Essays

Cascading peer review for open-access publishing

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Abstract Over the years, there has been a strategic transition from subscription-based to open-access publishing. This transition has driven some changes in peer review, including cascading peer review. The latter apparently avoids rejections. This article analyses cascading peer review for open-access publishing and focuses on its potential impact on authors, reviewers, editors, publishers, and learned societies.
Keywords Cascading peer review; science editing; learned society; open access.

Introduction

The scientific merit of scholarly articles is assessed through peer review. Constructive criticism from peer reviewers serves as a basis for editorial appraisal of research quality and the suitability of articles for publication.

Although peer review is imperfect and lacks strong supportive evidence, it preserves the integrity and quality of scholarly communication.[1] The quality of peer review determines the journals' chances of being indexed in prestigious abstract and citation-tracking databases.[2]

Over the years, there has been a strategic move from subscription-based to open-access publishing, which has driven some changes and innovations in peer review. The latest of these innovations is cascading peer review, which apparently avoids rejections.

This article analyses traditional peer review and its format in the era of open-access publishing, with a focus on cascading peer review and its potential impact on all stakeholders of scholarly publishing.

Traditional peer review for subscription-based publishing

Traditional peer review usually includes three levels: in-house assessment by journal editors, evaluation by external peer reviewers, and final checks by the chief editor.[1] Journal submissions undergo rigorous internal and external analysis before acceptance. Initial editorial appraisal allows low-quality submissions to be rejected outright and facilitates accurate external review.

Despite its strengths, this scheme is costly, inconsistent, biased, dependent on the reviewers' qualifications, and the publishing capacities of the journal.[2] In fact, the quality of peer review is subjected to the reviewers' professional background and knowledge of publishing ethics[1] and research reporting.[3] Consequently, the main efforts in the field are directed towards providing comprehensive guidelines and arranging educational courses for reviewers and upgrading the reviewer selection criteria.[1,2]

Peer review for open-access publishing

Open-access publishing enables free and rapid access by readers to research data, provides global visibility of scholarly papers, and reduces publication costs.[4] In the digitization era, open access facilitates archiving and indexing by most bibliographical databases and digital libraries.[5] Nonetheless, some experts believe that open access lacks sustainability due to financial incentives for journals to publish more articles with processed payments, high article processing charges, exploitation of the author-pays model, uncertainties with waiving publication charges, and reduced revenues from subscriptions.[6-7]

Open peer review, minimal re-review, post-publication peer review, and cascading peer review have been introduced in order to address transparency, consistency, cost, and the speed of open-access publishing. Opening the whole process of peer review to the public makes it transparent. This innovation however increases costs and slows production.

Post-publication review gives the readers an opportunity to filter and appraise the articles. Although it may overcome some problems of traditional peer review, it can create 'scientific chaos' in data presentation and interpretation.

Cascading peer review

Cascading peer review is a model that avoids final rejection by redirecting peer-reviewed papers, which are rejected by one journal, to another more suitable publication. This model has the potential of reducing expenses and time for repetitive evaluation of journal submissions. Due to the perception of unfair recycling of scholarly manuscripts, the cascading can affect the prestige of some journals.

The cascading is usually the transfer of articles rejected by top-tier journals to lower-tier or spin-off journals within the publisher's portfolio.[8] Alternative mechanisms are an automated manuscript transfer (articles are re-directed *via* a link from the manuscript editor), a peer review consortium (rejected articles are re-directed to journals within a consortium), and a "soft" cascading approach (offering more suitable publication venues).

The acceptance criteria of journals adopting this model within the publishers' portfolio vary widely, descending from tough to soft. The acceptance criteria may relate to the novelty, methodology and interest to a wider readership.[9]

Cascading peer review can reduce expenses for manuscript re-appraisals and promote low-tier journals.[10] Authors however may refuse to consider their manuscripts in the low-tier publication outlets.[8] After all, rigorous peer review may not be achieved and soft editing and reviewing practices may be encouraged for lower-tier journals with low acceptance thresholds.[9]

Implications of cascading peer review

Authors

As a result of cascading peer review and re-directing manuscripts, authors may lose interest in publishing in high-profile journals and agree to having their article published anywhere.[8] Journals that ensure publication may be favoured by authors regardless of the quality and suitability of the manuscripts. This approach will diminish the value of scientific research, hamper production of high-quality data, and create unethical shortcuts for those opting for rapid publication of flawed and redundant papers.[7]

Peer reviewers

The efforts of peer reviewers are not wasted as the same reviews are used within the publisher's portfolio of journals. Cascading peer review may however negatively affect the reviewers' roles by replacing their gate-keeping functions with the role of controlling manuscript transfer from one publication venue to another.

With reviewers as traffic controllers instead of quality evaluators, the whole system of peer review may lose its scientific prestige. The urge to financially maintain the cascade of the publisher's journals may eventually result in the loss of editorial independence and conflict coming from the publisher's influence on the peer review process.[10]

Editors

Editors should carefully weigh the merits of high-quality papers deserving publication in top-tier journals against accepting redundant and low-quality work in their cascade of journals. The traditional gate-keeping role should be complemented by the proper functioning of the whole cascade. The editors' decision to accept, revise, reject, or cascade a journal submission will therefore reflect their appraisal competency.

A broad review of articles may be adopted from an economic sustainability viewpoint. This will reduce the importance of careful internal editorial review and rejection crucial in subscription-based publishing. Editors may downplay their role in the editorial review in terms of quality assessment to market their cascade journals and increase the latter's acceptability to the science community as alternate repositories.

For cascade journals, the editor's criteria for article acceptance become less stringent with lower-choice journals. This process is in contrast to a careful appraisal based on a correct study design, accurate data interpretation, and the novelty of findings in leading journals with no cascading options. Low-quality articles with slim chances of passing the editorial review can accumulate and distract editors who need to make decisions on re-directing and processing all submission components.

Publishers

Large, but not small publishers, are favoured by the new system. Publishers that offer multiple alternatives for authors particularly benefit from cascading peer review. Re-directing saves time, reduces rejection rates, and avoids wasting of peer reviewers' efforts. However, publishers may be tempted to condone low-quality research that is unworthy of scientific investigation in return for an article that can be published in their cascade of journals.

Although cascading peer review eases access to content, the online production and dissemination of content are still expensive.[6] Publishers must establish a revenue-generating mechanism to financially sustain their cascade of journals. Publishers with very low acceptance rates may lose from cascading peer review since most of their processing time and costs is centered on rejecting articles instead of re-directing them.

Predatory publishers may especially benefit from the new system which will allow them to accept and publish rapidly papers rejected elsewhere. This effect will diminish the value of and destroy peer review.[7]

Learned societies

Learned societies moving their journals to open-access publishing and adopting cascading peer review will inevitably need to find new sources of income to replenish the lost revenues from journal subscriptions. This may entail increases in membership dues or activity fees.[6] Educational or training activities for both members and non-members may also suffer.

A logical solution to the problem lies in temporarily retaining subscription access with traditional peer review while switching to open-access publishing with cascading peer review. Additional publishing guidelines and educational materials for reviewers are also effective alternatives.

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