

PAPER

Lithuanian open science resources: a gateway to the world

Fausta Kepaliene and Elena Maceviciute (Vilnius University, Lithuania)

Keywords: open science, repositories, open data, open access, scholarly publishing

Introduction

Open science is defined as “the transparent and accessible knowledge that is shared and developed through collaborative networks” (Vincente-Saez, 2018, p. 435). „Open science“ is an umbrella term that includes wide topics related to scientific communication, such as opening of research data, citizen science, open reviewing (Mirowski, 2018), and even open source code. This paper is focused on two directions of implementing open science: opening data and publications through repositories.

More concretely, the topic of the presented study relates to Lithuanian national open science repositories and their international visibility. In accordance with the system of evaluation of researchers based on the citation of research publications, the international character of research publications acquires special significance. One of the ways to meet the requirements for researchers and attract high citation indicators is to publish in highly ranked international scientific and scholarly journals. Even the most modest repository of scientific information can be accessed to global audiences due to the dissemination of information through the internet. This creates conditions to increase the prestige of the research institution as well as the ranking of research publications (Fralinger, Bull, 2013).

The researchers working in Lithuania are required to submit all their reviewed research production to the interinstitutional repository eLABa (Maceviciute, Kepaliene, 2022). According to the guidelines of open access implementation of the Research Council of Lithuania, the executors of research projects should submit a data management plan together with their research application. The data that is the basis of their publications should be openly available at the same time as the publications (Lietuvos mokslo taryba, 2016). These formal requirements and the experienced social pressure are the main factors why Lithuanian researchers decide to submit their publication to the repositories. Internal motivation affects this choice to a much lower extent (Maceviciute, Kepaliene, 2022), therefore, we can assume that submission of research publications and data to the repositories is not as beneficial as the researchers expect. As one of the declared affordances of the open access repositories is increased visibility of publications and data, we can ask if Lithuanian open access repositories meet researchers needs for higher international visibility/

These problems were investigated by Fralinger and Bull (2012), who intended to identify which factors affect the use of institutional research information repositories created and maintained in the USA by users from foreign countries. The study has shown that the administrators of the majority of repositories could not provide the data about international visibility of these repositories as such statistical data is not collected. Despite this, the authors of the article were convinced that in the future the assessment of the international use of institutional repositories will become one of the most important indicators in evaluating the benefits of the repository. This should be affected with increased investment into international initiatives and collaboration. The issues of the international visibility of scientific repositories was also explored by Lee-Hwa et al. (2013), Singh et al. (2020), Sanches et al. (2021).

Scientific information repositories in Lithuania

Eighteen open access repositories functioning in Lithuania were registered in the OpenDOAR on 12th of October, 2021. Out of these, 15 are institutional: 11 owned by universities, 2 by research institutes, one by a college and one by a library. In additions OpenDOAR has registered one interinstitutional repository and two archives of research data. The largest Lithuanian repositories used by different Lithuanian research institutions are interinstitutional:

1. eLABa (Lithuanian Academic Electronic Library) – 47 Lithuanian research and educational institutions submit publication to this repository (eLABa,1, n.d.).
2. MIDAS (The National Open Access Research Data Archive) – “is intended for the use of scientists, researchers, teachers, lecturers, students, higher education and research establishments, healthcare institutions, other research-related individuals and institutions, and serves non-commercial research, educational, teaching and medical purposes” (MIDAS, n.d.).

According to a publicly available report at present there are 91,315 open access documents in eLABa with 31% research articles and 69% of final thesis of doctoral, master’s or other studies (eLABa,2, n.d.). There is no information in publicly available statistics on how many documents are in Lithuanian and how many in English or other foreign languages. We also cannot identify researchers of which countries seek information in eLABa, or how often they do this. So, it is not quite clear how accessible the publications in this repository are or if they are relevant in the international context. Thus, it is difficult to estimate the role of the repository into the visibility of Lithuanian research publications in international context.

Research questions

The aim of this research is to estimate the impact of Lithuanian open access research repositories on the visibility of Lithuanian research publications and data sets in the international context. The impact of the repositories on the visibility of research publications is identified on the basis of:

1. Demographic features of the repository users. It is assumed that more often foreign users search for information in Lithuanian repositories, the higher their impact on the international visibility of publications and data sets.
2. The number of publications in foreign languages. It is assumed that the higher the number of research articles in foreign languages, the larger the potential of the repositories to ensure their international visibility.
3. Dissemination of information about Lithuanian open access repositories in the registries of international open access resources. Information availability in international registries increases the notoriety of the repository and, as a result, interest in information preserved in it.

Four research questions are formulated with regard to the aim of the study:

1. What and which data and publications are collected in Lithuanian open access repositories?
2. What part of research publications and data sets in Lithuanian repositories are available in English and other foreign languages?
3. Which international data bases of repositories present information about Lithuanian open access repositories?
4. How often users of foreign countries search information in Lithuanian open access repositories?

Methodology

The study is carried out using survey. The respondents are the administrators of Lithuanian open access research repositories who have access to the statistical data about the features and languages of publications in these repositories, which are not publicly available, and also to the data about countries, from which these repositories are searched. The administrators are requested to provide only general data that will not violate the privacy of the repository users. We plan to survey 20 administrators of the open access repositories.

The questionnaire includes three blocks of questions:

- 1) Features of the documents in the repositories: how many and what full text documents are stored in the repository (what is the percentage of research monographs, peer-reviewed research articles, grey literature, non-reviewed research publications etc.);
- 2) Languages, in which publications, abstracts and bibliographic descriptions are stored in the repository;
- 3) Demographic characteristics of the users of repository websites. The website users from which countries have been registered from October, 2021, to October, 2022.

The acquired statistical data will be processed using the methods of descriptive statistics and presented in diagrams to visualize the results.

The study will also identify if the information about Lithuanian open access repositories is available in international registries of open access repositories. To achieve this aim we will search for information on Lithuanian open access repositories in the ROAR (Registry of Open Access Repositories) and the directory of "Web Ranking of World Repositories by the Cybermetrics Laboratory in Spain". Other publicly available material about international visibility of Lithuanian repositories will be also studied as follows: a) the analysis of the repository websites will be analysed to identify in which languages the information is presented; b) the analysis of information found in the search engine Google in answer to the queries "Lithuanian repositories", "open access resources in Lithuania" and English names of the each repository. The results will help to estimate what information about repositories created and maintained in Lithuania is available to foreign users.

Limitations of the study

We will study how many internet users from foreign countries have visited websites of Lithuanian open access research repositories. These data show if the information published in Lithuanian repositories is available and relevant to foreign researchers. However, they do not allow us to judge the user behaviour and find out if the visit was occasional or intentional, what its duration was, which search was performed or how the information resources were used (read in the website, downloaded, or cited). We also will not be able to find out other characteristics of the users: age, sex, profession, etc.

Research results

The results of the study would be important in assessing the barriers to the international visibility of information collected in repositories. If the majority of publications, metadata and other information are in Lithuanian language, then the possibilities to increase their international visibility could be very limited. These possibilities could also be affected by the presentation of information about repositories in English in other sources and its searchability through Google.

References

- eLABa (1). (n.d.). "eLABa institucijos." Accessed October, 12, 2022. <https://www.elaba.lt/elaba-portal/elaba/institucijos;jsessionid=1C2B19434BE05E005275DD1694340F07>
- eLABa (2). (n.d.). "eLABa talpyklos statistika." Accessed October, 12, 2022. <https://www.elaba.lt/elaba-portal/talpykla/statistika>

Fralinger, Lauren, and Bull, Jonathan. 2013. "Measuring the international usage of US institutional repositories." *OCLC Systems & Services: International digital library perspectives* 29(3): 134–150. <https://doi.org/10.1108/OCLC-10-2012-0039>.

Lee-Hwa, T., Abrizah, A., and Noorhidawati, A. (2013). "Availability and visibility of open access digital repositories in ASEAN countries." *Information Development*, 29(3), 274–285. <https://doi.org/10.1177/0266666912466754>

Lietuvos mokslo taryba. 2016. "Atvirosios prieigos prie mokslo publikacijų ir duomenų gairės." Accessed October, 12, 2022. <https://e-seimas.lrs.lt/portal/legalActPrint/lt?jfwid=tu0odns4k&documentId=8113c930e0b811e5b18181b790158f61&category=TAD>

Maceviciute, Elena, and Kepaliene, Fausta. 2022. "Factors influencing Lithuanian researchers' use of open access repositories as a publishing channel." Proceedings of the ISIC2022 conference. Accessed October, 12, 2022. <https://edoc.hu-berlin.de/handle/18452/25978?show=full>

Singh Madan, Kuri Ramesh, Kumar Gireesh T. K. Dr., Singh Kunwar Dr. 2020. "Global Visibility of Open Access Institutional Repositories of SAARC Countries: An Explorative Study." *Library Philosophy and Practice* (e-journal). 4451

MIDAS. (n.d.). "About MIDAS." Accessed October, 12, 2022. <https://www.midas.lt/public-app.html#/apie/about?lang=en>

Mirowski, Philip. "The future(s) of open science." 2018. *Social Studies of Science* 48(2): 171–203. <https://doi.org/10.1177/0306312718772086>.

Sanches Tatiana, Melo Luiza Baptista, Lopes Silvia Costa, Henriques Susanna Oliveira. 2021. "International visibility of thesis and dissertations from ULisboa through the Institutional Repositories: Gateway for Open Science." Proceedings of the IATUL Conferences Paper 6. <https://docs.lib.purdue.edu/iatul/2021/wednesday/6>

Vincente-Saez, Ruben, and Martinez-Fuentes, Clara. 2018. "Open Science now: A systematic literature review for an integrated definition." *Journal of Business Research* 88: 428–436. <https://doi.org/10.1016/j.jbusres.2017.12.043>.