academic content on a global scale (Atkins et al., 2007). The initiative sought to serve as a strategic international development initiative to expand people’s substantive freedoms through the removal of “unfreedoms”: poverty, limited economic opportunity, inadequate education and access to knowledge, deficient health care, and oppression. The goal was to use information technology to help equalize the distribution of high-quality knowledge and educational opportunities for individuals, faculty, and institutions within the United States and throughout the world (Amartya Sen,1999).



The theory of action (Atkins et al., 2007)

The initial theory and plan of action for the initiative (Figure 1), centred on a series of activities culminating in free access to high-quality content to be used by colleges and individuals throughout the world to increase human capital. The focus initially was on funding exemplars (living specifications) of high-quality content and building community, collaboration, and a shared knowledge base about the creation, dissemination, and use of open educational resources.

In the aggregate the program has addressed the production, access, use, and evaluation of high-quality materials (Atkins et al., 2007). Although this movement over two decades ago, it has been fairly recently gained some significant recognition in Africa. Perhaps, this explains the need for a repositioning on the global stage.

### **Research Methods**

The study made use of a review of literature on open access educational resources and the challenges of their usage in Africa. This was further supported by the experience of the researchers in some of the universities of Cameroon. Case studies were also reviewed for other African universities and this was used to support the analysis and discussions. These supported the charting out and discussions of the research findings.

### **Literature Review**

Open access resources are essentially electronic in nature. Manoj *et al.* (2011) defined electronic resources as those information resources which include documents in electronic or e-format that can be accessed via Internet in digital library environment. They include E-journals, E-books, E-magazines, E-Audio, E-Images, E-Conference Proceedings, and E-databases. According to Njiraini (2011), open access educational resources are of utmost importance firstly because they remove financial stress of paying for the published article from the author or researcher since most of the research is paid for by taxpayers through government grants. Secondly, open access covers the gap that the high subscription fees creates between the researcher and the library, hence online published research articles are made freely available to all. Thirdly, with open access to research outputs, faster discoveries that is beneficial to everyone is achieved, that is to say that even those who do not read scholarly articles benefit indirectly from open access. For example, farmers benefit when agricultural scientists have access to the latest research information for increase in crop yield, and lastly, Open access online is faster, often immediate and more suitable for high pace research. Considering the fact that in the past, journals were published solely in the developed world, researchers in developing countries had to wait for months prior to the arrival of these journals by surface mail. Open access is an initiative that can improve access to scientific literature and also provide global visibility for research work conducted by researchers anywhere in the world (Swan, 2006; Bueno-de-la-Fuente, Robertson *et*

*al.*, 2012; UNESCO, 2015). There are basically two ways to achieve open access; which is either by publishing in open access journals or depositing published articles in an open access institutional repository (Swan & Brown, 2005).

## **Discussion**

Due to the late ingress into the open access movement, higher education institutions in Africa entered the arena with little to no experience in the evolutionary process (creation, organization, dissemination and utilization of open access resources) and with an undefined trajectory (Bateman, 2006). For instance in 2004, usage of open access sites in Africa was estimated at less than 5% (Carson, 2005; Tufts 2006). Consequently, there is a need to mitigate against a very real possibility that African universities and other tertiary institutions may tend to participate as unequal recipients of content with little control over its origination, quality and appropriateness. By involving African institutions in the entire open access movement, issues pertaining to epistemological, ideological, cultural and social relevance as well as technology related challenges are reduced while enabling these institutions to participate actively so that they drive and own the process in terms of form, content, structure and orientation.

African researchers have proven beyond reasonable doubt their capacity to undertake meaningful research whose results can be relied upon. What remains to be addressed is the high cost of production, waiting time for authors to get published and then getting listed in indexing services, increase subscription rates, and lastly archiving of back volumes have led to serious crises known as the 'serial crisis' (UNESCO 2015). African researchers need to be supported to promote the two most important aspects of openness - free availability over the Internet and as few restrictions as possible on the use of the resource. There should be no technical barriers (undisclosed source code), no price barriers (subscriptions, licensing fees, pay-per-view fees) and as few legal permission barriers as possible (copyright and licensing restrictions) for the end-user. The end-user should be able not only to use or read the resource but also to adapt it, build upon it and thereby reuse it, given that the original creator is attributed for her work. In broad terms this is what is meant with "open" in all three movements (Hylé, 2006).

With lower than expected remuneration and support for research, African intellectuals find it reluctant to give away intellectual property through open access resources since it deprives them

of the financial gains that would have been associated with it, if it was commercialized. What is more? The academic landscape in some African universities has been rocked by a series of infightings which are exercised at some points on the research endeavours of colleagues. This situation serves as a deterrent for the African open access movement as researchers find it difficult to share their work for fear of “punitive scrutiny” by their peers. These facts, coupled with the plagiarism temptation compromises Africa’s open access movement. The view is shared by Kanwar & Uvalic´-Trumbic´ (2015) who argue that one of the key concerns of academicians on the concept of open access resources relates to ‘giving away’ intellectual property, with a potential loss of commercial gain that might come from it. This is often combined with issues of plagiarism and the anxiety of scrutiny by their peers.

It is also realised by Abubakar and Ali (2013) that majority (95.8%) of research scholars used open access journals for research work. Kalle and Matti (2006) stated that over the last several decades the use of open access information resources by research scholars in developed countries have improved the quality of research and that scholars’ research work are enhanced and knowledge also updated. The lack of adequate knowledge about open access, unavailability of internet facilities, incessant power outage, download delay, poor internet surfing/search skills, limited access to computer terminals, retrieval of too much irrelevant information are significant problems encountered while using open access resources in Africa (Abubakar and Ali 2013; Oghenetega and Oghenovo, 2012). A significant factor which was not noticed by these authors is that of software incompatibility. Soft wares like Microsoft word and Adobe Reader are often used to access and open access resources. Thus, in the absence of these soft wares been installed on a computer that is been used by the students, access and use is hampered.

Based on a gap analysis by the AVU, four prominent conceptions by African academics regarding the promotion of the open access movement can be identified:

- lack of support from the relevant governing bodies exacerbating already poor participation brought about as a result of lack of human and infrastructural capacity,
- lack of clear quality assurance mechanisms that would result in unclear standards in open access resources (“if its free it must be rubbish”)
- lack of business model and the resultant potential for open content to be a ‘white elephant’ whereby significant start-up costs diminish enthusiasm, and

- ambiguous intellectual property rights policies leading to lack of faculty participation (Bateman, 2006)

Perhaps, the joint UNESCO/COL initiative dubbed “Taking OER beyond the OER community: Policy and Capacity” with focus primarily on Africa, Asia and the Pacific region, great strides could be made in the area of:

- ensuring greater support for the use of open access resources created and used both in developing and developed countries by educational decision makers (governmental and institutional); and
- enhancing the capacity of educational practitioners in developing countries to create and use open access resources.

### **Conclusion and Recommendations**

Increasing usage of open access publications is closely linked to high levels of awareness (Obuh and Bozimo, 2012). Advocacy on the awareness and use of open access especially through enabling infrastructure and enacting policies such as mandatory deposits of scholarly works in open access archives is imperative. The conclusion therefore centres on the premise that awareness is a prerequisite to subsequent usage of open access publications in Africa (Obuh and Bozimo, 2012; Fullard, 2007; Warlick and Voughan, 2006). Furthermore, the intensification of research networks could support the process of access and use of open access resources.

African governments have a role to play by supporting African universities and research institutions to gain access to open access resources. This will enhance the wide publicity of open access resources. They can encourage the open access movement by stepping-up financial support for higher education institutions, setting policies for higher education systems that encourage the dissemination of research information through open access media, ensure that public investments in higher education make a useful and cost-effective contribution to socio-economic development. They can support through policy making, adopt open licensing frameworks, support university-wide awareness raising programmes on the open access movement, and support knowledge-sharing through research networks. Internet connections should be subsidised by the government and the university authorities to ensure free or affordable internet access to students on- and off-campus. Telecommunications companies will

also have to step up their internet services to aid these public institutions achieve popularisation of open access resources in Africa.

In sum, effective collaboration is required from faculty to inter-university to the entire Africa landscape for the African open access movement to succeed. This can be achieved by making use of the opportunity presented by the digital revolution and ICT to share thoughts and reflections with peers. Although others may have a flip sided notion on sharing materials, the bottom line is that the fear of scrutiny in itself encourages Africa researchers to put in their best before publishing. The African open access movement needs to take a position and adopt a clear definition and content of open access scholarship including the formulation of open access statements.

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