

OPEN ACCESS PUBLISHING AND ACCESS TO DEVELOPMENT INFORMATION IN AFRICA – THE VISION*

by
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Abstract

Open Access Publishing (OAP) is now with us. It has its pros and cons and has been filling some gaps in access to development information for most African researchers and libraries. However there are still some issues to be cleared as to its continued existence as well as what it is expected to do now and in future. This paper gives an overview of OAP including its positives, negatives, unsolved issues and its importance to users in the South. It then discusses the future and expectations of OAP in Africa pertaining to the availability of development information to and from Africa.

Introduction

Open Access (OA) to scholarly communication has in recent times been a subject of discussion among publishers, librarians, funding agencies and scholars. There are several definitions for Open Access including the Berlin Declaration on Open Access to knowledge in the Science and Humanities¹ and the Bethesda Statement on Open Access Publishing². The most widely used definition is the Budapest Open Access Initiative³ which states that “By Open Access to literature, we mean its free availability on the public internet permitting 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 other 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.”

Open Access therefore calls for scholarly publications to be made available free of charge, without restrictions, to libraries and users, although, rightly as Anderson⁴ states, there is actually no free information, as costs are still incurred in producing the information, so it is at no cost to users but at a cost to producers.

The escalating costs of print journal subscriptions over the years have made libraries to cut down the number of journals they subscribe to, and in most developing countries “the

cuts to serial titles among less fortunate institutions ... has been far more drastic and devastating, virtually wiping out their access to the current print literature”⁵. Open Access has therefore come in to save the situation of the non-availability of scholarly information as a result of the increasing costs of scholarly journals, print and electronic.

Currently, about 2500 OA journals, consisting of about 10% of the total number of peer-reviewed titles are available⁶. In spite of this, OA is often said to be economically unsustainable because it does not have a clearly laid down revenue source. This statement is debunked by Vickery⁷ of BioMed Central Ltd. that “Open Access is not small scale any more since Bio Med Central is approaching profitability and so proving that open access works.” He knows, because BioMed Central publishes over 160 journals on open access.

As at now OA information can only be accessed through the internet. Even for institutions that do not have internet connectivity in some developing countries, their researchers and students have access to information published on OA through internet cafés and can also contribute to global knowledge by sending their research results through the internet to OA Publishing concerns. OA is therefore helping to bridge the digital divide between the North and South. In essence, the usefulness of OA in furthering the cause of global academic and scientific research cannot be underestimated.

There are several OA publishers including BioMed Central⁸ and PLoS⁹ and several funding agencies supporting OA, including some Research Councils in the UK and USA,¹⁰ Wellcome Trust and the German Research Council. There are also several business models for OA as it does not have a single economic model. Swan¹¹ writes that there are the ‘community; advertising-supported; grant-aided or sponsored; article – processing charges and institutional membership models. Looking closely at these models one can see that there are incomes that can make OA economically viable.

In addition to these business models are some initiatives or variations of OA that have emerged. Willinsky¹² identifies them as nine flavours. These are:

1. e-print archive, where authors self-archive pre or post prints. eg. arXiv.org Eprint Service.
2. Unqualified, where there is immediate and full open access publication of a journal. eg. First Monday.

3. Dual-mode, where both print subscription and open access versions are available. eg. Journal Postgraduate Medicine.
4. Delayed open access, where open access is available after a certain period of time. eg. New England Journal of Medicine.
5. Author fee, where authors pay a fee to support open access. eg Bio Med Central.
6. Partial open access, where only some articles of a journal are made available on open access.
7. Per-capita, where journal articles are made available on open access based on the per capita income of their countries. eg. Journal in HINARI project of the WHO, and PERI project of INASP.
8. Abstract, where abstracts and table of contents are on open access. eg. Science Direct.
9. Co-op, where institutional members support open access journals, eg cooperation among libraries and university printing presses, etc.

The debate as to whether OA journals will continue to live healthily or die still rages on and Guterman¹³ in her article of 2004 stated that “free subscription journals may loosen commercial publishers’ stranglehold on scientific research, but skeptics say they are no panacea” is still relevant today, considering some issues being raised by proponents and critics of OA.

Issues For and Against Open Access

Some of the key issues being raised by proponents and critics of OA give food for thought.

Positives

1. The best model for scientific publishing that will be beneficial to users of scholarly information is Open Access. UK Wellcome Trust¹⁴ supports this that “the benefits of research are derived principally from access to research results” and that “society as a whole is made worse off if access to scientific research results is restricted.”
2. OA is seen as a solution to the journal subscription crisis of libraries. Commercial publishers are profit-oriented and sometimes their profit mindedness

makes them to keep hiking prices to the disadvantage of subscribers, though they explain away that huge investment costs incurred to improve service delivery need to be recovered.

3. OA has built in structures, just like the ones put in by commercial publishers, to avoid compromising quality by peer reviewing. The interesting thing is that both models can fall prey to poor peer-reviewing if they do not build in proper structures, so this is not an issue against OA publishing.

Negatives

4. In open access, authors are expected to pay for publishing. This may not be too much if the funds are from the publication component in research grants. It becomes too expensive if individuals have to pay.
5. Open Access may not be economically viable or even sustainable as it currently enjoys heavy subsidy. If it is therefore used by commercial publishers its revenue will decrease and so affect its services and may even make the business to fold up. In reply, OA is a new model and so may initially be uneconomical for the pioneers who will need to invest more in it for credibility and acceptability. Those who come after them will not need so much marketing since they will build upon the foundation laid. Already PLoS and BMC publish high quality scientific information indicating acceptability from the scientific community.
6. Open Access does not provide enough investment in technological development which is very necessary in this age of rapid changes in online services to benefit users. When there are no new developments made, users will not get a good service. Innovation is indispensable in this information age and only those who go the extra mile get commendation through increased usage.
7. Professional societies who derive revenue from subscriptions may also find OA uneconomical and unsustainable and even jeopardise their survival. Author fees may not bring in enough revenue as for subscriptions so they may not be able to carry out their other functions. If they must take on OA then they may have to increase membership or conference fees which may make them lose members and /or destabilise them. In response, OA publishing is a very effective means to disseminate research activities of members of that society, since it brings

increased visibility. Since the members will invariably bear the brunt of additional fees or cutting down on other activities to support OA publishing, they will need to be consulted first before plunging into OA.

8. As a result of the author-pay model, institutions with great research output will have to spend more funds in order to get published while those with a bias for teaching students will use the published articles without paying for it. The same will go for manufacturing companies who do not publish their research results but plough them into product development. They will use OA articles without paying anything for it.
9. The more an institution's scientists publish in OA journals, the more the institution pays and probably the Library's budget will be heavily reduced. To save the library will mean that research grants should have costs for publishing built into it.
10. OA Journals can be accessed without any charges but publishing the articles attract some charges, so in any way, some payments are made or charges are put in making the article available, so it is not really free. These charges are often taken out of the Library's budget just as for subscription to commercial publishing. 'author pay' model or its variant 'institution – pay' model, will enable OA to be self-sufficient, since it operates on a fee-for-publication basis.
11. The usefulness of OA publishing needs to be marketed to potential users – researchers, libraries, faculty, funders. Marketing costs will therefore swell up the processing fees.
12. Open Access models will neutralise the high quality expected of peer-reviewed published materials. OA publishers because of the 'author-pay' model may want to push out a lot of articles to generate income, that is, the ability to pay may replace quality and undermine the integrity of scientific publications, as exists in subscription journals. In reply, to retain respect and readership and also to continue to receive good quality materials, the choice of editors and reviewers need to be strictly adhered to, just as for subscription publishers. In effect, the criteria for a good journal must remain the same for OA like for subscription publishing.

13. Open Access models will not protect author's rights. It is said that the current requirement where authors transfer copyright of their works to subscription publishers is because they (publishers) are better equipped to protect the rights of the authors than the authors themselves¹⁵. To respond, it is necessary to define the type of 'protection' meant and for whom. A scientist who is also an author who wishes his work to be given wide publicity so that he can be visible and more cited, publishes to make an impact rather than profit. Publishers need protection for their interest in that author's paper, translated into revenue. When an author's paper is published on OA, plagiarism is easily detected and users acknowledge its use because they want to retain their credibility among their peers. So who is the protection for? Not the author, in subscription publishing. In OA authors retain copyright.
14. Open Access model will not sustain the archival record of science. It is necessary to note that the issue of long term archiving of e-journals is still on, not yet fully resolved, so this concern is not only for OA publishing. However for OA publishing, papers are regularly archived, for example in INIST¹⁶. Articles in OA are automatically deposited in several archives without having to go through the task of seeking copyright permissions like in subscription based journals. OA actually removes the situation of losing archival materials as sometimes happens during mergers of subscription journals.

Open Access Now¹⁷ from BioMed Central gives interesting responses to some misleading anti- OA arguments.

In all these, Worlock¹⁸ concludes that "any system which cannot demonstrate economic sustainability in the long term will not prove successful – at present the Open Access system is not in a position to provide that proof for the satisfaction of the majority."

Irrespective of these issues for and against Open Access, users of scientific publishing are now trying to adjust to the several opportunities being offered by Open Access publishing through the internet for online scholarly communication. Some unresolved issues on sustainability are however pertinent to be looked at for solutions.

Unresolved Issues of Sustainability

Be it as it is, a few issues need to be critically considered for solutions.

1. Some OA journals survive on grants or institutions paying for their researchers to publish. Now the questions are:
 - what happens to the journal when such grants are exhausted or withdrawn?
 - If funding agencies for research are paying, what is the guarantee that such payments will not eat into the amount set aside for the research itself?
 - If institutions have to pay, are libraries ready to give up part of their already limited funds to support ‘author-pays’ or ‘institution-pays’ models?
 - Again, institutions paying for OA and at the same time maintaining the traditional subscription, will it not be too costly for the library?
2. OA still has some work to do to inform the public that it is sustainable. Considering that it has to maintain its quality as in the subscription model – peer-reviewing, editing and indexing, marketing, technological development - it will need more money as the highest amount paid by an author for an article in the OA is about \$1500, which is about 40% - 60% of the estimated total cost to publish an article of high quality in a subscription journal today¹⁹. If all articles are on OA, how will the difference in the 40% - 60% subsidy be raised for each one? This needs to be clarified.

Having said these, it is observed that there are some obstacles preventing access to scholarly publications in Africa, be they subscription or OA.

Current Obstacles for Access to Scholarly Publications in Africa

There is an abundance of information globally, yet most users in Africa do not have access to them. Some of the reasons are as follows:

1. There is a continuing growth of knowledge evidenced in an avalanche of academic research publications making it difficult for librarians to choose the number of titles to subscribe to. Even when they decide, the availability of storage space is a problem as well as funds to acquire them. This avalanche is

partly because of the demand on academics to ‘publish or perish’ and competition among peers, making most of them prolific writers, sometimes sacrificing quality to numbers. According to Gilbert (1995)²⁰, in the last two decades over 140,000 journals had been published globally each year. This trend is still on, thereby increasing the numbers.

2. High cost of journal subscriptions, coupled with dwindling library budgets mean that libraries cannot maintain subscriptions to most journals their users will want to have access to.
3. Most journals that contain scholarly communication are published overseas. Foreign exchange problems prevent subscription and access to a lot of them. Webster’s (1990) claim that university libraries spend as much as 60% of their budgets on foreign materials ²¹, in the United States, also happens in Africa, if not more.
4. Paper disintegrates with time, and with this, scholarly communication in print format gets lost to future generations.
5. The new and emerging technologies for access pose some problems for access. Hardware and software storage and access systems have uncertain longevity; standards for electronic communication are not uniform (some institutions have institution – specific bibliographic data records) and controlling costs associated with these technologies can be problematic.
6. The lack of hardware and especially lack of internet connectivity is a problem of access considering that the internet holds the key to access to information in online subscription journals and OA publications too.
7. For OA, the author-pay model discourages researchers from developing countries to share their research results since they cannot afford such payments to publish.

The problem of access to scholarly publication cannot be solved as long as the deciding factor is financial. Even in situations where finance is not the deciding factor the continued access and permanence of the publication poses a big challenge.

Battin²² in her paper ‘Access to Scholarly Materials’ therefore rightly concludes that “In the 21st century, we face not only the preservation of the storage medium but more importantly, the assurance of access. The Library as a social institution was created to

provide continuity and equitable access to knowledge in a free society. In the past, we could achieve that goal by storing, preserving and providing access to printed books and journals. Access in the Information Age will be infinitely more complex, since we must ensure not only the longevity of the storage medium, but the means of access and retrieval as well.”

The means of access and quick retrieval of information is of prime importance to users. In Africa this becomes very critical because we use more information from the north. OA therefore becomes a necessary medium to us for obvious reasons.

Importance of OA for Researchers and Other Users in Africa

It will be over flogging the issue to say more than in just a sentence that Africa is hardest hit in lack of access to scholarly communication. Poor Library budgets, few world acclaimed journals published in Africa and limited research funding have made African users very dependent on free information sources from the north which until OA came on board was anything retrieved from Google or Yahoo search.

Open access publishing now offers some fresh air for users of scholarly communication in the developing world in the following ways:

1. It fills the gap in the non-subscription of print and other electronic journals, brought about because of high costs and also reduces expenses on journal subscriptions.
2. It provides full text articles, rather than abstracts, in support of cutting edge research.
3. It allows immediate dissemination and access to full text articles online for all to read and use at no cost to the user.
4. It helps to ensure long term access to scholarly articles since libraries and users can make local copies and create repositories which will ensure an unlimited period of access to the information.
5. It enables libraries in small institutions or with less budget to have greater access to scholarly resources²³.

6. It enables research carried out in the south to be also made visible globally. This brings about – north to south and south to south collaboration among researchers thereby promoting scholarly communication.
7. To some extent, OA bridges the digital divide in the mode of transmission and the actual content transmitted.
8. It assists faculty and researchers to increase their impact and visibility and also the research profile of their institution.

Vision/Expectation for Open Access in Africa

The importance of OA to African scholars and libraries is not widely known now in Africa or its ideals greatly accepted since some scholars still do not understand the concept and those who understand, are skeptical about its sustainability. There is also the ‘old brigade’ group that has refused to get involved in the use of computers and so everything that comes through the use of computers is not acceptable to them. Irrespective of these setbacks OA is the major vehicle that will propel our national developments through research.

My expectation for OA in Africa is therefore where:

1. African Scholars will see OA as the fastest means to push their research results into the world for use and for recognition.
2. University and research Institute authorities will accept OA articles as also scholarly (peer-reviewed) and so give them the equal weight as they give printed and commercial e-journal articles.
3. People will respect OA publications as also being of high quality.
4. Most commercial publishers will feature OA publications too.
5. Funding agencies and university budgets will give strong economic support to OA by sponsoring publication costs, so that many of such will be available and. Universities, research institutes and libraries will support OA journals conveying development information to the public.
6. No author will have to incur any personal financial costs to get published in OA, in addition to incurring losses in energy and time used in putting out the work.

7. OA will fill gaps for libraries that cannot subscribe to publications from commercial publishers.
8. OA publishing will foster strong academic links between scholars, south – south and south – north.
9. Adequate planning would be made before plunging into full scale change/conversion.
10. OA publishing cooperatives will be developed and strengthened.
11. Commercial publishers will release their hold on author's rights to a more comfortable period after publication, that is, if they have to at all.
12. All OA Journals will be peer-reviewed, indexed and of a general high quality, and given very good marketing.
13. Stakeholders in the development information sector – researchers, commercial publishers, funders, libraries, open-access publishers, users – will agree on a model that will enable access to development information that will be economical and sustainable to them since Africa has an interest in their agreement.
14. Companies/Industry will fund OA Journals to enable authors who cannot afford to pay but have good development information to put out their works.
15. The transition period when universities will have to pay for subscriptions as well as author fees will not affect the library budget negatively.
16. The public will use existing OA profusely and so demand that there should be more of them.
17. African institutions will develop their own open source software with their indigenous languages and materials in mind and not continue to depend solely on free/proprietary ones from the north for their OA Journals.
18. Universities, research institutes and libraries in Africa will work together to create a central fund to support OA and also publish their own OA Journals that will grow and flourish and not die under the burden of lack of finance or authorship.

Conclusion

It is clear that in spite of several misgivings about OA publishing, it is waxing stronger by the regular addition of new journals to its stable. Efforts should therefore be made to strengthen it since its ideals are laudable especially for the developing countries that are

badly in need of high quality scientific information which are scarce because of poor funding of libraries and high subscriptions. It will therefore be necessary to do the following:

1. Build in cost of OA publishing into research grants.
2. Universities and research institutes should set aside some funds, not cut out of library budgets, to pay for processing charges for its researchers and faculty who are unable to secure 'outside' research grants but carry out their own research, to publish in OA Journals.
3. Universities and research institutes should assess and accept the content of OA publishing, rather than dismiss them as not scholarly. Equal weight should be put on articles in both OA and subscription ones, for advancement of their staff.
4. The setting up of a 'transition' fund by research institutes, universities, and professional societies for the development of their OA publishing.
5. Governments must legislate that results from their funded research should be published in OA Journals since the public whose taxes are used to fund the research need not pay twice (through the libraries) for the information.

Finally, it is necessary to have a publishing model that will serve the interests of funders, publishers, research community and users of development information better, so the debate on sustainability of OA publishing has to go on until a more sustainable model is arrived at. As it stands now it looks like OA publishing has come to stay and so must be given a comfortable seat, if for nothing at all, for its role in making high quality development information available to developing countries for their development.

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