

Ways to improve a journal's impact factor in the online publication era

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Impact factor is a commonly used indicator for evaluating the performance of a scientific journal. Devised by Eugene Garfield, the founder of the Institute for Scientific Information (ISI, now part of Thomson Reuters in Philadelphia, USA), impact factor is admittedly prone to flaws and has shortcomings (1–3). Other factors or scores have also been proposed in attempts to find a better method that would reflect journals' contribution to science. The extent of use, however, still appears to weigh in on impact factor's side.

For journals in ISI's Science Citation Index-Expanded (SCI-Expanded), 2010 impact factors are expected to be announced in June 2011. Impact factor for such a journal will be the result of division of the total number of citations the journal will have received in 2010 articles published in SCI Expanded journals by the number of articles the journal have published in the years 2008 and 2009. Journal Citation Reports by ISI are published only for journals covered in SCI-Expanded for the last three years. However, for any scientific journal even if it is not covered by SCI-Expanded at all—or for the last three years—impact factor may be calculated by the use of the already mentioned formula (obviously, only citations from SCI-Expanded articles will have to be taken into account; "Cited Reference Search" tab at ISI's Web of Science, however, allows searches for citations to articles from journals not covered by SCI-Expanded made by articles from SCI-Expanded journals).

The basic purpose of scientific publications is to diffuse scientific information, thereby contributing to science, and any scientific journal that is published to be "of some use" to science will currently have to be judged by its impact factor, regardless of the factor's flaws and drawbacks. There are some difficult and easier ways to help improve a journal's impact factor. The most difficult—but at the same time likely the most consistent—way is to publish high quality articles. Attracting high quality articles is not an easy task especially for journals with an already low impact factor; nevertheless, there are various things that can still be done:

- Journals should find referees (i.e., reviewers) who have already published in journals with an international scope. Such reviewers are not necessarily limited to the country where the journal is being published. In fact, they should be truly international. The pool of experts on any given subject is likely to be shallow locally than it would be internationally. When an internationally renowned expert shows up as a guest speaker at a meeting in a country where a certain journal with aspirations of increased visibility is being published, an invitation to him/her to become a reviewer for the journal may be made. Such a service is not likely to be longstanding, however. Journals with an English abstract only—and no English full-text—would have a hard time to present articles submitted on a

native language other than English to an internationally renowned reviewer, who is more likely to comprehend English than any other commonly used language. Journals from countries where native language is not English sometimes publish an English abstract only—and no English full-text. Such journals will not be able to recruit international reviewers (with the possible and unlikely exception of the international reviewers who comprehend the native language). It would not be practical for such journals to have the submitted articles translated into English with the sole purpose of presenting them to English-speaking international reviewers.

- Journals published in countries where English is not a native language should be printed in full-text English. Publishing only the abstract in English does not attract as many readers who are potential authors to cite the article as would a full-text English article.
- Journals should prepare guidelines for their reviewers and find ways to ensure their use. There are such guidelines already available through the Internet (just try to make a search with keywords “guidelines for reviewers”).
- Publishers with monetary resources should consider giving awards (e.g., “Outstanding Reviewer of the Year”) to attract and/or motivate reviewers. Such awards should entail a scoring system that take into account timeliness of reviews as well as their contribution to authors and editors. Scores should be given by editors/field editors immediately once a reviewer submits a review.
- During journal selection for their manuscripts, many authors tend to favor journals with field-specific “generic names” such as “Academic Dentistry” rather than go for a journal with a country name or its derivative in its title. Prominent exceptions are American—and some British or Japanese—journals. United States of America is by far the foremost country in terms of

contribution to science, and prestige assigned to “American” name in a journal is understandable. Scientific journals from countries such as China, India, Brazil and Turkey, where the size of economy suggests a possibly active scientific journalism field, should reconsider their names in this regard. It is not a coincidence that a number of journals from China in recent years adopted titles beginning with “*World Journal of...*”.

- English-language check by native English-speaking experts should be part of the procedures an accepted article should pass through. There are professional companies offering such services over the Internet. Although a badly written manuscript is very hard to be improved with such editing, considerable rectification can be done by such editors who make the article more easily readable.
- Copyediting is yet another step every accepted manuscript should go through after English-language control. Copyediting is intended to minimize material errors within a manuscript and to ensure a uniform style for a journal. The end result is a more correct and easily readable article. It is not very hard to distinguish a copyedited journal from another without copyediting, and authors with higher quality articles are understandably more likely to select copyedited journals.
- Once an article is accepted for publication, a full-text HTML and/or PDF version should be prepared ahead of print and a digital object identifier (DOI) number should be assigned for the article. The full-text article should be made rapidly and freely available to all on the Internet. Authors are more likely to cite an article which they have accessed full-text—rather than its abstract.
- Titles and abstracts of articles should be tailored to render them high visibility on the Internet search engines while preserving their intended meaning. There are clues to the so-called “search engine optimization” on the Internet (4).

- Weighting the number of articles in favor of January–June issues would have some positive effect in improving the impact factor.
- Review articles in general have a higher likelihood of earning citations. Priority should be given to review articles on dedicated subjects of interest to wide masses of prospective authors. Soliciting review articles from experts on the field should be a priority task for editors, although it can be very challenging to acquire them.
- Article evaluation times should be decreased to the possible minimum. An effective online system for referees has to be established. Authors intending to submit an article should be made aware that the outcome on their submission will be available in a short time, and once or if the article is accepted it will be serviced online in a short time for all the world to use—thereby starting earning citations immediately.
- Some journals feature multilingual abstract translation. Some or selected abstracts are translated to languages such as Japanese, Chinese, French, Italian, Portuguese, and Spanish, thereby covering the globe for dissemination of the key findings published in the journal and attracting citations from would-be authors.

Conflict of interest disclosure

Dr. Üstün Aydingöz owns a 1% share in a medical writing, editorship and consultancy company based in Ankara, Turkey, that also offers copyediting service. The remaining shares of the company, Edita Ltd., belong to his wife, Dr. Selda Emre Aydingöz, who is a medical writer with Editor in Life Sciences (ELS) board certification.

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