Editorial

Bibliographic databases: some critical points

Current flow of information necessitates a systematic approach to what authors, reviewers and editors read and and use as references. The objectivity of communication is increasingly dependent on a comprehensive literature search through online databases.[1] Academic institutions wishing to succeed in the global competition secure access to the prestigious databases and archives.[2] Journal editors strive to improve the indexing potential of their journals by adhering to the selection criteria of bibliographic databases and by getting access to networking sites.[3]

Though most authors and editors are aware of the existence of databases and communication platforms, not all of them are skilled at retrieving essential information and distinguishing 'indexed' journals.[4] This leads to manipulations aimed at attracting quality articles to substandard journals. Another example, potentially distorting research reporting, relates to 'systematic' and 'comprehensive' searches, when authors supplement references from Medline, Web of Science and Scopus with items from databases with 'soft' selection criteria, hardly visible for the global audience. Less harmful is the practice of substituting distribution of information through indexing services by increasingly fashionable journal coverage in uncontrolled social networking media such as Facebook®, LinkedIn® and Twitter®, where academic credit is still lacking.[5,6] Obviously, the way out of these distortions is to educate all stakeholders of scholarly publishing about the issues of ranking and the advantages and limitations of bibliographic databases, which were elegantly explored in a few recent reviews.[7-9]

Herein it is necessary to highlight some critical points. Perhaps one of the most popular, rapidly updated, free and easy-to-use databases is Medline® (Medical Literature Analysis and Retrieval System Online) accessible through PubMed, EBSCO and Thomson Reuters Web of Knowledge® platforms. Over the past few decades, it has gained utmost importance for biomedical and allied researchers and practitioners, who perform searches through this database on a daily basis. Editors also rely on Medline/PubMed as a source of information on actively researching and publishing authors qualified as potential peer reviewers.[10] Most biomedical editors consider the indexing of their journals by Medline as the main achievement of their work and a critical factor of their impact.[8] Medline indexes abstracts from more than 5,500 evidence-based journals and online books covering numerous biomedical disciplines. It also selectively covers journals from sociology, science communication, scientometrics, chemistry and physics with relevance to life science, health care and biology. Journals publishing original items with a high level of evidence (ie original papers, systematic reviews and meta-analyses), a specific scope of interest and a relevance to a certain geographic region have good chances of being indexed by Medline. Though language is not an indexing criterion, and many non-English journals are now represented in Medline/PubMed, the quality and readability of the main texts, and especially abstracts, are critical for indexing. One of the main advantages of Medline is its reliance on the MeSH (Medical Subject Headings) thesaurus, which facilitates retrieval of articles through PubMed and Entrez search engines of the US National Library of Medicine. This is why most journals visible on PubMed and PubMed Central still require Medline indexing as the next step towards better citability and impact. The main limitation of Medline is that it covers abstracts only. Abstract coverage is regularly updated, but mainly within the period of 'big science' (since the 1950s). However, a large proportion of Medline/PubMed-indexed journals have recently been linked to publishers' and PubMed Central full-text sites, or to the citation tracking through PubMed Central and specifically designed evaluation platforms (eg Faculty 1000®). Some historical papers have also appeared on Medline and PubMed Central recently.

Thomson Reuters' Web of Knowledge® (WoK) platform includes the Web of Science® (WoS), the highly prestigious and selective multidisciplinary citation index of more than 12,000 influential journals, with coverage from the 1970s. More than 5,600 academic institutions worldwide now subscribe to WoS and encourage publications in WoS-indexed journals, bearing a quantifiable credit to the individual and institutional research work.[11] In 2005, Thomson Reuters launched the WoS Century of Science project which substantially expanded coverage of historical papers back to 1900. The initiative positioned WoS at the top of most comprehensive databases that are of particular interest to science sociologists.[12]

Cover-to-cover indexing is available through the following databases of WoS: Science Citation Index Expanded® (also known as SciSearch®), Social Sciences Citation Index®, Conference Proceedings Citation Index - Science®, and Conference Proceedings Citation Index – Social Science

and Humanities®. Given the recent proliferation of online books and the need to track their citations, the Book Citation Index® database was also launched recently.

Citation analysis through the WoS database is reported annually by Journal Citation Reports® (JCR), which delivers information on a variety of citation metrics, including the Journal Impact Factor (JIF), and ranks journals based on the quantity and 'prestige' of citations. Importantly, to get listed by and remain in JCR, a journal should attract citations from WoS-indexed journals. Indexed publications with declining and low citation rates are subject to elimination from the JCR list. On the other extreme, journals with citation manipulations and excessive autocitations (more than 80%) are also subject to exclusion from the JCR list (since 2008).

Currently most editors and reviewers rely on information from the WoK platform in their routine practice. Publishers set goals for expanded indexing and distribution of information, which is possible through the WoK Current Contents® (CC) databases. These databases provide rapidly updated access to tables of contents, bibliographic and related data from a wide range of subject categories: life sciences, clinical medicine, arts and humanities, agriculture, biology and environmental sciences, social and behavioural sciences, engineering, physical, chemical and earth sciences.

The largest subscription-based database of citations and abstracts is SciVerse Scopus®. It is a product of Elsevier, indexing more than 19,500 journals, conference proceedings, and patents from life, health, physical and social sciences, and humanities, with coverage exceeding that of WoS by 20%.[13] All Medline-indexed journals are automatically indexed by Scopus. Access to full-texts of the indexed journals is available through the links to publishers' websites or through the ScienceDirect® interface for Elsevier journals. Citations recorded in Scopus are used for calculation of the journal h index, SCImago Journal Rank (SJR) and some other metrics gaining popularity as alternatives to JIF, particularly for journals not listed in JCR.[14]

Perhaps the main advantage of Scopus is the coverage of a large number of non-English sources across most subject categories, which makes it especially attractive for publishers from non-mainstream science countries. The limitations of Scopus are that it is relatively new to the publishing market (launched in 2004), most of its references are from 1996 onwards and rapidly updated information is predominantly available for top-rank and Elsevier journals.

Undoubtedly, advancing skills in information retrieval from the databases is a driver for improved individual and institutional research performance. Performing simultaneous searches through the above mentioned large databases may allow us to overcome the inherent limitations of each one and add to the quality of writing, reviewing and editing. In fact, leading publishers support their reviewers by offering access to multiple databases, which is particularly important for avoiding duplicate or plagiarised publications and for processing information from relevant references more comprehensively. For science editors, knowledge of indexing criteria, of the advantages and limitations of databases as well as continuous efforts to expand and maintain the visibility of their journals in the highly prestigious databases can secure a good standing and an opportunity to publish articles which contribute to the advancement of global science.[15]

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