Exploring Trends in Open Access Repositories

The case of higher education institutions in Nigeria, Ghana, Cabo Verde, and Senegal

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Abstract

The use of electronic resources in academic research remains low in many developing countries for various reasons, including inadequate funding [1]. Access to these resources are often limited by high prices, resulting in a wide range of scholarly research not reaching its full potential to impact on people's lives. The Open Access (OA) movement developed in response to such conditions, advocating worldwide unrestricted access to scholarly publications [2]. OA resources are thus a major enabler of open science because they empower researchers to share their ideas globally and provide an economical solution to developing countries [3].

One way for academic libraries to provide more OA resources to their communities is to develop institutional repositories (IR). These repositories are a platform for collecting, storing, and providing access to an institution's own research output [4]. This gives them intellectual control over locally published works, instead of relinquishing rights to a third-party publisher. IRs can create higher visibility for the institution and lower-barrier access to scholarly literature [4].

Considering these merits, why haven't more academic institutions in West Africa shown more involvement in institutional repositories? As of February 2019, according to statistics on OpenDOAR [5] there are only 30 OA institutional repositories in four West African countries, namely: Nigeria (21), Ghana (5), Cabo Verde (2), and Senegal (2). However, the four countries combined have hundreds of higher education institutions, with many in Ghana and Nigeria recognised by their national accreditation bodies. There are 152 accredited

tertiary institutions in Nigeria [6] and 200 in Ghana [7]. It was difficult to find an accurate source for a clear number of accredited institutions in Cabo Verde and Senegal, although some sources listed 8 universities existing in the former [8] and up to 75 in the latter [9]. These numbers bring up questions about the level of awareness of Open Access resources in West Africa.

Aims

This study aims to identify some of the trends in availability of OA institutional repositories in West Africa, the number of resources they provide to their users, and subject domains they cover, as a pilot scoping study combining desk research on local sources with statistical data from OpenDOAR [5].

Methods

OpenDOAR is a directory of OA repositories around the world that provides quantitative statistical data on each country listed. The data in this study concerns the four aforementioned West African countries' Green OA repositories, and their growth from the years 2009 to 2019. We extracted data from OpenDOAR and other sources and created a mini dataset with which to illustrate some observed trends through diagrams. We have not formulated any preliminary hypotheses; this pilot study is a first step towards a larger scale grounded theory research.

Why isn't West Africa publishing more research in its OA repositories?

Findings

Figure 1. Growth of repositories listed on OpenDOAR

The line graph below shows that out of a total number of 30 repositories from the West African countries, Nigeria has the highest number and growth rate over a ten-year period (1 to 21), followed by Ghana (1 to 5), Senegal (0 to 2) and Cabo Verde (1 to 2).

Figure 2. Scope of resources in OA repositories

The bar graph shows the total number of published resources available in each country. This may include journal articles, theses and dissertations, and digitised text books and totals: 51762 in Nigeria, 25283 in Ghana, 400 in Senegal, and 3860 in Cabo Verde. It is interesting to see the gap between Cabo Verde and Senegal, although they both have two institutional repositories each. Why does Senegal have such a low amount of published content?

Figure 3. Thematic distribution of resources

This figure indicates how each repository has classified its resources. "Multidisciplinary" is the most common category among the four countries, with Nigeria having the highest frequency. However, as seen in the graph, Nigeria also tends to publish in a wider variety of and more specific subject domains, such as Library and Information Science, Technology, and Law and Politics.

Conclusions and Future Work

OA institutional repositories can benefit scholarly communities by providing higher visibility, intellectual control, and easier access for locally produced research. Our findings show that although West Africa has made efforts in the past decade, there is substantial space for growth. The low number of total OA repositories in comparison to the total number of higher education institutions shows that many students do not yet have access to OA resources published by their own universities.

We hope that such a study would be useful for reflection on the current state of higher education and scholarly research in West Africa. Our research can also guide academic institutions to assess their own delivery of open access and open science. The below questions should guide us in our future study.

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