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INCREASING THE VISIBILITY OF GREY LITERATURE IN ALGERIAN INSTITUTIONAL REPOSITORIES

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Abstract

The global trend of establishing digital repositories in institutions of higher education has accelerated as they are becoming important to research and scientific institutions for evaluating criteria. Institutional repositories can also help promote the practical impacts of research, which is not only beneficial to the community but can help demonstrate the importance of the work and enhance the researcher's reputation. As of August 2019, the Directory of Open Access Repositories holds 4 140 repositories, including 15 from Algeria, consisting theses, conference papers, books and journals. This paper aims to discover the benefits and impacts of institutional repositories and their role in supporting scientific research and enhancing the global visibility and impact of grey literature through answering the following questions: What are the best practices to improve the visibility of grey literature? How can we achieve high grey literature visibility in Algerian institutional repositories?

Keywords

Grey literature, institutional repositories, visibility, Algerian institutional repositories

Introduction

Grey literature is often the best source of up-to-date research on certain topics. While there are a number of sources where grey literature can be found, institutional repositories are often consulted first. For years, universities have been building their repositories to collect the grey literature published by scholars, and potentially increasing the public value, ranking, prestige, and visibility of the researchers. In addition, the availability of open source institutional repository systems has encouraged a proliferation of institutional repositories worldwide, particularly among academic and research institutions. Depositing grey literature in Open Access repositories will increase visibility and citations through the removal of barriers to knowledge sharing.

The development of the institutional repositories in Algeria is a result of the desire to communicate intellectual output, and increase visibility and impact, because the poor visibility of research findings coming out of institutional repositories is a major challenge for Algerian scholarship.

Objectives of the Research

In this paper we explore factors that enhance the visibility of grey literature in institutional repositories. As such, our study has sought to achieve the following objectives:

- Assess the status of grey literature in Algerian institutional repositories.
- Indicate best practices and means to increase grey literature visibility in institutional repositories.

The study addresses and responds to the following questions:

- Which are the best practices to improve the visibility of grey literature?
- How can we achieve a high grey literature visibility in Algerian institutional repositories?

Open Access Movement and Repositories

Many universities, government agencies, and other research funders are embracing the benefits of making works freely available and are adopting open access policies. These policies generally require works created in university faculties or developed under agency or foundation sponsorship to be made openly accessible (Rubow, Shen, & Schofield 2015). Open access repositories provide free research access for users and maximise the visibility and impact of the researches, while also focusing on “serving the interests of faculty researchers and teachers by collecting their intellectual outputs for long-term access, preservation, and management”. (Carr, White, Miles, & Mortimer 2008)

Visibility of Grey Literature:

Open access repositories play a variety of roles in the scholarly communication system, and these roles continue to expand and evolve. To date, their primary functions have been to provide visibility and open access to research outputs. Additional open access repositories significantly raise the visibility, use, and citation counts¹ of deposited materials. Numerous studies over the last 15 years have reported on the citation advantage of open access content in general (COAR 2015).

State of Algerian Repositories:

As of August 2019, OpenDOAR, a service that monitors repositories, listed 15 repositories in Algeria. These graphs (Figures 1 – 4) show the growth in numbers of repositories in Algeria, the types of software used, subject areas, and language content. Most Algerian institutional repositories collect grey literature, e-theses, conference proceedings, working papers, and reports. The vast majority of repositories in Algeria are institutionally hosted and managed by research institutions and universities, while 73% of these repositories used DSpace open source software, 7% used EPrints software, and 20% used CMS (Content Management System) software.

The subjects of repositories are ubiquitous, multidisciplinary, and widespread, including, social sciences, business, economics, science, and mathematics. In addition, French is the most common language used in Algerian institutional repositories, followed by English, then Arabic.

¹ Citation counts: referring to a higher citation count

OpenDoar Algeria Statistics²:

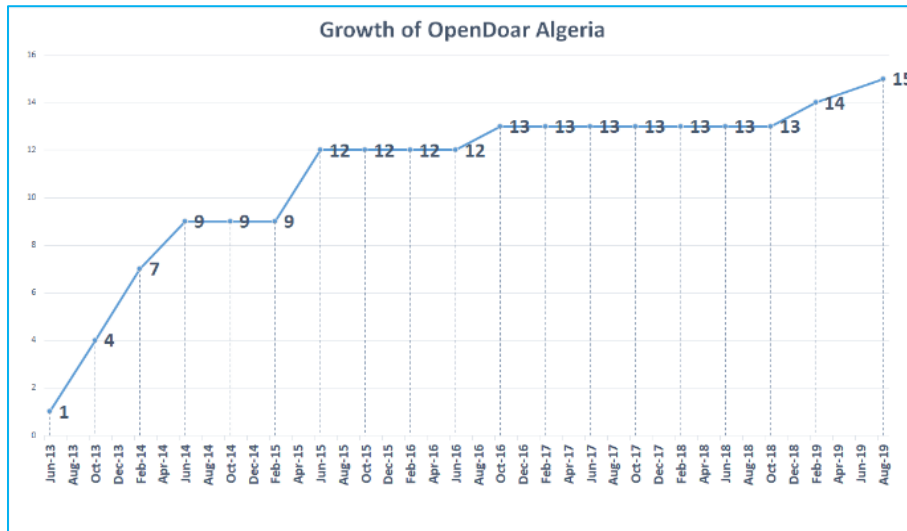


Figure 1: OpenDOAR Algeria Growth (data source: OpenDOAR)

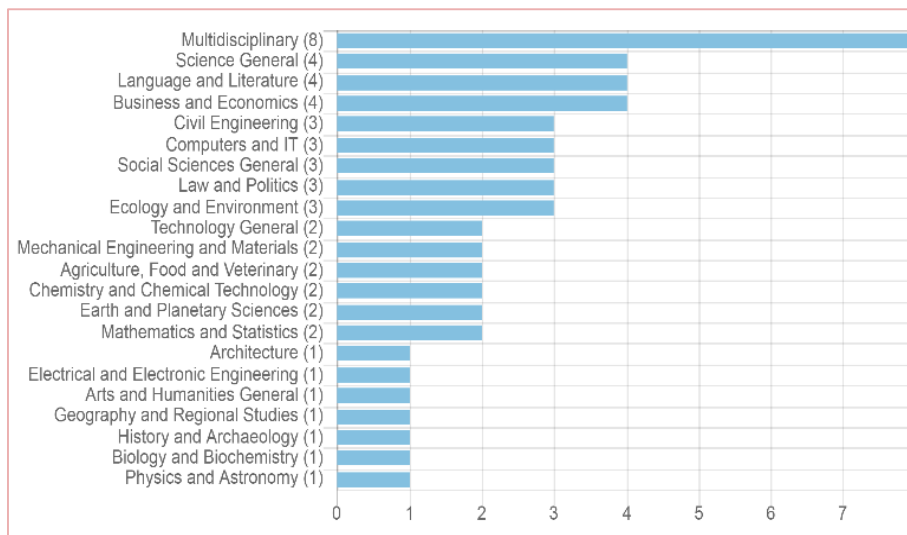


Figure 2: OpenDOAR Algeria Subjects (data source: OpenDOAR)

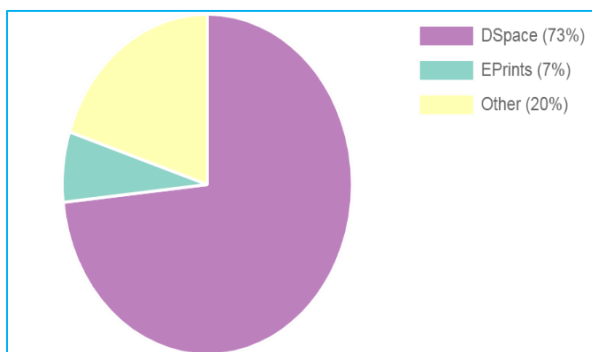


Figure 3: OpenDOAR Algeria Software (data source: OpenDOAR)

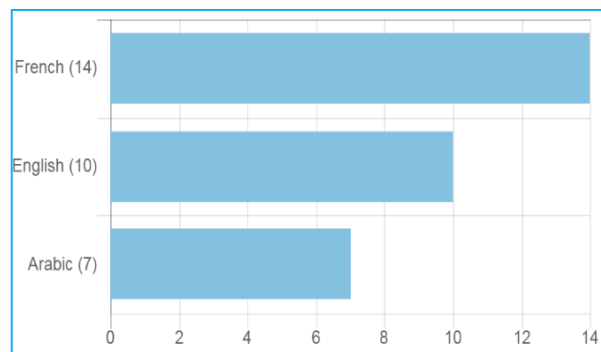


Figure 4: OpenDOAR Algeria Languages (data source: OpenDOAR)

² https://v2.sherpa.ac.uk/view/repository_by_country/dz.default.html

We could determine the exact date of creation of each of the 15 repositories, while the first repository in Algeria was launched in 2013. In comparison with arXiv, the first repository established in the world, and considering that the first repository launched in Africa was in 2005, Algerian institutions and universities have been extremely late to engage in the development and establishment of digital repositories for several reasons, including. *“A lack of information on Open Access the concept is new and not popularized enough, thus implementation is not rapid; a lack of clear institutional and national policy on Open Access; the difficulty of securing long-term funding and getting commitments from more institutions to join the Open Access community”* (Hachani & Tennant 2017).

Grey Content in Algerian Institutional Repositories

According to OpenDOAR data, 55% of Algerian institutional repositories contain theses and dissertations, 36% working papers, 3% conference papers, 3% reports and 1% other resources (see fig. 5).

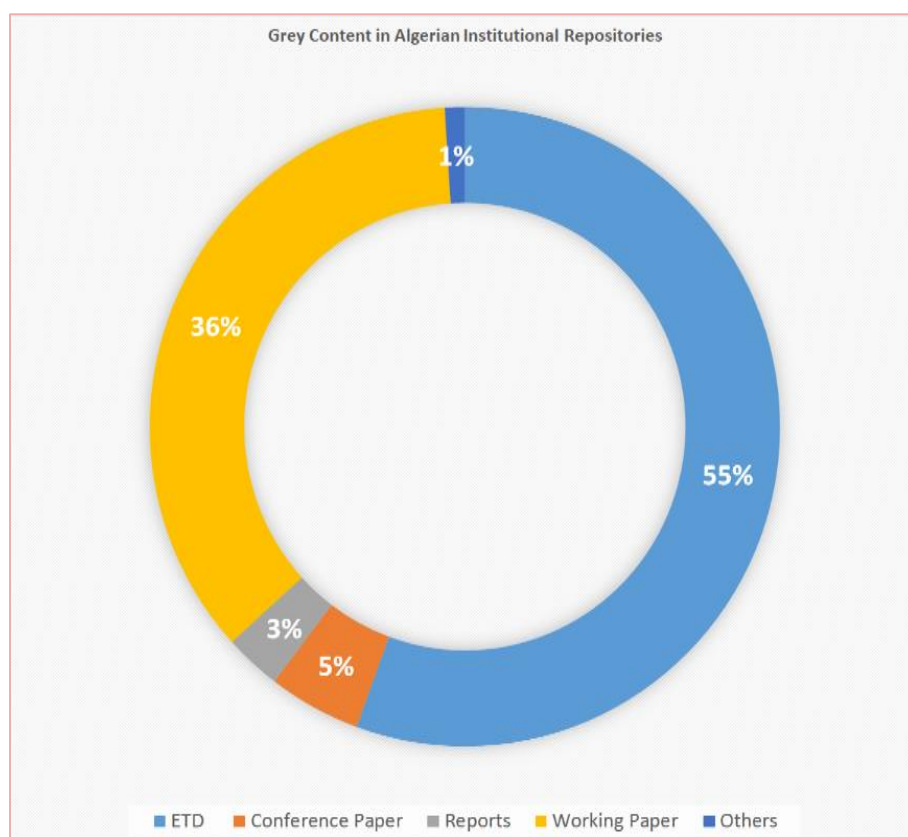


Figure 5: Grey Literature in Algerian Institutional Repositories

Current Best Practices and Ways to Increase Grey Literature Visibility in Institutional Repositories

International Registries

The best way to make a repository more visible and better known is to register it in international directories like OpenDOAR, OpenROAR, DSpace instance, OAlster, Repository Map, BASE

(Bielefeld Academic Search Engine), DRIVER (Digital Repository Infrastructure Vision for European Research), SCIRUS and so on. The Figure 6 below shows the number of registered Algerian institutional repositories.

The Directory of Open Access Repositories - OpenDOAR

(<https://v2.sherpa.ac.uk/pendoar/>) is an authoritative directory of academic open access repositories. Services offered by the directory include searches for repositories, searches of repository contents, lists of repositories, and repository statistics.

The aim of ROAR (<http://roar.eprints.org/>) is to promote the development of open access by providing timely information about the growth and status of repositories throughout the world. Open access to research maximizes research access and thereby also research impact, making research more productive and effective (Okpala 2013).

BASE (Bielefeld Academic Search Engine, <https://www.base-search.net/>) is a registered **OAI service provider**. Database managers can **integrate the BASE index** into their local infrastructure (e.g. meta search engines, library catalogues). There are also several **tools and services** for users, and database and repository managers.

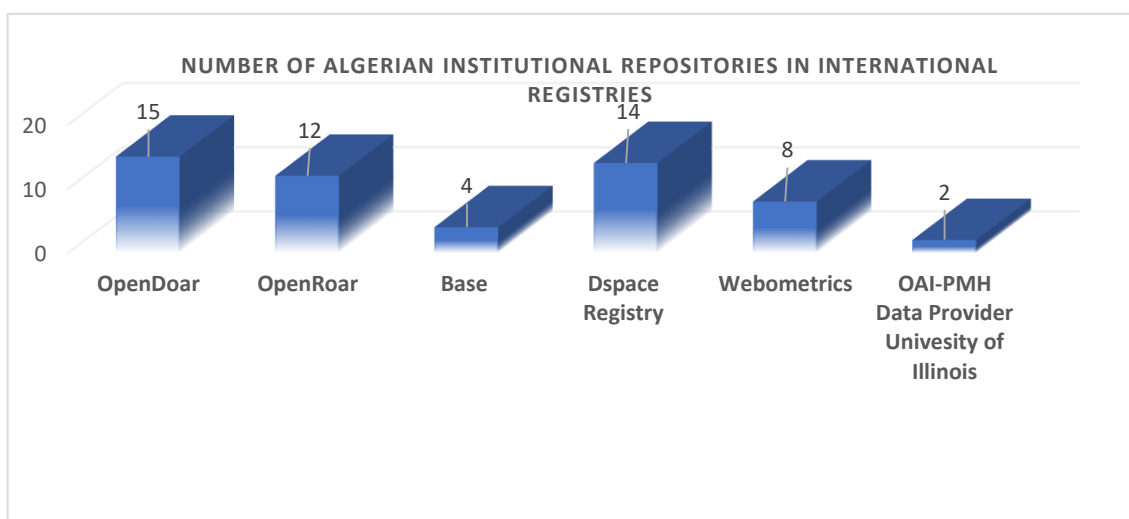


Figure 6: Number of Algerian Institutional Repositories in International Registries

Metadata standard and metadata quality

Metadata plays a key role in describing, accessing, and managing digital objects using different formats and media. The purpose of metadata is to offer the user multiple access points (e.g. author, title, and subject.). However, if the metadata are incorrect, the resources will not be adequately represented in institutional repositories and will remain invisible to users (Tmava & Alemneh 2012). Grey literature in institutional repositories requires specific metadata for identification and bibliographic description (Schöpfel, Prost, & Le Bescond 2011).

Interoperability

Interoperability is key to the success of your institutional repository, ensuring that content stays portable and compatible with on-campus systems, as well as complying with OAI (Open Archive Initiative) data harvesting, improving your SEO (Search Engine Optimization) capabilities. (Elsevier 2018)

Online Profile and Scholarly Identifier

Creating and maintaining online profiles will help to raise the impact of one's research outputs on the research community and the greater public. An online profile is an essential tool to disseminate one's research and publication output. Scholarly identifiers and online profiles such as ResearcherID and ORCID (Open Researcher and Contributor ID) provide a solution to the author ambiguity problem within the scholarly research community. (Ale Ebrahim 2017a). Creating a public Google Scholar profile is an easy way to increase a work's findability and also provides other benefits such as an author H-index, citation counts, and more.

ORCID (Open Researcher and Contributor ID) is a persistent digital identifier that distinguishes you from every other researcher. Having a unique identifier ensures that the bibliometric data about you and your body of work is accurate and correctly linked to your researcher profile. It also improves the visibility of the research. The academic social networking makes one's work more widely discoverable and easily available. The two best known examples of academic social networking are ResearchGate and Academia.edu.

The ResearchGate and Academia academic social networking sites have become important components of the scholarly communication landscape.

Placing your publications and presentations on ResearchGate and Academia will make it easier for others to encounter your work, not only because they are available on a social network, but also because they improve the search engine optimization (SEO) Search Engine Optimization of your research. A recent study found that papers uploaded to Academia.edu receive a 73% boost in citations over 5 years (Ale Ebrahim 2017b).

Google Scholar Search Engine

Google Scholar (GS) has become the best free search engine available for institutional repository content (Arlitsch & S. O'Brien 2013). The Table 1 and Figure 7 below shows the GS index ratio for the repositories indexed by GS. We collected the data from the webometrics website, which shows how many records GS has been indexed in.

Table 1: Google Scholar Index Ratio of Algerian Institutional Repositories

Repositories	Index Ratio
Archives Numériques de l'Université Frères Mentouri Constantine	23.29%
Dépôt Institutionnel de l'Université Abou Bekr Belkaid Tlemcen	83.03%
Dépôt institutionnel de l'Université Mohamed Boudiaf de M'Sila	81%
Institutional Repository Université Hassiba Benbouali Chlef	0%
Production Scientifique de l'Université de Bouira	0%
Production Scientifique de l'Université M'hamed Bougara Boumerdès	0%
University of Biskra Repository	0%
University of Biskra Theses Repository	83.85

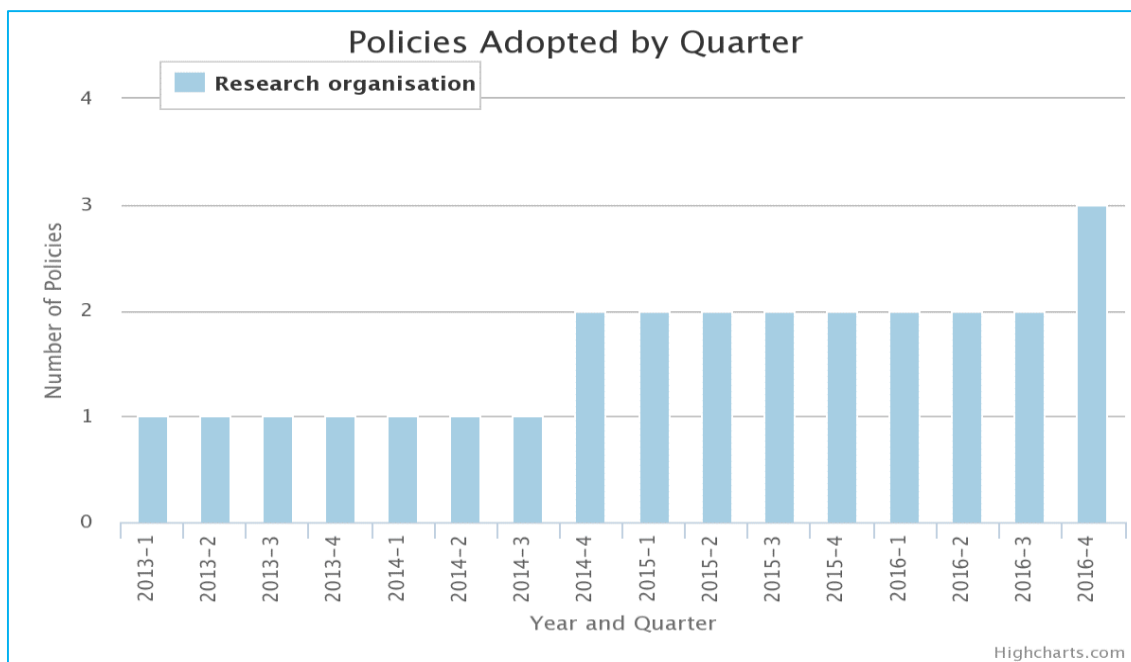


Figure 7: Number of Records vs Records Indexed by Google Scholar

Mandatory Self-Archiving of Grey Literature:

The mandatory institutional or self-depositing of grey literature is promoted by Stevan Harnad: green road (self-deposit) to free online full-text access to peer-reviewed literature, through an explicit and institutional mandatory policy in order to obtain commitment by close to 100% of the authors (Schöpfel, Prost, & Le Bescond 2011). According to ROAR Map, only three universities in Algeria have adopted mandatory deposit policies (see Figure 8).

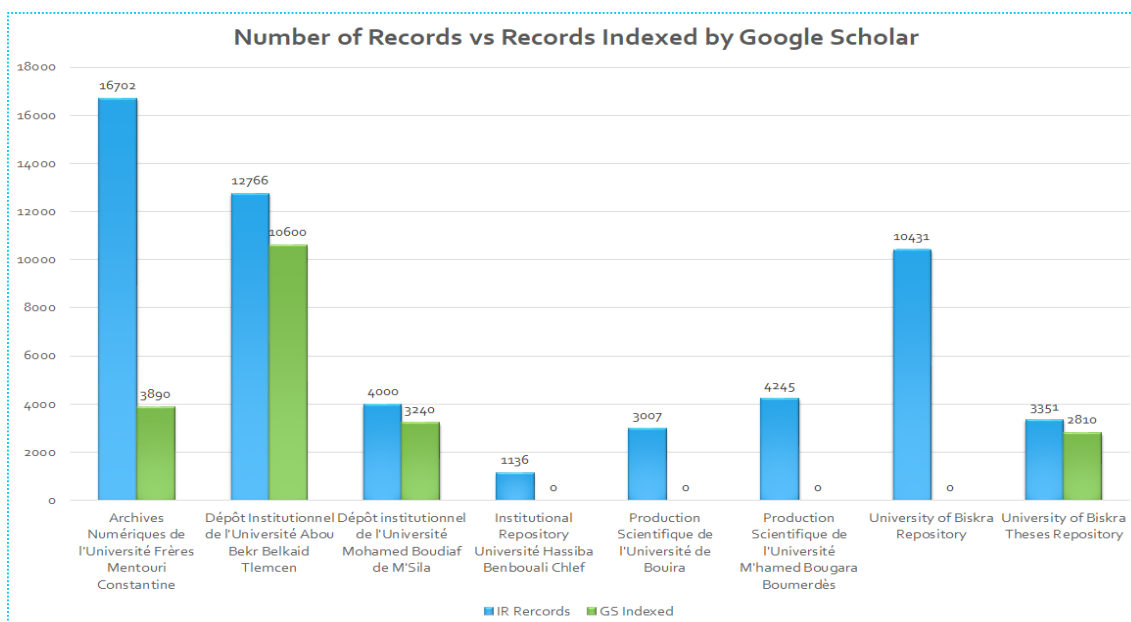


Figure 8: Number of ROAR Map Algeria policies

Conclusion and Recommendations

Many academic institutions in Algeria have great potential for the implementation of institutional repositories to preserve, increase visibility, and widen access to the research outputs of universities, including grey literature.

The use of institutional repositories and good institutional policies will enhance the availability and accessibility of grey literature as a key information resource that supports teaching research and learning at universities (Samzughi 2017).

Our study recommends the following:

- Upgrade the DSpace software version for institutions using an earlier version, because we have observed that Algerian institutional repositories are using DSpace version 1.7.
- Enable Google Scholar indexing features.
- Develop a national open access policy for institutional policies requiring mandatory deposit.
- Allow full-text downloading of the grey literature in the repositories.
- Register the repositories in international directories.
- Motivate faculty authors to self-archive.
- Raise awareness among scholars of the importance of improving their presence in academic social networks. (Ale Ebrahim 2017a)

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