Reviewing the Data on Knowledge Creation: Access, Governance and Equity

Ludo Waltman

Centre for Science and Technology Studies (CWTS)
Leiden University

OASPA webinar
March 7, 2023
Large-scale comparison of bibliographic data sources: Scopus, Web of Science, Dimensions, Crossref, and Microsoft Academic

Abstract

Bibliometric methods are used in multiple fields for a variety of purposes, namely for research evaluation. Most bibliometric analyses have in common their data sources: Thomson Reuters' Web of Science (WoS) and Elsevier's Scopus. The objective of this research is to describe the journal coverage of those two databases and to assess whether some field, publishing country and language are over or underrepresented. To do this we compared the coverage of active scholarly journals in WoS (13,605 journals) and Scopus (20,346 journals) with Ulrich's extensive periodical directory (63,013 journals). Results indicate that the use of either WoS or Scopus for research evaluation may introduce biases that favor Natural Sciences and Engineering as well as Biomedical Research to the detriment of Social Sciences and Arts and Humanities. Similarly, English-language journals are overrepresented to the detriment of other languages. While both databases share these biases, their coverage differs substantially. As a consequence, the results of bibliometric analyses may vary depending on the database used. These results imply that in the context of comparative research evaluation, WoS and Scopus should be used with caution, especially when comparing different fields, institutions, countries or languages. The bibliometric community should continue its efforts to develop methods and indicators that include scientific output that are not covered in WoS or Scopus, such as field-specific and national citation indexes.
Beyond the Web of Science: an overview of Brazilian papers indexed by regionally relevant databases

André Brasil

1 a.l.brasil@cwts.leidenuniv.nl
Leiden University, Centre for Science and Technology Studies (CWTS)
Kolffpad 1, 2333 BN Leiden (The Netherlands)

Figure 5: Comparison of language profile of Brazilian papers (2013-2018), in and out of WoS, according to research areas adopted by CAPES
Recalibrating the scope of scholarly publishing: A modest step in a vast decolonization process

Abstract

By analyzing 25,671 journals largely absent from common journal counts, as well as Web of Science and Scopus, this study demonstrates that scholarly communication is more of a global endeavor than is commonly credited. These journals, employing the open-source publishing platform Open Journal Systems (OJS), have published 5.8 million items, they are in 135 countries, with 70.9% in the Global South and 44.2% following the OA diamond model (charging neither reader nor author). A substantial proportion of journals operate in more than one language (48.9%), with research published in 61 languages (led by English, Indonesian, Spanish, and Portuguese). The journals are distributed across the social sciences (45.0%), STEM (40.3%), and the humanities (14.7%). For all their geographic, linguistic, and disciplinary diversity, 12% are indexed in the Web of Science and 5.7% in Scopus. On the other hand, 1% are found in Cabell’s Predatory Reports, and 14% show up in Beall’s (2021) questionable list. This paper seeks to both contribute to and historically situate the expanded scale and diversity of scholarly publishing in the hope that this recognition may assist humankind in taking full advantage of what is increasingly a global research enterprise.

Keywords: decolonial process, Global South, journal publishing, OA diamond journals, open access, scholarly communication

<table>
<thead>
<tr>
<th></th>
<th>Journals</th>
<th>JUOJS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) General research indexes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web of Science Citation Reports²</td>
<td>24,510</td>
<td>279</td>
</tr>
<tr>
<td>EBSCOHost⁴</td>
<td>17,874</td>
<td>771</td>
</tr>
<tr>
<td>Scopus⁶</td>
<td>41,957</td>
<td>1,646</td>
</tr>
<tr>
<td>Dimensions⁷</td>
<td>72,990</td>
<td>12,435</td>
</tr>
<tr>
<td>OpenAlex⁸</td>
<td>124,073</td>
<td>15,366</td>
</tr>
<tr>
<td>Google Scholar²¹</td>
<td>–</td>
<td>22,679</td>
</tr>
<tr>
<td>(b) Regional research index</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letindex⁵</td>
<td>24,486</td>
<td>4,208</td>
</tr>
<tr>
<td>(c) Open access research indexes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directory of OA Journals (DOAJ)⁸</td>
<td>17,213</td>
<td>5,312</td>
</tr>
<tr>
<td>Directory of OA Resources (ROAD)⁹</td>
<td>37,333</td>
<td>10,975</td>
</tr>
</tbody>
</table>
Why researchers publish in non-mainstream journals: Training, knowledge bridging, and gap filling

Diego Chavarro *, Puay Tang *, Ismael Rafols *

Abstract

In many countries, research evaluations confer high importance to mainstream journals, which are considered to publish excellent research. Accordingly, research evaluation policies discourage publications in other non-mainstream journals under the assumption that they publish low-quality research. This approach has prompted a policy debate in low and middle-income countries, which face financial and linguistic barriers to access mainstream journals. A common criticism of the current evaluation practices is that they can hinder the development of certain topics that are not published in mainstream journals although some of them might be of high local relevance. In this article, we examine this issue by exploring the functions of non-mainstream journals in scientific communication. We interviewed researchers from agricultural sciences, business and management, and chemistry in Colombia on their reasons to publish in non-mainstream journals. We found that non-mainstream journals serve the following functions: 1) offer a space for initiation into publishing (training); 2) provide a link between articles in mainstream journals and articles read by communities with limited access to them (knowledge-bridging); 3) publish topics that are not well covered by mainstream journals (knowledge gap-filling). Therefore, publication in non-mainstream journals cannot be attributed only to ‘low scientific quality’ research. They also fulfil specific communication functions. These results suggest that research evaluation policy in low and middle-income countries should consider assigning greater value to non-mainstream journals given their role in bridging and disseminating potentially useful and novel knowledge.
Use these ten principles to guide research evaluation, urge Diana Hicks, Paul Wouters and colleagues.

3) Protect excellence in locally relevant research. In many parts of the world, research excellence is equated with English-language publication. Spanish law, for example, states the desirability of Spanish scholars publishing in high-impact journals. The impact factor is calculated for journals indexed in the US-based and still mostly English-language Web of Science. These biases are particularly problematic in the social sciences and humanities, in which research is more regionally and nationally engaged. Many other fields have a national or regional dimension — for instance, HIV epidemiology in sub-Saharan Africa.

This pluralism and societal relevance tends to be suppressed to create papers of interest to the gatekeepers of high impact: English-language journals. The Spanish sociologists that are highly cited in the Web of Science have worked on abstract models or study US data. Lost is the specificity of sociologists in high-impact Spanish-language papers: topics such as local labour law, family health care for the elderly or immigrant employment. Metrics built on high-quality non-English literature would serve to identify and reward excellence in locally relevant research.

Helsinki Initiative on Multilingualism in Scholarly Communication

Research is international. That’s the way we like it! Multilingualism keeps locally relevant research alive. Protect it! Disseminating research results in your own language creates impact. Endorse it! It is vital to interact with society and share knowledge beyond academia. Promote it! Infrastructure of scholarly communication in national languages is fragile. Don’t lose it!

The signatories of the Helsinki Initiative on Multilingualism in Scholarly Communication support the following recommendations to be adopted by policy-makers, leaders, universities, research institutions, research funders, libraries, and researchers:

1. Support dissemination of research results for the full benefit of the society.
   - Make sure researchers are hired for disseminating research results beyond academia and for interacting with heritage, culture, and society.
   - Make sure easy access to researched knowledge is provided in a variety of languages.

2. Protect national infrastructures for publishing locally relevant research.
   - Make sure not-for-profit journals and book publishers have both sufficient resources and the support needed to maintain high standards of quality control and research integrity.
   - Make sure national journals and book publishers are safeguarded in their transition to open access.

3. Promote language diversity in research assessment, evaluation, and funding systems.
   - Make sure that in the process of expert-based evaluation, high-quality research is valued regardless of the publishing language or publication channel.
   - Make sure that when metrics-based systems are utilized, journal and book publications in all languages are adequately taken into account.
Introducing our new Global Equitable Membership (GEM) program

Susan Collins – 2022 December 07
In News Release, Membership, Fees, Equity

When Crossref began over 20 years ago, our members were primarily from the United States and Western Europe, but for several years our membership has been more global and diverse, growing to almost 18,000 organizations around the world, representing 148 countries.
The Centre for Science and Technology Studies (CWTS) at Leiden University is delighted to announce the establishment of a UNESCO Chair on Diversity and Inclusion in Global Science. The goal of the chair is to reinforce and develop expertise on fostering pluralism in scientific topics, broadening participation in science and to widening the social distribution of the benefits from scientific advances.

Together with the UNESCO and partner organisations in various continents, the Chair aims to carry out research projects and to organise science policy meetings and training events that explore how to:

- Develop qualitative and quantitative methods, tools and processes for monitoring diversity and inclusion
- Support the adoption of appropriate evaluations of diversity and inclusion across a variety of contexts in particular in career development and co-production processes
- Foster development of more inclusive scholarly communication, including infrastructures, so as to broaden access and pluralise visibility
- Gain understanding on the relationship between diversity and inclusion, and the contributions of science to wellbeing and sustainable development.
Ten rules for ranking universities

4. Be transparent
Users of rankings require at least a basic understanding of their design. Rankings therefore need to explain their methodology. Ideally, they should also make their underlying data available. Users could then see, for example, not only how many highly cited publications a university has produced but also what they are. Most rankings do not do this, because of the proprietary nature of data and the commercial interests of rankers.
Thank you for your attention!