

Dissemination of Output an Issue? The Solution is.....

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Abstract:

Libraries play a pivotal role in providing access to, and ensuring dissemination of the output from their institute and community. Achieving dissemination of output however, can be problematic for a variety of reasons. An open access repository is a simple solution to achieve the showcasing of output, along with the benefits of easy management, stable preservation and the accessibility of content on a global basis. This accessibility to content raises the profile of both the institution and its authors. Challenges are often faced to achieve this, either through lack of resource, knowledge, or budgetary constraints at a local, or regional level. Such barriers are real and continue at a time, when openly accessible information to health resources is continuously in the global spotlight.

How can we help overcome these problems? BioMed Central has an aim of helping low and middle income countries achieve open access to their intellectual output. It's Open Repository service has launched a new and unprecedented service: OR Lite. This type of repository service has been repeatedly requested within African and low and middle income countries. A low-cost, high-value, hosted repository solution, that aids collaboration between researchers, foundations and networks, whether at an individual, consortium, local or national level.

This presentation will address the issues that are faced, how repository technology, plus a specifically designed service can help overcome these problems. How the awareness and dissemination of good quality African output can be achieved and mandate compliance easily implemented. It further considers how Open Repository working with partners such as Partnership in Health Information (PHi) helps aid this and how clients such as OXFAM, Medicine Sans Frontier (MSF) and Practical Action share their conten, via the Open Repository service, to provide vital information in the region.

Keywords: Repositories, Open Repository, DSpace, Open Access, BioMed Central, Preservation

1. INTRODUCTION

Open Repository is a hosted repository solution and an integral part of BioMed Central. It builds and maintains, enhanced DSpace repositories, on behalf of institutions and organizations globally. Established in 2004 and a longstanding Registered Service Provider (RSP) for DuraSpace, it is a full service provided by BioMed Central that allows institutions to preserve, showcase and disseminate their intellectual output to a large and unrestricted audience.

BioMed Central is an STM (Science, Technology and Medicine) publisher and pioneer of the open access publishing model. All original research articles published within 300 plus journals, are not only made freely available, but also permanently accessible online, within 24 hours of publication. The journals span all facets of biology, biomedicine and medicine. BioMed Central views open access as essential to ensure the rapid and efficient communication of research findings⁽¹⁾. This is achieved through a commitment to maintaining high standards of a broad range of topics, via stringent peer review and editorial processes.

The free exchange of scientific and medical information plays an important role in international development and open access provides a way for researchers from low and middle income countries, to further their participation within the international research community. BioMed Central's publishing and Open Repository service, have created initiatives designed to increase the visibility and output of research from these countries. This paper will address the aims and activities in place to achieve positive outcomes in this area .

BioMed Central's aims have synergy with the IFLA /FAIFE statement of 2007 (Free Access to Information and Freedom of Expression): "*A commitment to intellectual freedom is a core responsibility of the library and the information professional. Libraries and staff should therefore adhere to the principal of intellectual freedom, uninhibited access to information and the vital mission of libraries as gateways to knowledge and ideas*"⁽²⁾. There are however, many barriers in place and challenges that are faced with achieving this. These difficulties are due to a variety of reasons: budget and staffing constraints, lack of knowledge or necessary skills, and technical restrictions with infrastructure. This paper examines challenges faced within low and middle income countries, and Africa in further detail, and how such projects can help overcome these difficulties.

Through collaborations and opportunities to work with BioMed Central partners and their networks, these aims can be achieved. Open Repository and PHi are working together to bring a repository service of vital health information to Africa. This joint initiative aims to achieve this both on a national level, and also by providing a network of repositories on an institutional level. Ensuring that researchers, health professionals, staff, students and the public alike have access to health information, not only within the institutional network, but also communicated within rural areas in Africa.

Despite the software costs involved in building a repository being relatively low, there are many additional issues, such as staffing and upgrade costs These make running a repository both a costly and time consuming activity. Through Open Repository's extensive knowledge of working within the African region and listening to the challenges faced, Open Repository launched OR *Lite*; a low-cost, high-value hosted repository solution, that is both affordable, fully managed and supported by a team of experts.

2. BioMed Central and Open Repository

BioMed Central has a wealth of publishing and open access experience. Established in 1999, its first journal was published in 2000 and in 2015 nearly 300 journals are in publication. Among those, leading journals specific within their fields. Of the journals published, over 160 impact factors are in place and at least another 11 expected by 2016. BioMed Central uses a pioneering business model and levies an article-processing charge (APC) for the cost of publication. Authors publishing within these journals benefit of the retention of copyright to their work as all work is licensed under the Creative Commons Attribution License, allowing the re-use and distribution of correctly cited works without any restrictions in place. BioMed Central has over 500 member institutes, spanning 52 countries that help and support their authors open access publishing needs.

BioMed Central is owned by Springer Science+Business Media, which in turn merged with Macmillan Science and Education in 2015 to become Springer Nature. BioMed Central is also responsible for hosting the SpringerOpen platform, and it is this high-intensity publishing infrastructure that Open Repository utilizes, enabling a provision of a robust, secure repository platform and service.

As a pioneer of the open access movement, BioMed Central showed there were two ways of achieving open access: (i) “Gold” publishing route and (ii) “Green” repository route. Large numbers of institutions were adopting repositories to showcase their intellectual output and comply with various policies coming into fruition. However, many were struggling with the technology, resource and knowledge to provide their own institutional repository. The demand within the scientific and wider research community for a repository service was identified, which led BioMed Central to launch the Open Repository service in 2004. This provided the means to help organisations achieve their open access goals, via either route.

Open Repository provides an enhanced, hosted, repository service, based on the DSpace platform. It provides hosting, software, technical and support services to a variety of organisations, spanning many markets and countries. It is also a well established and respected DuraSpace Registered Service Provider, providing a fully-featured service, from the repository implementation stage, through to the management and support of on-going clients needs. A team of experts are tasked with the provision and evolution of the platform to fulfil the latest repository trends, functionality needed on an institutional basis, funder mandates, as well as adhering to regional, national and international initiatives. By utilizing the publishing platform of Springer Nature, Open Repository provides peace of mind to its clients of robust and secure hosting within multiple data centres, with 24/7/365 redundancy, backups and disaster management. The team also shares best practice on tools and roles needed with their clients to achieve an established and well-populated repository. Open Repository uses the large global reach of BioMed Central’s network and contacts, by providing extensive marketing and PR support, to drive awareness and traffic to each client repository. This enables increased awareness of the institute within the global arena and also benefiting their authors and content, via increased citation counts, measurably increased impact, sharing and usage of deposited works.

For these reasons, a large and varied number of organizations have chosen to partner with Open Repository and utilise the heavyweight infrastructure provided, as well as the expertise of the repository team, to free repository administrators time to concentrate on the important tasks of curating, preserving and disseminating their content.

3. Challenges Faced by Libraries for Collating, Showcasing and Accessing Online Information

African libraries face many challenges when collecting, showcasing and making accessible local knowledge that benefit both their institute and the local community. These challenges include showcasing vital information that can be used by health professionals, charities, NGO's and other organisations working within the region. Due to the barriers faced of accessing local institutional output, great emphasis is placed upon the access to work made openly available by charities and NGO's, that have specific areas of expertise and funded projects in these regions, rather than the accessibility of good quality output produced locally. This can lead to frontline health knowledge being missed due to constraints, many out of the control of the library. Libraries face a difficult task of being able to fulfil new requirements at an institutional level, or policies and mandates that are being implemented at a national level. Meeting emerging mandates remain a challenge for many institutions. These constraints can span many different aspects: the lack of financial or human resources, technology, or knowledge to achieve their aims. This puts additional pressure on libraries that do not have the number of resources needed, or the infrastructure in place to make their work accessible.

Rapidly evolving technology also poses a challenge for libraries within Africa and low and middle income countries. Much of this knowledge is gleaned from colleagues and reading collateral available, as due to lack of available budget, many librarians are unable to travel to community conferences or events to further their knowledge. Open source technology, which forms the basis of repository platforms, also advances at a rapid pace and many IT resources cannot keep up with the changes imposed. These difficulties faced, lead to a repository not being used, nor customized to meet the specific needs of the institute. Older repository versions also lack functions and features that are needed by the institutes. Often in-house repositories and their content are not sufficiently secured due to lack of knowledge, or resources needed to manage the software and infrastructure. Another issue faced is the lack of participation from authors within the organisation to deposit into the repository. This is due to the resource for advocacy and relaying the benefits of making works openly accessible not being available, or understood by those responsible.

4. BioMed Central's Initiative: Open Access in Low and Middle Income Countries (OALMIC)

By providing barrier-free access to the latest scientific and medical research, open access models play an important role in international development. For many years, BioMed Central has helped institutes, their scientists and medical researchers in low income countries obtain access to this crucial information which will benefit their local communities. Many have traditionally found access to expensive, subscription-based journals impossible, therefore posing a major barrier to the progression of their work. Countries within Africa have great intellectual output to share, but do not always have the tools, or finance in place to highlight and showcase their work (3).

There are various ways BioMed Central helps via this initiative: firstly, by providing a waiver fund for institutes, automatically waiving APC's for researchers within qualifying countries; this enables researchers to publish in previously unreachable journals and reducing the financial burden of the publication process. The waiver fund helps libraries to maintain their pivotal role in supporting their researchers with the dissemination of their works and in the advocacy of the choices available to them.

Another way in which BioMed Central helps is via ‘Foundation Membership’, a package offered for countries within developing regions that offers an open access membership and a repository platform.

In 2012 BioMed Central hosted Open Access Africa, at the University of Cape Town. The event brought together researchers, librarians and administrators, along with funders and decision-makers, to discuss open access benefits to research within an African context. Open Access Africa also included researchers seeking to globally communicate their work, plus potential readers seeking to access this information. These and similar activities continue within the OALMIC initiative in which Open Repository forms an important part.

5. Partners

BioMed Central and Open Repository partner with a variety of organizations: The *Confederation of Open Access Repositories* (COAR) and EIFL, to support open access and repository development worldwide. PHi and AMREF; Africa’s leading health development organisation, that along with BioMed Central, are committed to improving health care within Africa and developing countries. Also Computer Aid International, for the provision of refurbished computers to educational institutes within these regions.

Open Repository also works with organisations that operate within the international charitable and NGO sectors within Africa: Oxfam, MSF and Practical Action. Their activities including specific projects within the region and use the Open Repository service to make sure that their vital work is, and remains accessible.

Open Repository has also recently announced a new partnership with the South African Medical Research Council (SAMRC). The launch of their repository due later this year, and will help SAMRC showcase their output and promote the improvement of health and quality of life for the population of South Africa.

6. Special event: Launch of a new open access health sciences research repository for Africa (A BioMed Central and PHi initiative supported by HBL Section and FAIFE)⁽⁴⁾

Open Repository and Phi quickly recognised a synergy between activities undertaken in Africa and low and middle income countries. Information saves lives and making information freely available is critical to that process. Repositories are a key building block of BioMed Central’s OALMIC activities. The launch of OR *Lite* is designed to help institutions achieve their repository needs by removing barriers and enabling librarians to develop innovative information services. Both Open Repository and PHi recognising the alignment offered through utilizing their existing networks and partners.

The aim of the project is to implement a Zambian led, national health repository to enable access to health information for health professionals and researchers, governmental departments, institutions, librarians and others within the country. The project aims to pull together existing and new information sources into a single country portal for medicine and health information. Once the national portal is embedded within the workflow of output, to encourage individual institutes to implement and maintain their individual institutional repositories. Enabling each institutional repository to become part of a network and using the national repository as a portal. This will provide benefits for accessing health information

within Zambia, at both a national and institutional level. The initial implementation stage within Zambia will act as a blueprint and the foundation to lead to the formation of other national networks within Africa.

7. Open Repository Platform and Service

Open Repository is built on the open source DSpace platform. The Open Repository platform offers a significant number of additional benefits for its clients, as many functions and features not within the core platform are built by Open Repository's development team. Ensuring that the needs of the institutions and compliance with emerging initiatives and mandates are met in a timely manner.

Open Repository and its parent company are active participants within many open source software communities. This participation shows the commitment made to ensuring that current and future generations have access to digital heritage. Open Repository is more than a software platform, it provides a complete repository service to its clients, provides training for the repository administrators and sharing best practice on repository usage and trends. Technical and functional support is also supplied. The service is constantly improving and regular upgrades and release of new features to the platform are regularly provided, including individual customizations for each repository.

Another area that makes Open Repository a fully-rounded repository provider is marketing and PR support for open access advocacy. This can help showcase and drive traffic to each of the clients repositories, raising awareness, citation counts and impact of both the institutes, their authors and their works.

8. Solutions : OR Lite

The need for an affordable, high value, hosted repository was identified through the work that Open Repository has been involved in African, developing and transition countries. Institutes within these regions that recognise the need and benefits that a repository would bring, but were unable to achieve their repository aims due to various barriers that they faced. *OR Lite* is a solution now available to these institutes, to help achieve their open access aims. Many institutes within Africa, at present, are not looking for highly customized repositories and automated library functions of multiple services managed within the library are not in place. Repository providers have historically offered a blanket, one repository fits all scenario, meaning that repository software was typically offered at an affordable price point for some, but not others, leading to low and middle income countries continuing to face boundaries for adoption. Open Repository's *OR Lite* offering acknowledges that all institutes carry the same importance. Repository output cannot be judged solely by the monetary gains of well-funded countries and that if all works are openly accessible, via achievable means, that work can be accessed by many and not decided by the few.

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