Impact Assessment of Non-Indexed Open Access Journals: A Case Study

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Abstract: This case study assesses the impact of a small, open-access social sciences journal not included in citation tracking indexes by exploring measures of the journal’s influence beyond the established “impact factor” formula. An analysis of Google Scholar data revealed the journal’s global reach and value to researchers. This study enabled the journal’s editors to measure the success of their publication according to its professed scope and mission, and to quantify its impact for prospective contributors. The impact assessment strategies outlined here can be leveraged effectively by academic librarians to provide high-value consultancy for scholar-editors of open access research journals.

Introduction

As a case study, we evaluated the research impact of a small, open access, locally published journal, Societies Without Borders. This journal is the flagship publication of Sociologists without Borders, a professional association in the interdisciplinary social sciences, but is not indexed in any established database. The journal had previously been hosted by an established academic publisher, but the association elected in 2008 to migrate the journal to an open access blog platform (provided by the publisher). In 2014, journal editors began investigating options for transferring the publication to a more robust and flexible open access platform. Since then, librarian consultants at Case Western Reserve University in Cleveland, Ohio, where the journal is now published, have advised Societies Without Borders editors on how to transition the publication to the new publishing platform and increase its readership. The success of this transition led to increased visibility for the journal among potential contributors, which prompted the editors’ interest in exploring new ways to convey the journal’s impact. Our analysis explores alternative strategies to demonstrate impact and argues

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for the importance of evaluating and describing impact in ways that do not rely exclusively on the journal impact factor framework. Such explorations are critical to effectively market and publicize open access publications that, like Societies Without Borders, are not indexed in Web of Science or other index databases.

The journal impact factor serves as the proxy metric for measuring the impact of journals in disciplines that lack an established, expert opinion-driven ranking system. The impact factor, along with journal reputation and readership, are among the top criteria used by scholars in choosing where to publish. Because impact factor is a metric unique to a single commercial publisher, Web of Science (now published by Clarivate Analytics), the value of impact factor as a measure for journal quality remains controversial. Web of Science varies in the comprehensiveness of its indexing due to significant differences in disciplinary citation cultures, citation index biases (by subject coverage, language, and the like), and the omission of (or lack of data related to) new and emerging formats for scholarly communication. The lack of an impact factor or a low impact number is often regarded as an indicator of lesser quality and smaller research impact. In turn, this perception becomes a self-fulfilling deterrent to potential contributors and an impediment to publication development ...
inclusion of journal titles in Web of Science. The consequence of these limitations is that Web of Science data fail to reflect the full impact of social sciences scholarly communication. OA journal development in all disciplines is also hindered by the slow progress of inclusion in traditional indexing and abstracting databases. OA journals compete with well-established, subscription-based journals in attracting contributors and being perceived as reputable venues of scholarly communication. The combination of Web of Science limitations in tracking scholarly communication in certain disciplines and its limited inclusion of OA journals makes evaluations of OA journals challenging, if not impossible, with traditional metrics such as impact factor (which is tied exclusively to indexing in Web of Science).

Several studies show that individual OA articles and those with a paywall to prevent use by nonsubscribers now perform similarly in terms of citation counts, despite that OA journal publications continue to struggle with perceived low quality and lack of name recognition, as well as a lack of inclusion in traditional database indexes. Both article-level and journal-level studies in about the past 10 years indicate that OA journal content has made steady progress toward fulfilling the mission and purpose of OA publishing, that is, to reduce dependence on academic publishers, libraries, and database companies in making high-quality journal content available.

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Inherent limitations of impact factor as a journal metric led to increased calls for alternative approaches to demonstrating impact that better represent the multifaceted aspects of journal quality. An approach proposed by Stefanie Haustein defined five core dimensions for evaluating journal quality: (1) output, (2) content, (3) journal management, (4) journal perception and usage, and (5) citation data. A journal’s output and management can be determined by...
evaluating the content and layout of the publication’s website, its editorial team, and its manuscript review process. Journal content can be evaluated by analyzing the number and types of documents in the publication, the geographical location of journal article authors, the nature and extent of author collaborations, the topical strengths of journal content, and cited references. Journal usage can be demonstrated by analyzing data collected by publishers detailing the geographical location of the journal’s readers as well as downloads. Journal perception can now be gauged, at least in part, by examining the institutional affiliations of the journal’s readership via website usage statistics (gleaned from URLs). Thus, with the advent of vastly expanded Internet access and content discovery, as Haustein notes, journal usage and perception, although not one and the same, are now more closely correlated with each other.

Journal content citation data (Haustein’s fifth dimension) in citation indexes is generally taken to represent the scholarly impact of a journal. Haustein recommends the use of multiple citation indicators to account for different facets of a journal’s citation performance and so create a more comprehensive representation of impact. “To preserve the multidimensionality of journal impact,” she contends, “information should not be conflated into one ranking but rather a battery of indicators should be used to represent journal impact adequately.” While citation counts are important basic indicators of journal impact, they fail to account for differences in citation culture across disciplines. The use of additional indicators, such as normalized or weighted indicators, has the potential to create a more nuanced image of journal impact by eliminating discipline-specific biases and quantifying prestige by factoring in the importance of the sources citing the journal. Citation data representing the full complement of source types used in scholarly communication and information about a journal’s readers thus create a fuller representation of journal impact.

Researchers have found Google Scholar a viable data resource for evaluating the impact of OA journals and one that represents scholarly communication in the social sciences better than Web of Science does. Despite some skepticism surrounding the use of Google Scholar for research evaluation due to various data processing errors and the lack of features better suited to bibliometric analysis, many studies continue to reflect a consensus that Google Scholar remains valuable as a tool for tracking and analyzing scholarly communications in the social sciences. Google Scholar features better disciplinary coverage, indexing for more non-English language publications, book citation tracking (a significant driver of scholarly communication in the social sciences), and more comprehensive monitoring of citation counts. By design, Google Scholar also indexes more OA journals. As an inclusive discovery platform freely available to everyone, researchers and nonresearchers alike, Google Scholar allows readers to locate relevant literature regardless of whether it is included in traditional databases. Google Scholar has, in fact, become the preferred research and discovery tool among many scholars.

To assess the impact of Societies Without Borders, we first adapted two dimensions of Haustein’s model: (1) citation-based indicators and (2) journal perception and usage.
Haustein’s basic and weighted indicators correspond to Johan Bollen’s definitions of journal popularity and prestige, and we adopted these as the first two impact categories in our assessment. To study the perception and usage dimension, we analyzed the Societies Without Borders publisher website statistics on views and downloads, as well as figures for the institutional affiliation and geographic location of website users. From this assessment, we created a third impact category called readership. To evaluate the performance of Societies Without Borders relative to its mission statement, we established a fourth impact category, geographical reach, which represents the global distribution of sources and authors citing the journal’s content.

For the citation-based indicators (using Google Scholar citation data), we calculated the total citation count and the average citations per document, and analyzed the types of citing sources. Because standard weighted indicators (such as Eigenfactor and SCImago Journal Rank) were not available for Societies Without Borders and impossible to calculate for this study, we used a similar strategy to gauge the prestige of the journal by evaluating the research influence of all the citing sources. We defined influence as the impact factor for journals (when available), the scholarly reputation of book publishers, and the institutional affiliations of dissertation authors citing Societies Without Borders content. Given the large number of citations from theses and books, the inclusion of such sources is critical to any meaningful description of a journal’s prestige. The resulting four categories are as follows:

1. popularity, as measured using Google Scholar by total number of citations, number of Societies Without Borders articles cited, and mean citations per document;
2. prestige, as measured by the reputation or prominence of citing journals and books, publishers, and the institutional or organizational affiliations of authors or publications citing Societies Without Borders;
3. readership, as measured by the number of readers and downloads, and readers’ institutional affiliation and geographic location; and
4. geographic reach, as represented by the countries and languages of citing authors, publishers, or institutions.

Together, these four categories served as an effective framework for evaluating the research impact of Societies Without Borders and its alignment with its mission statement. Perhaps most importantly, we used our data to develop a quantified and contextualized visual representation of journal impact in brochure form with infographics that journal editors can use to promote Societies Without Borders to prospective contributors and readers. Such explorations are critical to effectively market and publicize open access journals that, like Societies Without Borders, are not indexed in Web of Science or other index databases.

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Methodology

We collected citation data for a total of 203 published documents spanning the first issue in 2006 until June 2017 using Anne-Wil Harzing’s “Publish or Perish” tool, Google Scholar, and Zotero and then exported the data to an Excel file. We identified a total of 681 citations of Societies Without Borders content for this period. A subsequent review of the data set revealed that Google Scholar misidentified some of the source types (50 books, 33 theses or dissertations, 17 conferences, 11 news publications or blogs, 3 reports, 3 student papers, and 1 presentation). Based on our sample, this suggested that Google Scholar has a source identification error rate of 17 percent, or 1 in 5 sources. These source type mistakes were corrected before further analysis. Seventeen sources could not be identified with certainty and were removed from the data sample. We conducted analyses on the remaining 664 documents.

Citing documents were categorized into five main source types: (1) books (entire books, book chapters, and book sections), (2) journal articles, (3) master’s or doctoral theses, (4) conference papers, and (5) news publications. Master’s theses and dissertations were later separated into two distinct source categories to make our data more granular. The news publication category included conventional news publications, news websites, and blogs. For each citing source, we collected data for journal impact factor (if available), the number of citations in Google Scholar for books, the lead author’s country of origin, the lead author’s institutional affiliation, and the language in which the source was written. A minimal number of sources did not conform to our established source type categories, and so we excluded them from the data set.

Analysis of Google Scholar citations enabled us to determine the geographical origin and distribution of citing documents, the professional status and affiliation of their lead authors, and the overall global reach of Societies Without Borders. We collected additional data on usage and readership from the journal’s open access publisher website (bepress) and further analyzed the data. The analysis of global reach was also enhanced with reader geographical location data and proxy indicators from the publisher’s website.

Results and Discussion

Popularity

Our data suggest that Societies Without Borders content is considered valuable and relevant to cutting-edge studies at prominent research institutions. Publications citing the journal come chiefly from the community of social sciences researchers. Journal publications are the primary conduit for scholarly communication, but book publications are also important. A significant number of graduate theses and conference papers also contain citations for Societies Without Borders content (see Figure 1). By June 2017, more than half of all Societies Without Borders content had been cited at least once (see Figure 2). The mean citation count per document for the
whole of the journal’s publication history was 3.27 (with a standard deviation of 83.4, a median of 59, and a maximum citation number of 118). Citations for *Societies Without Borders* content overall rose steadily over time, with an especially notable increase of 37 percent (243 of 644) in the two and a half years after the journal transitioned in 2014 to a new publishing venue. This increase is likely also a consequence of the previous publishing platform, a blog, which lacked article visibility and an easy means of discovery.

Figure 1. Types of documents citing *Societies Without Borders* content.

Figure 2. Number of citations of *Societies Without Borders* articles published between 2006 and mid-2017.
Prestige

Societies Without Borders content spans many disciplines and is valued in several research communities. The top 20 journals in Web of Science that cite Societies Without Borders most often, for example, belong to 15 different established subject areas (see Figure 3). Twenty-eight percent of the 224 of journals citing Societies Without Borders content have an impact factor, and these include several highly regarded social sciences publications (see Appendix A for a partial list of titles). A review of quartile rankings among these top 20 journals most often citing Societies Without Borders also revealed that 4 are ranked in the first quartile of their respective subject categories, 4 in quartile 2, 14 in quartile 3, and 2 in quartile 4 (see Figure 4). Many journals in the first and second quartile also cited Societies Without Borders content more than once. Among the 55 journals citing Societies Without Borders at least twice, 20 had impact factors in Web of Science (see Figure 5).

Figure 3. Subject categories and quartile ranking in Web of Science of the top 20 journals most often citing Societies Without Borders.
Figure 4. Quartile impact factor rankings of the journals in Web of Science that cite *Societies Without Borders* at least twice.

Figure 5. Number of journals citing *Societies Without Borders* at least twice.
Depending on the field of study, communication among social science scholars is driven significantly by book publications, for which content Web of Science provides limited coverage. The majority of the 126 books (86 percent) citing Societies Without Borders content were published by well-established, highly regarded academic and research publishers whose publications are themselves highly cited (based on citation counts in Google Scholar; see Appendix B). Graduate theses also represent an important venue of scholarly communication. Citations to the journal appear in 116 graduate theses (49 master’s theses and 67 doctoral dissertations), many at well-regarded institutions (see Figure 6).

![Figure 6. Top universities producing graduate theses with citations to Societies Without Borders.](image)

**Geographical Reach**

The dissemination of Societies Without Borders content is global, and the geographical reach of its articles is much greater than indicated merely by the country affiliations of its authors or contributors. The journal’s contributors come from various types of institutions and organizations, and from a variety of locations in the United States and 19 other countries. Those who cite Societies Without Borders content have institutional affiliations from every region and continent in the world, including researchers in the United States and 51 other countries (see Figures 7 and 8).

The United Kingdom (63 citations), Canada (51 citations), Australia (33 citations), and Germany (20 citations) are among those countries whose authors most frequently cite Societies Without Borders content. This is likely due to the high concentration of academic and research institutions in North America, Europe, and Australia. The first
Figure 7. Geographical distribution of institutions in the United States citing *Societies Without Borders*.

Figure 8. World location of lead authors of publications that cite *Societies Without Borders*. 
Figure 9. Total downloads of Societies Without Borders content since the journal moved to its new platform in 2014.
18 months of data from the journal’s website, however, also strongly suggest that its new and optimized open access platform has facilitated numerous connections with research communities and institutions from South America, Africa, and Asia. Several citations came from unexpected locations, including Albania, Bangladesh, the British overseas territory of Cayman Islands, Ghana, Iraq, Jordan, Pakistan, and Uganda (see Figure 8). Publications citing *Societies Without Borders* appeared in 12 languages other than English: Finnish, French, German, Italian, Korean, Lithuanian, Polish, Portuguese, Russian, Spanish, Swedish, and Turkish.

**Readership**

*Societies Without Borders* has a substantial readership. Since migrating to the bepress open access publishing platform in 2014, for example, there have been 36,771 downloads from the journal website (March 2015 to December 2017, see Figure 9). Although author affiliations from traditional academic institutions accounted for just over half of all citations to *Societies Without Borders* content, the data indicate that the journal’s readership (views and downloads) is diverse and reaches well beyond the academic community in the United States and Europe, with downloads from 180 countries (see Figures 10, 11, and 12).

Figure 10. Downloads of *Societies Without Borders* content by world geographic location
Figure 11. Total viewership of *Societies Without Borders* by type of organization as defined by Internet Protocol address.

Figure 12. Total downloads of *Societies Without Borders* content by type of organizational user as defined by Internet Protocol address (see Appendix C for examples).
In addition to academically affiliated readers, a significant number of Societies Without Borders readers were associated with international nongovernmental organizations and policy institutes (see Appendix C). Another significant percentage of Societies Without Borders content views (38 percent) originated via commercial Internet provider entities in various countries (see Figure 11). Although the affiliation of these readers is unknown, they likely represent researchers or members of the public working from home (see Figures 11 and 12 and Appendix C).

Conclusions

The present case study strongly suggests that, measured according to our selected four descriptive categories—popularity, prestige, geographic reach, and readership—Societies Without Borders is a valued venue for scholarly communication and impactful research. The increasing number of sources citing the journal’s content over time (as well as a sharp rise in citations over the past four years after a platform transition) clearly indicates solid popularity for the journal among scholars and researchers. Prestige is also indicated in the solid reputation of publishers and publications, the institutional affiliations of authors citing Societies Without Borders content, and the high ranking of journals in Web of Science that cite Societies Without Borders content. Most journals with an impact factor that cite Societies Without Borders content are ranked in the first, second, or third Web of Science quartiles. The strong international reputation of author-affiliated institutions also contributes significantly to the journal’s prestige. Substantial impact for Societies Without Borders is also indicated in its global reach and geographically diversified readership. Readers and viewers of the journal’s content hail from every continent, with a variety of academic, government, and public users, predominantly users affiliated with research institutions.

Like previous studies, our data and findings indicate that the impact of Societies Without Borders and other social sciences journal publications cannot be fully represented by traditional impact factor measurements. Web of Science indexing restrictions and gaps in content type, for example, preclude a full representation of social science research and scholarly communication, where books, graduate theses, and journals without an impact factor serve as critical venues for scholars. A significant number of journals citing Societies Without Borders content have impact factors, but many others do not. Additionally, the majority of books citing Societies Without Borders content were published by highly reputable academic and research publishers, and the books themselves receive impressive citation counts in Google Scholar. A considerable number of graduate dissertations, completed at prominent academic and research institutions, also cite the journal’s content. Taken together, these findings reveal that the journal’s content is considered of good quality and has substantial research impact, despite not being indexed in Web of Science or having an impact factor.
Societies Without Borders also serves as an excellent example of the potential of OA publishing for expanding and diversifying a research community. The journal’s publication output waned occasionally in recent years due to several factors, including an online transition from an academic publisher to an open access blog platform in 2008. The most recent transition to another open access publishing platform in 2014 entailed a complete website redesign. Transitions in editorial board personnel and revisions to manuscript vetting and workflow procedures also influenced journal output. Despite these challenges, however, the variety of institutions and organizations citing Societies Without Borders content remained high. The total number of citations has, in fact, soared since the completion of the open access platform transition and website redesign. Half of all citations since the journal’s inception in 2006 occurred after the 2014 transition. Numerous researchers in developing countries and scholars at variety of organizations have cited Societies Without Borders content (in many languages). The global reach of the journal’s content is illustrated in a readership spanning 180 countries and representing a variety of academic and nonacademic institutional affiliations.

Editors of journals without an impact factor, like Societies Without Borders, face challenges in marketing a journal to potential contributors who rely on impact factor and similar metrics to gauge publication quality. The present study might provide journal editors with quantified and contextualized measures that effectively convey research impact well beyond what an impact factor number might indicate. Through data-driven analysis of the four dimensions of journal impact outlined herein, Societies Without Borders editors have become better equipped to provide potential contributors with an informative and contextualized representation of the journal’s value. Brochure-style handouts with infographics of these impact categories were developed specifically for this purpose at the request of the journal’s editors (see Figure 13).

Such handouts can be modified to attract potential contributors or new readership to Societies Without Borders and thereby expand the journal’s research footprint. Our approach to measuring the journal’s impact also demonstrates the evolving success of its recently revised mission. The stated aims of Societies Without Borders are to expand scholarly outreach on a global scale and to create a more diversified research community that contributes directly to the public good and advances the cause of social justice. Societies Without Borders editors have been especially interested in connecting with readers and researchers who may lack a traditional university or research institute affiliation. The number and variety of citations to the journal’s content in our data clearly demonstrate that such connections have been made.

Our study also represents the type of high-value consultancy that academic librarians can provide for scholar-editors of open access research journals. Librarians with expert knowledge of trends in scholarly communication, best practices for open access
Figure 13. Example of brochure describing the impact of Societies Without Borders to potential contributors.
publishing, and methods of bibliometric analysis are well positioned to provide critical guidance to editors who may lack experience with publishing platform transitions, optimizing journal websites, or effectively communicating the research impact of their publication. In the present study, journal editors, with the help of librarian consultants, could evaluate the success of *Societies Without Borders* according to its professed scope and mission, quantify the journal’s impact beyond established measures, and provide a fuller picture of its research influence to readers and prospective contributors.

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**Appendix A**

**Examples of High Impact Factor Journals Citing Societies Without Borders Content**

*Annual Review of Clinical Psychology*, impact factor = 12.136
*Annual Review of Environment and Resources*, impact factor = 6.268
*American Journal of Public Health*, impact factor = 3.858
*Review of International Political Economy*, impact factor = 3.452
*Social Science & Medicine*, impact factor = 2.797
*Gender & Society*, impact factor = 2.365

**Appendix B**

**Examples of Academic and University-Affiliated Publishers and Publications Citing Societies Without Borders Content**

**Book Publishers**

- Springer (32 titles)
- Routledge (27 titles)
- Palgrave Macmillan (6 titles)
- SAGE (4 titles)
- Oxford University Press (4 titles)
- Brill (3 titles)
- Wiley (2 titles)
Books

Peter Reason and Hilary Bradbury, eds., *The SAGE Handbook of Action Research* (London: Sage, 2008), 7,555 citations


Ian Brittain, *The Paralympic Games Explained* (New York: Routledge, 2010), 143 citations

Alexander Betts and Gil Loescher, eds., *Refugees in International Relations* (New York: Oxford University Press, 2011), 112 citations

Daniel Araya and Michael A. Peters, eds., *Education in the Creative Economy: Knowledge and Learning in the Age of Innovation* (New York: Peter Lang, 2010), 100 citations

Angela J. Hattery, *Intimate Partner Violence* (Lanham, MD: Rowman & Littlefield, 2009), 96 citations


Appendix C

Examples of Nonacademic Users and Affiliations

**International Organizations and Policy Institutes**

United Nations, 9 citations

Fondation nationale des sciences politiques [National Foundation for Political Science, France], 7 citations

Zimbabwe Gpon/Metro, 5 citations

Calyx Institute [United States], 5 citations

RAND Corporation [United States], 4 citations

USP [United States Pharmacopeia], 4 citations

**Government Bodies**

Fundação para a Ciência e a Tecnologia I.P. [Foundation for Science and Technology, Portugal], 9 citations

Hennepin County Government Center, Minnesota, 7 citations

Department of Veterans Affairs [United States], 7 citations

KISTI [Korea Institute of Science and Technology Information], 7 citations

County of Los Angeles, 5 citations

City of New York, 4 citations
State of Minnesota, 4 citations
Department of Homeland Security [United States], 4 citations
State of Maine, 4 citations
European Commission, 4 citations

Military Organizations

Headquarters USAISC [United States Army Information Systems Command], 17 citations
Navy Network Information Center [United States], 6 citations
754th Electronic Systems Group [United States], 3 citations
DoD [Department of Defense] Network Information Center [United States], 3 citations

Commercial Organizations

Nagravision SA [Switzerland], 41 citations
Smile Telecoms Nigeria, 26 citations
DMwireless [Puerto Rico], 21 citations
Univer [Russia], 18 citations
MainOne [western Africa], 18 citations
Rockwell Aerospace [United States], 13 citations
Rogers Cable Inc. NWDN [Canada], 11 citations
Natcom Development and Investment Limited [Nigeria], 11 citations
Mayer Brown LLP [United States], 11 citations
BarKar Beheer BV [Netherlands], 10 citations
Stichting DUWO [Netherlands], 10 citations
BigTip, Inc. [United States], 10 citations
Uninett AS [Norway], 8 citations
Online SAS NL [Netherlands], 8 citations

Notes


8. Marie Emily McVeigh, “Open Access Journals in the ISI Citation Databases: Analysis of Impact Factors and Citation Patterns—A Citation Study from Thomson Scientific” (2004), http://ip-science.thomsonreuters.com/m/pdfs/openaccesscitations2.pdf.


24. Meho and Yang, “Impact of Data Sources on Citation Counts and Rankings of LIS Faculty”; Halevi, Moed, and Bar-Ilan, “Suitability of Google Scholar as a Source of Scientific Information and as a Source of Data for Scientific Evaluation”; Harzing and van der Wal, “Google Scholar as a New Source for Citation Analysis”; Kousha, Thelwall, and Rezaie, “Assessing the Citation Impact of Books”; Kayvan Kousha and Mike Thelwall, “Sources of Google Scholar Citations outside the Science Citation Index: A Comparison between Four Science Disciplines,” *Scientometrics* 74, 2 (2008): 273–94.


