
SciELO, Scientific Electronic Library Online, a Database of Open Access Journals

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Abstract: This essay discusses SciELO, a scientific journal database operating in 14 countries. It covers over 1000 journals providing open access to full text and table sets of scientometrics data. In Brazil it is responsible for a collection of nearly 300 journals, selected along 15 years as the best Brazilian periodicals in natural and social sciences. Nonetheless, they still are national journal in the sense that over 80% of the articles are published by Brazilian scientists. Important initiatives focused on professionalization and internationalization are considered to bring these journals to a higher level of quality and visibility.

Keywords: journal, social science, internationalization, professionalization, open access, scientific journals, scientists, science

Distinct Models of Publishers in Emerging Countries

In emerging countries most journals were born in and administered by academic institutions or scientific societies. In Brazil, except for a few exceptions, they remained as such, whereas in other emerging countries most of the journals have been turned over to commercial publishers. This change began to happen in the middle of the past decade.

Currently the presence of commercial publishers of journals indexed in the Thomson-Reuters database attains 10.4%, 33.7%, 64.7% and 84.0% for Brazil, India China, and Russia, respectively. International publishers prevail in this takeover and have triggered a great shift on the mode of access to articles, from an open one to a pay-per-view model. The relatively low penetration of international publishers in Brazil might be explained by the presence of SciELO. Apparently, the journal's editors pondered that open access is an important asset, not provided by commercial publishers, and should be preserved.

The impact factor in 2010 and its average annual increase in the 2001-2010 time period for the four emerging countries mentioned above are shown in Table 1. Is it possible to find an explanation for the differences amongst the countries? It has been a great challenge to weight the factors that influence the impact factor of the journals.

Assets for the improvement of journal's reputation

Journals launched by the seventies led to a four-fold increase in the number of titles to the present. Their reputation has been evaluated as being due to various assets. The most evident ones seem to be the language of the articles, mode of access (open or restricted), publisher prominence, and editorial board. Quality of the journal's articles is a consequence of these assets and is closely connected to reputation and impact factor. In principle, one would expect that each of the assets should favor increased impact factors if selected in the following way: articles in English, open access, powerful international publishers, and prestigious scientists as editors-in chief. However, the influence of each of these four assets is not straightforward.

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Table 1. Average Impact Factor-JCR (2010) and Average Annual Increase of Impact Factor (2001-2010)

Country	Impact Factor	Average Annual Increase of Impact Factor (2001-2010)
China	0.955	0.0919
Brazil	0.548	0.0701
Russia	0.476	0.0152
India	0.475	0.0832

An examination of each of these items follows: First, the use of English language keeps a straight correlation with journal prominence. Figure 1 shows the growing prominence of the English language in articles published by 20 countries whose first language is other than English. German and French, the next two most used languages, are shown for comparison. Second, many studies on the influence of open access point to increased visibility (internet access and downloads), but not necessarily to augmented citations of the articles. For instance, most of the traditional refereed journals, whose prestige was acquired in the pre-scientometrics era, have remained pivotal to the scientists across the years and are not open access. Third, influence of major publishers has been shown to be very erratic; take for instance the low average annual increase of impact factor of Russian journals (Table 1), the great majority of them under a major international publisher for over five years. Fourth, apparently the role of prestigious scientists holding editor-in-chief positions has not been object of studies. This is not surprising giving the multiplicity of competences to be assessed and the fact that to some extent, this activity is confidential. One would expect that their reputation would be a bonus to convince high-qualified *ad hoc* advisors to review the papers. Besides that, an editor-in-chief has to play a leadership role to choose associate editors, deal with the issue of publication ethics and be dependable in judging discords between authors and reviewers. Giving the multiplicity of qualifications that proficient editors-in-chief are expected to hold one may estimate how difficult it is to select one for a journal.

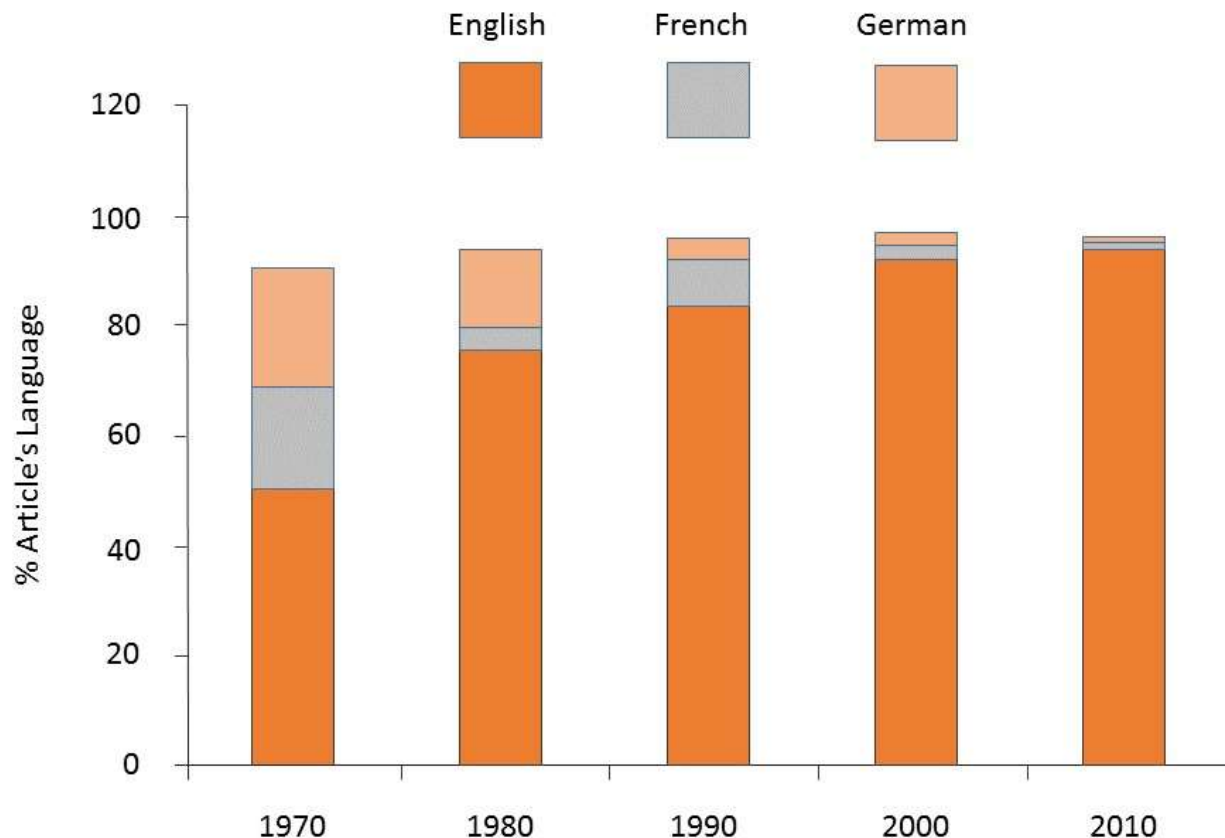


Figure 1. Increasing use of the English language in articles published by journals indexed by Web of Science-Thomson Reuters.

Authors are from 20 countries of languages other than English (China, Germany, Japan, France, Italy, Spain, South Korea, Brazil, Netherlands, Taiwan, Russia, Iran, Switzerland, Turkey, Poland, Sweden, Belgium, Malaysia, Austria, Denmark)

Challenges to Face to Improve SciELO Journals

In Brazil one may discern two streams of publication. There are scientists that opt for publishing in international journals and scientists that choose the national journals. The trend depends very much on the scientific area. In other emerging countries a similar situation is observed. In all of these countries over 70% of the articles published by national journals are signed by national authors. To some extent these journals are outlets for national scientific production that did not find its way into the main stream of international journals.

In developed countries this stream's division is not noticeable since their scientific journals are, in fact, international journals. For instance, journals edited in England, Netherlands, and Switzerland publish less than 15% of the articles with authors from their own countries. Table 2 shows the different trends for a group of emerged and emerging countries.

Table 2. *Number of Journals Indexed in Web of Science (2010)*

Country	A-Articles in national journals	B-Articles published by authors of the journal's country
Brazil	11,161	9719 (87.1%)
China	26,518	22521 (84.9%)
South Korea	10,063	7239 (72.4%)
Russia	19,072	15376 (80.6%)
India	11,970	8499 (71.0%)
South Africa	1,833	1131 (61.7%)
Spain	6,777	4650 (68.6%)
France	22,147	9779 (44.2%)
Netherlands	127,288	4175 (3.4%)
Canada	7,548	3035 (40.2%)
England	229,786	28799 (12.5%)
Switzerland	25,172	1605 (6.4%)

Note: Total of articles per journals country (A) and articles published by authors from the country of publication of the journals (B)

How can emerging countries improve their journals to achieve international standards? In the specific case of Brazil, described above, SciELO has been operating as a meta publisher, providing all facilities of modern technology of information to the associated journals. Scientific assessment occurs when the journals apply for approval on the ScieLO selection and, periodically, for maintenance on the collection.

However, most of the SciELO journals face the problem of being ignored by scientists that have taken the international journal stream. Bringing together SciELO journals and international scientists requires a strategic approach.

First, the journals should be brought together under the umbrella of a publishing house. The experience in dealing with these journals would recommend SciELO to be this house. International publishers should not be withdrawn from this process, even if their success on dealing with journals from emerging countries has been very limited.

Secondly, professionalization of the editorial team is fundamental. Presently the editors are scientists who take part time efforts to deal with the journals. They count on minimum backup of secretarial assistance and receive no monetary compensation for their duties.

The third important step is to count on professional assistance of international editors, with scientific prestige and recognition for their success in leading journals.

These international editors should periodically meet the national editorial board for counseling. They should lend their prestige to get the assistance of proficient international peer reviewers. A reasonable financial compensation on international standards should be paid for this editorial participation.

These three initiatives would certainly change the Brazilian scientific editorial scenery and the role played by SciELO in this context. From where would editors obtain the resources for that? Nowadays, productive Brazilian scientists have no problem in obtaining grants from governmental scientific agencies and use part of it to cover the page charges paid to international publishers. Why not pay page charges to a Brazilian scientific editorial house? Similar unconstrained resources for research may be found in several other emerging countries. Therefore, the same solution may be applied.