
**Abstract:** This article presents the results of a comparative study of Web of Science (WoS), Scopus, and Google Scholar (GS) for a set of 15 business and economics journals. Citations from the three sources were analyzed to determine whether one source is better than another, or whether a new database such as Scopus, or a free database such as GS could replace WoS. The authors concluded that scholars might want to use alternative tools collectively to get a more complete picture of the scholarly impact of an article.


Database: Library, Information Science & Technology Abstracts


**Abstract:** For many years, the ISI Web of Knowledge from Thomson Reuters was the sole publication and citation database covering all areas of science thus becoming an invaluable tool in bibliometric analysis. In 2004, Elsevier introduced Scopus and this is rapidly becoming a good alternative. Several attempts have been made at comparing these two instruments from the point of view of journal coverage for research or for bibliometric assessment of research output. This paper attempts to answer the question that all researchers ask, i.e., what is to be gained by searching both databases? Or, if you are forced to opt for one of them, which should you prefer? To answer this question, a detailed paper by paper study is presented of the coverage achieved by ISI Web of Science and by Scopus of the output of a typical university. After considering the set of Portuguese universities, the detailed analysis is made for two of them for 2006, the two being chosen for their comprehensiveness typical of most European universities. The general conclusion is that about 2/3 of the documents referenced in any of the two databases may be found in both databases while a fringe of 1/3 are only referenced in one or the other. The citation impact of the documents in the core present in both databases is higher, but the impact of the fringe that are present only in one of the databases should not be disregarded as some high impact documents may be found among them.


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**Abstract:** Citation analysis is an important tool used to trace scholarly research, measure impact, and justify tenure and funding decisions. Web of Science, which indexes peer-reviewed journal literature, has been the major research database for citation tracking. Changes in scholarly communication, including preprint/postprint servers, technical reports available via the internet, and open access e-journals are developing rapidly, and traditional citation tracking using Web of Science may miss much of this new activity. Two new tools are now available to count citations: Scopus and Google Scholar. This paper presents a case study comparing the citation counts provided by Web of Science, Scopus, and Google Scholar for articles from the Journal of the American Society for Information Science and Technology (JASIST) published in 1985 and in 2000 using a paired t-test to determine statistical significance. Web of Science provided the largest citation counts for the 1985 articles, although this could not be tested statistically. For JASIST articles published in 2000, Google Scholar provided statistically significant higher citation counts than either Web of Science or Scopus, while there was no significant difference between Web of Science and Scopus. The implications for measuring impact in a changing scholarly communication environment are examined.


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**Abstract:** This study uses citations, from 1996 to 2007, to the work of 80 randomly selected full-time, information studies (IS) faculty members from North America to examine differences between Scopus and Web of Science in assessing the scholarly impact of the field focusing on the most frequently citing journals, conference proceedings, research domains and institutions, as well as all citing countries. Results show that when assessment is limited to smaller citing entities (e.g., journals, conference proceedings, institutions), the two databases produce considerably different results, whereas when assessment is limited to larger citing entities (e.g., research domains, countries), the two databases produce very similar pictures of scholarly impact. In the former case, the use of Scopus (for journals and institutions) and both Scopus and Web of Science (for conference proceedings) is necessary to more accurately assess or visualize the scholarly impact of IS, whereas in the latter case, assessing or visualizing the scholarly impact of IS is independent of the database used.


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**Abstract:** In recent years, numerous articles have compared the coverage, features, and citation analysis capabilities of Scopus™ and Google Scholar with Web of Science®, a Web-based version of Science Citation Index. This article goes a step further and compares the citation analysis potential of four databases: Web of Science, Scopus, SciFinder, and Google Scholar. Each database presents its own strengths and weaknesses, including methods of analysis, differences in coverage, and means of linking references. As an illustration, Web of Science provides coverage back to 1900. In contrast, Scopus only has completed citation information from 1996 onward, yet Scopus provides better coverage of clinical medicine and nursing than Web of Science. SciFinder has the strongest coverage of chemistry and the natural sciences, while Google Scholar has the capability to link citation information to individual references. Although Scopus and Web of Science provide comprehensive citation reports, all databases miss linking to some references included in other databases.

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**Abstract:** This study examines the differences between Scopus and Web of Science in the citation counting, citation ranking, and h-index of 22 top human-computer interaction (HCI) researchers from EQUATOR—a large British Interdisciplinary Research Collaboration project. Results indicate that Scopus provides significantly more coverage of HCI literature than Web of Science, primarily due to coverage of relevant ACM and IEEE peer-reviewed conference proceedings. No significant differences exist between the two databases if citations in journals only are compared. Although broader coverage of the literature does not significantly alter the relative citation ranking of individual researchers, Scopus helps distinguish between the researchers in a more nuanced fashion than Web of Science in both citation counting and h-index. Scopus also generates significantly different maps of citation networks of individual scholars than those generated by Web of Science. The study also presents a comparison of h-index scores based on Google Scholar with those based on the union of Scopus and Web of Science. The study concludes that Scopus can be used as a sole data source for citation-based research and evaluation in HCI, especially when citations in conference proceedings are sought, and that researchers should manually calculate h scores instead of relying on system calculations.

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Abstract: The evolution of the electronic age has led to the development of numerous medical databases on the World Wide Web, offering search facilities on a particular subject and the ability to perform citation analysis. We compared the content coverage and practical utility of PubMed, Scopus, Web of Science, and Google Scholar. The official Web pages of the databases were used to extract information on the range of journals covered, search facilities and restrictions, and update frequency. We used the example of a keyword search to evaluate the usefulness of these databases in biomedical information retrieval and a specific published article to evaluate their utility in performing citation analysis. All databases were practical in use and offered numerous search facilities. PubMed and Google Scholar are accessed for free. The keyword search with PubMed offers optimal update frequency and includes online early articles; other databases can rate articles by number of citations, as an index of importance. For citation analysis, Scopus offers about 20% more coverage than Web of Science, whereas Google Scholar offers results of inconsistent accuracy. PubMed remains an optimal tool in biomedical electronic research. Scopus covers a wider journal range, of help both in keyword searching and citation analysis, but it is currently limited to recent articles (published after 1995) compared with Web of Science. Google Scholar, as for the Web in general, can help in the retrieval of even the most obscure information but its use is marred by inadequate, less often updated, citation information.

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Abstract: Purpose - The underlying software issue related to cited references is the capability of the software to identify the specific work cited by a reference, and associate it with the correct author and journal. This paper aims to investigate this issue and to discuss the latest editions of Web of Science (WoS) and Scopus. Design/methodology/approach - In this paper the strengths and weaknesses of the Distinct Author Set feature of WoS and the Author Details feature of Scopus are discussed. Findings - The paper reveals that these tools will have an increasingly important role in refining the process of disambiguating author (and journal) names in calculating their h-index. Originality/value - The paper provides useful information on software issues related to cited references and on the Distinct Author Set feature of WoS and the Author Details feature of Scopus.

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**Abstract:** The Institute for Scientific Information's (ISI, now Thomson Scientific, Philadelphia, PA) citation databases have been used for decades as a starting point and often as the only tools for locating citations and/or conducting citation analyses. The ISI databases (or Web of Science [WoS]), however, may no longer be sufficient because new databases and tools that allow citation searching are now available. Using citations to the work of 25 library and information science (LIS) faculty members as a case study, the authors examine the effects of using Scopus and Google Scholar (GS) on the citation counts and rankings of scholars as measured by WoS. Overall, more than 10,000 citing and purportedly citing documents were examined. Results show that Scopus significantly alters the relative ranking of those scholars that appear in the middle of the rankings and that GS stands out in its coverage of conference proceedings as well as international, non-English language journals. The use of Scopus and GS, in addition to WoS, helps reveal a more accurate and comprehensive picture of the scholarly impact of authors. The WoS data took about 100 hours of collecting and processing time, Scopus consumed 200 hours, and GS a grueling 3,000 hours.


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**Abstract:** Background: Researchers turn to citation tracking to find the most influential articles for a particular topic and to see how often their own published papers are cited. For years researchers looking for this type of information had only one resource to consult: the Web of Science from Thomson Scientific. In 2004 two competitors emerged — Scopus from Elsevier and Google Scholar from Google. The research reported here uses citation analysis in an observational study examining these three databases; comparing citation counts for articles from two disciplines (oncology and condensed matter physics) and two years (1993 and 2003) to test the hypothesis that the different scholarly publication coverage provided by the three search tools will lead to different citation counts from each. Methods: Eleven journal titles with varying impact factors were selected from each discipline (oncology and condensed matter physics) using the Journal Citation Reports (JCR). All articles published in the selected titles were retrieved for the years 1993 and 2003, and a stratified random sample of articles was chosen, resulting in four sets of articles. During the week of November 7-12, 2005, the citation counts for each research article were extracted from the three sources. The actual citing references for a subset of the articles published in 2003 were also gathered from each of the three sources. Results: For oncology 1993 Web of Science returned the highest average number of citations, 45.3. Scopus returned the highest average number of citations (8.9) for oncology 2003. Web of Science returned the highest number of citations for condensed matter physics 1993 and 2003 (22.5 and 3.9
respectively). The data showed a significant difference in the mean citation rates between all pairs of resources except between Google Scholar and Scopus for condensed matter physics 2003. For articles published in 2003 Google Scholar returned the largest amount of unique citing material for oncology and Web of Science returned the most for condensed matter physics. Conclusion: This study did not identify any one of these three resources as the answer to all citation tracking needs. Scopus showed strength in providing citing literature for current (2003) oncology articles, while Web of Science produced more citing material for 2003 and 1993 condensed matter physics, and 1993 oncology articles. All three tools returned some unique material. Our data indicate that the question of which tool provides the most complete set of citing literature may depend on the subject and publication year of a given article.

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Abstract: Objective - To determine whether three competing citation tracking services result in differing citation counts for a known set of articles, and to assess the extent of any differences. Design - Citation analysis, observational study. Setting - Three citation tracking databases: Google Scholar, Scopus and Web of Science. Subjects - Citations from eleven journals each from the disciplines of oncology and condensed matter physics for the years 1993 and 2003. Methods - The researchers selected eleven journals each from the list of journals from Journal Citation Reports 2004 for the categories "Oncology" and "Condensed Matter Physics" using a systematic sampling technique to ensure journals with varying impact factors were included. All references from these 22 journals were retrieved for the years 1993 and 2003 by searching three databases: Web of Science, INSPEC, and PubMed. Only research articles were included for the purpose of the study. From these, a stratified random sample was created to proportionally represent the content of each journal (oncology 1993: 234 references, 2003: 259 references; condensed matter physics 1993: 358 references, 2003: 364 references). In November of 2005, citations counts were obtained for all articles from Web of Science, Scopus and Google Scholar. Due to the small sample size and skewed distribution of data, non-parametric tests were conducted to determine whether significant differences existed between sets. Main results - For 1993, mean citation counts were highest in Web of Science for both oncology (mean = 45.3, SD = 77.4) and condensed matter physics (mean = 22.5, SD = 32.5). For 2003, mean citation counts were higher in Scopus for oncology (mean = 8.9, SD = 12.0), and in Web of Science for condensed matter physics (mean = 3.0, SD = 4.0). There was not enough data for the set of citations from Scopus for condensed matter physics for 1993 and it was therefore excluded from analysis. A Friedman test to measure for differences between all remaining groups suggested a significant difference existed, and so pairwise post-hoc comparisons were performed. The Wilcoxon Signed Ranked tests demonstrated significant differences "in citation counts between all pairs (p < 0.001) except between Google Scholar and Scopus for CM physics 2003 (p = 0.119)." The study also looked at the number of unique references from each database, as well as the proportion of overlap for the 2003 citations. In the area of
oncology, there was found to be 31% overlap between databases, with Google Scholar including the most unique references (13%), followed by Scopus (12%) and Web of Science (7%). For condensed matter physics, the overlap was lower at 21% and the largest number of unique references was found in Web of Science (21%), with Google Scholar next largest (17%) and Scopus the least (9%). Citing references from Google Scholar were found to originate from not only journals, but online archives, academic repositories, government and non-government white papers and reports, commercial organizations, as well as other sources. Conclusion - The study does not confirm the authors’ hypothesis that differing scholarly coverage would result in different citation counts from the three databases. While there were significant differences in mean citation rates between all pairs of databases except for Google Scholar and Scopus in condensed matter physics for 2003, no one database performed better overall. Different databases performed better for different subjects, as well as for different years, especially Scopus, which only includes references starting in 1996. The results of this study suggest that the best citation database will depend on the years being searched as well as the subject area. For a complete picture of citation behaviour, the authors suggest all three be used.


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